



Phase I  
Environmental Site Assessment



Innisfil Executive Estates

Prepared For  
1820839 Ontario Inc

May 18, 2012

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## **1.0 EXECUTIVE SUMMARY**

BAE & Associates Environmental Inc. (BAE) was retained by 1820839 Ontario Inc. to prepare a Phase I Environmental Site Assessment (ESA) for Innisfil Executive Estates, 2008 Victoria Street, Innisfil, Ontario. These investigations were conducted to reveal any environmental concerns on or near the subject property prior to purchase.

The terms of reference for the Phase I ESA were generally prepared and followed in accordance with the CAN/CSA Standard Z768-01 for Phase I Environmental Site Assessments dated November 2001. The current investigation was also conducted generally in accordance with Part XV.1 of the Environmental Protection Act and Ontario Regulation 153/04 as amended (July 2011).

There were no known previous environmental investigations performed for the subject property.

The subject 17 hectare (43 acre) property is located at 2008 Victoria Street, Innisfil (Stroud), Ontario. The property is scheduled to become 38 Lots on 12 hectare (30 acres), with the balance of the property to be developed in the future. The legal description of the property is Part of S half Lt 17 Con 10 Innisfil being pt 1 on Plan 51R16453, and Part 151R-24643 Except Parts 2,3,4,5 Part 1 Plan 51R-34452.

The property is triangular shaped, lining the existing subdivision and homes to the west along Nelson Street, running along behind the houses along Victoria Street to the south, and bordering the GO train tracks to the east. The previous owner has severed a 0.4 Hectare (1 Acre) parcel in the south portion of the property along Victoria Street with a driveway off Victoria Street.

The topography of the site is relatively flat, with a gentle slope from the north to the south. The site is mostly vacant land, with limited trees, and clean inert fill stockpiles left over from the initial development plan that was halted due to lack of funding in 1989.

A multitude of environmental and government databases were searched for information concerning the subject and surrounding properties. There are no recorded concerns, soil or groundwater releases within a zone of concern. There are no ACMs, ASTs, USTs, landfills, lead, mercury, coal gasification plants, coal tar, UFFI, PCBs, solid or liquid waste or storage of chemicals associated with the subject property. There was no evidence of staining, stressed vegetation, or odours associated with the subject or neighbouring properties.



The previous owner and a long time resident were interviewed for information regarding the subject property. No potentially contaminating activity has been observed or reported in their lifetimes.

In summary, based on the Phase I ESA findings, there is no indication of environmental concern, and the site does not appear to have been impaired by onsite or offsite operations. Based on these findings, no further environmental investigations are recommended at this time.

## **2.0 INTRODUCTION**

BAE & Associates Environmental Inc. (BAE) was retained by 1820839 Ontario Limited to prepare a Phase I Environmental Site Assessment (ESA) for 2008 Victoria Street, Innisfil, Ontario. These investigations were conducted to reveal any environmental concerns on or near the subject property.

The terms of reference for the Phase I ESA were generally prepared and followed in accordance with the CAN/CSA Standard Z768-01 for Phase I Environmental Site Assessments dated November 2001. The current investigation was also conducted generally in accordance with Part XV.1 of the Environmental Protection Act and Ontario Regulation 153/04 as amended (July 2011).

## **3.0 SCOPE OF WORK**

The scope of work was completed to determine if there appeared to be any indications of environmental impairment on the property, which could present liability. All available documentation and any previous reports were requested by BAE.

Phase I ESA investigations were conducted to identify:

- possible and probable sources of contamination of the subject and adjoining properties;
- former land use practices which may have caused environmental concerns;
- potential sources of contamination on-site and off-site and possible or probable parties responsible for contamination both on-site and off-site.

To achieve these objectives the following tasks were completed:



- collecting and evaluating existing information pertaining to the subject property through the review of various pertinent records;
- conducting a visual examination of the property to identify the presence of environmental contaminants or concerns of significance;
- reviewing previous environmental reports, conducting interviews with individuals that may be knowledgeable about the subject property and its adjacent properties, as well as contacting representatives of various government and municipal agencies; and,
- preparing the engineering report.

#### **4.0 PREVIOUS INVESTIGATIONS**

All and any pertinent reports or information were requested by BAE. There were no known previous environmental investigations performed for the subject property.

#### **5.0 SITE DESCRIPTION**

The subject 17 hectare (43 acre) property is located at 2008 Victoria Street, Innisfil (Stroud), Ontario. The property is scheduled to become 38 Lots on 12 hectare (30 acres), with the balance of the property to be developed in the future. The legal description of the property is Part of S half Lt 17 Con 10 Innisfil being pt 1 on Plan 51R16453, and Part 151R-24643 Except Parts 2,3,4,5 Part 1 Plan 51R-34452.

The subject site is located in the village of Stroud, in the north eastern quadrant of the village. The property is serviced by municipal utilities (sewer and water), and by commercial natural gas and hydro.

The property is triangular shaped, lining the existing subdivision and homes to the west along Nelson Street, running along behind the houses along Victoria Street to the south, and bordering the GO train tracks to the east. The previous owner has severed a 0.4 Hectare (1 Acre) parcel in the south portion of the property along Victoria Street with a driveway off Victoria Street.

The topography of the site is relatively flat, with a gentle slope from the north to the south. The site is mostly vacant land, with some trees, and some stockpiles left over from the initial development plan that was abandoned in 1989.



