

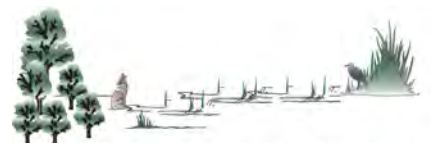
**PDF – A6 HERITAGE EVALUATION PREPARED
BY CUNNINGHAM ENVIRONMENTAL
ASSOCIATES, MARCH 2021**

Natural Heritage Evaluation

5329 Old Brock Road
Hamlet of Claremont
City of Pickering

1972229 Ontario Ltd.
Lots 16, 17, 18 and 20
and Part of Lots 15, 19, 21 and 22
and Part of Alfred Street
and Part of Tracey Street
Registered Plan 94
Geographic Township of Pickering
Now in the City of Pickering
Regional Municipality of Durham

March 2021



Cunningham Environmental Associates

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

Natural Resources Consultants

March 11, 2021

File No. 1917

Mr. Art Sympatico
Sympatico Group (1972229 Ontario Ltd.)
Sympatico Property Services Ltd.
91 Esna Park Drive, Unit #1
Markham, Ontario L3R 2S2

**Re: NATURAL HERITAGE EVALUATION - 5329 Old Brock Road, Hamlet of Claremont, City of Pickering,
Regional Municipality of Durham; Our File 1917**

Dear Mr. Sympatico:

Enclosed is our report entitled **NATURAL HERITAGE EVALUATION - 5329 Old Brock Road, City of Pickering,
Regional Municipality of Durham** (March 2021).

Should you have any questions or comments, please contact the undersigned.

Sincerely,

CUNNINGHAM ENVIRONMENTAL ASSOCIATES

 [digital signature]

David G. Cunningham, Hon. B.Sc.
Principal

c.c. Mr. Art Sympatico - 1972229 Ontario Ltd. (1 digital copy)
Mr. Grant Morris - Grant Morris Associates Ltd. (1 digital copy)
Ms. Stephanie Worrone - Toronto Region Conservation Authority (1 digital copy)
CEA - (1 digital copy and 1 file copy)

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1 INTRODUCTION

1.1 **Background**

Cunningham Environmental Associates (CEA) was retained in May 2019 by the Owner (1972229 Ontario Ltd.) of a parcel of land (“known herein as the subject property” or “property”), located at 5329 Old Brock Road in the Hamlet of Claremont, City of Pickering, Regional Municipality of Durham, Ontario. **Figure 1** schematically shows the location of the subject property in a local context. The entire property lies on the Oak Ridges Moraine (ORM), namely within the ORM Rural Settlement Designation. **Appendix A** contains the CEA Curriculum Vitae which documents our academic qualification and work experience in the natural environment consulting field. The subject property currently has a pending Violation Notice from the Toronto Region Conservation Authority (TRCA) regarding the placement of fill in violation of Section(s) 2(1)(b), 2(2), 12 of Ontario Regulation 166/06. As well, the subject property currently has a pending Zoning Contravention Notice, as the current use of the property does not comply with the existing zoning. Both the TRCA Violation Notice and City of Pickering Zoning Contravention Notice are contained in **Appendix B**.

The subject property covers approximately 0.606 hectares (1.5 acres), is roughly rectangular in-shape, and for the most part is vacant, and is relatively flat. Existing structures on-site on May 8, 2019 include: a trailer on wheels (metal clad shed); car and trucks; along with four (4) metal (shipping) containers; assorted landscaping equipment and materials situated on grassland and a level fill material (gravel yard) comprised of clean chip gravel; and a wooden fence along parts of the west and south edges. The remainder of the subject property is vacant, consisting of: deciduous and coniferous hedgerows; a relatively small copse of planted (non-native black locust) and naturally regenerating trees and shrubs (e.g., Manitoba maple, balsam poplar, common buckthorn); a deciduous treed swamp (balsam poplar, trembling aspen, white elm Manitoba maple); and a graminoid (common reed) meadow marsh in combination with a cattail shallow marsh.

The western edge of the subject property fronts onto Old Brock Road, approximately 100 m north of Hoxton Street within the Hamlet of Claremont, in the City of Pickering. Land use to the west includes: vacant treed swamp and marsh, part of the provincially significant wetland (PSW) known as the Glen Major Wetland Complex. Land use to the east includes: farmland; vacant woodland and fragments of “Other Wetland” comprised of treed swamp and meadow marsh/cattail marsh; and part of a CP rail line. Land use to the north includes: farm grassland (grassed fields), along with a farmhouse, barn and sheds. Land use to the south includes a vacant rural residential lot, with the as-built single-family dwelling substantially demolished in 2019.



<https://www.google.ca/mpashl=en>

Figure 1. Study Site Location

Scale 1:NTS*

5329 Old Brock Road

Hamlet of Claremont
City of Pickering

1972229 Ontario Ltd.
Lots 16, 17, 18 and 20
and Part of Lots 15, 19, 21, and 22
and Part of Alfred Street
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Registered Plan 94
Geographic Township of Pickering
Now in the City of Pickering, Regional Municipality of Durham

 subject property



Cunningham Environmental Associates

The anthropogenic, cultural, and natural heritage features data in this report was garnered from conducted in May and June, 2019. Given the size of the property and the extreme lack of natural features and ecological functions within the proposed development plan (site plan) area (gravel yard), and supplemented from information requested and/or collected from other sources (e.g., City of Pickering, Ministry of Natural Resources and Forestry (MNRF), TRCA, Natural Heritage Information Centre (NHIC), and Land Inventory Ontario (LIO), it is our position that three (3) season field work was not warranted.

CEA were retained to document the existing biophysical conditions and natural heritage features (e.g., flora and fauna) and to identify site constraints as a technical background document to the proposed re-zoning of the lot to implement the intended land use change to a landscape and swimming pool maintenance workshop, storage facility, and office/change room facilities. As requested by the City of Pickering and the TRCA, a Natural Heritage Evaluation (NHE) report is required not only address to the TRCA Violation Notice, but also is germane to the submission of a Zoning By-law Amendment application and a Site Plan Approval application (to be determined) to implement the proposed development plan (site plan), which consists of land uses not presently permitted.

1.2 Purpose and Scope of the Study

The NHE is a technical report requirement as contained in the City of Pickering Pre-consultation Meeting, held on January 18, 2019 with the Owners, Durham Region staff, City of Pickering staff, TRCA staff and others (City of Pickering 2019 – **Appendix C**). In addition, the components of the NHE have been guided and identified through correspondence provided to and received from the TRCA (**Appendix D**). As a result, this NHE has been prepared for three general purposes or objectives and follows typical ORM NHE Terms of Reference (TOR) utilized on similar types of developments in the ORM Rural Settlement land use designation. The scope of the NHE was also guided by input from TRCA emails, a TRCA Zoom meeting (November 5 2020), and the subsequent submission of a Concept Development Application and TRCA reply.

Firstly, the NHE is intended to provide a summary of the background information (data) collected on-site and from abutting properties, namely anthropogenic, cultural and natural heritage features, and includes the findings and assessments of the 2019 field surveys. The field surveys include documenting the vegetation communities (Ecological Land Classification units - ELCs), floristics (vascular plants), breeding bird evidence, mammals, and amphibians and reptiles (herpetofauna). There is an intermittent surface drainage feature (swale/drainage ditch) which conveys surface runoff and likely groundwater from the wetland located in the southeast corner and off-site to the east. All of background information and on-site data is summarized and documented through a combination

of text, figures, tables, lists and photographs, where appropriate. Based on this information summary, potential site constraints on the subject property and abutting properties were identified.

Secondly, this report also includes an evaluation and professional opinions on the identified, documented and inventoried biological/resource significance of the vegetation communities, Species at Risk (SAR), Region and City Official Plan environmental designations, and other mapping sources (e.g., MNRF, NHIC, LIO, TRCA).

These include but are not limited to the: **Provincial Policy Statement, 2020** (Ministry of Municipal Affairs and Housing 2020); **Endangered Species Act, 2007** (Province of Ontario 2007); Durham Regional Official Plan (Regional Municipality of Durham 2020); Pickering Official Plan (City of Pickering 2018); Oak Ridges Moraine Conservation Plan (Ministry of Municipal Affairs 2017); and TRCA Ontario Regulation 166/06 (Province of Ontario 2006).

Thirdly, the NHE contains the identification and assessment of potential impacts to the identified anthropogenic, cultural, and natural heritage features based on implementation of the proposed development plan (site plan). It is to be recognized that the background data review, results and evaluation of the field inventories, and identification of potential site constraints arising therefrom provided input into the proposed development plan (site plan). Based on the potential natural environment impacts and including those impacts and mitigation measures and/or recommendations contained in other technical documents provided to-date, such as the hydrogeology report, geotechnical report, and arborist report), site-specific conditions can be incorporated into the re-zoning and site plan approval. Satisfaction of conditions and their implementation are intended to ensure the elimination or reduction of potential negative impacts to the affected on-site features/attributes and their ecological functions, and to a lesser extent abutting cultural and natural features in the abutting ORM Rural Settlement properties.

This NHE has been prepared to address the objectives outlined above, and is divided into a number of sections, as follows:

Introduction, that provides general background information on the purpose of the NHE in regards to the subject property and the proposed development plan (site plan) to facilitate: manufacturing; storage of goods and materials; and offices for a landscape business and swimming pool business, both low-key industrial uses.

Policy Context, which provides a brief review and summary of environmental designations, policies, regulations and guidelines of relevance to the subject property with details of each relevant policy context document contained in a Planning Rationale & Sustainability Report (Grant Morris Associates Ltd. 2021) to be prepared at Site Plan submission.

Study Approach and Methods, which describes the specific qualitative and quantitative methodologies utilized to collect and evaluate the biophysical and natural heritage feature data;

Existing Conditions, which presents a detailed review of the local physical and biological environments, as well as the inventory results for each, describing the location, extent, character, structure and ecological functions of the inherent flora and fauna of the anthropogenic, natural, and cultural features;

Resource Significance, which provides an evaluation of the significance of the subject property's anthropogenic, cultural and natural heritage features based on their inherent flora and fauna, as well as their planning designations;

Potential Development Constraints, identifies potential constraints to the proposed change in land use, including the application of regulatory and planning policy mandated buffers, if warranted, with regards to Key Natural Heritage Features (KNHFs) and/or Key Hydrologic Features (KHF) and undertake a due diligence exercise for Species at Risk (SAR) to show compliance to the *Endangered Species Act, 2007*;

Impact Assessment, identifies and assesses the potential impacts to the anthropogenic, cultural and natural heritage features on and abutting the subject property based on the current development plan and operational usage.

Mitigation Measures and Recommendations, provides mitigation measures which can be implemented to eliminate or reduce the identified potential impacts; including recommendations to address the protection of any significant natural features on-site and to a lesser extent the abutting properties, based on the natural environment issues related to the proposed development plan (site plan);

Concluding Remarks are intended to summarize the overall findings of the NHE, and in particular the avoidance and/or protection of any identified site constraints through reasonable mitigation measures and recommendations, based on the proposed land use change to a landscaping facility and swimming pool facility, as per the proposed development plan (site plan).

References, provides a list of cited and supporting references; and,

Appendices, contain copies of relevant documents and other data referred to in the NHE.

1.3 Subject Property Location

The subject property owned by 1972229 Ontario Ltd. is located at the municipal address of 5329 Old Brock Road, in the Hamlet of Claremont, City of Pickering, Regional Municipality of Durham and covers approximately 6.06 acres (1.5 hectares). **Figure 2** provide details on the dimensions of the subject property as shown on the Sketch Showing Topographic Information Lots 16, 17, 18, and 20, and Part of Lots 15, 19, 21 and 22, and Part of Albert Street, and Part of Tracey Street, Geographic Township of Pickering, now in the City of Pickering, in the Regional Municipality of Durham (ertl surveyors 2017). The Cambium Inc. (2019a) report also contains site description details.

Figure 3 shows the prior rural residential use of the property in the form a detached single-family dwelling, detached garage and ancillary structures such as a driveway and sheds.

Figure 4 provides a local context perspective and illustrates the location of the subject property (5329 Old Brock Road) in relation to adjacent land uses (e.g., Old Brock Road, farmland, as-built rural lots, woodland, wetland, Hamlet of Claremont, commercial businesses, etc.)

1.4 Proposed Development

Figure 5 shows the Proposed Development - 5329 Old Brock Road, City of Pickering Site Plan & Statistics (TVAL Design Planning & Design Consultants (2020). The particulars include: an existing trailer on wheels (metal clad shed), seven (7) parking spaces, four (4) metal (shipping) containers, a metal fabricated storage barn (40' x 80'), all contained within the existing gravel yard (comprised of 4" clean, compressed gravel fill). The gravel yard is the subject of the TRCA Violation Notice. The structures and grounds on the gravel yard (pad) will be used as a landscape and swimming pool maintenance workshop, storage facility, and office/change room facilities. Part of the property abutting the gravel yard will be a "new grass area", which will be seeded/sodded to enhance the existing grassland area. Abutting the "new grass area" to the east is the existing deciduous wooded stand of black locust, Manitoba maple and balsam poplar which will remain intact (shown as scattered trees on **Figure 5**). East and abutting the deciduous wooded stand are two (2) small contiguous pockets of "Other Wetland", one comprised of treed swamp consisting of balsam poplar, Manitoba maple, white elm and dogwoods, and the other a meadow/marsh of common reed and cattails (shown as wetland area on **Figure 5**). Both will remain intact with the treed swamp buffered (10 m swath along its western edge) by additional shrub plantings. Landscape details will be provided at the Site Plan Approval stage, in a formal landscape plan, designed and stamped by a certified Landscape Architect, for review and approval by the City and TRCA.

SKETCH SHOWING
TOPOGRAPHIC INFORMATION
LOTS 16, 17, 18, AND 20
AND PART OF LOTS 15, 19, 21 AND 22
AND PART OF ALFRED STREET
AND PART OF TRACEY STREET,
REGISTERED PLAN 94

GEOGRAPHIC TOWNSHIP OF PICKERING,
NOW IN THE,

CITY OF PICKERING
REGIONAL MUNICIPALITY OF DURHAM

SCALE 1:250
0 1 2 3 4 5 10 15 20 metres

© COPYRIGHT
ertl surveyors 2017
Ontario Land Surveyors

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

Caution
THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE
USED FOR EXCEPT FOR THE PURPOSE INDICATED IN
THE TITLE BLOCK.
THIS SKETCH IS PROTECTED BY COPYRIGHT ©

Notes
THE LOCATION IS AT 5329 OLD BROCK ROAD, CITY OF
PICKERING.
FIELD WORK WAS COMPLETED ON 10TH DAY OF MARCH,
2017.
THIS SKETCH IS AN ORIGINAL IF EMBOSSED BY THE
SURVEYOR'S SEAL, OR IF IT IS PDF CERTIFIED IN AN
ELECTRONIC VERSION.

Benchmark
CITY OF PICKERING BENCHMARK No.9-004
ELEVATION = 272.553m

Legend

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
IB	DENOTES	IRON BAR
N/S/E/W	DENOTES	NORTH/SOUTH/EAST/WEST
UP	DENOTES	UTILITY POLE
DS	DENOTES	DOOR SILL
WS	DENOTES	WOOD STAKE
⊙	DENOTES	DECIDUOUS TREE
⊙	DENOTES	CONIFEROUS TREE
⊙	DENOTES	INDICATES DIAMETER

Revision note
ADDED TOPOGRAPHIC INFORMATION
ON NOVEMBER 21ST, 2018
ADDED TOPOGRAPHIC INFORMATION
ON JUNE 14TH, 2019
UPDATED TOPOGRAPHIC INFORMATION
AND DESIGNED CONTOUR LINES
ON JANUARY 23RD, 2020

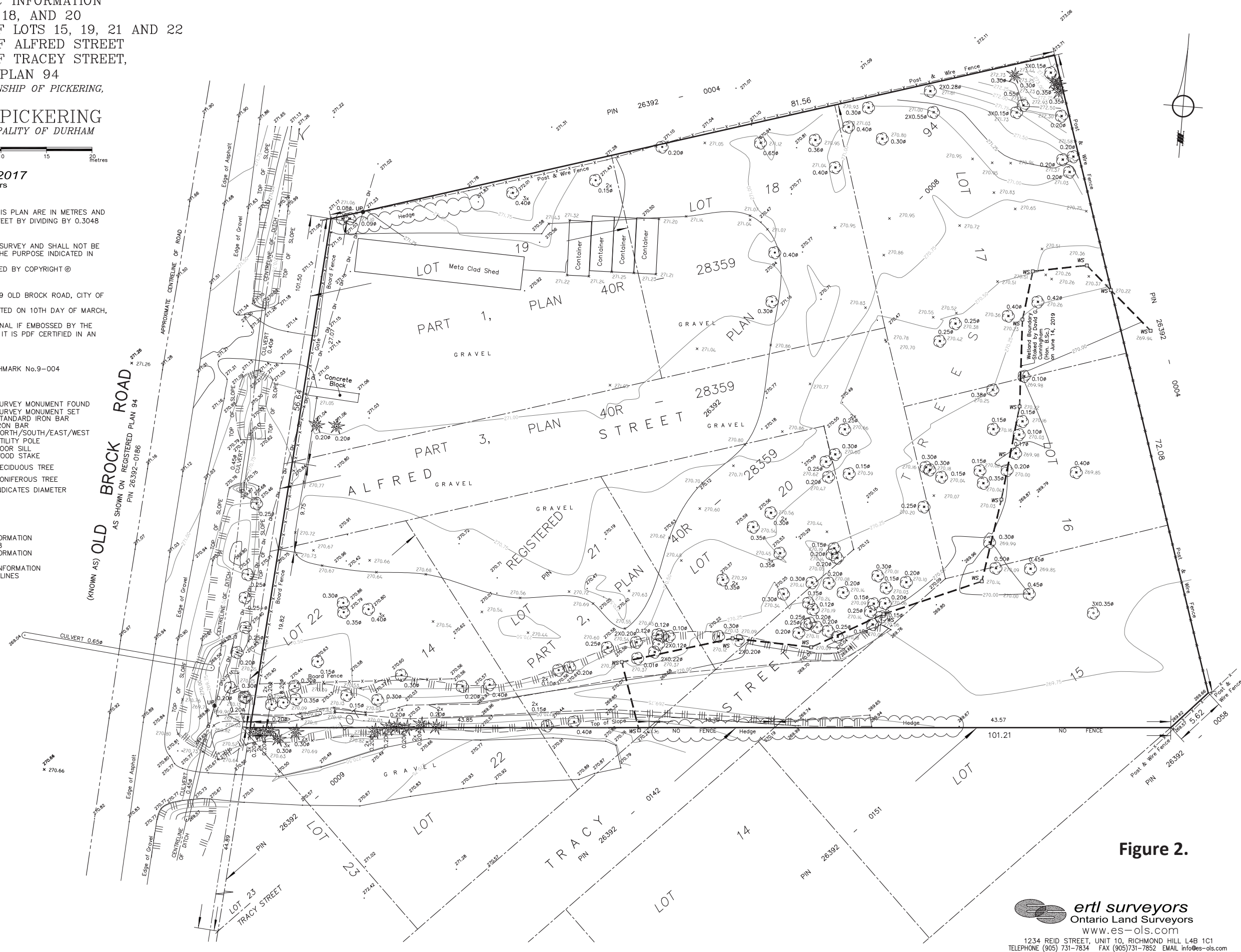


Figure 2.

