PHASE I ENVIRONMENTAL SITE ASSESSMENT
PART LOTS 27, 28, 29, BEASLEY'S BROKEN FRONT CONCESSION
CAMBRIDGE, ONTARIO

Submitted to:

Mr. Ken W. Hodges, Vice President
Delcan Corporation
1069 Wellington Road South
Suite 214
London, Ontario
N6E 2H6

Submitted by:

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario
N2H 5E1

File No.: 07-07-K20
February 28, 2008
February 28, 2008
File No.: 07-07-K20

Mr. Ken W. Hodges, Vice President
Delcan Corporation
1069 Wellington Road South
Suite 214
London, Ontario
N6E 2H6

Attention: Mr. Hodges:

Re: PHASE I ENVIRONMENTAL SITE ASSESSMENT
PART LOTS 27, 28, 29, BEASLEY’S BROKEN FRONT CONCESSION
CITY OF CAMBRIDGE

We take pleasure in enclosing four (4) copies of our Phase I Environmental Site Assessment report conducted for the above-referenced property.

If you have any questions or clarifications are required, please contact the undersigned at your convenience.

We thank you for giving us this opportunity to be of service to you.

Yours truly,
CHUNG & VANDER DOELEN ENGINEERING LTD.

Michael J. Letebvre, P.Geo.
Manager, Environmental Services
EXECUTIVE SUMMARY

CHUNG & VANDER DOELEN ENGINEERING LTD. (CVD) was retained by Mr. Ken W. Hodges of Delcan Corporation on behalf of The City of Cambridge to conduct a Phase I Environmental Site Assessment (ESA) of a vacant parcel of land located at Pt. Lots 27, 28, 29, Beasley’s Broken Front Concession in Cambridge, Ontario (hereinafter referred to as the “Site”).

The purpose of the Phase I ESA was to identify actual or potential contamination associated with the subject property. It is CVD’s understanding that this Phase I ESA is part of the due diligence requirements to support the development of the Site.

The Site is an irregular-shaped property that is approximately 215 acres in size and is located in an industrial and residential area bordered by Maple Grove Road to the north, Royal Oak Road to the south, Speedsville Road to the east, and Boxwood Drive to the west.

At the present time, the property is a vacant undeveloped parcel of land characterised by agricultural fields and isolated woodlots. Two storm water management areas are currently present on the north portion and the south portion of the Site. A tributary of the Speed River (West Creek) flows through the south portion of the property. A second tributary (Middle Creek) extends along Maple Grove Road on the north portion of the property. No structures are currently present on the property.

According to available research resources including aerial photographs, the Site historically has been part of the agricultural land uses that were located north of the Town of Preston (City of Cambridge). The Site was occupied by a minimum of two rural residential/farm properties that were accessed from Speedsville Road. A 1955 aerial photograph shows a rural residential building with several secondary structures (barn and shed) on the northern portion of the Site. The aerial photograph from 1955 also shows several dwellings and secondary buildings and several material extraction areas along the southern portion of the Site. By 1971 one of the dwellings on the south portion of the Site has been demolished and a retention pond has been constructed along a tributary of the Speed River.

Based on the results of the Phase I ESA, no actual or potential sources of contamination were identified on the Site. Environmentally hazardous materials and significant sources of contamination were not documented on the Site during the Phase I ESA. The Phase I ESA however, did identify several potential sources of contamination on adjacent properties that have the potential to adversely impact the Site.

Light industrial and machinery maintenance related activities currently and historically conducted on adjacent properties including Casselman’s Welding and Fabricating Ltd., The Battery Shop and the Logel property are a potential environmental liability to the Site. The identified adjacent properties are located along Speedsville Road and Royal Oak Road.

Additional environmental investigations may be warranted by City of Cambridge or future individual property owners to determine the extent of the potential liabilities from the identified adjacent lands.
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CHUNG & VANDER DOELEN ENGINEERING LTD.
1.0 INTRODUCTION

1.1 Purpose

CHUNG & VANDER DOELEN ENGINEERING LTD. (CVD) was retained by Mr. Ken W. Hodges of Delcan Corporation on behalf of The City of Cambridge to conduct a Phase I Environmental Site Assessment (ESA) of a vacant parcel of land located at Pt. Lots 27, 28, 29, Beasley's Broken Front Concession in Cambridge, Ontario (hereinafter referred to as the “Site”).