## 6.0 USE OF SITE

### 6.1 Current Land Use

The subject property is currently owned by 1820839 Ontario Inc. It is currently vacant land, previously farmland that has been through the initial stages of development but was abandoned around 1989.

### 6.2 Previous Land Use

As part of this investigation, BAE reviewed historical documents, aerial photos and interviewed local people.

Table 1: Chain of Title

Owner	Type of Activity	Years of Ownership
1820839 Ontario Inc	Poised to develop into residential subdivision	2-3 years
Joan Robertson	Vacant land, home	15 years
Developer	Development of residential subdivision	5 years
Robertson	Farmland/homestead	39 years
	Farmland/Agricultural	

## 7.0 SURROUNDING LAND USE

Information concerning the surrounding land use in the vicinity of the subject property was obtained from documented information obtained from the Innisfil Historical Society as well as several site visits. Properties in close proximity to the site are predominantly residential. None of these operations currently pose a significant concern. There are no dry cleaning facilities within a one-block radius of the subject property.

To the South of the property, across the street that is lined with residential single family dwellings, is a Simcoe County Housing property for seniors. Beyond this is agricultural farmland. To the North of the property is agricultural farm land. To the East is the GO rail line, running along the edge of the site, and beyond the rail line is residential with agricultural farm land beyond that. Lake Simcoe is approximately 7km to the east. To the west are a residential subdivision and the village of Stroud.

There was no evidence of staining, stressed vegetation, odours or environmental concerns currently associated with the subject property or any of the neighbouring properties.



## **8.0 PHYSICAL SETTING**

### **8.1 Geology and Physiography**

The subject property is located within two physiographic regions, the Peterborough Drumlin Field and the Simcoe Lowlands (Chapman and Putnam 1984). Upland areas consisting of the Peterborough Drumlin field occupy the majority of the Town Innisfil. The Simcoe Lowlands occur along a thin band adjacent to the shoreline of Cook's bay on the east and Kempenfelt Bay on the north. A broad low-lying valley extends in a north-south direction through the central portion of the Town. This is a glacial melt water channel formed following the withdrawal of the ice-sheets approximately 10,000 years B.P.

There are a number of surficial soil types within the Town of Innisfil (Hoffman et al. 1962). The upland areas are dominated by Bondhead loam and sandy loam. These soils are derived from glacial till and are generally well drained and are often very stony. Also found in the upland area, but of more limited distribution, are Sargent gravelly loam, and the Dundonald sandy loam, which are both derived from outwash gravel and are well drained. Small areas of Smithville silt loam occur in both upland areas and low-lying areas. These soils are derived from lacustrine varved silt loam and clay, are stone-free and imperfectly drained. There are three main soil types within the low-lying areas, Tioga loamy sand, Alliston sandy loam, and Granby sandy loam. These are all derived from outwash sands and vary from stone free to moderately stony. The Tioga sandy loam has good drainage, the Alliston sandy loam has imperfect drainage and the Granby sandy loam has poor drainage. The relatively poor drainage of these soils may in part be due to their occupying flat low lying areas with a high water table. Areas of muck consisting of decomposing organic matter also occur in low-lying areas adjacent to major streams or along the Lake Simcoe shoreline. A few marshy areas occur along the Lake Simcoe shoreline.

The Town of Innisfil is underlain by a relatively thick sequence of overburden deposits that vary from between 60 to 70 metres thick along the Lake Simcoe shoreline to about 140 metres thick beneath the upland areas. There are no bedrock exposures in the study area as they are buried deep beneath the overburden as noted above. The underlying bedrock has been determined from deep wells and exploratory boreholes scattered throughout the study area. Since there are only a limited number of deep wells and boreholes, the underlying bedrock is not well documented. Information is extrapolated between boreholes. Bedrock consists of limestone and dolostone formations of the Simcoe and Ottawa Groups as well as sandstones of the Shadow Lake Formation (Ontario Geological Survey 1991b).

The surficial geology of the study area is represented by a variety of surficial deposits resulting from a series of glacial and post glacial events that have formed the present day landscape. The oldest materials are represented by



glacial tills that have formed the upland areas. The Geological Survey of Canada (GSC) has identified two tills in the southern portion of the study area. The Halton Till, a sandy silt to sand till, is the oldest till found in this area. It forms a drumlinized till plain in the Cookstown area and also forms the core of the upland area east of Highway 400 between 10<sup>th</sup> Sideroad and Gilford. The younger silty clay to silt Kettleby Till overlies the Halton Till west of Gilford.

## **8.2 Groundwater and Surface Water**

There are several small creeks and drainage channels originating in the easternmost upland area that flow east and north toward Lake Simcoe. These are typically small creeks with sluggish flow as they cross low lying sand plains bordering Lake Simcoe.

Lateral groundwater within shallow flow systems is generally considered to reflect the general slope of the ground surface. Shallow groundwater flow is toward the adjacent lowlands along the Lake Simcoe shoreline and the north-south aligned meltwater channel between 10th Sideroad and Yonge Street. The water table levels beneath the low-lying areas are in the range of 220 and 230 m below grade. These are close to or at the ground surface depending upon the time of year. Water table elevations beneath the low-lying areas are close to the surface.

