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Phase I Environmental Site Assessment

Vacant Property
927 Richmond Road and 108 Woodroffe Avenue
Ottawa, Ontario

Prepared For

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Westboro Point Developments Inc. to conduct a Phase I Environmental Site Assessment (ESA) of 927 Richmond Road and 108 Woodroffe Avenue, in the City of Ottawa, Ontario. The purpose of this Phase I-Environmental Site Assessment (Phase I-ESA) was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

According to the historical research, the subject site was first developed with a residential dwelling as early as 1932. The property has always been used for residential purposes, however a grocery/convenience store did operate on the ground floor of 927 Richmond Road since the 1960's. The dwellings were demolished in 2012 and a temporary showroom trailer was installed in 2013. The trailer was removed in January 2017 leaving the property totally vacant. No potentially contaminating activities were identified on the subject property; however, several historical potentially contaminating activities were identified on surrounding properties. These included a former rail line to the north, and two retail fuel outlets to the east. Only the former retail fuel outlet located to the east, across Woodroffe Avenue, was considered to have created an area of potential environmental concern. According to a Phase II-ESA conducted by Paterson in 2008, and follow-up testing conducted in 2015, the site soils appear to comply with site standards. Groundwater was in compliance with the site standards as well, with the exception of groundwater identified in borehole BH2, where the F2 petroleum hydrocarbon and toluene parameters concentrations were above the site standards.

Following the historical research, a site inspection was conducted of the subject site and Phase I ESA study area. The subject site was vacant at the time and in part overgrown with vegetation. Debris was noted in small piles, and scattered across the property, and a small pile of used tires was noted as well. No concerns were identified with the subject site or adjacent properties.

Based on the results of this Phase I-ESA, and the previous Phase II-ESA work, no further subsurface investigatory work is required.

Recommendations

Prior to site redevelopment, the monitoring wells should be re-sampled, in particular the well at BH2, to confirm the groundwater quality.

If the groundwater at BH2 is found to be impacted with PHC and BTEX parameters as it was in 2008, then the impacted groundwater must be managed during the site excavation and redevelopment activities.

Smaller amounts of impacted groundwater can be pumped and hauled off-site by a licensed pump truck, while larger volumes of impacted water will need to be treated using a treatment system designed for the impacts encountered. Prior to discharge of groundwater (treated or otherwise) to the municipal sewer system, a sewer discharge agreement with the City of Ottawa will need to be established, and further analytical testing of the water to be discharged will be required at that time.

All debris located on the property, including tires and used construction materials, must be properly disposed of. Prior to, or in conjunction with, site redevelopment, the metal impacts (above background standards) in the vicinity of borehole BH7 should be further delineated. Any soils exceeding MOECC Table 1 background standards should be disposed of at an approved waste disposal facility. A Toxicity Characteristic Leaching Procedure analysis on a representative soil sample will be required prior to disposal at a waste facility.

1.0 INTRODUCTION

At the request of Westboro Point Developments Inc., Paterson Group (Paterson) conducted a Phase I Environmental Site Assessment (Phase I ESA) of the property located at 927 Richmond Road and 108 Woodroffe Avenue, in the City of Ottawa, Ontario. The purpose of this Phase I ESA was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

Paterson was engaged to conduct this Phase I ESA by Mr. John A. Thomas. Westboro Point Developments' offices are located at 929 Richmond Road, Ottawa, Ontario. Mr. Thomas can be reached at 613-234-4346.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all of our findings and results of the environmental conditions at this site.

This Phase I-ESA report has been prepared in general accordance with Ontario Regulation 153/04 as amended by O.Reg. 269/11 (Environmental Protection Act), and also complies with the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

2.0 PHASE I PROPERTY INFORMATION

Address: 927 Richmond Road and 108 Woodroffe Avenue, Ottawa, Ontario.

Legal Description: Lots 11 and 12, Plan 421 Richmond Road N, City of Ottawa.

Property Identification Number: 03970-0001 and 03970-0002.

Location: The subject site is located in the northwest corner of the Richmond Road and Woodroffe Avenue intersection. The subject site is shown on Figure 1 - Key Plan following the body of this report.

Latitude and Longitude: 45° 22' 39" N, 75° 46' 30" W.

Site Description:

Configuration: Irregular.

Site Area: 2457 square meters (approximate).

Zoning: TM – Traditional Mainstreet Zone

Current Use: The property is currently vacant.

Services: The subject site is located in a municipally serviced area.

3.0 SCOPE OF INVESTIGATION

The scope of work for this Phase I – Environmental Site Assessment was as follows:

- Determine the historical activities on the subject site and study area by conducting a review of readily available records, reports, photographs, plans, mapping, databases and regulatory agencies;
- Investigate the existing conditions present at the subject site and study area by conducting site reconnaissance;
- Conduct interviews with persons knowledgeable of current and historic operations on the subject property, and if warranted, neighbouring properties;
- Present the results of our findings in a comprehensive report in general accordance with the requirements of Ontario Regulation 269/11 amending O.Reg. 153/04 made under the Environmental Protection Act and in compliance with the requirements of CSA Z768-01;
- Provide a preliminary environmental site evaluation based on our findings;
- Provide preliminary remediation recommendations and further investigative work if contamination is suspected or encountered.

4.0 RECORDS REVIEW

4.1 General

Phase I-ESA Study Area Determination

A radius of approximately 250 m was determined to be appropriate as a Phase I ESA study area for this assignment. Properties outside the 250 m radius are not considered to have impacted the subject land, based on their significant distance from the site.

First Developed Use Determination

The earlier information provided in the available chain of title dates from 1932, when the property was acquired by individuals. For the purposes of this report, the first developed use is considered to be residential.

Fire Insurance Plans

A fire Insurance Plan (FIP) from 1956 was reviewed for the area of the subject property.

In 1956, the subject property was shown to be occupied by four buildings; a dwelling located at 927 Richmond Road, another dwelling at 108 Woodroffe Avenue and two smaller buildings located towards the rear of the lot.

Adjacent properties consisted of residential, commercial and community use properties consisting of dwellings, a retail fuel outlet (to the east) at 917 Richmond Road (15 m to the east), and churches to the southwest and southeast. A Canadian Pacific rail line was located adjacent to the north of the site. A second retail fuel outlet was located further to the east, approximately 150 m away along Richmond Road.

The former retail fuel outlet to the east may have had the potential to impact the subject site, creating an area of potential environmental concern (APEC) on the eastern side of the subject site. This will be discussed further later in the report.

The Canadian Pacific rail line and the former retail fuel outlet located further down Richmond Road are considered to be potentially contaminating activities (PCAs), however due to their locations downgradient and cross gradient, as well as the separation distance from the retail fuel outlet, they are not considered to have created areas of potential environmental concern on the subject site.

City of Ottawa Street Directories

Limited city directories were reviewed as part of the Phase I ESA. Based on this review, the subject property has always been primarily residential however a grocery store has been listed intermittently at 927 (or 929 Richmond Road) since the 1960's.

Chain of Title

Based on the available chain of title, the records date to the 1930's when the lands were transferred between private individuals, up until the most recent transactions (1991 and 1997). The present owner acquired part of the the property in 2010, and the remainder in 2012.

Environmental Reports

- "Phase I Environmental Site Assessment – 108 Woodroffe Avenue / 927/929 Richmond Road, Ottawa, Ontario" prepared by T. Harris Environmental Management Inc. (February 2008)

At the time of the Phase I-ESA, the subject property was occupied by a two storey house and a three storey buildings consisting of a store and an apartment. It was reported that the dwelling at 108 Woodroffe Avenue was heated by oil, and had an aboveground oil storage tank in the basement. No concerns were noted with respect to the subject site, however it was recommended that a limited Phase II ESA be conducted on the subject property to address soil and groundwater conditions which may have been impacted by two retail fuel outlets formerly located to the east, and further east.

- "Phase II – Environmental Site Assessment, Proposed 8 Storey Development, Richmond Road at Woodroffe Avenue, Ottawa, Ontario" prepared by Paterson Group (February 2008)

Prepared in conjunction with a geotechnical investigation, Paterson conducted a Phase II-ESA on the subject property to address concerns related to the former retail fuel outlet identified in the Phase I-ESA by T. Harris Environmental. Two boreholes, both instrumented with groundwater monitoring wells, were placed along the eastern side of the property, across from the former retail fuel outlet. An additional two boreholes were placed on the western side of the property, for general site coverage. Bedrock was encountered between 2.3 m below grade in the southwest corner (BH1) to 0.8 m in the southeast corner (BH4). The monitoring wells at BH2 and BH4 were both installed within the dolostone bedrock.

Two soil samples, one from borehole BH2 and the other from BH4, were submitted for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX) as well as petroleum hydrocarbons (PHCs). None of the parameters were detected above the laboratory detection limit, with the exception the F3 fraction of PHCs in the sample from borehole BH2. The results comply with background soil standards.

Two groundwater samples were also collected for analysis of PHCs and BTEX from the monitoring wells at BH2 and BH4. No detections of the analytical test parameters were identified in the groundwater sample collected from BH4. The F1 and F2 PHC fractions were detected in the groundwater from BH2, as well as toluene and xylenes. When comparing to present day site standard values, both the toluene and F2 PHC concentrations would exceed the site standard for the subject property.

It was recommended that further delineation be conducted prior to site redevelopment to assess the soil conditions. Additionally, recommendations were provided to re-test the groundwater from the monitoring well at BH2.

In 2015, Paterson returned to the property to advance three additional boreholes, each instrumented with a groundwater monitoring well. Borehole BH6 was placed on the east side of the property, between BH2 and BH4, while boreholes BH5 and BH7 were placed to the west and north for general coverage.