"THIS IS NOT
AN ORIGINAL COPY
UNLESS
EMBOSSED WITH
SEAL."



* <https://www.google.com/earth/download/gep/agree.html?hl=en-GB>



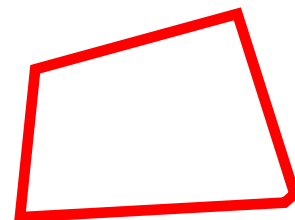
Figure 3. Old Brock Road As-built Detached Single-family Dwelling (2005)

Scale 1:NTS*

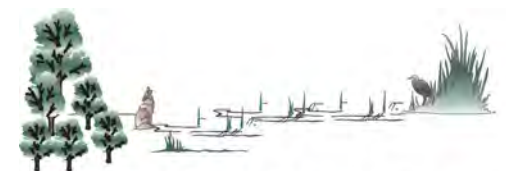
5329 Old Brock Road

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Registered Plan 94
Geographic Township of Pickering
Now in the City of Pickering, Regional Municipality of Durham



subject property boundary (5329 Old Brock Road)



Cunningham Environmental Associates

* Google Earth Pro (2005)



<https://www.google.ca/mpashl=en>

Scale 1:NTS*

Figure 4. Local Context

5329 Old Brock Road

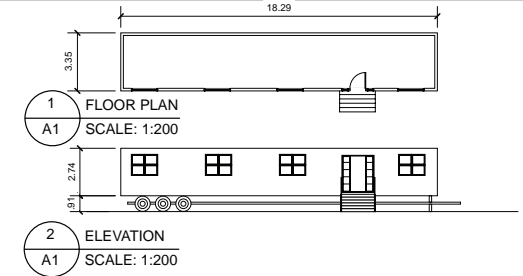
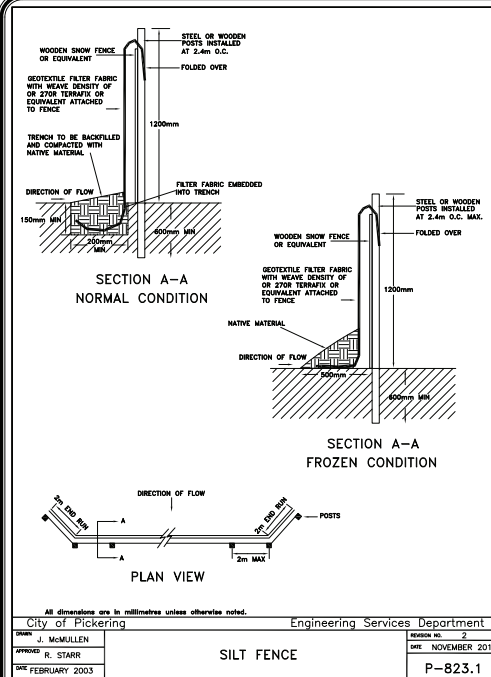
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 Now in the City of Pickering, Regional Municipality of Durham



subject property



Cunningham Environmental Associates



TOPOGRAPHIC SKETCH SHOWING LOTS 16, 17, 18, AND 20 AND PART OF LOTS 15, 19, 21 AND 22 AND PART OF ALFRED STREET AND PART OF TRACEY STREET, REGISTERED PLAN 94

GEOGRAPHIC TOWNSHIP OF PICKERING, NOW IN THE, **CITY OF PICKERING** REGIONAL MUNICIPALITY OF DURHAM

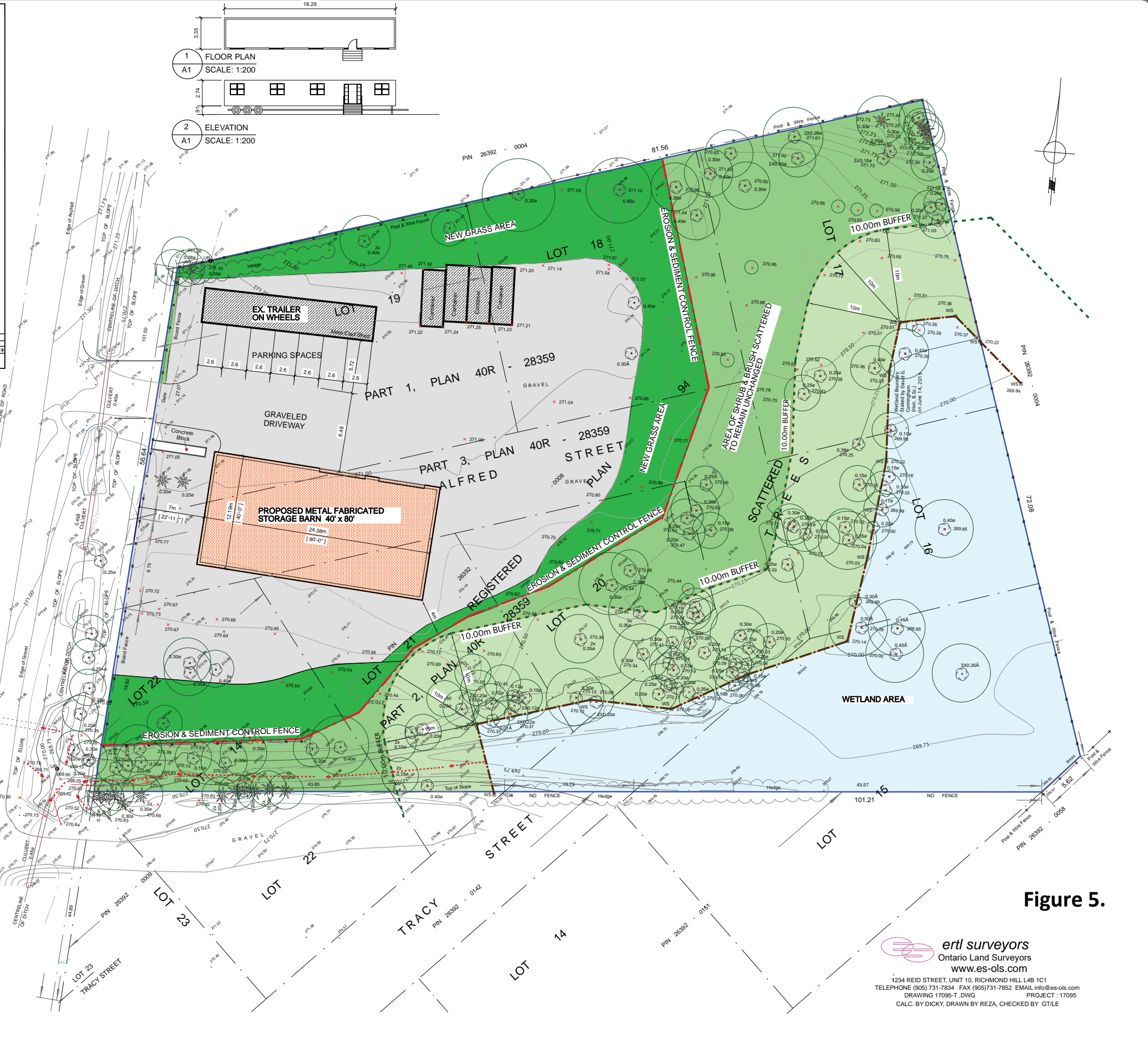
SCALE 1:250

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

Benchmark
CITY OF PICKERING BENCHMARK No.9-004 ELEVATION = 272.553 m

- Notes**
- DENOTES SURVEY MONUMENT FOUND
 - DENOTES SURVEY MONUMENT SET
 - DENOTES STANDARD IRON BAR
 - DENOTES IRON BAR
 - N/S/E/W DENOTES NORTH/SOUTH/EAST/WEST
 - UP DENOTES UTILITY POLE
 - DS DENOTES DOOR SILL
 - DENOTES DECIDUOUS TREE
 - DENOTES CONIFEROUS TREE
 - DENOTES INDICATES DIAMETER
 - WET LAND BOUNDARY
 - 10M BUFFER
 - AREA FILLED WITH GRAVEL



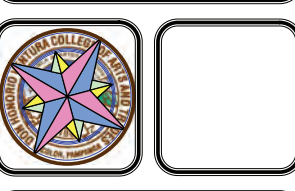
No.	Date	Issuance and/or Revisions	By
5	11 2020	GENERAL REVISIONS	AD
4	04 2020	REV DRAWINGS WITH EROSION CONTROL FENCE & DETAIL	AD
3	03 2020	REVISED per NEW SURVEY	AD
2	05 2019	REVISED LAYOUT	AD
1	08 17	ISSUED FOR CLIENT REVIEW	AD

Note:
All drawings are the property of this firm and shall not be used without their expressed written consent.

Contractors shall check and verify all dimensions and elevations and report any discrepancies before commencement of work.

All work to conform with all governing codes and by-laws. All prints of plans and specifications are the property of the designer and shall be returned upon completion of work.

Do not scale drawings dimensions to take precedent over scale.



QUALIFICATION INFORMATION	
Required unless design is exempt under 2.17.5.1 of the building code	
TONY VALENTIN	20917
Engineer	18/11/2017
Date	04 08 15
Signature	
REGISTRATION INFORMATION	
Required unless design is exempt under 2.17.4.1 of the building code	
TONY VALENTIN DESIGN	28858
Firm Name	BCIN

Grant Morris Associates Ltd.
PLANNING & DEVELOPMENT CONSULTANTS

367 SHEPPARD AVE., PICKERING, ONTARIO L1V 1E6
TEL NO. (905) 420-3900 FAX NO. (905) 420-3900
EMAIL: grant.morris@rogers.com

Project title:
PROPOSED DEVELOPMENT

5329 OLD BROCK ROAD
CITY OF PICKERING

CLIENT:

Drawing title:
SITE PLAN & STATISTICS

Drawn By: Arnel
Designed By:
Checked By:
Date: AUG 2017
Scale: 1:200 M

project no
sheet no
A1
of sheets

Figure 5.

ertl surveyors
Ontario Land Surveyors
www.es-ols.com

1234 REID STREET, UNIT 10, RICHMOND HILL L4B 1C1
TELEPHONE (905) 731-7834 FAX (905) 731-7852 EMAIL info@es-ols.com
DRAWING 17095-T.DWG PROJECT: 17095
CALC. BY DICKY, DRAWN BY REZA, CHECKED BY GTLE

2 PLANNING CONTEXT

The following sections provide a brief summary of the Provincial, Region, City, and TRCA legislation, policies, regulations, and guidelines which are applicable in some form to the anthropogenic, cultural and natural heritage features that have been identified, characterized, mapped, inventoried and evaluated on the subject property. It is advised, that the specific Provincial, Region, City, and TRCA legislation, policies, regulations, and guidelines listed and summarized below be reviewed in their entirety to garner a complete understanding of their content and relevance to proposed development plan.

2.1 Provincial Policy Statement, (2020)

The Provincial Policy Statement (PPS) is given authority under Section 3 of the *Planning Act* (Ministry of Municipal Affairs and Housing 1990, current as of December 8 2020) relating to matters of provincial interests in municipal planning. The PPS is to be read and its policies applied in its entirety, and decisions affecting planning matters shall be consistent with these policies. The following is a summary of Sections 2.1 Natural Heritage of the *PPS, 2020*.

Section 2.0 of the PPS – Wise use and Management of Resources

Ontario's long-term prosperity, environmental health, and social well-being by conserving biodiversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral, and cultural heritage, and archaeological resources for their economic, environmental, and social benefits.

Accordingly:

2.1 Natural Heritage

- 2.1.1 Natural features and areas shall be protected for the long term.
- 2.1.2 The diversity and connectivity of natural features in an area and their long-term *ecological function* and biodiversity of *natural heritage systems*, should be maintained, restored or, where possible, improved, recognizing linkages between and among *natural heritage features and areas, surface water features and ground water features*.
- 2.1.3 *Natural heritage systems* shall be identified in Ecoregions 6E & 7E¹, recognizing that *natural heritage systems* will vary in size and form in *settlement areas, rural areas and prime agricultural areas*.
- 2.1.4 *Development and site alteration* shall not be permitted in:
 - a) *significant coastal wetlands* in Ecoregions 5E, 6E and 7E; and

b) significant coastal wetlands.

2.1.5 *Development and site alteration* shall not be permitted in:

- a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E and 7E¹;
- b) *significant woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)¹;
- c) *significant valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)¹;
- d) *significant wildlife habitat*;
- e) *significant areas of natural and scientific interest*; and
- f) *coastal wetlands* in Ecoregions 5E, 6E and 7E¹ that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

2.1.6 *Development and site alteration* shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 *Development and site alteration* shall not be permitted in *habitat of endangered species and threatened species*, except in accordance with *provincial and federal requirements*.

2.1.8 *Development and site alteration* shall not be permitted on *adjacent lands* to the *natural heritage features and areas* in policies 2.1.4, 2.1.5, and 2.1.6 unless the *ecological function* of the *adjacent lands* has been evaluated and it has been demonstrated that there will be no *negative impacts* on the natural features or on their *ecological functions*.

The subject property, its lands uses and inherent anthropogenic, cultural and natural heritage features were identified and evaluated by CEA to determine their type and significance, and to identify any potential site constraints that need to be incorporated into the proposed development plan (**Figure 5**). Based on the proposed development plan (site plan), potential negative and/or adverse impacts were identified and assessed. Based on the impact assessment, reasonable mitigation measures and recommendations were formulated that should be

implemented to eliminate or reduce potential impacts to anthropogenic, cultural and/or natural heritage features, their attributes and ecological functions.

Parts of the *PPS, 2020* such as Section 2.2. Water is addressed in other technical reports such as Cambium Inc. (2017) and Cambium Inc. (2019).

It is recommended that the entire *PPS, 2020* document be consulted in its entirety to garner a fuller understanding and interpretation of the policies contained therein, in order to determine their relevancy to the proposed development plan (site plan).

2.2 Endangered Species Act, 2007

The Province of Ontario has a panel of scientific experts and advisers known as the Committee on the Status of Species at Risk in Ontario (COSSARO) (MNR 2021). The mandate of COSSARO is to review and assess species 'populations and status' and recommend species to the MNR that should be designated under the *Endangered Species Act, 2007* (Province of Ontario 2007). Species are designated as either Endangered (END) or Threatened (THR) and receive legal protection under the Act, and their habitats automatically receive general protection, with some to-date having regulated protection as well. The presence of any reported Endangered or Threatened species known as a "Species at Risk" (SAR) on or abutting the subject property were identified as part of this report. Presence of SAR was garnered from background information (NHIC 2021), as well as in-situ field inventories conducted in 2019.

Certain regulatory provisions for Endangered or Threatened species came into force under the *Endangered Species Act, 2007* on July 1, 2013. In addition to Endangered or Threatened SAR, the presence and locations of any species listed as species of "Special Concern" are to be noted and their habitats evaluated, if existing and where warranted.

It is recommended that the entire *Endangered Species Act, 2007* document and its regulations be consulted in their entirety to garner a fuller understanding and interpretation of the policies contained therein, in order to determine their relevancy to the proposed development plan (site plan).

2.3 Regional Municipality of Durham Official Plan (May 26, 2020)

The Durham Regional Official Plan (DROP) was approved by the Minister of Municipal Affairs & Housing on November 24, 1993. Further amendments and amendments from comprehensive reviews and Ontario Municipal Board (OMB)

approvals have been included in the May 26 2020 Office Consolidation of the Official Plan (Regional Municipality of Durham 2020).

Section 2 Environment of the DROP provides Goals under Section 2.1, General Policies under Section 2.2, and Policies under Section 2.3. All policies relevant to the subject property were reviewed and included but are not limited to Policies 2.2.1, 2.2.3, 2.3.14, 2.3.15, 2.3.16, and 2.3.19. Relevant maps and schedules were reviewed and included: Schedule 'A' – Regional Structure and Schedule 'A' – Map 'A4' Regional Structure which shows the subject property lying within the Oak Ridges Moraine (ORM); and Schedule 'B' – Map 'B1d' Greenbelt Natural Heritage System & Key Natural Heritage and Hydrologic Features.

It is recommended that the **Durham Regional Official Plan** policies, schedules and maps listed-above be consulted in their entirety to garner a fuller understanding and interpretation, in order to determine their relevancy to the proposed development plan (site plan).

2.4 City of Pickering Official Plan (October 2018)

The Pickering Official Plan Edition 8 is approved by Council as of October 2018. Edition 8 is consolidated and incorporates Amendments 27, 32 and 33, Informational Revision 22, and incorporating resolution of Deferrals D5, D6, D11, D12, D20, D22, D35, D44 and D48 (City of Pickering 2018).

The following Parts and Chapters of the Official Plan were reviewed, all of which have some relevance to the proposed development plan (site plan):

- Part 1: Principles and Framework, Chapter 2 – Pickering's Ecological System: and Pickering's Rural System – Rural Settlements;
- Part 2: Strategic Policies, Chapter 3 – Land Use: Rural Settlements;
- Part 2: Strategic Policies, Chapter 10 – Resource Management: Resource Protection and Enhancement;
- Part 3: Neighbourhoods and Settlements, Chapter 13 – Rural Settlements, Settlement 10 – Claremont Schedule IV-10: Settlement 10: Claremont – North Section; and
- Part 3: Neighbourhoods and Settlements, Chapter 13 – Rural Settlements, Settlement 10 – Claremont Description and City Policy – Claremont Settlement Policies 13.12

In addition to the Official Plan policies, there are four (4) schedules of relevance to the subject property, these include:

-
- Schedule 1 (Sheet 2 of 3) – Oak Ridges Moraine Rural Hamlets;
 - Schedule III A – Resource Management: The Natural Heritage System;
 - Schedule III B – Resource Management: Key Natural Heritage Features – Significant Woodlands;
 - Schedule III D – Resource Management: High Aquifer Vulnerability, Groundwater Recharge Areas

It is recommended that the **Pickering Official Plan** policies, schedules and maps listed-above be consulted in their entirety to garner a fuller understanding and interpretation, in order to determine their relevancy to the proposed development plan (site plan).

2.5 City of Pickering Zoning By-Law 3037

A review of City of Pickering Zoning By-laws map indicates that the subject property lies within an area whose land use is controlled by Zoning By-law 3037, one of six existing zoning by-laws. At present, the City of Pickering has initiated a review of all of the zoning by-laws. The purpose of the review is to:

- create a consolidated zoning by-law;
- update zoning to reflect the Official Plan policies and associated development guidelines;
- complete necessary research to ensure the new by-law is consistent with current legislation, policy and trends; and
- post the by-law text and mapping on the City's website

2.6 Toronto Region Conservation Authority Ontario Regulation 166/06

As of 2006, the Province undertook a series of changes to the **Conservation Authorities Act, 1990**, resulting in the implementation of Ontario Regulation 166/06: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (Province of Ontario 2006).

As stated on the TRCA web-site, "Ontario Regulation 166/06 enables the TRCA to contribute to the health and integrity of the regional greenspace system and to maintain or improve the hydrological and ecological functions performed by valley and stream corridors. These corridors are important for flood storage and the prevention of property erosion, fish and wildlife habitat, groundwater recharge and discharge, air and water quality, archaeological resources, and natural beauty."