Groundwater is estimated to flow south east toward Lake Simcoe, which is located approximately 7km east of the subject property. This information coincides with information taken from aerial photographs which indicate that the topography and hence the groundwater flows in the same direction toward this area.

## **8.3 Other Services**

The site was serviced with hydro, telephone and gas services. Municipal water is also available in this area.

## **8.4 Aerial Photographs**

Recent aerial photographs were reviewed and are included as Appendix III of this report.

The Aerial photograph from 2002 and 2008 both showed the property as vacant land, no house was present, or constructed as it stands today. The previous owners constructed a new house on the severed 0.4 hectare property in 2009. The original farm house that was built in the late 1800's was demolished in 1993.





An aerial photograph from 1959 was located on the Innisfil Historical Society website. The photograph shows the village built up along Highway 11, and Victoria Street. The school, arena, shopping plaza and much of the subdivisions were not built up yet, it looks like a farming community, with a church or two, and homes along the roads, and agricultural farmland stretching out as far as the picture will allow.

## **9.0 PHASE I ESA FINDINGS**

### **9.1 Site Investigations**

A site visit was conducted on April 27, 2012. The weather was 5°C, windy and overcast. The site was visited during normal operational times.

During the site investigation observations were made including the condition of the property and the surrounding area. The site is gently sloping from the rear towards the front of the property, or Victoria Street. The land had been “scraped” in order to prepare for development of the site into residential lots, for the original site plan, approved in 1989, but abandoned in 1993 due to lack of finances. There is a large stock pile of scraped materials just north of the house on the severed property. It has been sitting for almost 20 years; grass, weeds, small trees and shrubs have taken it over.

There is a 0.4 hectare parcel that was severed by the original owner who sold the property in 1989 for development, but reacquired in 1993 when the developers financing fell through. The owner severed the 0.4 hectare (1 acre) parcel in 2008, built a house on it in 2009 and sold the remainder of the property in 2011 to a new developer.

The site is serviced by municipal water, hydro and natural gas, as well as telephone and cable. The municipality picks up the garbage and recycling at the curb. There are no landfills or waste disposal sites within a 250m radius of the subject property.

There is a small drainage ditch running along the rear of the residential properties along Victoria Street, with a small culvert running under the driveway of the severed property.

The Go rail line that runs along the eastern edge of the property is raised above the natural elevation of the subject property. Prior to being used for the GO rail line, the track had been owned and used by CNR since the early 1900's.

There was no evidence of staining or stressed vegetation, on or around the surrounding property.



## **9.2 Regulatory History and Concerns**

Technical Standards and Safety Authority (TSSA), Fuel Safety Branch: As of January 1, 1991, all underground fuel storage tanks (USTs) in Ontario must be registered with the TSSA. There are no USTs associated with the subject property.

## **9.3 Waste Management**

### **9.3.1 Solid Waste**

During the inspection of the property, no amounts of solid waste were observed on-site.

### **9.3.2 Liquid Waste**

There is no liquid waste currently generated onsite and as such there is no requirement liquid waste disposal.

### **9.3.3 Waste Water**

The subject property and all the surrounding properties are serviced by municipal water and individual septic systems. The site does not discharge effluents into surface waters.

## **9.4 Published Inventory Review**

The following databases and documents were reviewed to further assess the environmental condition of the Site:

### **9.4.1 Technical Standards and Safety Authority (TSSA)**

Fuel storage at industrial facilities in Ontario is regulated by the *Technical Standards and Safety Act 2001*. The *TSS Act* has consolidated the seven acts that the TSSA previously administered, including the *Gasoline Handling Act* and the *Energy Act*. Under the *TSS Act*, the *Liquid Fuel Handling Regulation*, *Liquid Fuel Handling Code* and the *Environmental Management Protocol* (also known as GA1/99) have replaced the *Gasoline Handling Act*, *The Gasoline Handling Code* and *GHI3* (1993 Environmental Cleanup Guideline). The *TSS Act* applies to all storage tank systems utilised for the storage and handling of gasoline, diesel and fuel oil. Underground storage tanks (USTs) and aboveground storage tanks (ASTs) installed under the *Liquid Fuel Handling Regulation*, *Liquid Fuel*



*Handling Code* require registration with the TSSA. Fuel oil tanks utilised in residential buildings will also require registration with the TSSA.

The TSSA was contacted via mail and requested to supply any available information concerning the presence of petroleum storage tanks, fuel spill records, accidents, or fuel-related incidents which may be registered on the subject or surrounding properties. The information had not been received at the time of preparation. Any pertinent information will be forwarded if applicable.

#### **9.4.2 Registered Waste Receivers for the year 2004**

BAE reviewed the MOE computer database on Registered Waste Receivers for the year 2004. The Site and surrounding properties were not listed as industrial waste receivers.

#### **9.4.3 Brownfields Environmental Site Registry**

The MOE on-line Brownfields Environmental Site Registry was accessed to determine if any Records of Site Conditions (RSCs) have been filed under Part XV.1 under the Environmental Protection Act ("EPA") for the Site or any of the surrounding properties. A search of the registry indicated that no RSCs have been filed for the Site or any of the neighbouring properties.

#### **9.4.4 Waste Disposal Site Inventory**

BAE reviewed the document entitled "*Waste Disposal Site Inventory*", prepared by the Waste Management Branch of the MOE (dated June 1991). No active waste disposal sites were listed as being present within 1km of the Site.