The purpose of the Phase I ESA was to identify actual or potential contamination associated with the subject property. It is CVD’s understanding that this Phase I ESA is part of the due diligence requirements to support the development of the Site.

Appendix A shows the location of the Site. A Site Plan is available in Appendix B.

1.2 Objectives and Scope of Work

A Phase I Environmental Site Assessment is a thorough review of all activities that may have impacted the Site from an environmental standpoint.

CVD conducted this Phase I Environmental Site Assessment in accordance with Canadian Standards Association (CSA) Z768-01 (2001)\(^1\) requirements and Ontario Regulation 153/04. The above-noted procedures set standards for review of information pertaining to the Site, development of detailed checklists or protocols, conducting the Site inspection, and preparation of the final report.

The scope of work for the Phase I ESA consisted of the following tasks:

- Review the historical occupancy of the Site, through the use of available archived municipal and business directories, fire insurance plans, and aerial photographs;

- Review the current use of the Site and the potential commercial/industrial practices that may have impacted its environmental condition;

- Review the current use of the surrounding properties and the commercial/industrial practices that may have impacted the environmental condition of the Site;

---

\(^1\) Canadian Standard Association (CSA), 2001, Phase I Environmental Site Assessment (CSA Z768-01), Toronto, Canada.
2.2 Historical Records Review

Aerial Photographs

Aerial photographs for the years 1955, 1971, 1980, 1990, 1993, 2000 and 2006 located at the University of Waterloo Map & Design Library, in Waterloo, Ontario were reviewed. Aerial photographs are enclosed in Appendix C.

Fire Insurance Plans (FIPs)

There are no Fire Insurance Plans (FIPs) that include the boundaries of the Site.

City Directory

City Directories were not available for the Site.

3.0 SITE DESCRIPTION

The Site is an irregular-shaped property that is approximately 215 acres in size and is located in an industrial and residential area bordered by Maple Grove Road to the north, Royal Oak Road to the south, Speedsville Road to the east, and Boxwood Drive to the west.

At the present time, the property is a vacant undeveloped parcel of land characterised by agricultural fields and isolated woodlots. Two storm water management areas are currently present on the north portion and the south portion of the Site. A tributary of the Speed River (West Creek) flows through the south portion of the property. A second tributary (Middle Creek) extends along Maple Grove Road on the north portion of the property. No structures are currently present on the property.

The features of the Site are illustrated in Appendix B.

4.0 HISTORY OF THE SITE AND ADJACENT AREA

4.1 Site History

According to available research resources including aerial photographs, the Site historically has been part of the agricultural land uses that were located north of the Town of Preston (City of Cambridge). The Site was occupied by a minimum of two rural residential/farm properties that were accessed from Speedsville Road.

A 1955 aerial photograph shows a rural residential building with several secondary structures (barn and shed) on the northern portion of the Site. The aerial photograph from 1955 also shows several dwellings and secondary buildings and several material extraction areas along the southern portion of the Site.
The Battery Shop has occupied the property since approximately the late 1990's. Prior to the late 1990's, the property was occupied by an excavating and equipment repair facility (Langs Excavating). The building currently occupied by The Battery Shop was used to service trucks and machinery. A covered mechanic pit, several drains and a holding tank were observed inside the building. A monitoring well was observed on the north side of the building.

An automobile service garage and a stone quarry operated by Arriscraft Corporation are located beyond Speedsville Road. Arriscraft Corporation specialises in the manufacturing of cut stone and stone building products.

West of the Site:

Adjacent to the west of the Site is Boxwood Drive beyond which are industrial land uses. Properties located west of the Site include the 400 acre automotive assembly plant Toyota Motor Manufacturing Canada Inc.

4.3 Summary

Historical records indicate that the Site has been part of the agricultural land uses that were located north of the Town of Preston (City of Cambridge). Several rural residential/farm properties were located along Speedsville Road for many years. The residential buildings and ancillary barns and sheds were demolished and removed from the Site between 1980 and 1990.

Light industrial and maintenance based activities currently and historically have been located on adjacent properties along Speedsville Road and Royal Oak Road. Casselman's Welding and Fabricating Ltd., and The Battery Shop currently have manufacturing/maintenance based activities that use various chemical parameters including petroleum hydrocarbons, solvents and metal based acids over an extended period of time. Vehicle and machinery related maintenance activities related to the historical operations of Langs Excavating and Logels also potentially used various chemical parameters including petroleum hydrocarbons and solvents over an extended period of time.