Soil samples were selected from each of the boreholes and submitted for analysis of metals in BH5 and BH7 (analysis of the fill material) as well as PHC and BTEX in borehole BH6.

None of the PHC or BTEX parameters were detected above the laboratory detection limits in the sample from BH6. All metals parameters were in compliance with the MOECC site standards, however due to matrix interference in the soil samples from BH5 and BH7, the samples had an elevated detection limit, which in some cases (thallium), exceeded the MOECC site standard. Certain metals parameters were also found to exceed background standards at BH7.

Groundwater samples were collected from the monitoring wells at BH6 and BH7. The samples were submitted for analysis of PHCs and BTEX.

None of the analytical parameters were identified above the laboratory detection limits and all results are in compliance with the MOECC site standards.

Current Plan of Survey

A topographic plan showing the subject property was prepared in 2008 by Annis, O’Sullivan, Vollebekk Ltd. The plan shows the two former buildings on the property.

4.2 Environmental Source Information

Environment Canada

A search of the National Pollutant Release Inventory (NPRI) was conducted electronically on November 6, 2017. The subject site and adjacent properties were not listed in the NPRI database. No records of pollutant release were listed in the database for properties located within the Phase I Study Area.

PCB Inventory

A search of national PCB waste storage sites was conducted. No PCB waste storage sites are located within the Phase I study area.

Ontario Ministry of Environment and Climate Change (MOECC) Instruments

A request was submitted to the MOECC Freedom of Information office for information with respect to certificates of approval, permits to take water, certificates of property use or any other similar MOECC issued instruments for the site. A response from the MOECC had not been received at the time of preparing the Phase I-ESA. The response will be forwarded to the client when it becomes available, if there is any pertinent information.

MOECC Coal Gasification Plant Inventory

The Ontario Ministry of Environment and Climate Change document titled “Municipal Coal Gasification Plant Site Inventory, 1991” was reviewed to reference the locations of former plants with respect to the site. No coal gasification plants were identified within the Phase I study area.

MOECC Incident Reports

A request was submitted to the MOECC Freedom of Information office for information with respect to records concerning environmental incidents, orders, offences, spills, discharges of contaminants or inspections maintained by the MOECC for the site or adjacent properties.

A response from the MOECC had not been received at the time of preparing the Phase I-ESA. The response will be forwarded to the client when it becomes available, if there is any pertinent information.

MOECC Waste Management Records

A request was submitted to the MOECC Freedom of Information office for information with respect to waste management records. A response from the MOECC had not been received at the time of preparing the Phase I-ESA. The response will be forwarded to the client when it becomes available, if there is any pertinent information.

MOECC Submissions

A request was submitted to the MOECC Freedom of Information office for information with respect to reports related to environmental conditions have been submitted to the MOECC. A response from the MOECC had not been received at the time of preparing the Phase I-ESA. The response will be forwarded to the client when it becomes available, if there is any pertinent information.

MOECC Brownfields Environmental Site Registry

A search of the MOECC Brownfields Environmental Site Registry was conducted as part of this assessment for the site, neighbouring properties and the general area of the site. No Records of Site Condition (RSCs) were filed for the subject property or properties within the Phase I study area.

MOECC Waste Disposal Site Inventory

The Ontario Ministry of Environment and Climate Change document titled “Waste Disposal Site Inventory in Ontario, 1991” was reviewed as part of the historical research. This document includes all recorded active and closed waste disposal sites, industrial manufactured gas plants and coal tar distillation plants in the Province of Ontario. There are no active or closed sites listed within the Phase I study area in the waste disposal site inventory.

City of Ottawa Landfill Document

The document entitled “Old Landfill Management Strategy, Phase I – Identification of Sites, City of Ottawa”, was reviewed. Based on this report, there are no landfill sites identified within the Phase I study area.

Areas of Natural Significance

A search for areas of natural significance and features within the Phase I study area was conducted on the web site of the Ontario Ministry of Natural Resources (MNR) on November 6, 2017. The search did not reveal any natural features or areas of natural significance within the Phase I study area.

Technical Standards and Safety Authority (TSSA)

The TSSA, Fuels Safety Branch in Toronto was contacted electronically on November 7, 2017 to inquire about current and former underground storage tanks, spills and incidents for the site and neighbouring properties. No records were identified for the subject site or adjacent properties. A copy of the TSSA correspondence is included in Appendix 2.

City of Ottawa Historical Land Use Inventory

A requisition form will be sent to the City of Ottawa to request information from the City's Historical Land Use Inventory (HLUI 2005) database for the subject property. The response from the City will be forwarded to the client as soon as it becomes available.

Former Industrial Sites

The report entitled "Mapping and Assessment of Former Industrial Sites, City of Ottawa" was also reviewed. The subject site and neighbouring properties within the Phase I study area were not listed in the database of former industrial sites.

4.3 Physical Setting Sources

Aerial Photographs

Historical air photos from the National Air Photo Library were reviewed in approximate ten (10) year intervals. The review period dates back to the first available air photos for the site. Based on the review, the following observations have been made:

- | | |
|------|--|
| 1945 | Three buildings can be seen on the subject property; one dwelling along Richmond Road and another along Woodroffe Avenue. The third building, located in the northwestern corner of the property, appears to be a large shed. The property to the west appears vacant, while properties to the north and south appear to be used for residential purposes. |
|------|--|

1952	No significant changes appear to have been made to the subject property. Neighbouring properties to the north continue to be developed with residential dwellings. A commercial building has been constructed to the east of the site.
1976	Due to the poor resolution of the photograph, the subject site cannot be clearly shown. The adjacent property to the west appears to have been developed with a large building, similar to the one present today. The general study area appears to have been further developed with residential and commercial buildings.
1986	The third building on the subject property (formerly in the northwest corner) is no longer present. No other changes were noted on the subject site, or adjacent properties.
1994	The subject and neighbouring properties are relatively unchanged from the previous photo.
2005	The subject and neighbouring properties are relatively unchanged from the previous photo
2015	The former dwellings on the property have been demolished and a temporary showroom trailer has been constructed in the southeast corner of the site. No significant changes have been made to adjacent properties.

Laser copies of selected aerial photographs reviewed are included in Appendix 1.

Topographic Maps

Topographic maps were obtained from Natural Resources Canada – The Atlas of Canada website and from the City of Ottawa website. The topographic maps indicate that the regional topography in the general area of the site slopes downward to the north and the Ottawa River, approximately 300 m away. According to the maps, the subject site is located in an area with commercial and other large buildings (along Richmond Road and parts of Woodroffe Avenue) as well as residential areas to the north, south, and further east and west. An illustration of the referenced topographic map is presented on Figure 2 – Topographic Map, appended to this report.

Physiographic Maps

A Physiographic Map was reviewed from the Natural Resources Canada – The Atlas of Canada website. According to this physiographic map, the site is located

in the St. Lawrence Lowlands. According to the mapping description provided: “The lowlands are plain-like areas that were all affected by the Pleistocene glaciations and are therefore covered by surficial deposits and other features associated with the ice sheets.” The subject site is located in the Central St. Lawrence Lowland, which is generally less than 150 m above sea level.

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of limestone and dolomite of the Gull River formation. Overburden soils are shown as till, with a drift thickness on the order of 1-2 m.

Water Well Records

A search for water well records was conducted online on November 6, 2017 using the Well Records mapping system provided by the MOECC. Based on the information provided, five well records for domestic water wells exist within the study area. The wells are located to the south (at the church to the south of the site) as well as to the east and north. Due to the presence of municipal water services in the area, it is possible that the potable wells are no longer in use.

Water Bodies and Areas of Natural Significance

No creeks, rivers, streams, lakes or any other water body was identified in the Phase I study area. The nearest major water body is the Ottawa River, located 300 m north of the site. No areas of natural significance are known to exist within the Phase I study area.

5.0 INTERVIEWS

Property Owner Representative

Mr. John A. Thomas, representative of the property owners, was interviewed on November 7, 2017. Mr. Thomas indicated that the property is currently owned by Westboro Point Developments Ltd. Part of the subject site was acquired in 2010, and part in 2012. At the time, the properties were occupied by a two storey dwelling and a brick building with a convenience store at ground level with two apartments above. Both buildings were serviced with municipal services. The dwelling was heated by oil; the oil tank was removed by the owners. The site is to be redeveloped with an 18 storey apartment building with two and a half levels of underground parking.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

The site visit was conducted on November 7, 2017. Mr. Adrian Menyhart from the Environmental Department of Paterson Group conducted the site assessment. In addition to the site, the uses of neighbouring properties within the Phase I study area were also assessed at the time of the site visit.

6.2 Specific Observations at Phase I Property

Buildings and Structures

No buildings or structures are located on the property.

Underground Utilities

Based on older drawings, underground domestic water and gas entered the property from Richmond Road and Woodroffe Avenue. No signs of underground utilities were noted at the time of the site visit. A City owned aqueduct is located immediately adjacent to the north.

Site Features

The subject site is currently vacant. The floor slab of the former building at 927 Richmond Road was visible at ground surface. An area of old asphalt parking was present in the southwest corner of the property. The remainder of the property was significantly overgrown with vegetation. A large fallen tree was present in the northwest corner of the site. The property is relatively flat, with the exception of a depression near the centre of the site, potentially where a former structure was located.

No signs of stressed vegetation or surficial staining were noted.

Waste Storage and Disposal

Waste and debris was noted on the subject property. Debris consisted of construction materials such as wood and masonry. Scrap tires were also noted on the property.

Railway Lines

No active railway lines were noted in the study area.

Ozone Depleting Substances (ODSs)

No potential sources of ODSs were observed on site at the time of the site inspection.