#### **9.4.5 Inventory of Coal Gasification Plant Waste Sites in Ontario**

BAE reviewed the document entitled "*Inventory of Coal Gasification Plant Waste Sites in Ontario*", prepared for the MOE (dated April 1987) and *Inventory of Industrial Sites Producing or Using Coal Tar and Related Sites in Ontario*, prepared for the MOE (dated November 1988). No coal tar or waste sites were listed as being present within 1km of the Site.



#### **9.4.6 Registered PCB Waste Storage Sites**

BAE reviewed the MOE computer database on Registered Polychlorinated Biphenyl ("PCB") Waste Storage Sites for the year 2004 (the most current). The Site and neighbouring properties were not listed as PCB waste storage sites.

#### **9.4.7 Registered Waste Generators**

BAE reviewed the MOE computer database on Registered Waste Generators and the current Hazardous Waste Information Network (HWIN) online database. The Site was not listed as industrial waste generator.

#### **9.5 Chemical Storage Facilities**

No chemicals are affiliated with or stored on the property.

#### **9.6 Spill History**

A visual inspection was conducted of the property. No signs of spillage or stressed vegetation were observed on the property. There were no previously reported spills within a zone of concern for the subject property.

#### **9.7 Underground and Aboveground Storage Tanks**

There were no underground (USTs) or aboveground storage tanks (ASTs) currently or previously associated with the subject property. The building makes use of natural gas for heating purposes.

#### **9.8 Designated Substances**

Individual designated substance regulations have been developed for eleven chemical contaminants and are enforced by the Ministry of Labour (MOL) under the Occupational Health and Safety Act (OHSA). Special regulations were made to prohibit, regulate, restrict, limit, or control worker exposure to designated substances due to their toxic nature. The designated substances identified in OHSA include acrylonitrile, arsenic, benzene, coke oven emissions, ethylene oxide, isocyanates (polyurethane), lead, mercury and vinyl chloride. Given the nature of the Site building and property use, BAE focused on the following designated substances.



### **9.8.1 Lead**

Lead is a heavy metal which is typically found in the following three forms.

- 1) Metallic lead used to make water distribution pipes, electrical batteries, lead solder, and electric cable sheathes.
- 2) Inorganic compounds often occurring as components of products, such as insecticides, pigments, paints, and glass.
- 3) Organic lead compounds, the most commonly known of which are tetramethyl lead and tetraethyl lead, used as antiknock additives to gasoline.

The presence of lead-based paints (LBPs) in buildings represents the most significant hazard of all the above noted lead containing products where persons, notably small children, may ingest peeling or flaking LBPs. The generation of airborne lead containing dust created during renovation, demolition, or construction activities, or like actions on deteriorated painted surfaces also comprises a potential health concern. BAE did not observe the presence of possible LBPs peeling or chipping at the time of these investigations. The original house, barns and out buildings were demolished by 1993. They had been on the property since the late 1800's when the area became developed.

### **9.8.2 Asbestos Containing Materials (ACMs)**

Asbestos is a generic term that refers to a group of naturally occurring fibrous mineral silicates. The ability of asbestos to withstand high temperatures as well as its tensile strength, resistance to chemicals and other properties have resulted in many applications. Friable asbestos refers to materials which can be readily crumbled using hand pressure, separating asbestos fibres from the binding materials with which they are associated. Non-friable material refers to asbestos that is associated with a binding agent (such as tar or cement), that prevents the ready release of airborne fibres. Friable asbestos is commonly found in boiler and pipe insulation. Non-friable or bound asbestos is typically found in roofing tars, floor and drywall compound, plaster and precast asbestos cement products commonly referred to as "transite".

BAE did not observe the presence of possible ACMs at the time of our investigation.

### **9.8.3 Mercury**

Minor amounts of mercury are commonly found in a variety of building materials including mercury vapour lamps and thermostats and other electrical control switches. Given the potential quantities of mercury present and their intended use, no potential concerns are anticipated. No traces of mercury were discovered.



## **9.9 Mechanical Equipment**

Mechanical equipment including piston type elevators, vehicle hoists, loading dock lifts, and compactors comprise typical hydraulically operated devices. Such equipment contains hydraulic oils, which are operated under high pressures and can be released into the environment as a result of leaks or equipment failure. There are no such devices found on the property.

## **9.10 Methane**

Methane is a colourless and odourless gas commonly formed by the decomposition of organic material. Methane is a large component of natural gas associated with active and closed waste disposal sites. Natural sources of methane include marshes, swamps, bogs, fens or coal and/or peat deposits. Potential risks associated with methane include explosion hazards where methane enters closed spaces and concentrations exceed the lower explosive limit.

The Site is not near any active or closed landfill sites. Consequently, methane gas is not inferred to be a significant environmental issue at the Site.

## **9.11 Mould**

Moulds (also known as “fungi”) are present everywhere in the natural environment, indoors and outdoors. Exposure to mould may occur indoors on water damaged building materials during occupancy, building maintenance and/or repair operations. The most common types of moulds are generally not hazardous. However, some moulds may be problematic to some people. There is no evidence of mould on the property, therefore mould is not currently considered to be a significant issue.

## **9.12 Odour**

During the Site reconnaissance, BAE did not identify any pungent or noxious odours attributable to the operations of the subject or neighbouring facilities.