5.0 PHYSICAL SETTING

5.1 Site Physiography

The geology and hydrogeology of the area were determined by a review of the Ministry of Northern Development and Mines, Quaternary Geology of Southern Ontario, Cambridge Area Sheet, Map 2508.

Based on information contained in the above-mentioned map, the soils in the area of the Site are comprised of glaciofluvial ice-contact deposits which consist of gravel and sand. The bedrock in the area is part of the Guelph Formation and consists of sandstone, shale, dolostone, and siltstone from the Phanerzoic Era.
5.6 Soil Fill and Land Reclamation

Fill material composition and source location are considerations in determining whether environmental concerns are present. A significant amount of fill material was observed on the northeast corner of the property. CVD excavated exploratory test pits in this fill area during a geotechnical investigation conducted on August 22, 2007. The fill was found to be indigenous soil moved around from other areas of the Site, indicating that fill material has not been imported on to the Site from another source.

6.0 BUILDING DESCRIPTION

6.1 Main Structure

The Site is currently a vacant undeveloped property with no structures or buildings present. (see Photographs 1 to 6 in Appendix D). A Site Plan is available in Appendix B.

6.2 Exterior Observations

At the present time, the property is a vacant undeveloped parcel of land characterised by agricultural fields and isolated woodlots. A small amount of refuse was observed on the northeast corner of the Site. The refuse include household furniture and refuse, landscaping waste, construction waste, used tires, wood and wooden pallets and several small sealed containers of waste oil. CVD did not observe any stains or leaks related to the containers of waste oil.

A storm water management area on the north portion of the Site drains to Middle Creek and a storm water management area on the south portion of the Site drains to a small tributary (West Creek) which flows through the south portion of the Site.

6.3 Chemical Inventory, Storage, and Handling

No hazardous chemicals were observed to be stored at the Site at the time of the Site walk-over. Chemical leaks or spills were not observed during the Site visit. According to available information chemicals have not been historically generated or stored on-Site.
All substances or combinations of substances, whether biological, chemical or physical in nature, deemed to fall under the criteria of a "designated substance" are subject to special treatment by workplaces in accordance to a set of substance specific rules and regulations.

At present, specific regulations have been made to control workplace exposure to all of the following substances:

- Acrylonitrile (O. Reg. 835);
- Arsenic (O. Reg. 836);
- Asbestos (O. Reg. 278/05);
- Benzene (O. Reg. 839);
- Coke Oven Emissions (O. Reg. 840);
- Ethylene Oxide (O. Reg. 841);
- Isocyanates (O. Reg. 842);
- Lead (O. Reg. 843);
- Mercury (O. Reg. 844);
- Silica (O. Reg. 845); and,
- Vinyl Chloride (O. Reg. 846)

6.6.1 Asbestos Containing Materials (ACMs)

Asbestos is a group of naturally occurring minerals, formerly used for thermal and acoustic insulation, as well as fireproofing. The use of asbestos was common due to its strength and resistance to heat, and is often found in old ceiling tiles, pipe and vessel insulation, blown into structural beams and ceilings, in floor tile, linoleum, and mastic. The use of asbestos building materials was banned in Canada in the late 1970's.

Asbestos is not always an immediate hazard; though when asbestos containing materials are disturbed, microscopic fibres become airborne and may be inhaled by humans, where it may cause cancer and lung disease.

CVD did not observe any likely sources of ACMs at the Site, and none are expected.

6.6.2 Lead

Lead is a highly toxic metal which, when present in the human body (in sufficient quantities), attacks the central nervous system and can result in numerous health problems. Lead-based paints have not been used since the late 1970's, when the U.S. Department of Housing and Urban Development (HUD) banned it for use in all homes and most other buildings.

CVD did not observe any likely sources of lead paint at the Site, and none are expected.
6.10 **Ozone Depleting Substances (ODSs)**

The following substances are ozone-depleting substances (ODSs):

- Chlorofluorocarbons (CFCs) - widely used in refrigerants, aerosol repellents, and foam insulation;

- Halons - composed of brominated fluorocarbons, and have been used in fire extinguishing equipment;

- Other products - methyl chloroform and carbon tetrachloride have been used mainly in industry as degreasers and adhesives, and for chemical processing.

Due to the nature of ODSs and their potential impact to the environment, their use, transport, storage, and disposal is strictly enforced. Canada's current position on CFCs is complete elimination by 2020. Although there is no requirement to remove ODSs from active units, any servicing must be performed by contractors that have appropriate certification.