Neighbouring Properties

An inspection of the neighbouring properties was conducted from publicly accessible roadways at the time of the site inspection. Land use adjacent to the subject site was as follows:

- North - Bike path followed by residential dwellings;
- South - Richmond Road followed by Byron Avenue and a funeral home;
- East - Woodroffe Avenue followed by restaurant then commercial plaza;
- West - Residential apartment building followed by Ottawa Honda (dealership and garage).

The current use of the immediately adjacent properties is not considered to pose an environmental concern to the subject site. Surrounding land use is shown on Drawing PE1373-2 – Surrounding Land Use Plan in the Figures section of this report.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Land Use History

The following table indicates the current and past uses of the site as well as associated potentially contaminating activities dating back to the first developed use of the site.

Table 1 Land Use History			
Time Period	Land Use	Potentially Contaminating Activities	Potential Environmental Concerns
Prior to 1932	Vacant	None	None
1932 – 2012	Residential/Commercial	None	None
2017 - Present	Vacant	None	None

Potentially Contaminating Activities

No potentially contaminating activities were identified on the subject property. Potentially contaminating activities in the study area include:

- 917 Richmond Road, former retail fuel outlet, located 15 m to the east
- 955 Richmond Road, Honda Ottawa dealership, with service garage, located 60 m to the southwest
- Former Canadian Pacific (C.P.) rail line, adjacent to the north
- 881 Richmond Road, former retail fuel outlet, approximately 150 m northeast

The automotive dealership with service garage and the former retail fuel outlet at 881 Richmond Road are both located cross-gradient with respect to the anticipated groundwater flow direction, which is considered to be headed in a northerly direction towards the Ottawa River. The former C.P. rail line was decommissioned between the 1960's and the 1970's and the lands have been converted to residential land use with the construction of dwellings. It is likely that the tracks, ballast and other fill material on that property has been removed as part of the redevelopment. Additionally, the former rail line is located downgradient from the subject site. Since the rail line was redeveloped with residential dwellings in recent time, an RSC would have been filed for the former rail line property.

The former retail fuel outlet at 917 Richmond Road is considered to have created an area of potential environmental concern on the eastern side of the subject site, which was assessed as part of prior subsurface investigations.

Areas of Potential Environmental Concern

The Area of Potential Environmental Concern identified in this Phase I ESA is described in Table 2.

Table 2					
Area of Potential Environmental Concern					
Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern with respect to Phase I Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Groundwater, Soil, and/or Sediment)
917 Richmond Road	Eastern side of property	Former retail fuel outlet: Item 28: Gasoline and Associated Products Storage in Fixed Tanks	Off-site, approximately 15 m east	PHC F1-F4, BTEX	Soil, Groundwater

Contaminants of Potential Concern

Based on the identified area of potential environmental concern, the following Contaminants of Potential Concern (CPCs) have been identified:

- Benzene, Ethylbenzene, Toluene, Xylenes (BTEX) – These parameters were selected as CPCs for the Phase I study area due to the former presence of a retail fuel outlet located across Woodroffe Avenue to the east. BTEX may be present in the soil matrix as well as in the dissolved phase in the groundwater system.
- Petroleum Hydrocarbons Fractions 1 through 4 (PHCs F1-F4) – this suite of parameters encompasses gasoline (Fraction 1), diesel and fuel oil (Fraction 2), and heavy oils (Fractions 3 and 4). PHCs F1-F4 was selected as a CPC due to the former presence of a retail fuel outlet located across Woodroffe Avenue to the east. PHCs may be present in the soil matrix, sorbed to soil particles, as well as in free or dissolved phase in the groundwater system.

Based on past subsurface investigations, PHC and BTEX impacts were identified in the groundwater at the northeastern corner of the property.

7.2 Conceptual Site Model

Geological and Hydrogeological Setting

The Phase I property is located in an area of till, with a drift thickness ranging from 1 to 2 m, overlying limestone and dolomite of the Gull River formation. Groundwater is anticipated to be flowing to the north, towards the Ottawa River.

Contaminants of Potential Concern

Contaminants of potential concern include benzene, ethylbenzene, toluene and xylenes and petroleum hydrocarbons.

Existing Buildings and Structures

The property is currently vacant

Water Bodies

There are no water bodies on the subject site or within the Phase I study area.

Areas of Natural Significance

No areas of natural significance were identified on the site or in the Phase I study area.

Drinking Water Wells

Five drinking water wells are located within the study area. They are located to the south, southeast and to the north. It is possible that the drinking water wells are no longer in use due to the presence of municipal potable water services in the study area. No wells were reported on the subject site.

Neighbouring Land Use

Currently, neighbouring land use in the Phase I study area is residential to the north, west and further south, commercial to the east and further west (along Richmond Road), and community use to the southeast (church).

Potentially Contaminating Activities and Areas of Potential Environmental Concern

Potentially Contaminating Activities resulting in Areas of Potential Environmental Concern identified on the subject site the former presence of a retail fuel outlet located to the east of the subject site. Other potentially contaminating activities in the area are not considered to have created areas of potential environmental concern, based on their separation distances, and their locations crossgradient or downgradient with respect to groundwater flow.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Phase I ESA is considered to be sufficient to conclude that there is an area of potential environmental concern on the subject site. The presence of potentially contaminating activities was confirmed by a variety of independent sources, and as such, the conclusions of this report are not affected by uncertainty which may be present with respect to the individual sources.

8.0 CONCLUSIONS

Assessment

Paterson Group was retained by Westboro Point Developments to conduct a Phase I Environmental Site Assessment (ESA) of 927 Richmond Road and 108 Woodroffe Avenue, in the City of Ottawa, Ontario. The purpose of this Phase I-Environmental Site Assessment (Phase I-ESA) was to research the past and current use of the site and study area and to identify any environmental concerns with the potential to have impacted the subject property.

According to the historical research, the subject site was first developed with a residential dwelling as early as 1932. The property has always been used for residential purposes, however a grocery/convenience store did operate on the ground floor of 927 Richmond Road since the 1960's. The dwellings were demolished in 2012 and a temporary showroom trailer was installed in 2013. The trailer was removed in January 2017 leaving the property totally vacant. No potentially contaminating activities were identified on the subject property; however, several historical potentially contaminating activities were identified on surrounding properties. These included a former rail line to the north, and two retail fuel outlets to the east. Only the former retail fuel outlet located to the east, across Woodroffe Avenue, was considered to have created an area of potential environmental concern. According to a Phase II-ESA conducted by Paterson in 2008, and follow-up testing conducted in 2015, the site soils appear to comply with site standards. Groundwater was in compliance with the site standards as well, with the exception of groundwater identified in borehole BH2, where the F2 petroleum hydrocarbon and toluene parameters concentrations were above the site standards.

Following the historical research, a site inspection was conducted of the subject site and Phase I ESA study area. The subject site was vacant at the time and in part overgrown with vegetation. Debris was noted in small piles, and scattered across the property, and a small pile of used tires was noted as well. No concerns were identified with the subject site or adjacent properties.

Based on the results of this Phase I-ESA, and the previous Phase II-ESA work, no further subsurface investigatory work is required.

Recommendations

Prior to site redevelopment, the monitoring wells should be re-sampled, in particular the well at BH2, to confirm the groundwater quality.

If the groundwater at BH2 is found to be impacted with PHC and BTEX parameters as it was in 2008, then the impacted groundwater must be managed during the site excavation and redevelopment activities.

Smaller amounts of impacted groundwater can be pumped and hauled off-site by a licensed pump truck, while larger volumes of impacted water will need to be treated using a treatment system designed for the impacts encountered. Prior to discharge of groundwater (treated or otherwise) to the municipal sewer system, a sewer discharge agreement with the City of Ottawa will need to be established, and further analytical testing of the water to be discharged will be required at that time.

All debris located on the property, including tires and used construction materials, must be properly disposed of. Prior to, or in conjunction with, site redevelopment, the metal impacts (above background standards) in the vicinity of borehole BH7 should be further delineated. Any soils exceeding MOECC Table 1 background standards should be disposed of at an approved waste disposal facility. A Toxicity Characteristic Leaching Procedure analysis on a representative soil sample will be required prior to disposal at a waste facility.

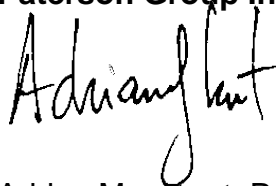
9.0 STATEMENT OF LIMITATIONS

This Phase I - Environmental Site Assessment report has been prepared in general accordance with O.Reg. 153/04 as amended by O.Reg. 269/11, and meets the requirements of CSA Z768-01. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Phase I - ESA are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessment. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

Should any conditions be encountered at the subject site and/or historical information that differ from our findings, we request that we be notified immediately in order to allow for a reassessment.

This report was prepared for the sole use of Westboro Point Developments. Permission and notification from Westboro Point Developments and Paterson will be required to release this report to any other party.

Paterson Group Inc.



Adrian Menyhart, P.Eng.



Mark D'Arcy, P.Eng.



Report Distribution:

- Westboro Point Developments (6 copies)
- Paterson Group (1 copy)

10.0 REFERENCES

Federal Records

Air photos at the Energy Mines and Resources Air Photo Library.
National Archives.
Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).
Natural Resources Canada – The Atlas of Canada.
Environment Canada, National Pollutant Release Inventory.
PCB Waste Storage Site Inventory.

Provincial Records

MOE Freedom of Information and Privacy Office.
MOE Municipal Coal Gasification Plant Site Inventory, 1991.
MOE document titled “Waste Disposal Site Inventory in Ontario”.
MOE Brownfields Environmental Site Registry.
Office of Technical Standards and Safety Authority, Fuels Safety Branch.
MNR Areas of Natural Significance.
MOE Water Well Inventory.
Chapman, L.J., and Putnam, D.F., 1984: ‘The Physiography of Southern Ontario, Third Edition’, Ontario Geological Survey Special Volume 2.