## **9.13 Ozone Depleting Substances**

Ozone depleting substances (ODSs) include any substances containing chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC), halon or any other material February 2011 Page 29 Phase I Environmental Site Assessment 15 Progress Drive, Orillia, Ontario capable of destroying ozone in the atmosphere.



ODS have been used in rigid polyurethane foam and insulation, laminates, aerosols, air conditioners, fire extinguishers, cleaning solvents and the sterilisation of medical equipment. Federal regulations introduced in 1995 required the elimination of production and import of CFCs by 1 January 1996 (subject to certain essential uses) and a freeze on the production and import of HCFC-22 by 1 January 1996. These regulations also require the complete elimination of HCFC-22 by the year 2020. ODSs were not observed to be on-site at the time of the reconnaissance.

### **9.14 Pesticides and Herbicides**

BAE did not observe any pesticides or herbicides stored at the subject property during the reconnaissance.

### **9.15 Polychlorinated Biphenyls (PCBs)**

PCBs were most commonly used in capacitors, transformers, circuit breakers, switch gears and lamp ballasts as synthetic insulating materials. The use of PCBs in electrical equipment was prohibited on 1 July 1980. However, PCBs may be present in older equipment still in use after the 1 July 1980 cut-off date. There were no PCBs observed within the building or surrounding area.

#### **9.15.1 Electrical Transformers**

Suspect PCB-containing transformers were not observed at the Site.

#### **9.15.2 Light Ballasts**

Suspect PCB-containing light ballasts were not observed at the Site.

#### **9.15.3 PCB Storage Sites**

The MOE "*Ontario Inventory of PCB Storage Sites*" did not list the Site as a registered PCB waste storage site.

### **9.16 Interviews**

As part of this investigation persons knowledgeable with reference to the subject and surrounding properties were interviewed and supplied pertinent information





to this report. Site Interviews were carried out with the following, familiar with the subject and surrounding area.

Mrs. Joan Robertson, the previous owner, and currently living on the severed 0.4 hectare portion of the property, was interviewed regarding information of the subject property. Mr. Lou Kelly, a long time resident and local realtor in the area was also interviewed for information regarding the subject property.

The interviewees were asked a series of questions including if the subject or adjacent properties are or were involved in any of the following.

metal foundries yes no x  
metal plating industries yes no x  
leather tanneries yes no x  
coal gasification works yes no x  
wood preservation facilities yes no x  
scrap yards yes no x  
pesticide/fungicide/herbicide yes no x  
petroleum refining, blending, storage chemical producers yes no x or distribution facilities yes no x  
manufacture or formulating yes no x  
paint and ink manufacturing yes no x  
smelters or incinerators yes no x  
dry cleaning facilities yes no x

Mrs. Joan Robertson has lived on the subject property since 1950. Her husband had bought the property several years before she met him. He severed the lots along Victoria Street in 1949. The residential lots that line the western edge of the property are approximately 30 to 40 years old. Joan grew up in the area, and has farmed all her life. The soil in this area was excellent for cultivating; in fact her barley crop won a prize back in the 1960's for "best barely field". Joan and her husband lived on the property until 1989 when they sold to a developer. The developer scraped and began to clear the land preparing for numerous residential lots, set up a sales pavilion, and a jobsite trailer. But before they could continue, they went bankrupt, and the property was reacquired by Joan due to mortgage default. In 1993, the original house and the dairy barn and the calf barn were demolished, with all the debris being removed off site. Joan severed a 0.4 hectare (1 acre) parcel in 2008 and built a new house on it in 2009. Joan can recall a propane corn dryer used on the property, with an above ground storage tank of propane. She can also recall that her and her husband had farm machinery. She cannot recall any spills, nor were any spills recorded for the subject or adjoining properties.

Mr. Lou Kelly is a long time resident of this area, as well as a very successful local businessman. He is one of the partners in the new development scheduled for this property. Mr. Kelly can recall the subject property used for farmland as long as he can remember. He cannot recall any potential contaminating activity occurring on or around the subject property. He can recall when Hurricane Hazel passed through the area in 1954, causing some minor flooding in low lying areas. The draft subdivision plan does contain preventative measures for flood control.





Although flooding is not a major concern for the property, it should be addressed, and the developers have done so.

## **10.0 SUMMARY OF PHASE I ESA INVESTIGATIONS**

BAE & Associates. (BAE) was retained by 1820839 Ontario Inc. to prepare a Phase I Environmental Site Assessment (ESA) for Innisfil Executive Estates, 2008 Victoria Street. These investigations were conducted to reveal any environmental concerns on or near the subject property. The findings of these investigations are summarised as follows:

- There were no known previous environmental investigations performed for the subject property.
- The property is vacant farmland, has always been used for farmland, and will be developed into a residential subdivision
- Properties in close proximity to the site are predominantly residential, being a mix of low density residential and community housing. None of these operations currently pose a significant concern. There are no dry cleaning facilities within a one-block radius of the subject property.
- Geological and physiological information concluded that the property gently slopes towards Victoria Street, water runoff from the site will flow into Lake Simcoe, approximately 7km to the east. The property is located within a geographical area called Peterborough Drumlin.
- Interviews with local residents and the previous owners indicated the property has been farmland for as long as they can remember. A subdivision was planned in the early 1990's but the developers had to walk away due to financial problems. A few years ago the property was repurchased for development of the originally planned residential subdivision.
- A multitude of environmental and government databases were searched for information concerning the subject and surrounding properties. There are no recorded concerns, soil or groundwater releases within a zone of concern.
- There are no ACMs, ASTs, USTs, landfills, lead, mercury, coal gasification plants, coal tar, UFFI, PCBs, solid or liquid waste or storage of chemicals associated with the subject property.
- There was no evidence of staining, stressed vegetation, or odours associated with the subject or neighbouring properties.