CVD did not observe any likely sources of ODSs at the Site, and none are expected.

7.0 **CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of the Phase I ESA, no actual or potential sources of contamination were identified on the Site. Environmentally hazardous materials and significant sources of contamination were not documented on the Site during the Phase I ESA. The Phase I ESA however, did identify several potential sources of contamination on adjacent properties that have the potential to adversely impact the Site.

Light industrial and machinery maintenance related activities currently and historically conducted on adjacent properties including Casselman's Welding and Fabricating Ltd., The Battery Shop and the Logel property are a potential environmental liability to the Site. The identified adjacent properties are located along Speedsville Road and Royal Oak Road.

Additional environmental investigations may be warranted by City of Cambridge or future individual property owners to determine the extent of the potential liabilities from the identified adjacent lands.
APPENDIX A

KEY PLAN
Approximate Site Boundary

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario, N2H 5E1
Phone: (519) 742-8979  Fax: (519) 742-7739
E-mail: info@cvdeengineering.com

KEY PLAN

Date: Feb. 2008

Scale: NTS

File No.: 07-07-K20

Appendix: A

PT. LOTS 27, 28, 29, BEASLEY'S BROKEN FRONT CONCESSION
CANTON, CANADA
APPENDIX B
SITE PLAN
Approximate Site Boundary

CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario, N2H 5E1
Phone: (519) 742-8979  Fax: (519) 742-7739
E-mail: info@cvdengineering.com

SITE PLAN
PT LOTS 27, 28, 29, BEASLY'S BROKEN FRONT CONCESSION
CAMBRIDGE, ONTARIO

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APPENDIX C

AERIAL PHOTOGRAPHS
CHUNG & VANDER DOELEN ENGINEERING LTD.
311 Victoria Street North
Kitchener, Ontario, N2H 5E1
Phone: (519) 742-8578 Fax: (519) 742-7739
E-mail: info@cvengineering.com

AERIAL PHOTO - 1990
PT. LOTS 27, 28, 29, BEASLEY'S BROKEN FRONT CONCESSION
CAMBRIDGE, ONTARIO

Date: Feb. 2008
Scale: NTS
File No.: 07-07-K20
Appendix: C
APPENDIX  D

SITE PHOTOGRAPHS
Photograph 1: View facing east of property bordering along Maple Grove Road.

Photograph 2: View facing south of property bordering on Boxwood Drive.
Photograph 3: View facing east of pond area along Boxwood Drive.

Photograph 4: View facing south of property from Maple Grove Road.
Photograph 5: View facing west of property with the Toyota manufacturing facility in the background.

Photograph 6: View of debris and tires at the northeast corner of the property.
APPENDIX E

QUALIFICATIONS OF ASSESSOR
Environmental Site Assessor

Mr. Lefebvre has over 15 years of experience in environmental assessment and project management providing site investigation, remediation services, for the industrial, commercial and municipal sectors. Mr. Lefebvre extensive experience in environmental management, environmental auditing, remedial design, project implementation, environmental clean up, and site decommissioning.

Mr. Lefebvre has specialized in the development and implementation of environmental work plans and programs for a broad range of clients in the property management, insurance, automotive, chemical, manufacturing and transportation sectors.

Education

- Bachelor of Environmental Studies, University of Waterloo, 1986

Professional Affiliations

- Association of Professional Geoscientists of Ontario

Project Experience

Mr. Lefebvre has conducted over 400 Phase I and Phase II Environmental Site Assessments for various commercial and industrial properties including service stations, shopping plazas, apartment buildings and industrial manufacturing facilities.

Mr. Lefebvre has conducted numerous major environmental decommissioning projects. His areas of expertise include regulatory liaison, industrial plant decommissioning, spill cleanup, reclamation, and site rehabilitation.

Mr. Lefebvre conducted compliance audits in various industrial settings over the past four years and has assisted in the preparation of companies for ISO 14001 registration. Mr. Lefebvre has conducted compliance audits for the automotive, packaging sector and conducted numerous pre-acquisition environmental compliance audits throughout Ontario, for the insurance, property acquisition and banking industry.

M. Lefebvre has supervised over 100 underground storage tank removal projects and provided direction for further remedial activities when required.

Mr. Lefebvre has provided peer review to Canada Mortgage and Housing Corporation on environmental matters related to environmental site assessment and clean up/decommissioning activities.

CHUNG & VANDER DOELEN ENGINEERING LTD.