The TRCA is authorized under Section 28 of the Conservation Authorities Act, 1990 (Province of Ontario 1990), to implement and enforce the Toronto Region Conservation Authority: Regulation of Development, Interference with

Wetlands and Alterations to Shorelines and Watercourses (Ontario Regulation 166/06). The regulation establishes regulated areas where development could be subject to flooding, erosion or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. As stated under Ontario Regulation 166/06, any proposed development, interference or alteration within Regulated Areas requires a permit(s) from the TRCA. The entire subject property is regulated by the TRCA based on the text of this legislation, although it should be noted that the majority of the “Other Wetland” features comprised of poplar-mixed treed swamp and common reed meadow marsh/cattail shallow marsh have not been include on the TRCA regulation mapping (**Figure 6**).

2.7 TRCA The Living City Policies (2014)

Although the proposed development area (site plan) is contained within the gravel yard (pad) which lacks any natural heritage attributes and/or ecological functions, the applicability of following text regarding The Living City Policies (TRCA 2014) policy document as summarized on the TRCA website is provided:

“The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (LCP) is a conservation authority policy document that guides the implementation of TRCA’s legislated and delegated roles and responsibilities in the planning and development approvals process.”

Purpose of the Living City Policies

1. To guide TRCA review of planning applications and environmental assessments.
2. To provide the basis for approving permit applications under Section 28 of the [Conservation Authorities Act](#).
3. To inform TRCA’s advocacy role for The Living City in the planning and development process.
4. To assist and enable our partners’ and stakeholders’ contributions to building The Living City.

Under the Conservation Authorities Act, a conservation authority implements a program to further its “objects” of conservation, restoration, development and management of natural resources. TRCA’s main program previously guiding the Authority in its planning and regulatory roles was the Valley and Stream Corridor Management Program (VSCMP) endorsed by the Authority in October 1994.

The LCP supersedes the VSCMP while continuing and expanding on the VSCMP’s valuable foundation of principles and policy intent. Since the VSCMP was first introduced, many changes occurred in the quality and extent of scientific

understanding of TRCA watersheds, as well as changes to the planning, development and growth management realm of the GTA.

The process to develop The LCP included the completion of many TRCA projects such as watershed plans, natural heritage strategies, and the development of new technical guidelines or the update of existing ones. Each of these discrete projects included their own elements of public and/or stakeholder consultation.

In addition, TRCA created the Planning and Development Procedural Manual, which provides technical guidelines and procedural information for many of the policies found in the LCP. The intent of the Procedural Manual is to enhance TRCA's cooperative working relationship with municipal partners, the development community, and permit applicants regarding the implementation of TRCA's planning and regulatory functions, including opportunities to increase procedural transparency and streamline the review process where feasible.

It is recommended that the entire **The Living City Policies** document be consulted in its entirety to garner a fuller understanding and interpretation of the policies contained therein, to determine their relevancy to the proposed development plan (site plan).

3 STUDY APPROACH AND METHODS

3.1 **Background Information Review**

Prior to and during site reconnaissance and inventories of the subject property, relevant background information on the anthropogenic, cultural and natural features (vegetation communities, floristics, wildlife and wildlife habitat) and abutting lands was obtained from the Town of Whitby, MNRF – Peterborough District Office, CLOCA, Natural Heritage Information Centre (NHIC) Biodiversity Explorer website, and the Land Inventory Ontario (LIO) website. Note that the Ministry of Natural Resources (OMNR, MNR) is now the Ministry of Natural Resources and Forestry (MNRF) and the acronyms are interchangeable.

Documentation and other sources reviewed for site conditions, natural environment data and policies included but were not limited to:

- **Life Science Areas of Natural and Scientific Interest in Site District 6-7 – A Review and Assessment of Significant Natural Areas in Site District 6-7** (Lindsay 1984);
- **Distribution and Status of the Herpetofauna of Central Region** (*Plourde et al.* 1988);
- **Natural Heritage Resources of Ontario: Bibliography of Life Science Areas of Natural and Scientific Interest in Ecological Site Regions 6E and 7E, Southern Ontario** (Riley *et al.* 1997);
- **Provincial Policy Statement, 2020** (Ministry of Municipal Affairs and Housing 2020);
- **Endangered Species Act, 2007** (Province of Ontario 2007);
- **Durham Regional Official Plan** (Regional Municipality of Durham May 26 2020);
- **Pickering Official Plan Edition 8** (City of Pickering October 2018);
- **Pickering Zoning By-law 3037 – under review 2021** (City of Pickering, undated)
- **Toronto Region Conservation Authority Ontario Regulation 166/06** (Province of Ontario 2006);
- **Toronto Region Conservation Authority The Living City Policies** (TRCA 2014);
- **Google Earth Pro Coloured Orthophotography** (various dates in 2005 to 2018); and
- **First Base Solutions Coloured Orthophotography** (2019 and 2020)

In addition to the reports and other data sources listed above, various databases were searched for flora and fauna records on-site or in the surrounding area. These websites and databases included:

- **Atlas of the Mammals of Ontario** (Dobbyn 1994)
- **Ontario Breeding Bird Atlas (OBBA)** (Bird Studies Canada *et al.* 2006)
- **Ontario's Reptile and Amphibian Atlas** (Ontario Nature 2021)

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- **Natural Heritage Information Centre (NHIC) Biodiversity Explorer Database Web-site** (NHIC 2021)
 - **Land Information Ontario (LIO) Database Web-site** (LIO 2021)

Coloured orthophotography (2019) was obtained from First Base Solutions (2021) which provided complete coverage of the subject property and adjacent lands (within +/- 100 m). These coloured orthophotos provided a base map to initially identify the general types and boundaries of the vegetation communities, which were later ground-truthed on-site. Background information was collected to assess any existing and/or potential for SAR, based on either species presence and/or habitat types garnered from flora and fauna inventories.

In addition to those data sources listed above, consultant team reports, drawings, figures and the proposed development plan (site plan) provided and reviewed during preparation of the NHE include the following:

- **Hydrogeological Assessment – 5329 Old Brock Road, Pickering, Ontario** (Cambium Inc. 2019a);
- **Geotechnical Investigation Report – 5329 Old Brock Road, Pickering, Ontario** (Cambium Inc. 2019b);
- **Site Screening Questionnaire** (Cambium Inc. 2019c);
- **Stage 1 and 2 Archaeological Assessment of 5329 Old Brock Road, Part of Lots 17-18, Concession 9, Geographic Township of Pickering, Ontario County, Hamlet of Claremont, City of Pickering, Regional Municipality of Durham** (ASI 2019);
- **Arborist Report 5329 Old Brock Road, Pickering, Ontario** (DA White Tree Care April 16, 2020a)
- **Wooded Area at 5329 Old Brock Road, Pickering, Ontario – Calculated Tree Density** (DA White Tree Care June 6, 2020b);
- **Proposed Metal Fabricated Storage Barn Design Drawings** (AFD Design 2020);
- **Proposed Development 5329 Old Brock Road, City of Pickering Site Plan & Statistics** (TVAL Design Planning & Design Consultants 2020);

3.2 Agency Contacts

Attempts to contact and/or contacts were established with the following resource agency staff via email, phone calls or Zoom meetings regarding on-line digital and/or copies of second-hand files pertaining to on-site or abutting natural environment data for the subject property and abutting properties:

- Vanessa Aubrey – Planner II, TRCA (left TRCA in summer of 2019)
- Michael Brestansky – Enforcement Office, TRCA
- Stephanie Worrone – Planner, TRCA
- Laurie Nelson – Director, Policy Planning, TRCA
- Brad Suckling – Municipal Law Enforcement Office II, City of Pickering

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- Steve Varga – Management Biologist, MNRF Aurora District Office

3.3 Field Reconnaissance and Inventories

Field reconnaissance and inventories of the anthropogenic, cultural and natural heritage features on the subject property, as well as along the abutting property edges were undertaken in spring and early summer of 2019. The reconnaissance and inventories were undertaken to ensure complete coverage of the vegetation communities and their inherent flora and fauna. During site visit, a combination of qualitative and quantitative sampling methods were used to identify, characterize and map vegetation communities, floristics, general soils and drainage conditions, wildlife and wildlife habitat, along with a compilation of representative photograph, where warranted.

Vertebrate terrestrial species (birds, mammals, amphibians and reptiles) were documented on each site visit based on visual contact (direct sightings) and/or on the basis of indirect evidence (e.g., vocalizations, tracks, scats, pellets, burrows, nests, feathers, browse, etc.). Only one evening amphibian call survey was undertaken (May 8, 2019), given the lack of habitat and water within the proposed development area, namely entirely within the gravel yard (pad). Only one dawn breeding bird survey was conducted on June 13, 2019 with follow-up observations on June 14 and June 28, 2019. As per the proposed development plan (site plan), development and/or site alteration will only occur within the extent of the delineated gravel yard (pad) as shown on **Figure 5**. Therefore, given the small size of the property (1.5 ha) and lack of woody vegetation and groundcover within the proposed development area only one dawn breeding bird survey in our opinion was warranted, along with follow-up observations on the remaining on-site cultural, woodland and wetland features. The remainder of the cultural and natural heritage features will remain intact and enhanced in some portions of each (e.g., grassed area and 10 m wetland buffer).

For those reason stated-above (e.g., proposed development area restricted to the gravel yard), small property size, lack of amphibian breeding habitat), the survey methods followed a reduced version of standard MNRF field survey protocols, and a modified version of the Marsh Monitoring Program (MMP) (Bird Studies Canada *et al.* 2009). Inventories methods to identify, delineate and characterize vegetation communities, floristics, and wildlife, within the subject property are summarized in the following sub-sections.

3.2.1 Vegetation Resources

The boundaries of the vegetation communities were delineated through aerial photographic interpretation prior to the May 8 site reconnaissance and ground-truthing (on June 13, June 14 and June 28, 2019). The botanical inventories included those features within the subject property, as well as features along the property perimeter.

Staking of the wetland boundary in the southeast corner was undertaken in the presents of City of Pickering and TRCA staff on June 14, 2019, and subsequently plotted on the proposed development plan (**Figure 5** - site plan).

The delineation and characterization of the vegetation communities followed the MNR Ecological Land Classification (ELC) protocols. Where applicable, these communities are described following the terminology of the ELC system, an **Ecological Land Classification for Southern Ontario – First Approximation and Its Application** (Lee *et al.* 1998) with updated codes contained in the **Southern Ontario Ecological Land Classification (ELC)** (Lee 2008). In addition to the ELC system, additional characterization of the on-site vegetation communities was aided through a review of the **Natural Heritage Resources of Ontario: Vegetation Communities of Southern Ontario** (Bakowsky 1997).

As defined in Lee *et al.* (1998), an Ecosite, “*is a mappable landscape unit defined by a relatively uniform parent material, soil and hydrology, and consequently supports a consistently recurring formation of plant species which develop over time (vegetation chronosequence).*” Within each ecosite landscape unit, there are a variety of vegetation types. A vegetation type, “*is a part of an ecosite, and represents a specific assemblage of species which generally occur in a site with a more uniform parent material, soils and hydrology, and a more specific stage within a chronosequence.*”

The classification of the general vegetation communities were characterized according to species composition and physiognomic characteristics. The nomenclature for the flora observed is consistent with and relied on the following authorities:

- Lycopodiaceae to Aspleniaceae Cody, W. J., and D. F. Britton. 1989. **Fern and Fern Allies of Canada.** Publication 1829/E, Agriculture Canada, Research Branch, Ottawa.
- Taxaceae to Orchidaceae – Voss, E. G. 1972. **Michigan Flora. Part 1: Gymnosperms and Monocots.** Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 55.
- Saururaceae to Cornaceae – Voss, E. G. 1985. **Michigan Flora. Part 2: Dicots.** Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 59.
- Pyrolaceae to Compositae – Voss, E. G. 1996. **Michigan Flora. Part 3: Dicots.** Cranbrook Institute of Science and University of Michigan Herbarium. Bulletin 61.
- Newmaster, S. G., A. Lehela, P. W. C. Uhlig, S. McMurray, M. J. Oldham, and Ontario Forest Research Institute. 1998. **Ontario Plant List.** FRI Paper No. 123.
- Bradley, D. J. 2013. **Southern Ontario Vascular Plant Species List.** 3rd Edition. Science & Information Branch Southern Science and Information Section. Ontario Ministry of Natural Resources, Peterborough, Ontario. SIB SSI SR-03, 78 p.

The rarity or significance for vegetation communities and vascular plants (floristics) on the subject property was determined from standard status lists, published literature, the NHIC and LIO dataquery web-sites (NHIC 2021, LIO 2021). Sources for flora included Bakowsky (1997), COSEWIC (2021), Province of Ontario (2007), MNRF (2021), Oldham and Brinker (2009), Riley (1989) and Varga *et al.* (2000). Rare plant species (Species at Risk in Ontario – SARO) included those listed and regulated under the Province of Ontario *Endangered Species Act, 2007*, as amended as of 2021. The determination for plant species rarity consisted of a straightforward comparison of the subject property plant species with those listed in the source references.

3.2.2 Wildlife Resources

The subject property was visited May 8, June 13, June 14 and June 27, 2019 to collect qualitative and quantitative data on the wildlife resources (birds, mammals, amphibians, reptiles). The site visits included one dawn breeding bird survey following the Ontario Breeding Bird Atlas (OBBA) inventory and breeding evidence protocols (Bird Studies Canada *et al.* 2006). One evening amphibian call count survey was conducted on May 8, 2019 following the protocols outlined in the Marsh Monitoring Program (Bird Studies Canada *et al.* 2009). The bulk of the wildlife observations were garnered from incidental observations noted during the four (4) field visits. Evidence of wildlife presence included direct sightings, and indirect evidence such as calls, tracks, scats, nests, dens, browse, carcasses, etc. Small mammal trapping was not undertaken nor warranted, given the lack of wildlife habitat in the proposed development plan area, the gravel yard (pad) as delineated on **Figure 5**.

The following subsections provide summaries of the methods used to ascertain wildlife and wildlife usage within subject property, based on conditions during the May 8, June 13, June 14 and June 27, 2019 site visits. It is to be noted that CEA has no knowledge of on-site conditions since June 27, 2019.

Birds

One (1) dawn breeding bird survey was conducted between a start time 0600hr and end time 0700hr on June 13, 2019 under favourable weather conditions (calm wind, partly sunny to cloudy conditions and no precipitation) following survey methods and breeding evidence codes of the Ontario Breeding Bird Atlas (Bird Studies Canada *et al.* 2006). All birds seen and heard on or adjacent to the subject property were noted and compiled into a master list for the entire property. Identifying breeding bird evidence or lack thereof terminology which included none; possible; probable; and confirmed. Additional data on possible, probable and/or confirmed breeding birds on or

abutting the subject property were noted from incidental observations during site visits throughout the day on June 14 and June 28, 2019.

Weather conditions during each survey date were recorded or estimated, which included parameters such as air temperature, wind speed and direction, cloud cover, and precipitation.

Mammals

Incidental observations of mammals were recorded during all daytime field surveys, which occurred on May 8, June 13, June 14 and June 28, 2019.

Reptiles

Incidental observations of reptiles were recorded during all daytime field surveys, which occurred on May 8, June 13, June 14 and June 28, 2019.

Amphibians

One (1) evening calling amphibian (e.g., frogs and toads) survey was conducted on May 8, 2019 following Marsh Monitoring Program survey protocols (Bird Studies Canada 2009). Incidental observations of amphibians were recorded during all daytime field surveys, which occurred on May 8, June 13, June 14 and June 28, 2019.

Standard lists and published literature used to determine the status or rarity of fauna included COSEWIC (2021), Province of Ontario (2007), MNRF (2021), Bird Studies Canada *et al.* (2006), Cadman *et al.* (2007), Austen *et al.* (1994), Dobbyn (1994) and Plourde *et al.* (1988). The determination for wildlife species rarity consisted of a straightforward comparison of the subject property wildlife species with those listed in the source references.

3.3 Species At Risk Screening

For the purposes of this report, Species at Risk (SAR) are considered to be those species formally designated by COSSARO (MNRF 2021). SAR listings at the provincial level were reviewed. The Natural Heritage Information Centre (NHIC 2021) dataquery web-site date was accessed to review relevant observation data records (e.g., element occurrence records – EO_ID) for the data squares that overlap the subject property.

3.4 Aquatic Environs

There is an intermittent swale/drainage ditch on-site that borders the southern property boundary, and conveys flows (mostly during snow melt and severe rain storms. Based on the 2019 site visits no fish (e.g., cyprinids or others) were noted in this aquatic environ feature, and therefore in our opinion no fish sampling was warranted, nor undertaken.

4 EXISTING CONDITIONS

4.1 Land Use, Topography and Drainage, Soils and Groundwater

Land Use

The subject property is situated on the east side of Old Brock Road, at the municipal address of 5329 Old Brock Road, and lies approximately 100 m north of Horton Street within the Hamlet of Claremont, City of Pickering. As shown on **Figure 4** (Local Context), the surrounding land uses are variable, ranging from as-built rural residential lots, farmland, vacant woodland, “Other Wetland” and PSW (parts of the Glen Major Wetland Complex), small commercial enterprises, and part of a CP Rail Line.

The subject property covers approximately 0.606 hectares (1.5 acres) and is comprised mainly of; an open gravel yard (pad – CVR_4/CVR_1); cultural deciduous hedgerows along the southern and northern property edges (FOM4-11); thin strip of mineral cultural meadow (remnant grassland – MEGM3-4); a copse of planted black locust (*Robinia pseudo-acacia*) and naturally regenerating Manitoba maple (*Acer negundo*), white ash (*Fraxinus americana*) and balsam poplar (*Populus balsamifera*) with no shrub stratum and a groundcover of grasses and weeds (FODM4-11); a small pocket of treed swamp (“Other Wetland”) dominated by balsam poplar, trembling aspen (*Populus tremuloides*) (SWDM4-5); a small pocket of common reed graminoid meadow marsh (MAMM1-12) in conjunction with cattail shallow marsh (MASM1-1); and a linear intermittent swale/drainage ditch that borders the southern property boundary and drains from east to west, into a ditch on Old Brock Road, then conveys flows to the west via a corrugated steel pipe (CSP) pipe underneath Old Brock Road.

Land use to the east (off-site) includes a combination of vacant mineral cultural meadow (MEGM3-4 – **Photograph 1**), a pocket of “Other Wetland” characterized as common reed graminoid mineral meadow marsh (MEMM1-12 – **Photograph 2**), small stands of upland poplar woodland and upland eastern white cedar (*Thuja occidentalis*) woodland (**Photograph 3**).

Land use to the north consists of a farmhouse, barn and farm field (cropland), along with a small pond that abuts the northern property boundary near Old Brock Road (**Photographs 4 and 5**).

Land uses to the south included in 2014 an as-built single-family detached dwelling and ancillary building, which as of 2019 was demolished, along with an existing commercial business known as Leading Auto Repair (**Photograph 6**).