## 11.0 CONCLUSIONS

In summary, based on the current ESA findings and the possibility of potential environmental impairment from the surrounding areas, no further investigations are recommended or required.

## 12.0 REFERENCES

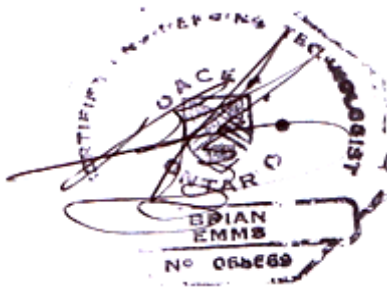
Canadian Standards Association, (April 2001). "Phase I Environmental Site Assessment", CSA, Z769-01, 31 pp.

Chapman, L.J. and Putnam, D.F., 1984. "The Physiography of Southern Ontario", Ontario Geological Survey.

## 13.0 QUALIFICATIONS OF ASSESSOR

This investigation was completed by Brian A. Emms, C.E.T. and reviewed by G. J. Van Iterson, P. Eng. Mr. Van Iterson is registered with the Ministry of Environment as a Qualified Person as per Ontario Regulation 153/04. Jointly, the above have performed hundreds of ESAs and site remediation for various financial institutions, municipal governments, insurance companies, law firms and the private sector.

Respectfully Submitted,  
**BAE and Associates Environmental**



Brian A. Emms, C.E.T.  
Senior Env. Technologist



G. Jan Van Iterson, P. Eng.  
Associate



## APPENDIX I Limitations



### LIMITATIONS

1. This assessment was conducted in accordance with generally accepted engineering standards. It is possible that materials other than those described in this report are present at the site. The client acknowledges that no assessment can necessarily identify the existence of all contaminants, potential contaminants or environmental conditions;
2. This report was prepared for the sole and exclusive use of 1820839 Ontario Inc. BAE accepts no responsibility or liability for any loss, damage, expense, fine or any other claim of any nature or type, including any liability or potential liability arising from its own negligence, for any use of this report or reliance on it, in whole or in part, by anyone other than 1820839 Ontario Inc.;
3. There is no representation, warranty or condition, express or implied, by BAE or its officers, directors, employees or agents that this assessment has identified all contaminants, potential contaminants or environmental conditions at the site or that the site is free from contamination, potential contaminants or environmental conditions other than those noted in this report;
4. This assessment has been completed from information and documentation described in this report. We have assumed that any such information and documentation is accurate and complete. We can accept no responsibility or liability for any errors, deficiencies or inaccuracies in this report arising from errors or omissions in the information and documentation provided by others;
5. This assessment was based on information and the results of investigations obtained on the dates specified. BAE accepts no responsibility or liability for any changes or potential changes in the condition of the site subsequent to the date of our investigations;
6. This assessment pertains only to the site specifically described in this report and not to any adjacent or other property;
7. This assessment does not include, nor is it intended to include, any opinion regarding the suitability of any structure on the site for any particular function, or the geotechnical conditions on the site, with the exception of how they may identify with environmental concerns. Inspections do not include compliance with building, gas, electrical or boiler codes, or any other federal, provincial or municipal codes not associated with environmental concerns. Should concerns regarding any parameters other than environmental concerns arise as a result of our investigations, they should be addressed by appropriately qualified professionals; and,
8. This report is not to be reproduced or released to any other party, other than 1820839 Ontario Inc., in whole or in part, without the express written consent of BAE.



## APPENDIX II Site and Area Photographs



Looking to the east, GO train tracks in the distance



Looking to the north east, GO train tracks in the distance



Looking North, stockpile of scraped material from 1989 residential subdivision plan prep



Looking North, stockpile of material visible in the distance



Looking to the west, the line of the existing residential Subdivision in the background



Looking south west towards the rear of the lots lining Victoria Street, and the subdivision to the west