Municipal Records

City of Ottawa Document “Old Landfill Management Strategy, Phase I - Identification of Sites.”, prepared by Golder Associates, 2004.
The City of Ottawa Historical Land Use Inventory.
Intera Technologies Limited Report “Mapping and Assessment of Former Industrial Sites, City of Ottawa”, 1988.
The City of Ottawa eMap website.

Local Information Sources

Phase I Environmental Site Assessment 108 Woodroffe Avenue/ 927/929
Richmond Road, Ottawa, Ontario – February, 2008
Personal Interviews.

Public Information Sources

Google Earth.
Google Maps/Street View.

FIGURES

FIGURE 1 – KEY PLAN

FIGURE 2 – TOPOGRAPHIC MAP

DRAWING PE1373-1 – SITE PLAN

DRAWING PE1373-2 – SURROUNDING LAND USE PLAN



FIGURE 2
TOPOGRAPHIC MAP

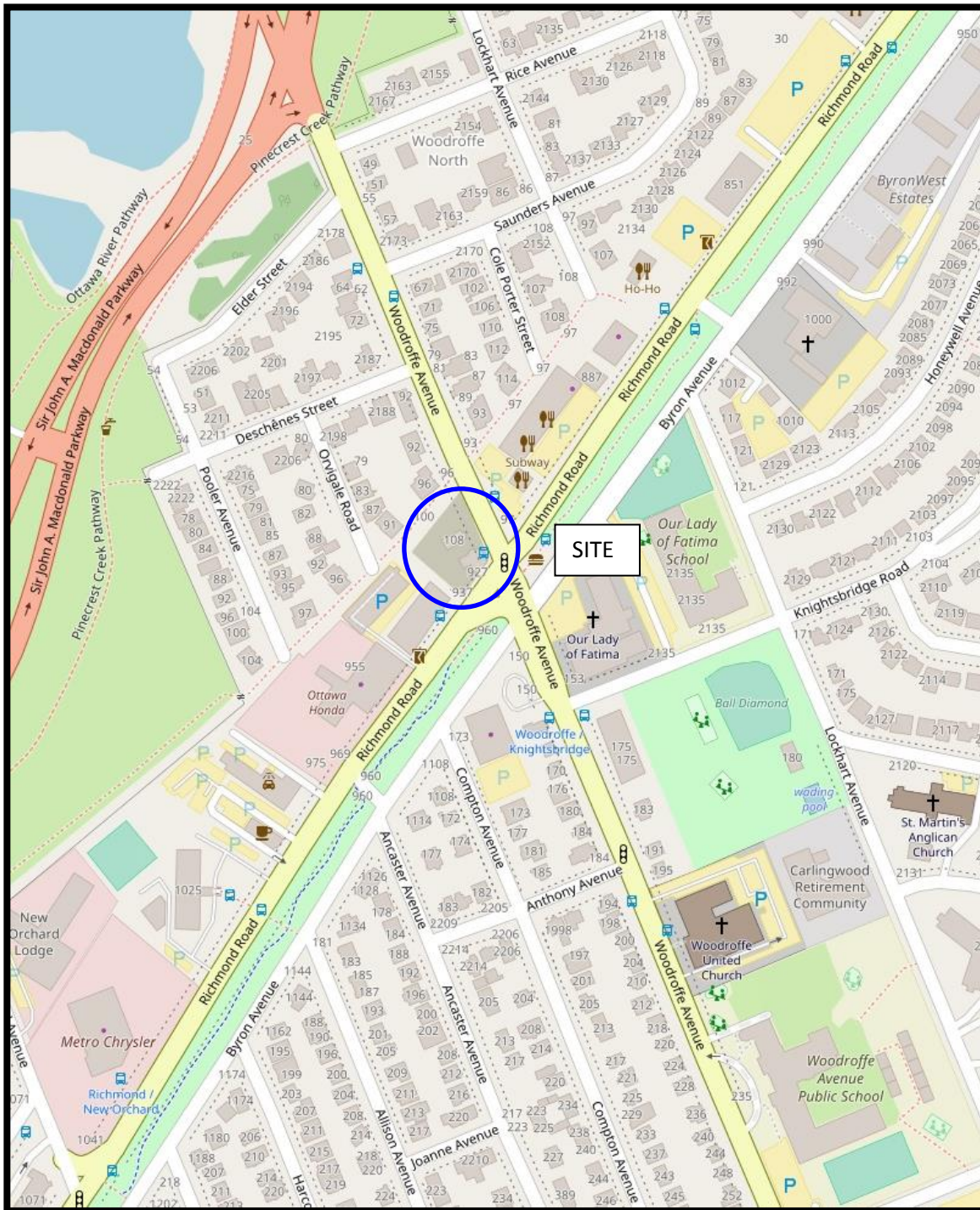
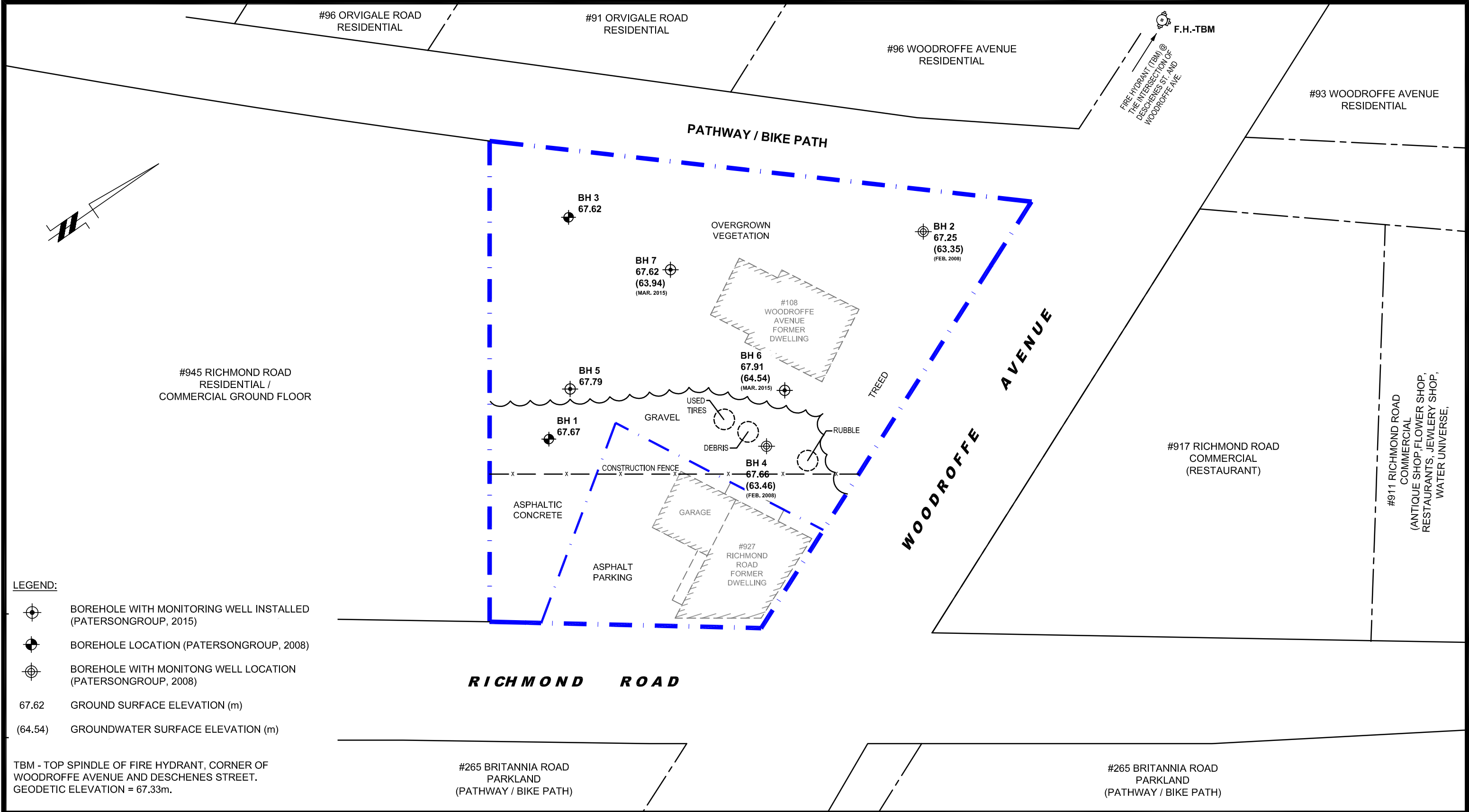


FIGURE 1
KEY PLAN



patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

0			
NO.	REVISIONS	DATE	INITIAL

WESTBORO POINT DEVELOPMENTS
PHASE I - ENVIRONMENTAL SITE ASSESSMENT
927 RICHMOND ROAD AND 108 WOODROFFE AVENUE

OTTAWA,
Title:

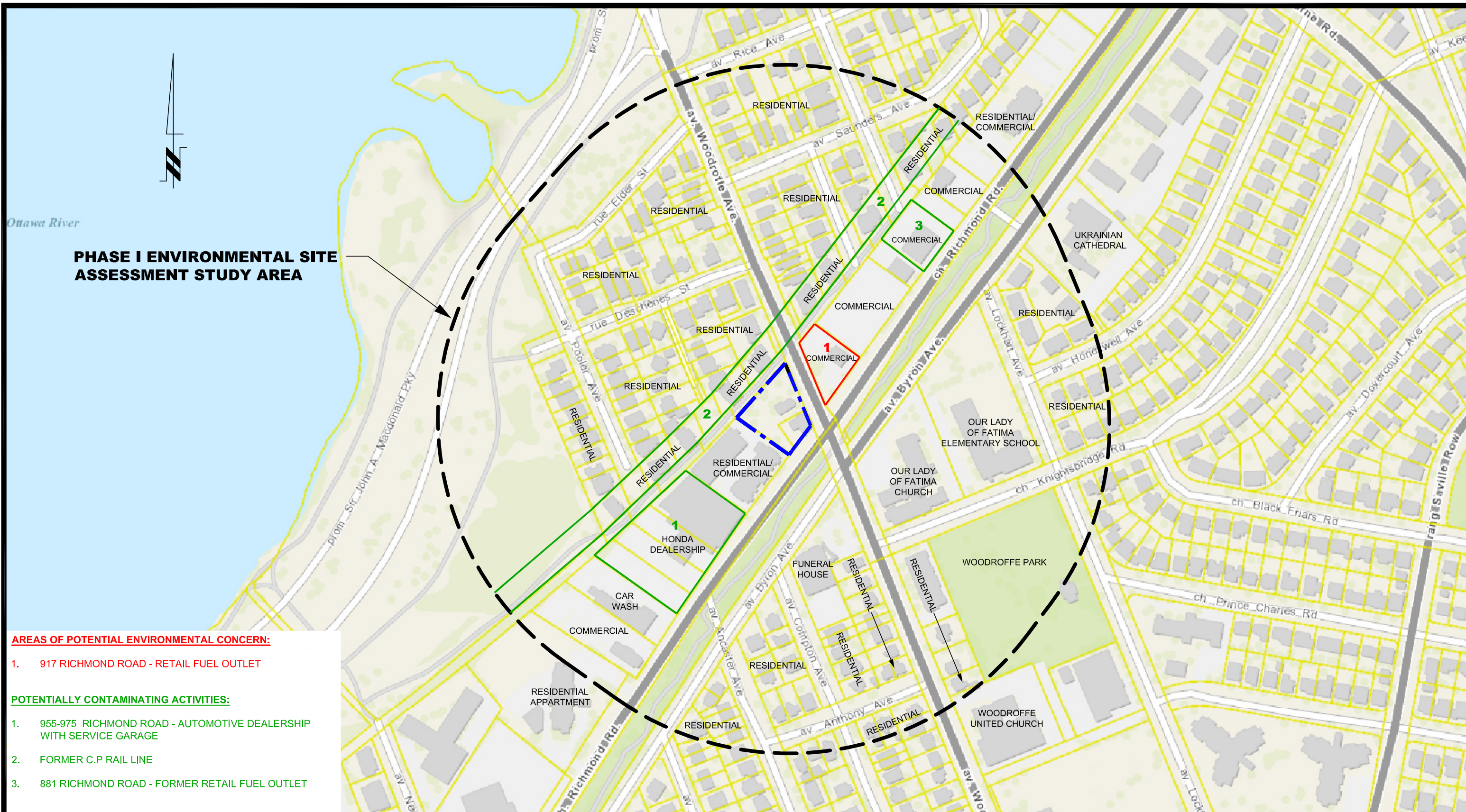
ONTARIO

SITE PLAN

Scale: 1:400
Drawn by: RCG
Checked by: AM
Approved by: MSD

Date: 11/2017
Report No.: PE1373-1
Dwg. No.:
PE1373-1
Revision No.: 0

p:\autocad drawings\environmental\pe13xx\pe1373\pe1373-1 site plan.dwg



1. 917 RICHMOND ROAD - RETAIL FUEL OUTLET

1. 955-975 RICHMOND ROAD - AUTOMOTIVE DEALERSHIP WITH SERVICE GARAGE
2. FORMER C.P RAIL LINE
3. 881 RICHMOND ROAD - FORMER RETAIL FUEL OUTLET

**154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344**

0			
NO.	REVISIONS	DATE	INITIAL

OTTAWA,
Title:

SURROUNDING LAND USE PLAN

ONTARIO

Date:	11/2017
Report No.:	PE1373-1
Dwg. No.:	PE1373-2
Revision No.:	0

APPENDIX 1

CURRENT PLAN OF SURVEY

AERIAL PHOTOGRAPHS

SITE PHOTOGRAPHS

TOPOGRAPHICAL PLAN SHOWING
LOTS 11 AND 12
REGISTERED PLAN 421
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebakk Ltd.
Field Work Completed January 18, 2008

Scale 1:200
0 2 4 6 8 Metres

Metric
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND
CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

PLAN REVISED JULY 2, 2008 TO SHOW LOCATION OF
UNDERGROUND SEWER AND WATER LINES AS LOCATED
BY UNDERGROUND SERVICE LOCATORS INC.

Date Edward M. Lancaster
Ontario Land Surveyor

Topographic data was collected under Winter Conditions.
Snow cover and ice preclude determining location and
elevation of some topographical data that is otherwise viable.

Notes & Legend

- | | | |
|-------|---------|---|
| — | Denotes | Survey Monument Planted |
| — | | Survey Monument Found |
| SIB | * | Standard Iron Bar |
| SSIB | * | Short Standard Iron Bar |
| IB | * | Iron Bar |
| (WIT) | * | Witness |
| Meas. | * | Measured |
| (AOG) | * | Annis, O'Sullivan, Vollebakk Ltd. |
| (P) | * | Registered Plan 421 |
| (P1) | * | Plan 4R-7066 |
| (P2) | * | Plan 4R-13607 |
| (P3) | * | Plan 4R-2333 |
| (P4) | * | Plan by (1236), dated March, 2004 |
| (P5) | * | Plan by (647), dated September 13, 1972 |

- | | |
|---|--------------------------------|
| — | Fire Hydrant |
| — | Water Valve |
| — | Maintenance Hole (Storm Sewer) |
| — | Maintenance Hole (Sanitary) |
| — | Maintenance Hole (Traffic) |
| — | Valve Chamber (Watermain) |
| — | Underground Storm Sewer |
| — | Underground Sanitary Sewer |
| — | Underground Water |
| — | Underground Power |
| — | Underground Gas |
| — | Underground Fibre Optic |
| — | Overhead Wires |
| — | Catch Basin |
| — | Gas Valve |
| — | Bell Terminal Box |
| — | Traffic Signal Post |
| — | Sign |
| — | Telephone Booth |
| — | Chain Link Fence |
| — | Post and Wire |
| — | Utility Pole |
| — | Location of Elevations |
| — | Top of Grate |
| — | Centreline |
| — | Property Line |

SITE AREA = 2357 m²

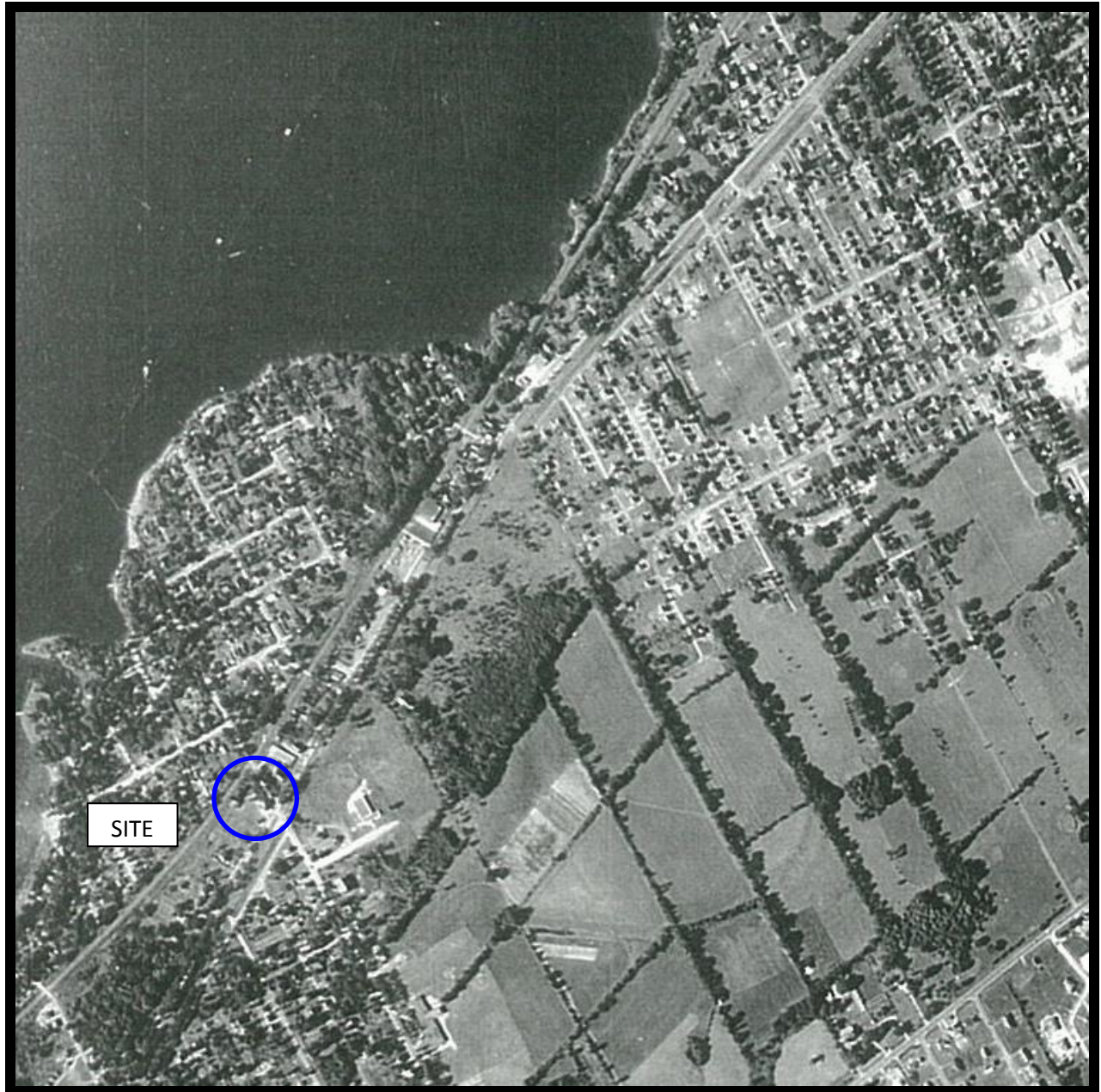
Bearings are grid bearings derived from the
Traverse Line shown on Registered Plan 421,
having a bearing of N 34°22'00" E as shown on
Plan 4R-2333.