Photograph 1. Westward view of land use to the east edge of subject property comprised of a strip of cultural meadow (MEGM3-4), bordered by deciduous, mixed and coniferous woodland



Photograph 2. Southward view of land use to the east of the subject property, comprised of a pocket of 'Other Wetland' characterized as MAMM1-12 common reed graminoid mineral meadow marsh



Photograph 3. Northward view of land use to the east of the subject property comprised of upland poplar woodland and upland eastern white cedar woodland



Photograph 4. View of the land use which lies to the north of the subject property, comprised of a farmhouse and farmland, with a small pond at the toe of the gentle slope



Photograph 5. Eastward view from the edge of Old Brock Road of the land use to the north of the subject property, comprised of a farmhouse, barn, sheds and farmland (cropland)



Photograph 6. Eastward view land use to the south of the subject property, comprised in 2014 of an as-built single-family detached dwelling and ancillary building, which as of 2019 was demolished, along with commercial business (Leading Auto Repair) abutting to the south



Photograph 7. Westward view of the land use that lies to the west of the subject property as viewed from the edge of Old Brock Road, comprised of treed swamp and cattail marsh, part of the Glen Major Wetland Complex (PSW)



Photograph 8. Eastward view of north half of previous on-site land use CVR_1 (2014) comprising a grassed lawn, and scattered black locust trees, with the as-built detached single-family dwelling existing circa 2005 as shown on Figure 5, and since demolished prior to 2014

Land use to the west includes vacant woodland and part of the Glen Major Wetland Complex, a Provincially Significant Wetland (PSW), as delineated, mapped and evaluated by the MNRF and as shown on the Land Information Ontario (LIO) web-site mapping (LIO 2021) (**Photograph 7**).

Topography and Drainage

The topography and spot elevations on the subject property are shown on Figure 2, Sketch Showing Topographic Information (ertl surveyors 2017). Site drainage at present is predominantly from the northeast corner across the site to the southwest corner. Elevations range from 272.71 masl in the northeast corner to 269.82 masl in the southwest corner, approximating a difference of 2.0 m across the site. The intermittent swale/drainage ditch contained on-site, parallels the southern property edge and drains surface runoff and likely groundwater discharge from the off-site “Other Wetlands” and the CP Rail Line. For a detailed view of on-site topography refer to **Figure 2**.

Soils

A total of four (4) bore holes, designated as BH (MW)101-19 through BH (MW)104-19 were advanced into the subsurface as predetermined locations throughout subject property, as illustrated on Figure 1 in the Geotechnical Investigation Report (Cambium Inc. 2019b) and on Figure 2 in the Hydrogeological Assessment Report (Cambium Inc. 2019a). Both reports provide details pertaining to the data collection methods and analysis of the subject property’s surface and subsurface soils and moisture conditions (groundwater).

In general, detailed soil profiles encountered in the boreholes are contained in the borehole logs in Appendix A of the Cambium Inc. (2019b). Based on the results of the borehole investigation, the subsurface conditions generally consist of silty sand overlying deposits of sandy silt till materials. Bedrock was not encountered at any of the boreholes. Cambium Inc. (2019c) prepared a Site Screening Questionnaire for Development Applications required for all development applications where a Phase 1 Environmental Site Assessment in accordance with the Ministry of Environment’s Guideline for Use at Contaminated Sites in Ontario is not provided to the City of Pickering.

Groundwater

The Geotechnical Investigation Report (Cambium Inc. 2019b) contains descriptions and data on the groundwater regime. All of the boreholes were found to have some groundwater seepage upon completion excluding (completion of drilling and prior to backfill). In general, short-term groundwater table was found at depths of 1.0m to 3.4 m below existing grade. Stabilized groundwater levels were found at depths ranging from 0.70 mbgs to 0.84 mbgs, which correspond to elevations of 269.3 and 269.9 masl, with the proviso that groundwater level may fluctuate seasonally.

The Hydrogeological Assessment report (Cambium Inc. 2019a) also contains details on water balance comparison (Section 4.5 And Section 4.7), pertaining to pre-development and post-development conditions based on the proposed development plan (site plan). The report should be reviewed in its entirety to ascertain details and the mitigation measures and recommendations to address this issue.

Both Cambium reports (Cambium Inc. 2019a and Cambium Inc. 2019b) also contain to varying degrees mitigation measures, recommendations and conclusions to address potential impacts and construction methods required to implement the proposed development plan (site plan as per **Figure 5**). Mitigation measures, recommendations and conclusions present in both of the Cambium Inc. reports have been extracted verbatim or paraphrased and are contained in Sections 7, 8 and 9 of this NHE, where warranted.

4.2 Designated Natural Areas and/or Features

Based on the background literature review and the CEA field inventories, the following natural areas, features and regulated areas were identified on the subject property and abutting portions of neighbouring properties. The gravel yard (pad – CVR_4) is not designated within any of the following schedules and/or maps, nor does it appear that the mineral cultural meadow (MEGM3-4) is designated either:

- the entire property lies within the boundaries of the Oak Ridges Moraine as shown on Schedule 'A' – Regional Structure and Schedule 'A' – Map 'A4' Regional Structure, as contained in the Durham Region Official Plan;
- part of the property lies within an area designated as Key Natural Heritage and Hydrological Features as shown on Schedule 'B' - Map 'B1d' Greenbelt Natural Heritage System & Key Natural Heritage and Hydrologic Features, as contained in the Durham Region Official Plan;
- the entire property lies within the Rural Settlement designation as shown on Schedule I (Sheet 2 of 3), as contained in the Durham Region Official Plan;
- part of the property lies within an area designated as Natural Heritage System as shown of Schedule III A as contained in the Pickering Official Plan;
- part of the property lies within an area designated as Significant Woodland as shown on Schedule III B as contained in the Pickering Official Plan;
- the entire property lies within areas designated as Groundwater Recharge Areas and High Aquifer Vulnerability Areas a contained in the Pickering Official Plan; and
- most of the property is regulated under Ontario Regulation 166-06 by the TRCA, although the majority of

the “Other Wetland” features (SWMM4-5, MAMM1-12/MASM1-1) are not shown on the regulation map.

4.3 Regional Vegetation

Rowe (1972) developed a forest region classification system which categorizes the vegetation of Canada into eight major forest regions, or vegetation formations. These vegetation formations are based primarily on the presence and distribution of dominant tree species within each and are considered to reflect direct responses to broad climatic regimes. Within each of the major regions, a number of distinct sections were delineated according to local patterns in tree composition resulting from variations in physiographic and geological features. Based on this classification system, the subject property located at 5329 Old Brock Road is situated within the Huron-Ontario Section of the Great Lakes-St. Lawrence Forest Region. Specifically, the subject property lies within Site District 6E-7 based on the MNRF ‘Open Space Ecological Report’ entitled, *“Life Science Areas of Natural and Scientific Interest in Site District 6-7”* (Lindsay 1984).

This Rowe (1972) forest region essentially covers the same geographical limits as the Lake Simcoe-Rideau Site Region 6E of Ontario as outlined in the classification system by Hills (1959). Each site region is further subdivided according to characteristic physiographic zones, which Hills referred to as Site Districts. The subject property lies within Site District 6-7, which is described as an area of water-laid clay, silt and sand broken by ridges of loam and sandy loam. Based on the afore-mentioned technical documents, the subject property lies within the more refined Ministry of Natural Resources (MNR) Site District 6-7 (Burger 1993).

Characteristic forest cover consists of a relatively rich mixture of hardwood and coniferous tree species, in various combinations and densities. Natural woodlands on well-drained sites are typically dominated by sugar maple (*Acer saccharum*) and beech (*Fagus grandifolia*). Other woody associates include basswood (*Tilia americana*), white ash, red ash (*Fraxinus pennsylvanica*), yellow birch (*Betula alleghaniensis*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), white oak (*Quercus alba*) and bur oak (*Quercus macrocarpa*). Conifers found within the tolerant hardwood types include eastern hemlock (*Tsuga canadensis*), eastern white pine (*Pinus strobus*) and balsam fir (*Abies balsamea*). Large-toothed aspen (*Populus grandidentata*), black cherry (*Prunus serotina*), butternut (*Juglans cinerea*) and ironwood (*Ostrya virginiana*) also occur frequently on upland sites, but are rarely abundant.

Blue-beech (*Carpinus caroliniana*), silver maple (*Acer saccharinum*), slippery elm (*Ulmus rubra*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica* var. *subintegerrima*), white elm (*Ulmus americana*) and eastern white cedar are also relatively common, but generally occur on slightly moister, cooler sites, notably in river valley systems, swamps, swamp thickets, or other wetland margins, and creek/tributary littoral zones.

Trembling aspen (*Populus tremuloides*), large-toothed aspen, balsam poplar and cottonwood (*Populus deltoides*) are also widespread, usually occurring within young, successional forests, and usually at the ecotones (interface) between fields and more mature phases of forest growth.

As with many parts of southern and central Ontario, much of the original forest cover has been cleared for cultivation and settlement; consequently, contiguous, extensive forest tracts are relatively uncommon (Rowe 1972). However, in areas having limited agricultural capability or erosion susceptible soils, many abandoned farmlands have been planted with extensive conifer plantations, or are reverting to natural plant cover in varying stages of successional regeneration (e.g., wet and dry meadow, old fields, thickets, young pioneer (poplar-birch) stands, etc.).

4.4 Vegetation Resources

The location and extent of the anthropogenic, cultural, woodland and wetland natural heritage features (vegetation communities – ELCs) as characterized and delineated within the subject property, are schematically illustrated on **Figure 6**. The ELC vegetation mapping and boundaries of their component features were initially delineated through aerial photograph interpretation and later verified through ground-truthing during site visits. The boundary of the “Other Wetland” features (SWDM4-5 and MEMM1-12/MASM1-1) were staked with City and TRCA staff on June 15, 2019, and later surveyed by an OLS and incorporated onto the proposed development plan (site plan – **Figure 5**).

A total of seven (7) vegetation communities (1 anthropogenic, 3 cultural, 1 woodland, and 2 wetland) were identified, characterized, mapped, inventoried and photographed. Observations, notes and lists were compiled during all site visits that were conducted May 8, June 13, June 14 and June 28, 2019. The inherent vascular plant species (floristics), characterized and recorded in the anthropogenic, cultural woodland and wetland features are compiled in the master plant list contained in **Appendix F**. The master list is a comprehensive listing of plant species found during the 2019 botanical field inventories.



The following sub-sections provide summary descriptions of the subject property features, including their ELC characterization, approximate boundaries and inherent plant species composition in the overstorey, understorey, shrub and groundcover strata, where applicable. **Figure 6** is a schematic illustration of the vegetation communities and in conjunction with the following text, representative photographs and **Table 1** (ELC summaries) provides a qualitative descriptive summary and visual context of the anthropogenic, cultural, woodland and wetland features found and documented within the subject property during the 2019 site inventories. The ELC boundaries are approximate and were not surveyed by an Ontario Land Surveyor (OLS). **Figure 5** provides an accurate wetland boundary edge of SWDM4-5 and MEMM1-12/MASM1-1, as surveyed and staked on June 14, 2019 by an OLS.



Figure 6. Ecological Land Classification (ELC) Units

5329 Old Brock Road
 Hamlet of Claremont
 City of Pickering

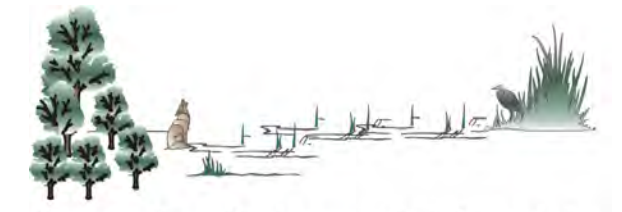
1972229 Ontario Ltd.*
 Lots 16, 17, 18 and 20
 and Part of Lots 15, 19, 21, and 22
 and Part of Alfred Street
 and Part of Tracey Street
 Registered Plan 94
 Geographic Township of Pickering
 Now in the City of Pickering,
 Regional Municipality of Durham

-  subject property boundary (approx.)
-  intermittent swale/drainage ditch (direction of flow)

Ecological Land Classification Code
 (see Table 1 for details)

CVR_4	Rural Residential (gravel yard - pad)
MEGM3-4	Mineral Cultural Meadow
FODM11	Naturalized Deciduous Hedgerow
FOCM5	Naturalized Coniferous Hedgerow
FODM4-11	Dry-Fresh Black Locust Woodland (copse)
SWDM4-5	Poplar Mineral Deciduous Swamp
MAMM1-12/MASM1-1	Common Reed Graminoid Mineral Meadow Marsh/Cattail Mineral Shallow Marsh

* First Base Solutions (FBS)
 Coloured Orthophoto (2019)
 Scale 1:575 (approx.)



Cunningham Environmental Associates

Table 1. Summary of Ecological Land Classification Units (ELCs) on the Subject Property (5329 Old Brock Road) *

ELC Code	Vegetation Type	Summary Description
Anthropogenic		
CVR_1/CVR_4	Rural Property/Low Density Residential (detached house, detached garage, and sheds were demolished prior to 2014)	<ul style="list-style-type: none"> - this portion of the property was primarily grassed lawn and scattered deciduous trees after the house, etc. was demolished prior to 2014 and the gravel fill overlain on part of the grassed lawn and the scattered trees were removed in 2018 - comprised of an area (approx. 1200 m²) of grassed lawn overlain with a chipped/flaked, graded and compacted clean gravel fill patch approximately 4" in depth - this gravel fill area was previously covered with manicured grassed lawn, scattered trees and shrubs, and a single-family dwelling and shed prior to purchase, as evidenced by previous aerial photographs and Google street view photographs - gravel fill was placed at the property frontage in 2018, and has remained in place and stable, based on the last CEA site visit (June 28, 2019) - some scattered woody vegetation overburden is present in the form of two stumps (#28 and #29)*, near the concrete block at the entrance, a basswood (#53)* and a Manitoba maple (#54)*. There are also regenerating tree/shrub seedlings (Manitoba maple and common buckthorn) along with scattered weeds such as daisy fleabane, common plantain, dandelion, goat weed, common burdock, garlic mustard, red clover and heal-all
Cultural		
MEGM3-4	Mineral Cultural Meadow	<ul style="list-style-type: none"> - there are three (3) units of this cultural feature, which typically consists of field grasses (remnant grassed lawn), weeds and herbaceous forbs, along with scattered trees and shrubs (#14, #18, #26 and #27) - one unit borders the southern edge of the gravel fill area (CVR_4), one borders the southern edge of the north hedgerow (FODM11), with the third at the interface of the gravel yard and FODM4-11 - typical weeds, grasses, and forbs found in both units include daisy fleabane, awnless brome grass, St. Johns-wort, Canada blue grass, Kentucky blue grass, English plantain, wild carrot, red clover, white clover, common dandelion, Canada thistle, common plantain, creeping buttercup, riverbank grape, field horsetail, common burdock, black locust seedlings, Manitoba maple seedlings, common buckthorn seedlings, low hop clover, heal-all and mouse-eared chickweed

FODM11	Naturalized Deciduous Hedgerow	<ul style="list-style-type: none"> - there are two (2) units partially on-site, bordering parts of both the north and south property boundaries - dominant trees include Manitoba maple, basswood, balsam poplar, white ash and scattered eastern white cedar, along with scattered sugar maple, Norway maple and black locust seedlings (tree #8, #9, #30-31, #32-49, #50, #51-52, #59, #85, #86, #88, #89-90, #142-143 and #148-183) - shrub and vine species include common buckthorn, round-leaved dogwood, choke cherry, tartarian honeysuckle, alternate-leaved dogwood, wild red raspberry, riverbank grape, Virginia creeper, and poison ivy - typical groundcover consists of weeds, grasses and forbs such as common burdock, tall goldenrod, field horsetail, common dandelion, riverbank grape, Kentucky bluegrass, common sow thistle, quackgrass, common plantain, wild carrot, red clover, white clover, Canada thistle, creeping buttercup, common buttercup, heal-all, bull thistle and common milkweed
FOCM5	Naturalized Coniferous Hedgerow	<ul style="list-style-type: none"> - this cultural feature is comprised of a row of planted eastern white cedar (tree #220-260+) - the groundcover is comprised of weeds, grasses and forbs
Woodland (Copse)		
FODM4-11	Dry-Fresh Black Locust Woodland Copse	<ul style="list-style-type: none"> - comprised of planted and scattered black locust trees (all of similar age, height and DBH) in the overstorey, dominated by naturally regenerating Manitoba maple and balsam poplar in the understorey, along with scattered white ash, trembling aspen, white birch and a few silver maple, red maple and sugar maple - black locust is a non-native tree species and is not regenerating on-site. Based on a quantitative count/DBH of this copse, the resulted indicated this feature does not qualify as a stand-alone woodland or woodlot feature based on the City of Pickering woodlot assessment - based on the Arborist Report (DA White Tree Care 2020), the following trees were found in this copse (outside of the proposed 10m wetland buffer include #56-58, 71, 72, 73-78, 82, 85, 93-95, 144-146, 182-201, and 202-205), the remainder in this copse lie within the proposed 10m wetland buffer, which will remain intact - shrub and vine species are absent, with a groundcover comprised of weeds, grasses and forbs such as scattered narrow-leaved cattail and reed canary grass (typical of the meadow marsh wetland and woodland interface (transition zone) in the southeast corner), fragrant bedstraw, common plantain, common dandelion, common buttercup, quackgrass, field horsetail, red clover, white clover, black medic, awnless brome grass, common milkweed, bitterdock, garlic mustard, heal-all, bull thistle, common burdock, enchanters nightshade, spotted jewelweed, sensitive fern, field pennycress, Canada bluegrass, yellow avens, low hop clover, common plantain, daisy fleabane and Canada goldenrod

Wetland		
SWDM4-5	Poplar Mineral Deciduous Swamp	<ul style="list-style-type: none"> - situated in the back of the property along the eastern property boundary and extending to the south property boundary is part of an “Unnamed or Other Wetland” feature, which extends off-site to the east - this treed swamp is dominated by trembling aspen and balsam poplar in the overstorey, along with scattered crack willow and hybrid willow, while red maple, white elm, Manitoba maple and basswood dominate the understorey - the dense shrub and vine stratum is dominated by red-osier dogwood, with other shrubs including alternate-leaved dogwood, pussy willow, slender willow, Missouri willow, honeysuckle, smooth gooseberry, common buckthorn, along with riverbank grape, wild cucumber, and Virginia creeper - typical groundcover includes water horsetail, reed canary grass, Canada bluejoint grass, fowl manna grass, creeping bent grass, garlic mustard, sensitive fern, ostrich fern, lady fern, marsh fern, spotted jewelweed, meadow horsetail, common reed, narrow-leaved cattail, cursed crowfoot, purple loosestrife, purple-stemmed aster, blue vervain and fringed loosestrife
MAMM1-12 & MASM2-1	Common Reed Graminoid Mineral Meadow Marsh Cattail Mineral Shallow Marsh	<ul style="list-style-type: none"> - in the extreme southeast corner of the property is a small patch of “Unnamed or Other Wetland” characterized as common reed meadow marsh, in combination with cattail shallow marsh, with saturated mineral muck soils, which blends into SWDM4-5 - this wetland feature extends within and along the edges of part of the swale/drainage ditch which parallels the south property perimeter and conveys surface drainage and groundwater discharge to the property frontage, before draining underneath Old Brock Road (to the west) via a culvert, eventually into a portion of the Glen Major Wetland Complex (PSW) and creek - the outer edges are dominated by herbaceous species such as common reed, narrow-leaved cattails, water horsetail, spotted Joe pye-weed, common boneset, purple-stemmed aster, purple loosestrife, blue vervain, fringed loosestrife, sensitive fern, lady fern, ostrich fern, marsh fern, spotted jewelweed, Canada bluejoint grass, creeping bent grass, fowl manna grass, water dock, cursed crowfoot, blunt spike-rush and dark green bulrush - woody vegetation include riverbank grape, Virginia creeper, poison ivy, red-osier dogwood, pussy willow, slender willow, balsam poplar, basswood, alternate-leaved dogwood, Manitoba maple, white elm, trembling aspen and smooth gooseberry

* refer to Arborist Report for 5329 Old Brock Road (DA White Tree Care 2020) in **Appendix E**

4.4.1 Anthropogenic ELC Units

Low Density Residential (CVR_1)/ Rural Property (CVR_4)

This anthropogenic feature consists of approximately 1200 m² comprised of approximately 4" of clean compacted chipped and flaked gravel which was installed in 2018 by the current Owner on top of previously grassed lawn with scattered trees and shrubs (**Figure 6**). The area now containing the stable gravel yard (pad) part of a previous land use as an as-built rural residential detached single-family dwelling (CVR_1), gravel driveway, detached garage and sheds which were demolished prior to 2014 (**Photographs 8 and 9**). This feature is relatively sterile, providing limited natural habitat attributes and ecological functions in itself and to the other on-site features.