### APPENDIX III Aerial Photographs

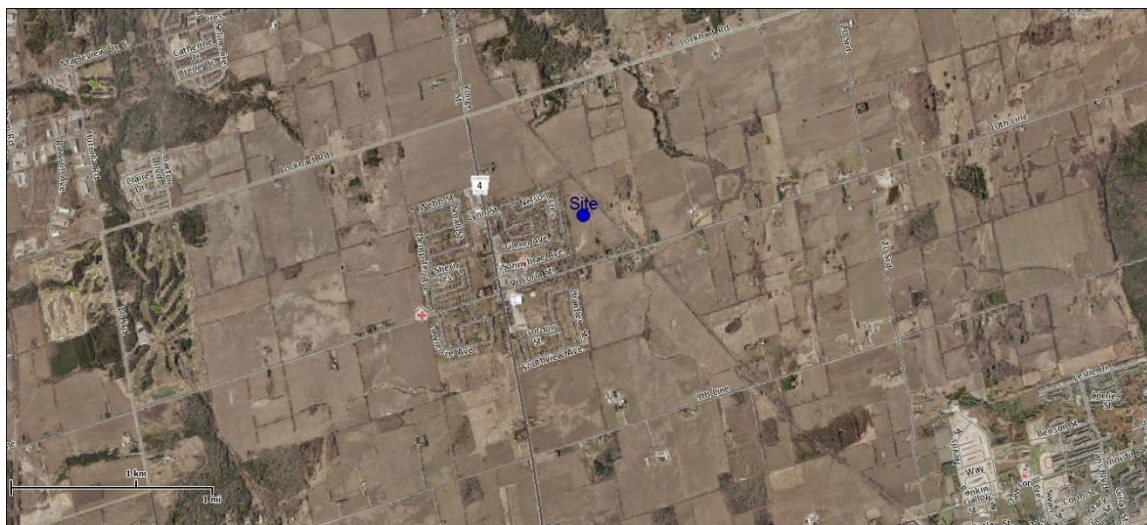


**2002 Aerial Photo**





**2008 Aerial Photo**



**Site location in Town of Innisfil**

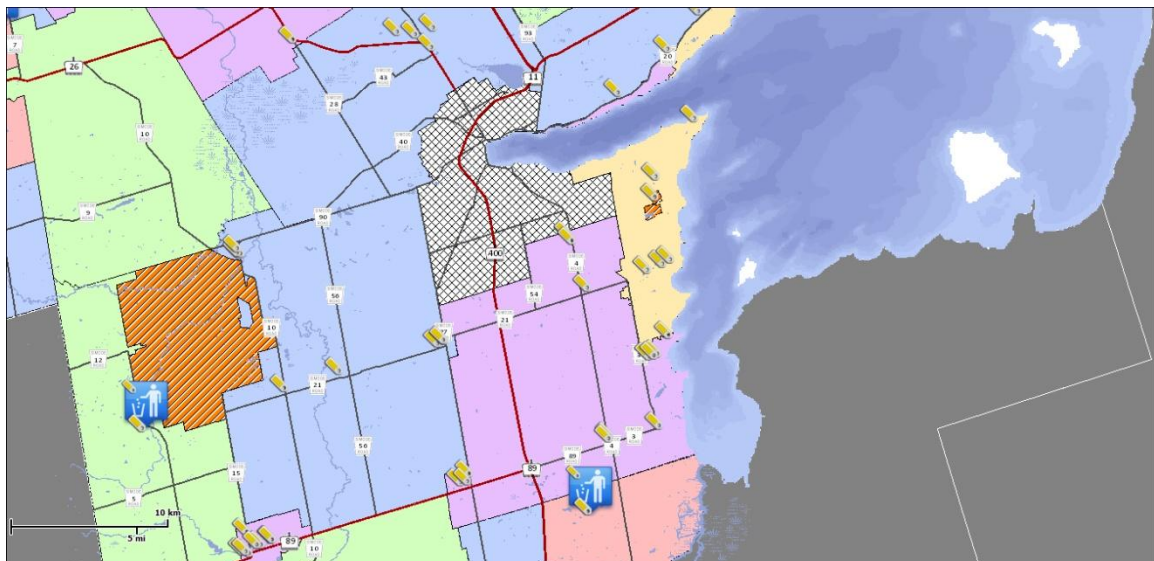




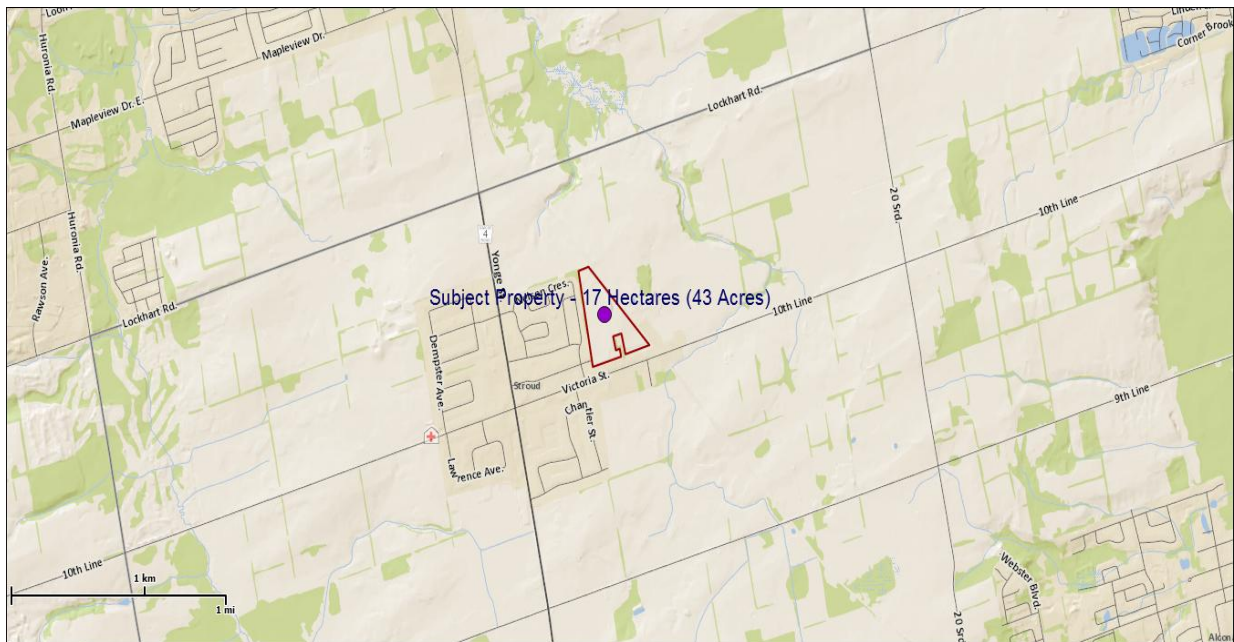
## APPENDIX IV Maps



**Location of Site in relation to Lake Simcoe, Barrie, and the 400**



**Landfill locations in Innisfil, marked by blue symbols**



**Subject property on north east edge of Stroud**



## APPENDIX V Qualifications of Assessor



BRIAN A. EMMS, C.E.T.  
Certified Environmental Engineering Technologist

EDUCATION:

Jan 1995 – Dec 1997 Georgian College of Applied Arts and Technology  
Environmental Engineering Technology  
Auto-Cad, G.I.S. mapping, organic/environmental chemistry, geology,  
aquatic biology, project management, land division, surveying, aerial  
photograph interpretation, environmental/soil sciences, soil properties,  
environmental assessments, engineering principles, environmental law, air  
pollution control, solid waste management, water and wastewater  
treatment

1994 - 1996 International Correspondence School  
Wildlife and Forestry Conservation  
Reforestation, logging, private nursery practices, wildlife management,  
waterfowl, upland game birds, wildlife law enforcement

1978 - 1980 St. Clair College, Ontario Management Development  
Program

ADDITIONAL ENVIRONMENTAL COURSES:

- Waste Auditing / Reduction Planning Certificate
- Bill 143 Compliance Program Workshop
- Environmental Landscaping
- ISO 14001 Environmental Management Systems Workshop
- Phase I and Phase II Environmental Site Assessments-Lexus
- Remediation By Natural Attenuation
- MOE-RSC& SSRA Guideline Best Practices and Pitfalls
- Erosion Control and Soil Stabilisation
- Remediation Technologies For Groundwater
- Environmental Field Screening Technologies 2002
- Brownfield Remediation
- Environmental Regulation & Compliance 2002
- Contaminated & Hazardous Waste Site Management Course-2004
- Dealing With Industrial Contaminated Land Regulation & Compliance -2005
- Dealing With Industrial Contaminated Land Regulation & Compliance - 2006
- New Environmental Technologies in Canada – 2007
- Mould Identification, Analysis and Remediation – 2008
- Dealing With Industrial Contaminated Land Regulation & Compliance – 2009, 2010



## RELATED EXPERIENCE:

February 2001- Present BAE & Associates (pka) Environmental Solutions  
Principal / Senior Environmental Technologist

- marketing, contract negotiations, project administration / management,