ELEVATION NOTES
1. Elevations shown are referred to geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark
has not been altered or disturbed and that its relative elevation and description
agrees with the information shown on this drawing.

UTILITY NOTES
1. This drawing cannot be accepted as acknowledging all of the utilities and it will
be the responsibility of the user to contact the respective utility authorities for
confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is
mandatory before any work involving breaking ground, probing, excavating etc.



AERIAL PHOTOGRAPH
1945



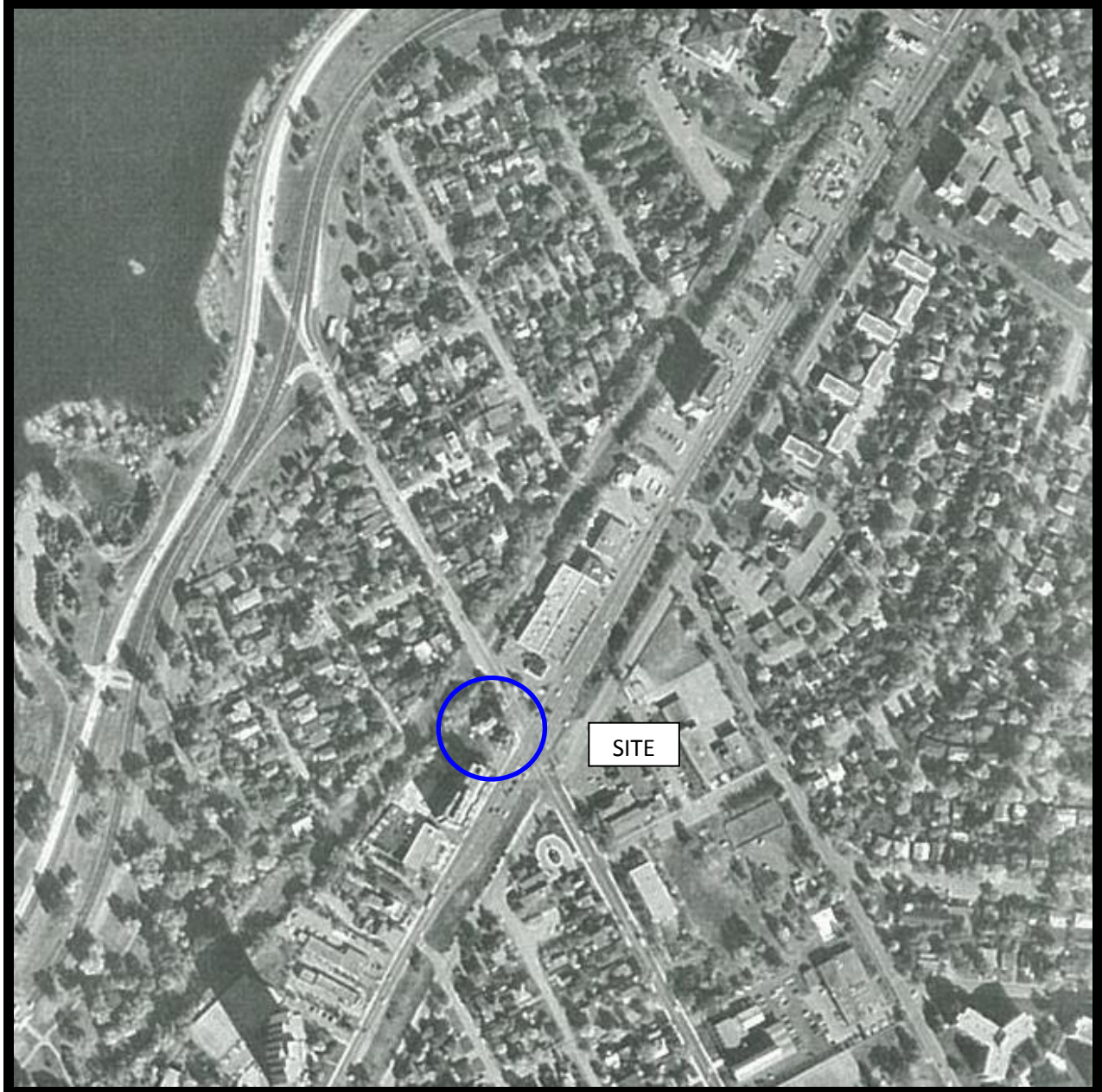
AERIAL PHOTOGRAPH
1952



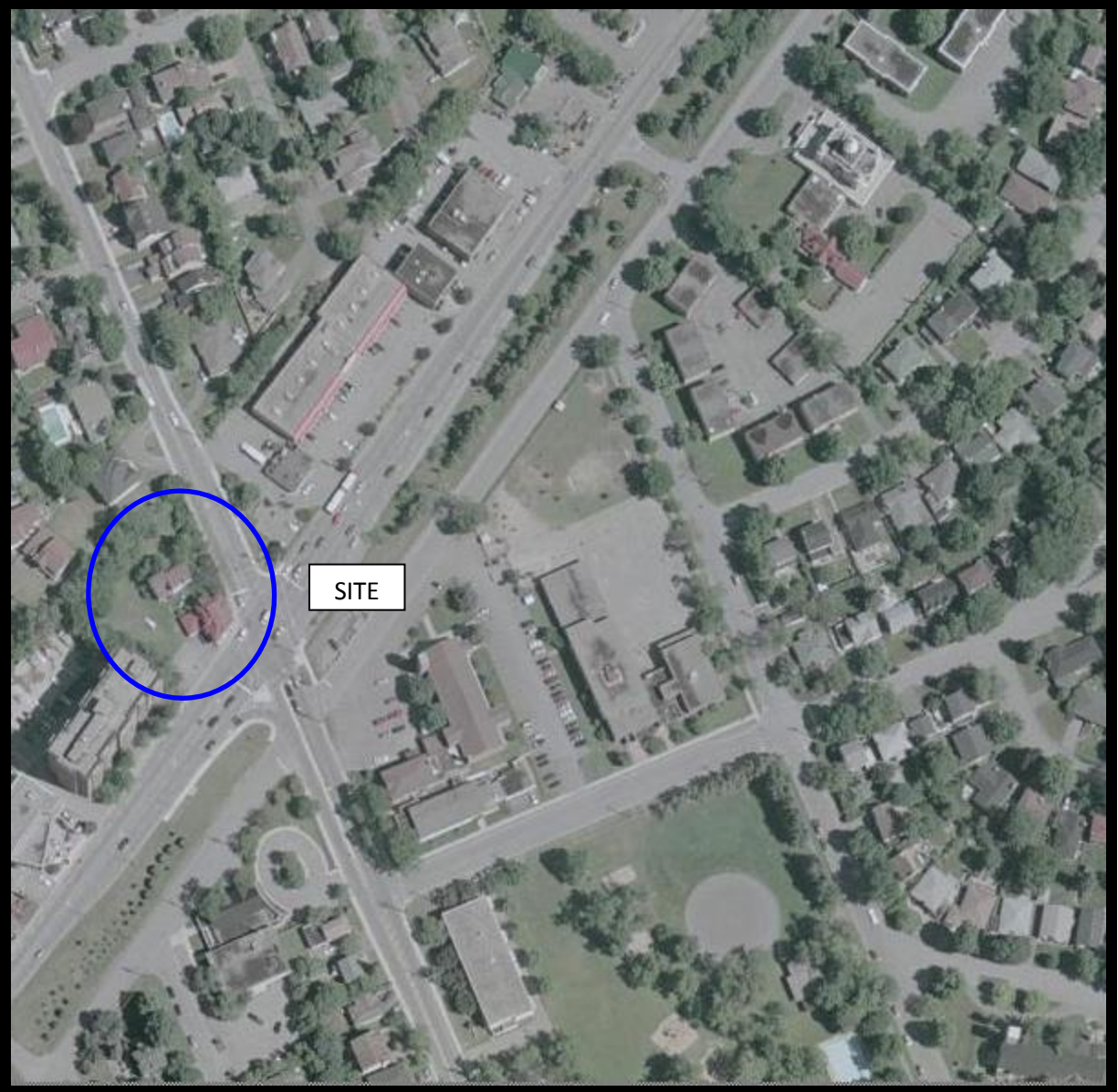
AERIAL PHOTOGRAPH
1976



AERIAL PHOTOGRAPH
1986



AERIAL PHOTOGRAPH
1994



AERIAL PHOTOGRAPH
2005



AERIAL PHOTOGRAPH
2015

Site Photographs

PE1373

927 Richmond Road and 108 Woodroffe Avenue, Ottawa, ON November 7, 2017



Photograph 1: View of the site, looking northwest from the southwest corner of the property.



Photograph 2: View of the site, looking west from the east side of the property. The adjacent property to the west is occupied by a residential apartment building (background).