As of 2018 and shown on **Figure 5**, the gravel yard (pad – with a gray overtone), contains a trailer (on wheels), as well as four (4) metal (shipping) containers. Most of the trees in this area as shown on the 2014 Google roadside photographs (**Photographs 8 and 9**), shows scattered trees and shrubs, which have since been removed. As the Arborist Report shows (**Appendix E**), there were two stumps (#28 and #29) near the concrete block wall at the entrance and tree #53 (basswood) and tree #54 (Manitoba maple) which since have been removed.

The edges of the gravel yard (pad) are comprised of weeds, grasses and seedlings encroaching from the abutting MEGM3-4 mineral cultural meadow, examples include daisy fleabane (*Erigeron annuus*), common plantain (*Plantago major*), common dandelion (*Taraxacum officinale*), garlic mustard (*Alliaria petiolata*) orchard grass (*Dactylis glomerata*), Manitoba maple seedlings and common buckthorn (*Rhamnus cathartica*) seedlings, but nothing of consequence (**Photographs 10 to 14**).

4.4.2 Cultural ELC Units

Mineral Cultural Meadow (MEGM3-4)

As shown on **Figure 6** there are three (3) units or small patches dominated by grasses and weeds, part of the remnant grassed lawn from the previous land use as a rural residential lot. One patch (**Photograph 15**) lies along the northern property edge between the trailer and the cultural deciduous hedgerow (FODM11). **Photograph 16** shows another unit of cultural meadow situated in the southwest corner along the wooden fence and extending to the east. The last unit of this type (**Photograph 17**), cultural meadow (remnant grassed lawn), lies along the eastern edge, at the interface between the gravel yard (pad) and cultural woodland stand FODM4-11).

Parts of these three (3) units contain scattered trees and shrubs, namely trees #14, #26 and #27 (black locust) and tree #18 a Norway maple (*Acer platanoides*). Typical weeds, grasses and forbs include daisy fleabane, awnless brome grass (*Bromus inermis*), common St. John's-wort (*Hypericum perforatum*), Canada blue grass (*Poa compressa*),



Photograph 9. Eastward view of south half of previous on-site land use CVR_1 (2014) comprised of grassed lawn and scattered black locust and Manitoba maple trees, with as-built detached single-family dwelling existing circa 2005 as shown on Figure e 5, and since demolished prior to 2014



Photograph 10. Westward view towards the front gate and Old Brock Road, of the gravel yard (pad - CVR_4) comprised of approximately 4" of compacted clean crushed and chipped limestone, which was overlain onto the grassed lawn, part of the previous rural residential use



Photograph 11. Northward view of the gravel yard (pad - CVR_4) at its interface with cultural meadow and a scattered cultural woodland (copse) comprised on planted non-native black locust and naturally regenerating Manitoba maple, white ash and balsam poplars, with a grassed groundcover



Photograph 12. Northeastward view of the gravel yard (pad - CVR_4) at its interface with cultural meadow and a scattered cultural woodland (copse) comprised on planted non-native black locust and naturally regenerating Manitoba maple, white ash and balsam poplars, with a grassed groundcover



Photograph 13. Southward view of gravel yard (pad - CVR_) at its interface with cultural meadow (MEGM3-4) and part of the black locust stand (FODM4-11) and the intermittent swale/drainage ditch bordered by the deciduous hedgerow (FODM11, comprised of Manitoba maple and dogwoods)



Photograph 14. Northward view of the edge of the gravel yard (pad - CVR_4), along with 4 metal containers and trailer (metal shed), with part of MEGM3-4 and cultural deciduous hedgerow FODM11 in the background



Photograph 15. View of a narrow strip of MEGM3-4 cultural meadow along north edge of property, at interface with cultural deciduous hedgerow FOM4-11



Photograph 16. Southwest view of a strip of cultural meadow (remnant grassed lawn) MEGM3-4, abutting the wooden fence and interface with gravel yard (pad - CVR_4)



Photograph 17. Northward view of part of a narrow band of cultural meadow (MEGM3-4, remnant grassed lawn, at interface between the gravel yard (pad - CVR_4) and the cultural copse of planted non-native black locust and naturally regenerating Manitoba maple, white ash and balsam poplar



Photograph 18. View of part of northern cultural deciduous hedgerow (FODM11) comprised mainly of Manitoba maple, basswood and white ash, along with eastern white cedar, black locust seedlings and deciduous shrubs



Photograph 19. Western view of the cultural deciduous hedgerow (FODM11) situated along the southern property edge, and which borders both sides of the intermittent swale/drainage ditch



Photograph 20. Eastern view of part of a planted cedar hedgerow, which borders the southern edge of the intermittent swale/drainage ditch, also showing part of MEMM1-12 in the swale and the south edge of FODM4-11

Kentucky blue grass (*Poa pratensis*), English plantain (*Plantago lanceolata*), wild carrot (*Daucus carota*), red clover (*Trifolium pratense*), white clover (*Trifolium repens*), common dandelion, Canada thistle (*Cirsium arvense*), common plantain, creeping buttercup (*Ranunculus repens*), riverbank grape (*Vitis riparia*), field horsetail (*Equisetum arvense*), common burdock (*Arctium minus*), black locust seedlings, Manitoba maple seedlings, common buckthorn seedlings, low hop clover (*Trifolium campestre*), heal-all (*Prunella vulgaris*) and mouse-eared chickweed (*Cerastium fontanum*).

Naturalized Deciduous Hedgerow (FODM11)

Bordering the northern edge of the subject property is a narrow band of cultural naturalized deciduous hedgerow (**Photograph 18**). As listed in the Arborist Report trees and shrubs noted in this feature include Norway maple (#8, #9); common buckthorn (#30, #31); eastern white cedar (#32-#49, #148-#183); silver maple (*Acer saccharinum* - #50 and #85); Manitoba maple (#51, #52, #59, #90 – dead, #142, #143)); and balsam poplar (#86, #88, #89). Other trees and shrubs include basswood and white ash, choke cherry (*Prunus virginiana*), tartarian honeysuckle (*Lonicera tatarica*), wild red raspberry (*Rubus idaeus*), and alternate-leaved dogwood (*Cornus alternifolia*). A similar naturalized deciduous hedgerow borders the southern property edge, on both sides of the intermittent swale/drainage ditch, and consists mainly of Manitoba maples and dogwoods (**Photograph 19**).

The groundcover stratum contains similar weeds, grasses and forbs to those found in MEGM3-4, such as common burdock, tall goldenrod (*Solidago altissima*), field horsetail, common dandelion, riverbank grape, Kentucky bluegrass, common sowthistle (*Sonchus oleraceus*), quackgrass (*Elymus repens*), common plantain, wild carrot, red clover, white clover, Canada thistle, creeping buttercup, common buttercup (*Ranunculus acris*), heal-all, bull thistle (*Cirsium vulgare*) and common milkweed (*Asclepias syriaca*).

Naturalized Coniferous Hedgerow (FOCM5)

Bordering the southern edge of the intermittent swale/drainage ditch is a naturalized coniferous hedgerow comprised of planted eastern white cedar (**Photograph 20**). The Arborist Report lists tree #220-#260+ in this cultural feature.

4.4.3 Woodland ELC Units

Dry-Fresh Black Locust Woodland Copse (FODM4-11)

At the eastern interface with MEGM3-4 and CVR_4 is a scattered cultural wooded stand (copse) dominated by even-aged planted black locust in the overstorey. Typical woody species in the understorey include naturally regenerating Manitoba maple, balsam poplar, scattered white ash, trembling aspen, white birch, a few silver maple, red maple

and sugar maple. There is no discernible shrub stratum. **Photographs 21, 22 and 23** show various aspects of this feature.

Based on the Arborist Report, the following trees were found in this copse, some of which are dead and have been removed, and other that have been identified for removal (poor condition), pending a tree-cutting permit from the City. See Figure 2 and Table #1 in the Arborist Report for the specific tree species, DBH and health assessment. Identified and surveyed trees include: black locust (#56 - #58, #77-#78); Manitoba maple (#72, #73-#76, dead #71, dead #82, dead #93-95); silver maple (#85); eastern white cedar (#145-#146, #182-#183); balsam poplar (#184-#201); white birch (#202-#205); and common buckthorn (dead #144).

4.4.4 Wetland ELC Units

Poplar Mineral Deciduous Swamp (SWDM4-5)

Situated in the southeast corner of the subject property and extending partially westward along the intermittent swale/drainage ditch is a pocket of “Other Wetland”, characterized as treed swamp. This wetland feature also extends off-site to the east. Dominant trees in the overstorey include trembling aspen, balsam poplar, crack willow (*Salix fragilis*), and hybrid willow (*Salix x alba*) (**Photograph 24**). Other woody associated situated in the understorey include red maple, white elm, Manitoba maple and basswood. The dense shrub stratum includes red-osier dogwood (*Cornus stolonifera*), alternate-leaved dogwood, pussy willow (*Salix discolor*), slender willow (*Salix petiolaris*), Missouri willow (*Salix eriocephala*), tartarian honeysuckle, swamp gooseberry (*Ribes lacustre*), riverbank grape, wild cucumber (*Echinocystis lobata*), Virginia creeper (*Parthenocissus inserta*) and common buckthorn (**Photograph 25**).

Typical plant species in the dense and lush groundcover includes water horsetail (*Equisetum fluviatile*), , reed canary grass (*Phalaris arundinacea*), Canada bluejoint grass (*Calamagrostis canadensis*), fowl manna grass (*Glyceria striata*), creeping bent grass (*Agrostis stolonifera*), garlic mustard, sensitive fern (*Onoclea sensibilis*), ostrich fern (*Matteuccia struthiopteris*), lady fern (*Athyrium filix-femina*), marsh fern (*Thelypteris palustris*), spotted jewelweed (*Impatiens capensis*), meadow horsetail (*Equisetum palustre*), common reed (*Phragmites australis*), narrow-leaved cattail (*Typha angustifolia*), cursed crowfoot (*Ranunculus sceleratus*), purple loosestrife (*Lythrum salicaria*), purple-stemmed aster (*Symphotrichum puniceum*), blue vervain (*Verbena hastata*), and fringed loosestrife (*Lysimachia ciliata*) (**Photograph 26**).



Photograph 21. Northwest view of the inside of FODM4-1, a cultural woodland (copse) with planted non-native black locust in the overstorey, along with Manitoba maple white ash, balsam poplar and scattered white elm in the understorey, lacking a shrub stratum, with a grassed/weed groundcover



Photograph 22. Southeast view of part of FODM4-11, comprised of planted black locust, along with natural Manitoba maple, white ash and balsam poplar, with nor discernible shrub stratum and a grass/weed groundcover, (remnant residential grassed lawn)



Photograph 23. Westward view of part of the open canopy planted black locust copse (FODM4-11), with an understorey of Manitoba maple, white ash and balsam poplar, lacking a shrub stratum and with a grass/weed groundcover



Photograph 24. View inside part of an "Other Wetland" feature, a treed swamp (SWDM4-5) comprised of balsam poplar, trembling aspen, white elm, red maple, Manitoba maple, and basswood, with a dense shrub stratum of willow shrubs, dogwood, and groundcover of ferns, sedges, grasses an aquatic forbs



Photograph 25. Interior view of deciduous tree swamp (SWDM4-5), dominated by poplars, crack willow and hybrid willow, with associates of white birch, Manitoba maple, basswood and red maple, with a groundcover of MAMM1-12 common reed graminoid meadow marsh and cattail marsh (MASM1-1)



Photograph 26. View of western edge of tree swamp feature SWDM4-5 of balsam poplar, white elm, dogwoods and willow shrubs, and a groundcover of reed canary grass, sedges, ferns and spotted jewelweed



Photograph 27. View of eastern edge property line comprised of dense groundcover of cattail marsh (MASM1-1) and MEMM1-12, containing water horsetail, spotted Joe pye-weed, spotted jewelweed, common boneset, reed canary grass, common reed, water dock, purple loosestrife and blue vervain



Photograph 28. Inside view of MAMM1-12 in combination with MASM1-1, dominated by common reed, reed canary grass, narrow-leaved cattail, water horsetail, spotted Joe pye-weed, common boneset, purple-stemmed aster, ostrich fern, marsh fern, sensitive fern, fringed loosestrife and purple loosestrife

Common Reed Graminoid Mineral Meadow Marsh (MAMM1-12)/Cattail Mineral Shallow Marsh (MASM1-1)

In the extreme southeast corner of the subject property and extending westward within and along part of the intermittent swale/drainage ditch is a combination of common reed graminoid meadow marsh and cattail shallow marsh (**Photographs 20, 27 and 28**).

This “Other Wetland” feature is dominated by common reed in combination with narrow-leaved cattail. It conveys surface drainage during spring freshet and heavy rain storms, as likely groundwater from the treed swamp (SWDM4-5) and off-site wetlands to the east. Drainage is from the east to the west to the property frontage into the Old Brock Road ditch, then eventually underneath Old Brock Road via a corrugated steel pipe (CSP). This wetland feature also contains similar groundcover species to those found in the groundcover of SWDM4-5.

4.4.5 Floristics

A master list of vascular plant species observed on-site is contained in **Appendix F**. Given the subject property’s relatively small size of 0.606 ha (1.5 ac), and that all existing and proposed development will be contained within the 1200 sq. ft. of existing gravel yard (pad – CVR_4), the plant list was not compiled by ELC type. The gravel yard (pad) consists of approximately 4” of clean compacted crushed and flaked limestone gravel, which has remained stable since 2018, and is relatively devoid of vegetation, containing no trees, shrubs and/or groundcover. The remaining cultural, woodland (copse) and wetland features will remain outside of the proposed development area and will intact (FODM-11, FOCM5, FODM4-11, SWDM4-5, MAMM1-12/MASM1-1), and in case of the wetlands will be afforded additional protection by a 10 m wide enhanced (planted) buffer as shown on **Figure 5**. The existing MEGM3-4 cultural meadow (remnant grassed lawn) will also be enhanced (restored) through grass seeding/sodding as shown on **Figure 5**.

4.5 Wildlife Resources

As described in **Section 4**, on **Table 1** and as documented through various photographs, the anthropogenic, cultural, woodland and wetland features, including the intermittent swale/drainage ditch provides varying qualities of wildlife habitat in terms of wildlife life cycle attributes and functions such as nesting, shelter, food, roosting and cover from predators. The lack of wildlife habitat diversity is reflective of the low numbers and varieties of wildlife species (birds, mammals, amphibians and reptiles) observed and recorded on-site during the May 8, June 13, June 14 and June 28, 2019 site visits. The subject property was also once an as-built rural residential lot that contained a detached single-family dwelling, detached garage and ancillary out-buildings (sheds) gravel driveway, and grassed lawn with scattered trees and shrubs in the front yard, side yard and back yard. The structures were all demolished prior to purchase by the current Owner (see **Figure 3** and **Photographs 8 and 9**) and as a consequence is considered

a disturbed lot from a wildlife and wildlife habitat perspective. Permanent, summer residents and migrant wildlife species have adapted to these land use conditions on-site and in the abutting rural residential and commercial properties.

The following sub-sections provide summaries of the wildlife inventories of the subject property during the 2019 spring to fall months, and include wildlife species observed during the botanical inventories.

4.5.1 Birds

Twenty-eight (28) bird species were detected during one formal dawn bird survey (June 13, 2019) and/or through incidental observations on June 14 and June 28, 2019, with the results tabulated on **Table 2**. Of these, 17 bird species in total exhibited possible breeding evidence (11), probable breeding evidence (7) or confirmed breeding evidence (1) on the subject property and possibly on the abutting lands. The remainder were either were flying overhead (6), or were just observed (3) with no evidence of breeding.

Examples of bird species considered common within this local geographic area and were identified as possible, probable or confirmed breeders on or adjacent to the subject property include: northern cardinal (*Cardinalis cardinalis*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), blue jay (*Cyanocitta cristata*), chipping sparrow (*Spizella passerina*), American goldfinch (*Carduelis tristis*), red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), gray catbird (*Dumetella carolinensis*), black capped chickadee (*Poecile atricapillus*), yellow warbler (*Setophaga petechia*), common yellowthroat (*Geothlypis trichas*) and American robin (*Turdus migratorius*). Only three (3) bird species were observed (no evidence of breeding) on parts of the gravel yard (pad), namely killdeer (*Charadrius vociferus*), European starling (*Sturnus vulgaris*) and song sparrow (*Melospiza melodia*).

4.5.2 Mammals

Mammal species (including SRank) observed, heard or presence of evidence noted include red squirrel (*Tamiasciurus hudsonicus*, S5), eastern gray squirrel (*Sciurus carolinensis*, S5), eastern chipmunk (*Tamias striatus*, S5), eastern cottontail (*Sylvilagus floridanus*, S5), groundhog (*Marmota monax*, S5), northern raccoon (*Procyon lotor*, S5), coyote (*Canis latrans*, S5), and white-tailed deer (*Odocoileus virginianus*, S5). None of these species is listed as a Species at Risk (SAR), under the **Endangered Species Act, 2007**, and all are common in the local geographical area and typical for the habitats encountered on and abutting the subject property.