- Phase I, II and III Environmental Site Assessments / remediation, Emergency Spill Response, geotechnical investigations, Brownfield Rehabilitation, Mould Recognition and Removal.

May 1997-January 2001 Prominent Environmental Firm.  
Branch / Project Manager  
Barrie, ON

- marketing, contract negotiations, project administration / management, Phase I, II and III Environmental Site Assessments \ remediation, report writing, RSC
- geotechnical investigations, asbestos abatement, demolition
- liaison between clients and government agencies.

April-December 1996 (Co-op) RE/MAX Chay  
Vegetation, Soil and Farm Remediator  
Barrie, ON

- conducting erosion control studies
- implementing materials recycling program

April-November 1995 (Co-op) Soil Enrichment Systems  
Field Management/Equipment Operator  
Maple, ON

- implementing erosion control practices
- develop enhancement for fish habitat and stream re-alignment

Memberships: Ontario Association of Certified Engineering Technicians and Technologists  
Certified Member (OACETT)  
Canadian Environmental Certification Approvals Board (CECAB)

Accomplishments: Royal Victoria Hospital Volunteer  
Big Brother  
United Nations Peacekeeper in Cyprus  
Combined Insurance Hall of Fame  
Participant in the Development of Ministry of Municipal

Affairs and

Housing – Brownfields Showcase



## APPENDIX VI MOE Data and Requests





**Freedom of Information & Protection of Privacy Office**

Ministry of the Environment  
40 St. Clair Avenue West, 12th floor  
Toronto, Ontario  
M4V 1M2  
Phone: 416-314-4075  
Fax: 416-314-4285  
[www.ene.gov.on.ca](http://www.ene.gov.on.ca)

May 5, 2012

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Re: Innisfil Executive Estates, 2008 Victoria Street, Ontario

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FOI Office

I am writing on behalf of BAE & Associates, in regards to a records request under the Freedom of Information and Protection of Privacy Act (FOIPPA) for the above mentioned address.

BAE & Associates has been retained to perform a Phase I Environmental Site Report for the property at 15 Progress Drive, Orillia, and we require a records search of the property for well water information records, potential concerns or any other information regarding the aforementioned address you may have in your archives.

Please forward any pertinent information to the following name and address:

Brian A. Emms, C.E.T.  
18 Parkview Ave., RR#1 Oro station, On, L0L2E0  
[envsol@rogers.com](mailto:envsol@rogers.com)

Thank you for your time.





## APPENDIX VII Ontario Geology Plate

# GEOLOGY AND PRINCIPAL MINERALS OF ONTARIO