Site Photographs

PE1373

927 Richmond Road and 108 Woodroffe Avenue, Ottawa, ON November 7, 2017



Photograph 3: View of the interior of the property, looking north. A pile of debris can be seen in the centre-right of the photo, with a pile of tires immediately behind it. The property is significantly overgrown (background)



Photograph 4: View of the overgrown portion of the property. A monitoring well (BH6) can be seen within the vegetation.

Site Photographs

PE1373

927 Richmond Road and 108 Woodroffe Avenue, Ottawa, ON November 7, 2017



Photograph 5: View of the adjacent bike path immediately north of the site, looking west. A residential dwelling is present on the right of the photo.



Photograph 6: View of adjacent properties, looking southeast. On the centre-left of the photo is the former retail fuel outlet. In the centre-right is a church.

APPENDIX 2

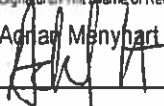
MOECC FREEDOM OF INFORMATION REQUEST LETTER

TSSA CORRESPONDENCE

WELL RECORDS

Freedom of Information Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on completion and use of this form. Our fax no. is (416) 314-4285.

Requester Data			For Ministry Use Only	
<small>Name, Company Name, Mailing Address and Email Address of Requester</small> Adrian Menyhart Paterson Group Inc. 154 Colonnade Road Ottawa, ON K2E 7J5 Email address: amenyhart@patersongroup.ca			<small>FOI Request No.</small> 	<small>Date Request Received</small>
<small>Telephone/Fax Nos.</small> Tel. 613-226-7381 Fax 613-226-6344			<small>Fee Paid</small> <input type="checkbox"/> ACCT <input type="checkbox"/> CHQ <input type="checkbox"/> VISA/MC <input type="checkbox"/> CASH <input type="checkbox"/> CNR <input type="checkbox"/> ER <input type="checkbox"/> NOR <input type="checkbox"/> SWR <input type="checkbox"/> WCR <input type="checkbox"/> SAC <input type="checkbox"/> IEB <input type="checkbox"/> EAA <input type="checkbox"/> EMR <input type="checkbox"/> SWA	
<small>Your Project/Reference No.</small> PE1373		<small>Signature/Print Name of Requester</small> 		
Request Parameters				
<small>Municipal Address / Lot, Concession, Geographic Township (Municipal address essential for cities, towns or regions)</small> 927 Richmond Road and 108 Woodroffe Avenue (adjacent properties) in the City of Ottawa				
<small>Present Property Owner(s) and Date(s) of Ownership</small> Mr. John A. Thomas				
<small>Previous Property Owner(s) and Date(s) of Ownership</small> John and Veronica Ullett, 1989				
<small>Present/Previous Tenant(s), (if applicable)</small> Pronto Food Mart				
Search Parameters				Specify Year(s) Requested
<small>Files older than 2 years may require \$60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.</small>				
Environmental concerns (General correspondence, occurrence reports, abatement)				1986-present
Orders				1986-present
Spills				1986-present
Investigations/prosecutions ➤ Owner AND tenant information must be provided				1986-present
Waste Generator number/classes				1986-present
Certificates of Approval ➤ Proponent information must be provided				
1985 and prior records are searched manually. Search fees in excess of \$300.00 could be incurred, depending on the types and years to be searched. Specify Certificates of Approval number(s) (if known). If supporting documents are also required, mark SD box and specify type e.g. maps, plans, reports, etc.				
	SD	Specify Year(s) Requested		
air - emissions		1986-present		
water - mains, treatment, ground level, standpipes & elevated storage, pumping stations (local & booster)		1986-present		
sewage - sanitary, storm, treatment, stormwater, leachate & leachate treatment & sewage pump stations		1986-present		
waste water - industrial discharges		1986-present		
waste sites - disposal, landfill sites, transfer stations, processing sites, incinerator sites		1986-present		
waste systems - PCB destruction, mobile waste processing units, haulers: sewage, non-hazardous & hazardous waste		1986-present		
pesticides - licenses		1986-present		

A \$5.00 non-refundable application fee, payable to the Minister of Finance, is mandatory. The cost of locating on-site and/or preparing any record is \$30.00/hour and 20 cents/page for photocopying and you will be contacted for approval for fees in excess of \$30.00.

Adrian Menyhart

From: Prem Lal <plal@tssa.org> on behalf of Public Information Services <publicinformationservices@tssa.org>
Sent: November-07-17 3:06 PM
To: Adrian Menyhart
Subject: RE: Records Search Request

Hi Adrian:

Thank you for your inquiry.

We have no record in our database of any fuel storage tanks at the subject address (addresses).

For a further search in our archives please submit your request in writing to Public Information Services via e-mail (publicinformationservices@tssa.org) or through mail along with a fee of \$56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Thank you Adrian and have a great day.

Prem



Prem Lal | Public Information Coordinator

Facilities and Business Services

345 Carlingview Drive

Toronto, Ontario M9W 6N9

Tel: +1-416-734-3570 | Fax: +1-416-734-3568 | E-Mail: plal@tssa.org

www.tssa.org



From: Adrian Menyhart [mailto:AMenyhart@Patersongroup.ca]
Sent: November 7, 2017 10:15 AM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: Records Search Request

Good Morning,

Could you please complete a search of your records for underground/aboveground storage tanks, historical spills or other incidents/infractions for the following addresses for properties located in Ottawa, ON

911 Richmond Road
917 Richmond Road
927 Richmond Road
929 Richmond Road
945 Richmond Road

955 Richmond Road
96 Woodroffe Avenue
108 Woodroffe Avenue
150 Woodroffe Avenue
153 Woodroffe Avenue

Best Regards,

Adrian Menyhart, P.Eng.

patersongroup
solution oriented engineering

154 Colonnade Road South
Ottawa, Ontario, K2E 7J5
Tel: (613) 226-7381 Ext. 208
Fax: (613) 226-6344
Email: amenyhart@patersongroup.ca

This electronic message and any attached documents are intended only for the named recipients. This communication from the Technical Standards and Safety Authority may contain information that is privileged, confidential or otherwise protected from disclosure and it must not be disclosed, copied, forwarded or distributed without authorization. If you have received this message in error, please notify the sender immediately and delete the original message.

UTM 118Z 43911410E

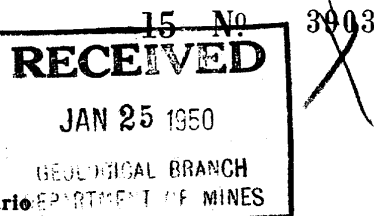
9R 5025030N

Elev. 9R 0220

Basin 25



ASE 306



The Well Drillers Act

Department of Mines, Province of Ontario

Water Well Record

OTTAWA

 Con. ~~1-0F~~ Lot 25 Pt. Lot.
 PROSPECT AVE Acres


Pipe and Casing Record	Pumping Test
Casing diameter(s) 4"	Date OCT. 25 1949
Length(s) of casing(s) 15'	Developed Capacity 250 G.P.H.
Length of screen	Duration of Test 60 MIN.
Type of screen	Pumping Rate 300 G.P.H.
Type of pump	Drawdown 34'
Capacity of pump	Static level of completed well 50'
Depth of pump setting	Is well a gravel-wall type? No.

Water Record

Kind (fresh or mineral)	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
FRESH	102	GOOD	52
Quality (hard, soft, contains iron, sulphur etc.) SOFT			
Appearance (clear, cloudy, coloured) CLEAR			
For what purpose(s) is the water to be used? HOUSEHOLD			
How far is well from possible source of contamination? 50'			
What is source of contamination? SEPTIC TANK			
Enclose a copy of any mineral analysis that has been made of water			

Well Log		
Drift and Bedrock Record	From	To
LOAM	0 ft.	1 ft.
SHALE	1	10
LIMESTONE	10	108

Situation: Is well on upland, in valley, or on hillside? UPLAND

Drilling Firm F.A. McLEAN & SON

Address 185 JAMES ST OTTAWA ONTARIO

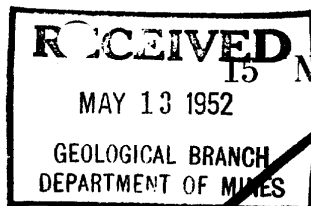
Recorded by W. McLOUGHNEY

Date

Address

Licence Number

.Licence Number



The Well Drillers Act **DEPA**
Department of Mines, Province of Ontario

Water Well Record *25 TANA*

County or Territorial District... Carleton ... ~~City or Village or Town~~ City... Wardoff
 Con. Lot Street and Number (if in Village, Town or City)
 Owner... Kavanagh Construction Co. ... Address... 346 Mac Rae Cllova
 Date Completed... 7.16 12 1992 cost of Well (excluding pump).....
 (day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s).....	4"	Date.....	February 20, 1952
Length(s) of casing(s).....	20 ft.	Static level.....	30 feet
Type of screen.....	—	Pumping level.....	50 feet
Length of screen.....	—	Pumping rate.....	not good
Distance from top of screen to ground level.....	—	Duration of test.....	1 day
Is well a gravel-wall type?.....		Distance from cylinder or bowls to ground level.....	

Water Record

Kind (fresh or mineral).....	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Quality (hard, soft, contains iron, sulphur, etc.).....			
Appearance (clear, cloudy, coloured).....			
For what purpose(s) is the water to be used?.....			
.....			
How far is well from possible source of contamination?.....			
What is the source of contamination?.....			
Enclose a copy of any mineral analysis that has been made of water.....			

Well Log

Overburden and Bedrock Record

From	To
0 ft.ft.

22 g	0 ft.ft.
clay	1-	60
gravel	60-	90
limestone	90-	105

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.

Ottawa River

CPR Railway

Old Soda Restaurant

600 feet

E

well

40 ft.