Table 2. Bird Species List (2019) for 5329 Old Brock Road Property

FAMILY	SCIENTIFIC NAME	COMMON NAME	OBBA Breeding Code ³	Breeding Evidence ¹	Conservation Rank Information ²			
					S RANK	G RANK	SARO STATUS	COSEWIC Status
Accipitridae	<i>Buteo jamaicensis</i>	Red-tailed Hawk	FO	None	NAR	NAR		
Anatidae	<i>Anas platyrhynchos</i>	Mallard	FO	None	S5	G5		
Anatidae	<i>Branta canadensis</i>	Canada Goose	FO	None	S5	G5		
Ardeidae	<i>Ardea herodias</i>	Great Blue Heron	FO	None	S4	G5		
Bombycillidae	<i>Bombycilla cedrorum</i>	Cedar Waxwing	H	Possible	S5B	G5		
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal	P	Probable	S5	G5		
Cathartidae	<i>Cathartes aura</i>	Turkey Vulture	FO	None	SB5	G5		
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	X	Observed	S5B,S5N	G5		
Columbidae	<i>Zenaida macroura</i>	Mourning Dove	P	Probable	S5	G5		
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	H	Possible	S5B	G5		
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	H	Probable	S5	G5		
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow	X	Observed	S5B	G5		
Emberizidae	<i>Spizella passerina</i>	Chipping Sparrow	H	Possible	S5B	G6		
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	P	Probable	S5B	G5		
Hirundinidae	<i>Tachycineta bicolor</i>	Tree Swallow	H	Possible	S4B	G5		
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird	DD	Confirmed	S4	G5		
Icteridae	<i>Quiscalus quiscula</i>	Common Grackle	H	Possible	S5B	G5		
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird	H	Possible	S4B	G5		
Laridae	<i>Larus delawarensis</i>	Ring-billed Gull	FO	None	S5B,S4N	G5		
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird	C	Possible	S4B	G5		
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	V	Probable	S5	G5		
Parulidae	<i>Setophaga petechia</i>	Yellow Warbler	P	Probable	S5B	G5		
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat	H	Possible	SB5	G5		
Picidae	<i>Colaptes auratus</i>	Northern Flicker	C	Possible	S4B	G5		
Sturnidae	<i>Sturnus vulgaris</i>	European Starling	X	Observed	SNA	G5		
Trochilidae	<i>Archilochus colubris</i>	Ruby-throated Hummingbird	H	Possible	S5B	G5		
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	C	Possible	S5B	G5		
Turdidae	<i>Turdus migratorius</i>	American Robin	V	Probable	S5B	G5		

Survey conditions during June 13,2019 dawn breeding bird survey:

June 13, 2019; Start Time 0600hr/ End Time 0700hr; Temperature +13°C, Wind 9 km/hr; Cloud Cover 100%, Precipitation Nil; Observer David G. Cunningham

Survey conditions during June 14,2019 incidental bird survey

June 14, 2019; Temperature +11°C, Wind 28 km/hr; Cloud Cover 50%, Precipitation Nil; Observer David G. Cunningham

Survey conditions during June 28,2019 incidental bird survey

June 28, 2019; Temperature +11°C, Wind 28 km/hr; Cloud Cover 50%, Precipitation Nil; Observer David G. Cunningham

Incidental observations during site reconnaissance on May 8, 2019 (outside of breeding bird season) - David G. Cunningham

¹Highest level of breeding evidence detected based on Ontario Breeding Bird Atlas (OBBA) criteria and Breeding Evidence Codes

²Conservation Rank - from Ontario Ministry of Natural Resources & Forestry, Natural Heritage Information Centre, Species at Risk in Ontario Lists and Environment Canada/COSEWIC Lists

S-rank - S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common NAR - Not at Risk

G-Rank - G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure

³Breeding Evidence Codes: Entry examples **S,S** - Singing Male detected during first survey and second survey; **S** Singing male detected during first survey only, **S** Singing male detected during second survey only

Breeding Evidence Breeding Evidence Codes

None FO - Species observed Flying Over showing no signs of use of subject or adjacent lands

Observed X - Species observed, no evidence of breeding

Possible H - Species observed in its breeding season in suitable nesting habitat

Note S or C - Singing male(s) present (S), or breeding calls heard (C), in suitable nesting habitat in breeding season

Probable P - Pair observed in suitable nesting habitat in nesting season

Probable D - Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulation.

Probable V - Visiting probable nest site

Probable A - Agitated behaviour or anxiety calls of an adult

Probable B - Brood Patch on adult female or cloacal protuberance on adult male

Probable N - Nest-building or excavation of nest hole.

Confirmed DD - Distraction display or injury feigning.

Confirmed NU - Used nest or egg shells found (occupied or laid within the period of the survey)

Confirmed FY - Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight

Confirmed AE - Adult leaving or entering nest sites in circumstances indicating occupied nest

Confirmed FS - Adult carrying fecal sac.

Confirmed CF - Adult carrying food for young.

Confirmed NE - Nest containing eggs.

Confirmed NY - Nest with young seen or heard

Note : Possible if only one observation of S or C, Probable if evidence of S or C in same place on two or more dates a week or more apart

4.5.3 Herpetofauna

A total of three amphibian species were heard during the evening amphibian call survey conducted on May 8, 2019. Due to the lack of water and quality amphibian habitat in the gravel yard (pad – CVR_4) area; abutting cultural meadow (MEGM3-4); black locust stand (FODM4-11); and cultural deciduous hedgerows (FODM-11) and low species and species call numbers, a June evening amphibian call survey was in our opinion not warranted. All of the amphibian calls were restricted to the treed poplar swamp (SWDM4-5); common reed graminoid meadow marsh (MAMM1-12)/cattail shallow marsh (MASM1-1); and the intermittent swale/drainage ditch.

The May 8, 2019 evening amphibian call count survey followed the protocols outlined in the Marsh Monitoring Program (Bird Studies Canada 2009), namely during appropriate weather conditions which included temperature (10°C or greater), low winds (based on Beaufort wind scale), background noise, and no precipitation. Weather conditions on May 8, 2019 included a temperature of 11°C, Beaufort wind scale 3 (15 km/hr from the ENE), background noise code 1, clouds 75%, and no precipitation. Call counts for the three amphibian species were as follows: spring peeper – SPPE (*Pseudacris crucifer*) – calling code 1-2; chorus frog - CHFR (*Pseudacris triseriata*) – calling code 1-1; and American toad - AMTO (*Anaxyrus americanus*) – calling code 1-2.

Other amphibian species observed or heard on June 13, June 14 and June 28, 2019 during the day-time included: northern leopard frog – NLFR (*Lithobates pipiens*), and gray treefrog – GRTR (*Hyla versicolor*). One reptile species was noted in the mineral cultural meadow (MEGM3-4) off-site to the east, an eastern gartersnake (*Thamnophis sirtalis sirtalis*).

4.5.4 Habitat Connectivity/Linkage

As illustrated on **Figure 6**, the hedgerows, woodland and wetlands on-site are FODM-11, FODM4-11, SWDM4-5, MEMM1-12/MASM1-1, all of which are more or less connected to each other and/or are contiguous off-site to the east and partially to the south. Any potential linkage to the west is aquatic (CSP drainage underneath Old Brock Road from the on-site intermittent swale/drainage ditch, as the western Glen Major Wetland Complex (PSW) is not physically (features) connected to the subject property due to Old Brock Road. Woodland and/or wetland habitat connections from the subject property to the north do not exist.

4.6 Species at Risk

There were no Species at Risk (SAR), either Endangered (END) or Threatened (THR) flora or fauna observed, heard or presence noted on the subject property or on abutting lands as currently listed under the Province's **Endangered Species Act, 2007**. There were also no Special Concern (SC) flora or fauna found on the subject property or on abutting lands.

4.7 Aquatic Environs

Photograph 29 taken on June 14, 2019 shows a downgradient view (towards the Old Brock Road ditch) of the intermittent swale/drainage ditch, which contains stagnant to trickle flow, with a water depth of approximately 10 cm, along with saturated muddy patches with no water. **Photograph 30** shows an upgradient view of the same intermittent swale further to the east. As summarized on each photograph, the swale has a distinct littoral zone, comprised on various sedges, grasses, ferns and aquatic forbs, all of which are common. As previously stated, no cyprinids (minnows) or any other fish species were noted in this aquatic feature. The intermittent drainage swale in our opinion does not contain fish or fish habitat, but whose main function is to covey surface water runoff of groundwater discharge downstream to fish and fish habitat on the west side of Old Brock Road, via the CSP underneath the Old Brock Road ditch at the property frontage.

Photograph 31 and **Photograph 32** show conditions in the intermittent swale/drainage ditch and the Old Brock Road roadside ditch at the property frontage on October 23, 2021. It is clear from both photos that the source of the surface runoff and sediment runoff into both aquatic environs is the neighbouring (abutting) property to the south (5321 Old Brock Road), due to pumping of water into the swale and the excavation and piling of fill materials from the demolished as-built single-family dwelling and out-building demolished sometime prior to the 2019 site visits.



Photograph 29. Downgradient view of part of the intermittent swale/drainage ditch, which borders the southern edge of the subject property, showing spotted jewelweed, reed canary grass, sensitive fern, meadow horsetail, and blunt spikerush, fowl bluegrass, fowl manna grass and creeping bentgrass



Photograph 30. Upgradient view of intermittent swale/drainage ditch, situated within southern property edge, with a riparian zone of goldenrods, spotted jewelweed, horsetails, sedges, grasses and ferns



Photograph 31. Upgradient view of intermittent swale/drainage ditch (Oct 24 2020) showing lack of sediment fencing/straw bales with is allowing surface water runoff, sediment runoff and pumped excavation water to drain onto the subject property from 5321 Old Brock Road property to the south



Photograph 32. Downgradient view of outlet of intermittent swale/drainage ditch into Old Brock Road ditch along subject property frontage, showing lack of sediment fencing/straw bales that have allowed surface water runoff, sediment runoff and pumped excavation water from 5321 Old Brock Road to be flushed downstream, underneath Old Brock Road and into part of the Glen Major Wetland Complex, a PSW, containing fish and fish habitat further downstream

5 RESOURCE SIGNIFICANCE

As previously outlined in **Section 4.2**, the Durham Regional Official Plan (Regional Municipality of Durham 2020) and the Pickering Official Plan (City of Pickering 2018) and MNRF Make-A-Map (MNRF 2021) show various land use designations and feature designations on all or parts of the subject property. Land use designations include Oak Ridge Moraine, Rural Hamlet and Rural Settlement. Feature designations on all or parts of the subject property include Natural Heritage System, Significant Woodlands, Groundwater Recharge Areas, and High Aquifer Vulnerability Areas.

Anthropogenic Communities

The anthropogenic community (CVR_4) does not have any feature or system designations (e.g., Significant Woodlands, Key Natural Heritage and Hydrologic Features, Natural Heritage System) in either Official Plan. None of the Region Official Plan schedules nor the City of Pickering Official Plan have designated any part of this community (CVR_4) to be of resource significance from a natural environment perspective.

Cultural Communities

None of the cultural meadow communities or units (MEGM3-4) have any feature or system designations based on our review of the Official Plan schedules, or to be of resource significance from the natural environment perspective. It is intended through a landscape plan that the cultural meadow (MEGM3-4) will be enhanced through grass seed/sod plantings at their interfaces with CVR_4 and that no site alteration or development will occur in this area.

Although the northern deciduous hedgerow (FODM11) does not appear to part of any significant woodland designation or to be resource significance from a natural environment perspective, this cultural feature will remain intact, save and except for the removal of any dead or dying trees that may pose a property damage or personal safety liability.

Parts of the southern deciduous hedgerow (FODM11) appear to be part of a Significant Woodland designation in the City OP Schedule IIIB. This hedgerow will remain intact, save and except for the removal of any dead or dying trees that may pose a property damage or personal safety liability.

Woodland Communities

The only woodland community on-site is the open stand of planted black locust (FODM4-11). It would appear that some or part of this feature has been designated as Significant Woodlands. Regardless, this cultural woodland lies approximately 10 m from the edges of the gravel yard (pad – CVR_4), shown as the proposed development area

(site plan) on **Figure 5**. The intervening cultural feature (MEGM3-4) between the CVR_4 and FODM4-11 features will be enhanced and function as a buffer from the proposed development area.

Wetland Communities

Although not identified in the TRCA Ontario Regulation 166/06 mapping or on any of the Official Plan schedules or MNRF Make-A-Map overlays, as Wetland, the “Other Wetlands”, shown as SWDM4-5 and MEMM1-12/MASM1-1 on **Figure 6** nevertheless appear to be contained in the Significant Woodlands designation. Regardless, both wetland feature lie approximately 30 m with an intervening vegetated buffer (MEGM3-4 and FODM4-11) from the edges of the gravel yard (pad – CVR_4) anthropogenic feature which is the proposed development area. In addition, it is proposed that the outer edge of SWDM4-5 for a width of 10 m will be enhanced with landscape plantings (trees and shrubs) based on a detailed landscape plan as part of Site Plan Approval. Wetland unit SWDM4-5 already has a vegetated buffer in the 10 m width, comprised of part of FODM4-11.

Species at Risk

Based on the results of the background information review and the site visits and inventories undertaken on May 8, June 13, June 14 and June 28, 2019, there were no flora or fauna Endangered (END) or Threatened (THR) Species at Risk identified on-site on the abutting lands. Based on a review of the Natural Information Centre (NHIC) dataquery web-site, there are two element occurrence (EO_ID) records identified within a 1 sq km x 1 sq km grid square (17PJ4971) that overlaps the subject property. The records are for bobolink (*Dolichonyx oryzivorus*) listed as Threatened (THR) and redbottom dace (*Clinostomus elongatus*) listed as Endangered (END) in the Province of Ontario **ESA, 2007**. Based on a habitat analysis of the property there is no habitat for either species on the subject property. There may be habitat for bobolink in the grassed farmland to the north, and possibly contributing habitat for redbottom dace on the west side of Old Brock Road, within the PSW known as the Glen Major Wetland Complex.

Aquatic Communities

As described in **Section 4.7** and as shown on **Photographs 31** and **32**, the only aquatic environ is the intermittent swale/drainage ditch, which lies on the property along its southern property perimeter (**Figure 6**). Although redbottom dace is known in the area, it is our opinion based on our site visits conducted on May 8, June 13, June 14, and June 28, 2019 inventories that the swale does not contain fish (e.g., cyprinids or other fish) and therefore does not qualify as fish habitat.

6 POTENTIAL DEVELOPMENT CONSTRAINTS

Based on the background data review and the CEA May 8, June 13, June 14 and June 28, 2019 field inventories and evaluations, potential development constraints were identified based on their inherent feature types (e.g., woodland, wetland) as designated on the various Official Plan schedules and corresponding policies and regulations.

The following woodland and/or wetland features and their ecological functions were identified, evaluated and deemed to be potential development constraints within the subject property:

- Dry-fresh Black Locust Woodland (FODM4-11), an upland copse or cultural woodland stand of planted black locust along with naturally regenerating Manitoba maple, white ash and balsam poplar, situated along the interfaces with MEGM3-4 and SWDM4-5. This feature appears to lie within the City's designated Natural Heritage System, as well as the City's designated Significant Woodland. Although the **PPS, 2020** does not preclude development or alteration within Significant Woodland, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. Regardless, this cultural woodland stand will remain intact, buffered by the proposed enhancement of MEGM3-4, and also enhanced through proposed wetland buffer plantings along a 10 m wide swath from the outer edge of SWDM4-5, which currently contains part of FODM4-11; and
- Common Reed Graminoid Mineral Meadow Marsh (MEMM1-12)/Cattail Mineral Shallow Marsh (MASM1-1), referred to as "Other Wetland" is not shown on the TRCA Ontario Regulation 166/06 mapping. Regardless, no development or site alteration is proposed in this feature, and it is well buffered (existing vegetation in MEGM3-4 and FODM4-11) from the proposed development area (site plan) by a distance of approximately 30 m and with proposed tree and shrub planting enhancements in the 10 m wide wetland buffer.

It is to be noted that no development or site alteration is proposed within either the north or south cultural deciduous hedgerow (FODM11), coniferous hedgerow (FOCM5), or cultural meadow strips (MEGM3-4) – which will be enhanced through seeding/sodding.

It is our professional opinion and supported by the extensive on-site field inventories conducted during 2019, that given the relatively small sizes and qualities of the on-site woodland and wetlands ("Other Wetlands"), that the only site opportunities for development are suited within the existing anthropogenic feature (CVR_4), the stable gravel yard (pad – CVR_4), that is devoid of vegetation cover (e.g., trees, shrubs, groundcover), contains poor quality wildlife habitat, and practically no wildlife habitat life cycle functions.

7 IMPACT ASSESSMENT

As illustrated on **Figure 5** – the Proposed Development Site Plan & Statistics (TVAL Planning and Design Consultants August 2017, revised April 2020), the proposed landscaping business – facility (storage, fabrication, office, changing room) and pool installation business - facility on the subject property will consist of various structures. The Draft Site Plan & Statistics Plan (also known as the “Draft Site Plan”) will include a proposed 40’ (12.19m) x 80’ (24.38 m) metal fabricated storage barn (concrete slab on grade), an existing metal clad shed (trailer on wheels), along with seven (7) parking stalls, a gravel driveway, four (4) metal (shipping) containers and an outdoor storage area (on the gravel yard) for landscape equipment, landscaping materials and swimming pool equipment/supplies. All of these structures and corresponding operational uses will be contained within the existing gravel yard (pad – CVR_4) which covers approximately 1200 m². It is to be noted again, that the gravel yard (pad) was created by the Owner in 2018, comprised of approximately 4” of compacted granular material (chipped and flaked limestone) on top of a grassed lawn, a cultural feature that was part of the previous as-built rural residential use (detached single-family dwelling, detached garage, gravel driveway and sheds), that were demolished sometime prior to 2014, as indicated on **Photographs 8** and **9**, along with selective removal of scattered trees/shrubs after purchase by the Owner in 2018. Besides the loss of scattered trees/shrubs and any related wildlife uses, the construction on the gravel yard has had minimal if any negative impacts or adverse effects on the remaining on-site features (attributes) and their ecological functions. The gravel yard is stable, showing no signs of erosion or sediment runoff to the intermittent swale or the black locust copse and the “Other Wetland” features.

The identification and assessment of the potential negative impacts to the on-site features from the proposed development on the gravel yard (pad) is based on the in-situ identification, characterization of the existing and abutting features (attributes), inherent flora and fauna, and ecological functions contained therein. In summary, it is our professional opinion that there will be indiscernible to very minimal negative impacts or adverse effects to those on-site and abutting features outside of the proposed development area (gravel yard shown as a “gray tone” on **Figure 5**).

To be clear, the gravel yard filled area is the defined development area, all other on-site features (attributes) and the majority of the ecological functions will be retained intact, and in some instances enhanced, and will not be negatively impacted or adversely affected by the proposed development plan. There may be some indiscernible impacts to the wildlife that utilize the remaining intact features (FOMDM11, FOCM5, FODM4-11, SWDM4-5, MEMM1-12/MASM1-1) for parts of their life cycles, but the impacts will be temporary during the construction phase, as well as during what are essentially passive operational uses.

Based on the background literature review and the findings and evaluation of the field inventories conducted in 2019, preliminary potential impacts from a natural environment perspective are identified and evaluated.

Potential impacts and issues from proposed development of the subject property arising from the the Site Plan are described below. It is advised that the other technical reports provided to-date (e.g., hydrogeological and geotechnical) and to be provided as part of detailed design (landscape plan) are to be read or reviewed in their entirety to garner a full understanding of other technical (engineering) issues that have been identified and need to be addressed. These other technical reports required by the City of Pickering and the TRCA are listed in **Section 3.1** Background Information Review and Appendix City of Pickering Pre-consultation Meeting Minutes/Meeting Summary.

Proposed Metal Fabricated Storage Barn (40' x 80')

As per the proposed Site Plan, the location of the storage barn is to be constructed entirely within the previous 2018 fill area (gravel yard) and will be sited a minimum of 4m (southeast corner of the building) from the enhance wetland buffer. Based on the existing conditions, the placement and construction of this storage shed will have no discernible impacts to the “Other Wetland” features (SWDM4-5, MEMM1-12/MASM1-1) that are located in the southeast and southern portions of the property. The wetland boundary was delineated and staked on June 13, 2019 and reviewed by TRCA staff on June 14, 2019. As we understand, there has been no issues by the TRCA with the staked boundary of the wetland features. It is also to be noted that during and after the staking, the Owner and its representatives understood the main issue as discussed on-site on June 14, 2019 was the protection and restoration of any impacts to the “Other Wetland” feature. As the proposed development area lies approximately 10 m from the edge of the cultural woodland feature (FODM4-11) and approximately 30 m from the “Other Wetland” edge, it is our professional opinion that the proposed location and orientation of all the on-site buildings and operational uses will result in no negative impact to indiscernible adverse affects to the on-site retained features.

Trailer

The trailer on wheels (metal clad shed) was on-site during the 2019 field surveys, in the location as illustrated on the Site Plan, namely the northwest corner (its intended final location). The intended use as we understand is as an office and change room. Although the current (as of 2018) and the intended location (2021) of the trailer are the same and abut a strip of mineral cultural meadow (MEGM3-4) and a linear west-east deciduous hedgerow, no negative impacts or adverse affects have occurred or will occur to either feature or any of the other on-site features. There may be trees within the deciduous hedgerow that may pose a potential property damage or personal safety issue, and if removal is required, a City tree removal permit may be warranted. As we currently understand, the trailer has been temporarily removed from the property at the request of the City Building Department.

Driveway and Parking

The Site Plan shows a gravelled driveway between the trailer and the proposed metal fabricated storage barn. The composition and use of this area as a gravelled driveway will have no negative impacts or cause any adverse affects to the retained on-site features (attributes) and their inherent ecological functions. The same applies to the seven (7) parking stalls abutting the trailer on wheels next to the gravelled driveway, proposed to be on the gravel yard.

Metal Containers (Shipping/Storage Containers)

As shown on **Figure 5**, there are currently and proposed four (4) metal (shipping) containers whose intended use is for storage. As of 2019, these containers have been in-place at the same location. As with all other existing and proposed structures on the gravel yard, there will be no negative impacts or any adverse affects to the retained on-site features (attributes) and their inherent ecological functions. The mineral cultural meadow feature (MEGM3-4) along the north edge will be enhanced after construction, and the deciduous hedgerow (FODM11) will remain intact.

Outdoor Storage (Landscape Machinery/Materials, Swimming Pool Machinery/Supplies)

Parts of the gravel yard (pad – CVR_4) are intended to be use to store landscape machinery/materials, as well as swimming pool machinery/supplies. Neither of these uses will have a negative impact or adverse affect on the retained on-site features (attributes) and their inherent ecological functions. The storage of any fuels or chemicals should be avoided on the gravel yard between the proposed metal fabricated storage barn, and the wetland buffer and intermittent swale/drainage ditch. The potential for leakage or a spill into these features can be avoided by storing any fuel or chemicals in a contained area along the northern edge of the gravel yard and/or in the containers.

Servicing

Details regarding servicing of potable water, sewage and storm drainage is not available at this time, but if permitted and installed are not anticipated to result in any negative impacts or have any adverse affects on all of the retained features (attributes) and their ecological functions.

Fencing

There is an as-built wooden fence across the property frontage, with a metal gate, and this fence also extends partially along the northern edge of the intermittent swale, as shown on **Photographs 10 and 16**.

8 MITIGATION MEASURES & RECOMMENDATIONS

Based on the potential negative impacts and adverse affects, or lack thereof, which were identified and assessed in **Section 7**, CEA offers the following summary of mitigation measures & recommendations under the following headings: **Natural Environment Issues** which also includes the mitigation measures & recommendations contained in the Arborist Report (DA White Tree Care 2020); **Hydrogeological Issues** (Cambium Inc. 2019a); and **Geotechnical Issues** (Cambium Inc. 2019b). **It is recommended that the Arborist Report, Hydrogeological Report (Cambium Inc. 2019a) and Geotechnical Report (Cambium Inc. 2019b) be reviewed in their entirety to garner a detailed understanding of site conditions and impact assessment, mitigation measures and recommendations for each discipline, arising from the proposed development as shown on the Site Plan (Figure 5).**

Natural Environment Issues

To avoid potential negative impacts and adverse affects to the on-site features (attributes) and their ecological functions that will remain intact outside of the proposed development area during construction, typical Best Management Practices (BMPs) are recommended. The main BMP recommended is the location and type of the erosion and sediment control fence as shown on **Figure 5**. Given that most of the subject property's surface runoff is from the north to south/southeast, and that the lot is relatively flat and stable in the proposed development area and abutting cultural meadow feature MEGM3-4), it is our opinion that a Light-Duty Silt Fence Barrier (Ontario Provincial Standard Drawing 2015) installed prior to any site preparation would be adequate to control any erosion and capture any sediment runoff during construction. The sediment fence should be inspected (e.g., within 48 hours after a major rain storm) maintained and repaired as required and not be removed until after the final grading and all exposed soils outside of the proposed development area have been "greened-up" with an appropriate seed mixture, where warranted.

It is to be noted that the proposed grassed area (MEGM3-4) between the proposed development area and the sediment fence may be temporarily disturbed during installation of the silt fence and by machinery to facilitate construction on the gravel yard, However, this feature will be restored through seeding/sodding upon completion of construction, final edge grading for the proposed Light Impact Development (LIDs) as discussed below and in Section 4.6 of the Hydrogeological Report. The required type of the erosion and sediment control fence will be installed following TRCA Ontario Regulation 166/06 permit conditions and instructions, and maintained throughout construction.

As per the Arborist Report in Section 3. Discussion, there are six (6) trees over 15 cm DBH identified on-site that are too close to the proposed development area. There are dead or diseased and deemed to be a liability to either property damage and/or personal safety or as stated in the Arborist Report as "*The trees would be too close to the worksite to be retained without undue risk of injury. and should be removed.*" The proposed mitigation measure is

to have them removed. In this regard, a Tree-cutting Permit application and payment was submitted to the City on April 14th, 2020 to remove dead trees as indicated on the OLS Topographic Survey, including those outside of the proposed development area. The Arborist Report also recommends in Section 3.2 Tree Protection that a 1.2 m (4 ft) high orange plastic web snow fencing for those trees within the road allowance and along the northern edge of the gravel yard (behind the trailer on wheels). Trees to the south and east near the intermittent swale and wetland features (SWDM4-5 and MEMM1-12/MASM1-1) can be adequately protected by the proposed erosion & sedimentation control fence and the existing wooden fence as shown on **Figure 5**. The Arborist Report states that a landscape plan will be developed for the subject property (Section 3.3 Replacement Trees), but the numbers, species and planting locations are unknown at this time.

In order to add additional protection to the “Other Wetland” features (SWDM4-5, MEMM1-12/MASM1-1), an enhanced 10 m buffer along the wetland boundary is proposed as illustrated on **Figure 5**. The buffer location is based on the wetland boundary staking undertaken with the TRCA and City of June 14, 2019. It is our professional opinion that 10 m wide buffer is adequate, given that the wetland boundary lies mostly 30 m from the edges of the proposed development area, with the exception of a “pinch-point” along the south edge where the distance to the wetland boundary is 10 m. It is to be noted that the intervening 10 – 30 m setback from the edges of the proposed development area are already vegetated with a combination of the cultural black locust stand (FODM4-11) and the cultural meadow (MEGM3-4), which as previously noted will be enhance through seed/sod, after all grading and construction has been completed. Landscape details regarding proposed tree, shrub and groundcover plantings will be provided at detailed design, during the Site Plan Approval planning stage, as based on discussions with and the requirements of the TRCA and/or City of Pickering.

Hydrogeological & Water Balance Issues

A **Hydrogeological Assessment – 5329 Old Brock Road, Pickering, Ontario** (Cambium Inc. 2019a) has been prepared to address hydrogeological and water balance issues that may or will arise as a result of the proposed development. As is understood, the proposed development will not involve large or deep excavations, as such significant groundwater dewatering (over 50,000 L/day) will not be required, and therefore impacts to the surrounding water resources are not anticipated. Based on the water balance assessment, post-development infiltration will be reduced by 91.5 m³/year (11% reduction) when compared to pre-development infiltration, and the post-development runoff rate will increase by 420.6 m³ /year (34% increase). To mitigate the change between pre-development and post-development infiltration and runoff, the mitigation measure would involve the construction of Low Impact Development (LIDs) infiltration facilities as outlined in Section 4.7 Water Balance Comparison of their report. The installed LIDs will re-infiltrate structure (roof) and parking area runoff, and the

groundwater infiltration will be maintained (at least) upon development of the site. Discussions will be required as to what type of LID groundwater re-infiltration systems and their locations are acceptable as part of the proposed development. As we understand, a LID infiltration trench is proposed along the eastern and southern edges of the proposed development area (gravel yard feature).

Geotechnical Issues

A **Geotechnical Investigation Report – 5329 Old Brock Road, Pickering, Ontario** (Cambium Inc. 2019b) has been prepared to address geotechnical issues that will or may arise as a result of the proposed development. The report identifies a myriad of geotechnical considerations to ensure the geotechnical integrity of the proposed development area in terms of: general site preparation; frost penetration; excavations; dewatering; backfill and compaction; foundation design; floor slabs; buried utilities; and design review and inspections. Given the number of identified issues and proposed mitigation measures & recommendations related to construction within the proposed development area, CEA recommends the Geotechnical Investigation Report be consulted directly.

Based on the above mitigation measures listed above in order to avoid and or reduce the identified potential negative impacts and/or adverse affects to the retained on-site features (attributes) and ecological functions outside of the proposed development area and also within the proposed development area, CEA proposes that the following recommendations be implemented:

- **installation of the erosion & sediment control fence at the locations as shown on Figure 5, prior to site preparation, with the type of fencing (e.g., Light-Duty Silt Fence Barrier or other (Ontario Provincial Standard Drawing 2015) to be discussed with the TRCA;**
- **the erosion & sediment control fence be maintained, inspected (within 48 hrs after a major rain storm), and repaired as required;**
- **that the erosion & sediment control fence remain in place until all grading and construction have been completed and the proposed seeding/sodding areas, where warranted, have been “greened-up”;**
- **enhancement of the three (units) of mineral cultural meadow as illustrated on Figure 5 and as illustrated on Figure 6 using an appropriate seed mixture or sodding or a combination thereof, after all grading and construction have been completed;**
- **the removal of the six (6) dead or dying trees near or within the proposed development area (Section 3 Discussion of the Arborist Report), and as identified on the OLS Topographic Survey and the Site Plan contained in the Arborist Report;**

-
- all tree protection measures as recommended in the Arborist Report - Section 3.2 which include a 1.2 m (4 ft) high orange plastic web snow fencing for those trees within the road allowance and along the northern edge (FODM11) of the gravel yard (behind the trailer on wheels);
 - based on the Hydrogeological Investigation Report, that discussions with the City and/TRCA will be required as to what type of LID groundwater re-infiltration system(s) and their locations are acceptable as part of the proposed development. The LID(s) are intended to mitigate the change between the pre-development and post-development infiltration and runoff. At present, a LID infiltration trench is feasible along the eastern and southern edges of the proposed development area (gravel yard feature), but further discussion is needed with the City and/or TRCA; and
 - that given the number of identified geotechnical issues and proposed mitigation measures & recommendations related to construction within the proposed development area, the Geotechnical Investigation Report should be consulted directly and mitigation measures and recommendations should be adopted, where warranted

9 CONCLUDING REMARKS

The following conclusions regarding the anthropogenic, cultural, woodland and wetland features found on the subject property located at 5329 Old Brock Road have been reached based on the background documents review, site visit conducted on May 8, June 13, June 14 and June 28, 2019, as well as professional opinion and experience based on similar types of developments.

The conclusions are as follows:

- All parts of the subject property lie within the Oak Ridges Moraine and designated within the ORM land use labelled as Rural Hamlet and Rural Settlement;
- Part of the subject property is designated as Key Natural Heritage and Hydrologic Features, all of which lies outside of the proposed development area (CVR_4);
- Part of the subject property is designated Natural Heritage System, all of which lies outside of the proposed development area (CVR_4);
- Part of the subject property is designated Significant Woodland, all of which lies outside of the proposed development area CVR_4);
- All parts of the subject property are designated as part of a Groundwater Recharge Area, as well as part of a High Aquifer Vulnerability Area;
- The proposed development area (gray tone on **Figure 5**) and ELC code CVR_4 on **Figure 6** is currently comprised of approximately 4" of clean, compacted chipper and flake limestone gravel, which was overlain in 2018 (without a TRCA Ontario Regulation Permit (166/06), onto grassed lawn which was part of the previous as-built rural residential land use on the lot;
- Scattered trees and shrubs within the proposed development area were removed as part of the placement of fill materials in 2018;
- It is our professional opinion that the 1200 m² gravel yard (CVR_4) is stable, and has not resulted any negative impacts or adverse affects to the on-site and local natural environment;
- As of 2019, the proposed development area does not contain any vegetation cover, and provides minimal if any wildlife attributes and/or ecological functions;

-
- The remainder of the subject property features (MEGM3-4, FODM11, FODM4-11, SWDM4-5, MEMM1-12/MASM1-1, and the intermittent drainage swale will remain intact and undisturbed, and in some sections will be enhanced through landscape planting;
 - Features that will be enhanced include MEGM3-4 through the application of seed and/or sod, and the outer edge of SWDM4-5 a small portion of MEMM1-12/MASM1-1 in the intermittent swale;
 - The outer edge of SWDM4-5 a small portion of MEMM1-12/MASM1-1 in the intermittent swale will be enhanced through landscape plantings (e.g., tree whips, potted shrubs, groundcover grass/forb mix) in the proposed 10 m buffer ash shown on **Figure 5**. A formal landscape plan prepared by a Certified Landscape Architect will be submitted as part of detailed design during the Site Plan Approval planning phase;
 - It is our professional opinion that the as-built form as proposed on the gravel yard - CVR_4 will not result any negative impacts or adverse affects to the remaining on-site and intact cultural, woodland and wetland features and abutting features, provided the proposed mitigation measures & recommendations are implemented;
 - **Section 8** contains a list of adequate and reasonable mitigation measures & recommendations that will address the potential impacts as identified in **Section 7**, in terms of natural environment issues, hydrogeological issues and geotechnical issues that will result from the proposed development was per its current as-built form as illustrated on **Figure 5**;
 - A Zoning By-law Amendment application and a Site Plan Approval application are required to implement the proposed development;
 - The following will be prepared at Site Plan submission stages: Zoning By-law Amendment; Planning Rationale & Sustainability Report; Grading Plan; and Conceptual Landscape Plan; and
 - It is our professional opinion that the TRCA Ontario Regulation 166/06 Violation Notice dated September 10, 2018 has been resolved based on the data and evaluations contained in this NHE, as well as the data and evaluations contained in the Hydrogeological Assessment and the Geotechnical Investigation Report, and that the 1200m² gravel yard area (CVR_4) is an adequate and appropriate area on the subject property to operate the proposed commercial land use as a landscape storage facility and as a swimming pool storage facility.

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APPENDIX A – CEA *CURRICULUM VITAE*

DAVID G. CUNNINGHAM, Spec. Hons. B.Sc.
Senior Ecologist/Principal

- EDUCATION**
- Honours Bachelor of Science (B.Sc.) - Environmental Sciences (1978)
York University, Toronto, Ontario
- MEMBERSHIPS**
- The Field Botanists of Ontario
 - The Canadian Society of Environmental Biologists
 - Federation of Ontario Naturalists
 - Ontario Field Ornithologists
 - Society for Ecological Restoration (Ontario)
 - Ontario Environmental Network
 - Kawartha Field Naturalists
- CERTIFICATIONS**
- PADI - International Open Water Diver 1980 Certification
 - Certification for Ontario Ministry of Natural Resources Wetland Evaluation System (Southern and Northern Ontario). 1st Edition to 3rd Edition
 - Ministry of Natural Resources & Forestry Environmental Impact Study (EIS) Training Session
 - MNRF Ecological Land Classification Certification (2009)
 - Butternut Health Assessor Certification (#177)
 - NHIC Species At Risk Data Sensitivity Training

AREAS OF PROFESSIONAL EXPERIENCE

General

Mr. Cunningham has 42 years experience in the natural environment profession, which includes 36 years as an environmental consultant. He specializes in environmental evaluations and impact assessments related primarily to natural resources, with expertise in vegetation, wildlife, and wetlands. Mr. Cunningham has managed and/or participated in over 1000 projects dealing with natural environmental features and issues, including their significance and sensitivity. He has managed multi-disciplinary studies pertaining to the identification and evaluation of terrestrial, aquatic and wetland resources, from a watershed and subwatershed perspective. This has included the formulation of natural environmental policies, standards and targets for natural heritage system plans.

Mr. Cunningham regularly identifies and assesses the impacts of various development proposals on existing terrestrial and wetland resources. Development proposals have included infrastructure such as oil, gas, water and sewer pipelines, roads, sewage treatment plants, storm water facilities, and landfills. Other projects have included airports, parkland, golf courses, subdivisions, pits, quarries and mines, transportation corridors, coal-fired electric and small-head hydroelectric facilities including transmission line route selection. Many of these projects have been completed under Federal and Provincial Environmental Assessment statutes, the "**Provincial Policy Statement**", "**Greenbelt Plan**", "**Oak Ridges Moraine Plan**", "**Lake Simcoe Protection Plan**", regional/municipal/township/town Official Plans, Secondary Plans and other Federal and Provincial acts and statutes.

David has participated in watershed, subwatershed and master drainage studies throughout Ontario. In these studies, he was responsible for the collection and review of natural environmental background information, site inventory evaluations, as well as liaising with resource management agencies and public interest groups.

He has qualified as an expert witness (biologist/ecologist) before the Ontario Municipal Board (OMB) and Local Planning Appeal Tribunal (LPAT). He has prepared evidence and participated in mediation sessions before the OMB, LPAT, Ontario Mining & Lands Division Commissioner, Regional-Municipal and Township Councils, Federal Court and Provincial Court.

Transportation and Route Selection Studies

Transportation related projects include the GO-ALRT rapid transit system between Mississauga and Oakville; North-South Link between Highway 417 and Regional Road 30 in Cumberland Township; re-design of the internal road system in Point Pelee National Park; widening and upgrades to Highway 20 between Fonthill and Allanburg; bridge crossing from Hawkesbury to Hamilton Island on the Ottawa River; causeway/bridge crossing to Clarence Island;

re-alignment, removal and rehabilitation of County Road 45 near Alexandria; widening and upgrades to Highway 58 south of Welland; widening and upgrades of Highway 17 near Nairn Centre; widening, upgrades and the extension of Bathurst Street near Newmarket; widening and upgrades to Altona Road from Highway 2 to Finch Avenue in Pickering; widening and re-paving of County Road 28 from Minesing to Hwy 90 near Barrie; and bridge replacements across Axe Creek and Buck River near Huntsville.