Richmond Rd - Woodruffe

100' to well

City Elec tracks

Street car

Post

McKeller

Situation: Is well on upland, in valley, or on hillside? *On hillside,*
 Drilling Firm..... *Stewart H. Mulligan*
 Address..... *R.R. #1, Butanna Bay, Ont.*
 Name of Driller..... *Frances Flannery* Address..... *Orinon P.O.*
 Date..... *March 29, 1952* Licence Number..... *2*

Signature of Licensee

FORM 5

N.B. This well completed by S.M. [unclear] ad [unclear]
Diamond Well Drillers. (gravel falling in) —

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Mark S. D'Arcy, P.Eng., QP_{ESA} Senior Environmental/Geotechnical Engineer

After receiving his Bachelors of Applied Science from Queen's University in 1991 in Geological Engineering, Mark joined Paterson Group Inc. During the first 10 years of Mark's career, he was heavily involved in all aspects of field work, including drilling boreholes, excavating test pits, conducting phase I site inspections, environmental sampling and analysis and inspection of environmental remediations. During Mark's field experience, he gained invaluable field and office experience, which would prepare Mark to become the Environmental Division Manager. Mark's field experience ranges from Phase I Environmental Site Assessments (ESAs) to on-site soil and groundwater remediations, as well as, environmental/geotechnical borehole investigations. Mark's field experience has provided extensive knowledge of subsurface conditions, contractor relations and project management. These skills would provide Mark with the ability to understand a variety of situations, which has lead Paterson to an extremely successful Environmental Department. Mark became the Environmental Manager in 2006, which consisted of two engineers and two field technicians. Mark has been an integral part in growing the Environmental Division, which now consists of nine engineers and three field technicians. Mark is the Senior Project Manager for a wide variety of environmental projects within the Eastern Ontario area including Phase I ESAs, Phase II ESAs, remediations for filing Records of Site Condition in the Ontario Ministry of the Environment and Climate Change (MOECC) Environmental Site Registry, Brownfield Applications and Landfill Monitoring Programs. As the Senior Project Manager, Mark is responsible for directing project personnel, final report review and overall project success. Mark has proven leadership and ability to manage small to large scale projects within the allotted time and budget.

EDUCATION

B.A.Sc. 1991, Geological Engineering, Queen's University, Kingston, ON

LICENCE/ PROFESSIONAL AFFILIATIONS

Professional Engineers of Ontario

ESA Qualified Person with MOECC

Ottawa Geotechnical Group

Consulting Engineers of Ontario

YEARS OF EXPERIENCE

With Paterson: 26

OFFICE LOCATION

154 Colonnade Road South,
Nepean, Ontario, K2E 7J5

SELECT LIST OF PROJECTS

- 222 Beechwood Avenue, Ottawa, Ontario (Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- 409 MacKay Street, Ottawa, Ontario (Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- Art's Court Redevelopment, Ottawa, Ontario (Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- Visitor Welcome Centre, Phase II and Phase III, Parliament Hill, Ottawa, Ontario (Senior Project Manager for Environmental Remediation)
- Mattawa Landfill, Mattawa, Ontario (Senior Project Manager, Annual Water Quality Monitoring report)
- Multi-Phase Redevelopment of the Ottawa Train Yards, Ottawa, Ontario (Senior Project Manager)
- Rideau Centre Expansion, Ottawa, Ontario(Senior Project Manager for Phase I ESA, Phase II ESA, Phase III ESA, Environmental Remediation)
- 26 Stanley Avenue, Ottawa, Ontario, Phase I ESA, Phase II ESA (Senior Project Manager)
- Riverview Development – Kingston, Ontario, Phase I ESA, Phase II ESA, and filing of an RSC in the MOECC Environmental Site Registry (Senior Project Manager)
- Monitoring Landfills for River Valley, Kipling and Lavagine (Senior Project Manager)

PROFESSIONAL EXPERIENCE

May 2001 to present, **Manager of Environmental Division, Paterson Group Inc.,** Ottawa, Ontario

- Manage all aspects of the environmental division (management of personnel, budgeting, invoicing, scheduling, business development, reporting, marketing, and fieldwork).
- Review day to day operations within the environmental division.
- Design, perform, and lead Phase I, II and Phase III ESAs, Remediation's, Brownfield Applications and Record of Site conditions, fieldwork surveys, excavation, monitoring, laboratory analysis, and interpretation.
- Write, present, and publish reports with methodology and laboratory analysis results, along with recommendations for environmental findings.
- Responsible for ensuring projects meet Ministry of Environment and Climate Change Standards and Guidelines.
- Building and fostering relationships with clients, stakeholders, and Ministry officials.
- Supervise and continuous training of staff in environmental methods (environmental sampling techniques, technical expertise and guidance).
- Applied due diligence in ensuring the health and safety of staff and the public in field locations.

1991 to 2001, **Geotechnical and Environmental Engineer, Paterson Group Inc.,** Ottawa, Ontario

- Provide on-site geotechnical and environmental expertise to various clients.
- Oversee geotechnical and environmental investigations for drilling and test pitting on numerous proposed utility installations, residential and commercial developments.
- Problem solving to help advance or maintain project schedules.
- Complete environmental reports with recommendations to meet environmental standards set by MOE and CCME standards.
- Conduct site inspections, bearing medium evaluations, bearing surface inspections, concrete testing and field density testing.
- Liaising with contractors, consultants and government officials.
- Provide cost estimates for geotechnical and environmental field programs and construction costs.
- Review RFI's, submittals, monthly progress reports and other various construction related work.

Adrian Menyhart P.Eng/ing./QP_{esa}

Adrian received his Bachelor's of Engineering from Carleton University in 2011, with a specialization in environmental engineering. During the summers of 2009 through 2011, Adrian worked for the Canadian Food Inspection Agency as an Inspector within the Ottawa region. During Adrian's summer experience he would gain invaluable experience with time management, relations with other government departments as well as the general public and data and information collection. Upon completion of Adrian's summer employment with Canadian Food Inspection Agency in 2011, Adrian started his career as a junior environmental specialist at Paterson within the Environmental Division under the guidance of Mark D'Arcy and other senior personnel. During his time at Paterson, Adrian has accumulated extensive experience with Phase I and Phase II environmental site assessments, remediation inspections, environmental monitoring and field procedures and the filing of Records of Site Condition. Being fluently bilingual in English and French, Adrian has experience working in both Ontario and Quebec, and is licensed with governing engineering bodies in both provinces. Adrian's work experience has provided an opportunity to gain valuable knowledge about the environmental industry, which has lead to his advancement within the Paterson office and ability to be a contributor to the Environmental Divisions success.

EDUCATION

B.Eng. 2011, Environmental Engineering, Carleton University, Ottawa, ON

LICENCE/ PROFESSIONAL AFFILIATIONS

Ordre des Ingénieurs du Québec
Professional Engineers of Ontario
Ottawa Geotechnical Group

YEARS OF EXPERIENCE

With Paterson: 6

With other Firms: 1

OFFICE LOCATION

Paterson's Ottawa Office

SELECT LIST OF PROJECTS

- Ottawa Arts Gallery Expansion, Ottawa, ON (remediation supervisor) – Provided guidance in the segregation of soils on the site, managing contaminated and clean materials, providing daily correspondence with the client. Successfully filed a Record of Site Condition for the property.
- Ottawa Heart Institute Construction, Ottawa, ON (project manager) – Conducted air sampling for parameters such as particulate matter, lead, mould and asbestos
- Rideau Centre Expansion, Ottawa, ON (remediation supervisor) – Provided guidance in the segregation of soils on the site, managing contaminated and clean materials.
- Tweedsmuir and Carling Avenue water and sewer main rehabilitation, Ottawa, ON (remediation supervisor) – Provided guidance for the management of contaminated materials within the sewer and water main excavations.
- Conducted numerous designated substance surveys and asbestos surveys throughout Ontario and Quebec, collecting representative samples of potential asbestos containing materials and preparing comprehensive reports.
- Conducted numerous air sampling programs, collecting samples for environmental parameters such as asbestos, lead and mould, and preparing reports.
- Conducted Phase I and II Environmental Site Assessments across Ontario and Quebec
- Groundwater Monitoring and Sampling

PROFESSIONAL EXPERIENCE

September 2011 to present, **Environmental Engineer, Paterson Group Inc.**, Ottawa, Ontario

- Prepare, revise and submit all documentation and reports for the successful filing of Records of Site Condition with the Ministry of the Environment and Climate Change
- Provide on-site environmental expertise for remediation projects including Ottawa Arts Gallery, Rideau Centre Expansion and Tall Ships Landing, among various small scale remediation projects within the greater Ottawa area.
- Coordinate field programs and prepare reports for Phase I and II projects across Ontario and Quebec.
- Oversee environmental investigations for drilling and test pitting on numerous proposed utility installations, residential and commercial developments.
- Conduct designated substance surveys in Ontario and Quebec.
- Coordinate air sampling programs for various environmental parameters, comparing results with regulatory standards and other guidelines.
- Problem solving to help advance or maintain project schedules.
- Complete environmental reports with recommendations for environmental concerns.
- Liaising with contractors, consultants and government officials.
- Provide cost estimates for environmental field programs and construction costs.

June to September from 2009 to 2011, **Inspector, Canadian Food Inspection Agency**, Ottawa, Ontario

- Conducted the trapping program for the Emerald Ash Borer across Eastern Ontario.
- Assisted in the preparation and training of other inspectors for the trapping program.
- Conducted inspections for restricted wood products at various campgrounds.
- Assisted other inspectors in inspecting shipments of wood products from other countries, in certain cases, seizing and disposing of items.
- Compiling data and preparing reports.