Route selection environmental impact study projects have included cottage access roads across Crown land near MacTier, Six Mile Lake and Kahshe Lake; municipal water supply pipeline from Manotick to Nepean; sanitary trunk sewer lines in Arnprior, Orleans, Nepean, and Ingleside; external roads and servicing alignments for the South Urban and East Urban Community planning areas in the City of Gloucester and the Township of Cumberland; roads and rapid transit corridors in the Township of Cumberland, Hawkesbury, Alexandria, Newmarket, Sudbury, Welland, Fonthill, Oakville-Mississauga and Point Pelee; and transmission line corridor assessment for low-head hydroelectric dams on the Aux Sables River and Groundhog River.

Terrestrial Vegetation and Wildlife Studies

David has extensive experience in botanical evaluations including species inventories, vegetation community mapping and is certified in Ecological Land Classification (ELC) protocol. Inventories and after-construction monitoring programs have been undertaken using a variety of qualitative, and quantitative sampling techniques. Species habitat identification, utilization and Species At Risk (SAR) are a critical component of all studies. He has managed/participated in the evaluation of Environmentally Significant/Sensitive Areas (ESAs) as a part of Natural Heritage Systems (NHS), Secondary Plans, Master Drainage Plans and Master Environmental Servicing Plans.

David has also worked extensively on wildlife studies including habitat evaluations and management plans, population assessments and impact mitigation from land uses. He has managed projects dealing with the inventory and control of nuisance animals, particularly bird and mammal species in the vicinity of waterfront parks, airports and construction sites. Wildlife habitat evaluation and management projects have included mapping, as well as the identification and assessment of movement corridors and habitat linkages. These projects were conducted using small mammal trapping and tagging techniques, bird banding, and provincial breeding bird survey protocols. David was a volunteer participant in the 1981-1985 and 2001-2005 Ontario Breeding Bird Atlas (OBBA) project. He regularly utilizes the bird and amphibian survey protocols of the Ontario Marsh Monitoring Program (MMP).

Wetland Studies

Mr. Cunningham has participated in over 100 wetland evaluations throughout Ontario using the standard Canadian Federal and the Ontario Provincial Evaluation System for Wetlands - Southern Ontario and Northern Ontario (OWES). He has managed and prepared Environmental Impact Studies (EIS)/Natural Heritage Evaluations (NHE) for various land use development proposals on wetland features, attributes and functions. Developments involving wetland issues have included housing, industrial, commercial, roads, utility corridors, storm water facilities, landfills, golf courses, hydroelectric facilities and aggregate/mineral/ore extraction.

Mr. Cunningham has formulated and provided mitigation measures and recommendations, site selection and compensation criteria, and restoration/rehabilitation management plans as compensation for land use development proposals in and adjacent to wetlands and shoreline features, within the context of both the Federal and Provincial wetland policies. He has been involved in the research and testing of wetland buffers, including enhancement/restoration planting plans within buffers adjacent to various wetland features. He has worked extensively with the MNR, Parks Canada, Conservation Authorities and the Trent-Severn Waterway (TSW) on wetland and shoreline issues and is a certified wetland evaluator under the MNR 1st, 2nd and 3rd editions of the OWES for both Southern and Northern Ontario.

Woodlot Studies

David has experience in evaluating woodland/woodlot ecosystems in relation to other identified natural features. Evaluations include the integration of data on woodland ecology, soils, surface drainage, flora and fauna. These project projects include the use of quantitative sampling to determine species dominance, age, height, health and structure. All involve due diligence pertaining to flora and fauna Species At Risk (SAR) and the ranking of wooded areas and individual trees for preservation or integration into land use changes or preservation, including buffer restoration/enhancements. He has participated in preparing Managed Forest Tax Incentive Program (MFTIP) plans in conjunction with a certified MFTIP Approver. He has prepared reports related to tree compensation issues under Forest Conservation and Tree-Cutting By-laws and is an MNR certified Butternut Health Assessor.

Aquatic Habitat Studies

Mr. Cunningham has participated in studies that focus on aquatic environs, fish and fish habitat evaluations. He has assessed the potential impacts of dredged sediment disposal, hydroelectric facilities, sewage disposal and water supply facilities on fish, fish habitat and water quality. He has prepared plans and drawings, and supervised the construction of MNRF fisheries enhancement projects - FEP (riparian shoreline restoration, fencing, cattle watering stations, spawning shoals). Most of these projects have included using an array of fish and water quality sampling equipment. Equipment has included a dissolved oxygen/temperature meter, secchi disk, Van Doren bottle, backpack electro-shocker, beach seine net, gill net, trap net, portable HACH kit, ponar, dome sampler, and depth sounder.

Federal, Provincial and Conservation Authority Acts, Statutes, Regulations, Policies & Guidelines

He has extensive knowledge of the regulations pertaining to Species At Risk (SAR) for both the Federal *Species At Risk Act (2002)* - (SARA), as well as the Province of Ontario *Endangered Species Act (2007)* and the Species At Risk in Ontario (SARO) - Ontario Regulation 230/08 list. He regularly reviews updates for both Acts and their applicability to a proposed development project. He has a working comprehension of the *Provincial Policy Statement (2014, 2020)*, Ontario *Oak Ridges Moraine Act (2001)*, *Oak Ridges Moraine Conservation Plan (2002 & 2017)* - (ORMCP) having completed numerous ORM Compliance reports and Natural Heritage Evaluations (NHE). He has also addressed natural environment issues related to the Ontario *Greenbelt Plan (2005 & 2017)* and *Greenbelt Act (2005)*, *Lake Simcoe Protection Act (2008)* and *Lake Simcoe Protection Plan (2009)*, Ontario *Environmental Assessment Act (1990)*, Municipal Class Environmental Assessment (MCEA) and Conservation Authorities Ontario Regulations, planning and development policies, guidelines and ecological off-sets.

PROFESSIONAL HISTORY**Senior Ecologist/Principal**

Cunningham Environmental Associates, Lindsay, Ontario	1985 to Present
Associate Ecologist	
CF Crozier & Associates Consulting Engineers, Collingwood, Ontario	2019 to Present
Associate Ecologist	
Hensel Design Group, Collingwood, Ontario	2009 to 2019
Associate Ecologist	
Michalski Nielsen Associates Limited, Bracebridge, Ontario	1998 to Present
Associate Ecologist	
Bird and Hale Limited, Toronto, Ontario	1999 to 2013
Associate Ecologist	
Ecologistics Limited, Waterloo, Ontario	1995 to 1998
Senior Ecologist	
Niblett Environmental Associates Inc., Bethany, Ontario	1987 - 1995
Biologist	
Toronto Region Conservation Authority (TRCA), Downsview, Ontario	1986
Terrestrial Ecologist	
Proctor & Redfern Limited, Toronto, Ontario	1984 - 1985
Resource Technician	
Ontario Ministry of Natural Resources, Maple District Office, Maple, Ontario	1984
Senior Biologist	
Seatech Investigation Services Limited, Halifax, Nova Scotia	1982
Authority Biologist	
Lake Simcoe Region Conservation Authority, Newmarket, Ontario	1982 - 1983
Biologist	
Metropolitan Toronto and Region Conservation Authority, Downsview, Ontario	1979 - 1982

APPENDIX B – TRCA VIOLATION NOTICE (SEPT 10 2018) & CITY OF PICKERING ZONING CONTRAVENTION (SEPT 5, 2018)



By Signature Courier
V3171
GTN 00000.04

1972229 Ontario Ltd.
261 Riverwalk Drive
Markham, Ontario L6B 0H3

**WARNING - VIOLATION OF ONTARIO REGULATION 166/06 - REGULATION OF DEVELOPMENT,
INTERFERENCE WITH WETLANDS AND ALTERATIONS TO SHORELINES &
WATERCOURSES (Regulation made under the Conservation Authorities Act, R.S.O.
1990 Chapter 27 and as amended).**

NOTICE is hereby given that Recently

in the City of Pickering

Lot 16, Lot 17, Lot 18, Lot 20, Part Lot 15, Part Lot 21, Part Lot 22, Part Lot 19, Part Alfred Street
and Part of Tracey Street, PL 94, Part 1, Part 2, Part 3, Plan 40R28359/5329 Brock Road

Watershed Duffins Creek

you did unlawfully cause, suffer or allow development in the form of the placement of fill

In violation of Section(s) 2(1)(b), 2(2), 12 **of Ontario Regulation 166/06.**

DETAILS:

1972229 Ontario Ltd. permitted development in the form of the placement of fill on the above described property and stated location which is designated as a prohibited area in contravention of Ontario Regulation 166/06.

cc: Brad Suckling, City of Pickering Bylaw (BSuckling@pickering.ca)

It is necessary that you investigate the cause of the violation and contact the Authority in writing within 48 hours of receipt of this notice, advising of what remedial measures you propose to take.

September 10, 2018

Date

Michael Brestansky
Enforcement Officer
(416) 661-6600, Ext. 5699



September 5, 2018

1972229 Ontario Ltd
851 Wilson Ave
Toronto, ON M3K 1E6

Subject: Zoning Contravention – 5329 Brock Road
File – L-2200-001-18

The City of Pickering has received a complaint regarding your property located at 5329 Brock Road. A recent inspection found the property has been converted to a storage yard for a property maintenance company.

This property is currently zoned Oak Ridges Moraine Agricultural and Oak Ridges Moraine Environmental Protection. The zoning provisions for this property do not allow these types of uses to occur at this location. The only permitted use at this time is a detached residential dwelling.

Additionally the fence along the front lot line is in contravention of the fence by-law and will need to be reduced in height to be in compliance with the provisions of the fence by-law.

I am setting a compliance date of October 7, 2018 for you to discuss and apply for a rezoning of the property or for the stored vehicles and property maintenance equipment to be removed. Failure to comply will result in the commencement of enforcement action by the City of Pickering.

Should you have any further questions or concerns please feel free to contact me at 905.420.4660 ext.2120.

Thank you for your anticipated co-operation,



Brad Suckling C.P.S.O.
Municipal Law Enforcement Officer II

Copy: Manager, Municipal Law Enforcement Services.

**APPENDIX C – CITY OF PICKERING PRE-CONSULTATION MEETING
MINUTES/MEETING SUMMARY**

Subject: 5329 Brock Road, Claremont
(LOTS 16-20 PT LOTS 15,21,22, 23, Plan 94)

Applicant: 1972229 Ontario Ltd

Attendees: Martin Simpatico - Simpatico Property Services Ltd.
 Alex Simpatico - Simpatico Property Services Ltd.
 Art Simpatico - Simpatico Property Services Ltd.
 Grant Morris – Grant Morris Associates Ltd. (*missed meeting*)
 Paul Davis – Region of Durham Health Department
 Nilesh Surti – Manager, Development Services & Urban Design
 Brad Suckling – Municipal Law Enforcement Officer II
 Carl Kolbe – Manager, Building Services
 Vanessa Aubrey – Planner II for Toronto and Region Conservation Authority (TRCA)
 Paal Helgesen – Manager, Development Services
 Rollie Oriol – Project Manager, Development Approvals
 Tanjot Bal – Planner I

Item	Details & Discussion & Conclusion	Action Items/Status
Active Violations	Violation Letter from the Toronto and Region Conservation Authority, dated September 4, 2018 (<i>Attachment 1</i>) <ul style="list-style-type: none"> • Violation of Ontario Regulation 166/06 – placement of fill without a permit from the TRCA Compliance letter from the City of Pickering, dated September 5, 2018 (<i>Attachment 2</i>) <ul style="list-style-type: none"> • Contravention to the applicable Zoning By-law – storage yard for a property maintenance company is not a permitted use • Contravention of the Fence By-law – height of fence along front lot line is too high 	
Proposal	Propose to rezone the property to permit a landscaping and pool installation business on the subject property.	

Item	Details & Discussion & Conclusion	Action Items/Status
	The applicant proposes to erect a trailer for office purposes, grow trees and shrubs for the business, and eventually construct 3 separate greenhouses.	
Type of Application	<ul style="list-style-type: none"> • Zoning By-law Amendment 	A separate pre-consultation may be required for Site Plan Approval
Discussion		
Landowners (Simpatico Property Services Ltd.)	<ul style="list-style-type: none"> • Owned the subject lands approximately 1.5 years • Propose to use the property for their landscape company, no commercial office or retail is proposed on site • The existing trailer, on wheels, to be used by employees to change • The site is currently used to store outdoor material and equipment for the business • Will have a portable washroom facility for employees • Year-round operation of growing vegetation (unsure which vegetation will be grown at this time) • Existing gravel and wood fence to remain 	
Brad Suckling – City of Pickering Municipal Law Enforcement	<ul style="list-style-type: none"> • Conducted a site visit last year with Michael Brestanksky, TRCA’s enforcement officer due to the height of the fence and the outdoor storage of the landscape business • If the uses are not recognized through the planning process, the landowner will be required to remove the landscaping business • Progress must be made by May 1, 2019 • Original complaint was regarding the structure on the property (trailer) 	
Vanessa Aubrey – TRCA	<ul style="list-style-type: none"> • The property is regulated by the TRCA and any development or site grading requires TRCA Permit Approval (O.Reg. 166/06) • The TRCA provided preliminary comments regarding their review process in 2017 • TRCA Enforcement Staff have issued a formal violation of O.Reg 166/06 for the placement of fill, grading and trailer installed without permit approval. 	TRCA will have additional requirements for any future planning applications, Zoning Bylaw Amendment and Site Plan Approval. TRCA

Item	Details & Discussion & Conclusion	Action Items/Status
	<ul style="list-style-type: none"> • TRCA Planning staff advised the applicant to submit a preliminary Concept Application to TRCA to determine the natural features present on the site, confirm if a wetland is present, and complete a Natural Heritage Evaluation for their review before submitting any planning applications to the City. • Requirements for the preliminary Concept Application: <ul style="list-style-type: none"> ○ Natural Heritage Evaluation: Require an environmental consultant to undertake a Natural Heritage Evaluation to determine the extent of the buffer. The Natural Heritage Evaluation must show the limits of vegetation and existing grades. ○ Topographical Lot Survey ○ Hydrogeological and Water Balance Study: the subject site is within a Groundwater Recharge Area • The site alterations (placement of fill) may have impacted the natural heritage features • There appears to be a wetland to the rear of the property, which requires a minimum vegetation buffer to any on-site disturbance including placement of fill (gravel) • No gravel or parking is permitted within the natural heritage feature or within the minimum vegetation buffer • TRCA will determine what vegetation should be replaced • Terms of Reference for the Natural Heritage Evaluation should be reviewed by TRCA staff • TRCA will provide comments to the applicant and City staff regarding the resolution of the outstanding violation and feasibility of the proposal based on applicable policies and existing natural features present on the site 	<p>staff will provide these requirements at a later date.</p>
<p>Paul Davis – Region of Durham Health</p>	<ul style="list-style-type: none"> • Waste water to be generated by a porta-potty (Class I). No permit required. • If a permanent structure erected with plumbing a Class 4 sewage system (septic tank and leaching bed) will be required with corresponding permit application and fee. 	

Item	Details & Discussion & Conclusion	Action Items/Status
Peter Castellan – Region of Durham Works Department <i>(sent via email)</i>	<ul style="list-style-type: none"> • Subject property is located outside the urban boundary and no municipal water supply and sanitary sewers are available • No provisions in the Capital Budget for extending the services to this location 	
Rollie Oriol/Paal Helgesen – City of Pickering Development Services	<ul style="list-style-type: none"> • Require a Grading Plan and Topographical Survey • In the Natural Heritage Evaluation, please identify the trees that will be removed • Compensation for any trees removed within the Natural Heritage System, by the TRCA and/or City 	
Irina Marouchko – City of Pickering Water Recourses & Development Services <i>(sent via email)</i>	<ul style="list-style-type: none"> • No specific stormwater management requirements for the proposal 	
Carl Kolbe – Building Services	<ul style="list-style-type: none"> • A building permit is required for any permanent structure on the site. This will include a trailer that used for something other than being a trailer. • In this case, a trailer is a permanent structure, therefore must meet Building Code Requirements, such as barrier-free access • Might be better off constructing a permanent structure – easier process • More information needed on the greenhouse building material, as per OBC requirements 	
Lori Riviere-Doersam – Region of Durham Planning and Economic Development <i>(sent via email)</i>	<ul style="list-style-type: none"> • Subject site is within the Hamlet of Claremont and the wooded areas are identified in the Regional Official Plan as a Key Natural Heritage Feature • Policy 9B.1.3 and 9B.2.3 states hamlets are to be developed in harmony with surrounding uses and are the predominant location for residential, social, commercial and employment development serving the immediate needs of the residents and surrounding rural areas • Located within an area of high archaeological potential – require an Archaeological Assessment 	

Item	Details & Discussion & Conclusion	Action Items/Status
	<ul style="list-style-type: none"> • Application requires a Site Screening Questionnaire signed by a Qualified Professional or a Phase 1 Environmental Site Assessment, including the Region's Reliance Letter • A Natural Heritage Evaluation should be undertaken, scoped by the Conservation Authority 	
<p>Déan Jacobs – City of Pickering Policy <i>(sent via email)</i></p>	<ul style="list-style-type: none"> • Based on a preliminary assessment, the proposed uses appear to be consistent with Provincial Policies and requirements • Schedule I to the Pickering Official Plan designated the subject property as “Oak Ridges Moraine Rural Hamlet” and Schedule IV-10: Settlement 10: Claremont – North Section designates the property as “Hamlet Employment”. • The proposed landscaping and pool installation business are permitted within the Hamlet Employment Designation. • The proposed growing of vegetation for the business and future greenhouses are regarded as an associated and ancillary use to the landscape business, provided that any applicable OP policies including the requirements of Section 16.42 (d) in the OP be complied with. • Schedule IIIB to the Official Plan identified “Significant Woodlands” on parts of the property. The minimum area of influence for this key natural heritage features is all lands within 30 metres of the base of the outermost tree trunks within the woodland. A Natural Heritage Evaluation shall be required for an application for development or site alteration. • The proposed development needs to conform to the relevant Oak Ridges Moraine Stormwater Management Policies in Section 16.44 of the OP • Schedule IIID of the Official Plan identifies that the property is within a Groundwater Recharge Area, therefore a hydrogeology and water balance study is required • Studies for rezoning application: <ul style="list-style-type: none"> ○ Planning Rationale Report addressing the following: 	

Item	Details & Discussion & Conclusion	Action Items/Status
	<ul style="list-style-type: none"> ▪ Consistency/conformity with Provincial Policy, Region of Durham OP and City of Pickering OP ○ Phase I ESA ○ Natural Heritage Evaluation ○ Hydrogeological and water balance study 	
<p>Nilesh Surti – City of Pickering Development Review & Urban Design</p>	<ul style="list-style-type: none"> • An application for a Zoning Bylaw Amendment will be required • A permanent structure situated close to the front lot line is preferred - require proposed building elevations • The existing fence should be relocated behind the building • Landscaping will also be required in front of the fence • The existing fencing at the front lot line may be permitted to exist, provided the Region authorizes landscaping in front of the fence • Majority of the subject site is regulated by the City of Pickering's Tree Protection Bylaw: https://www.pickering.ca/en/living/treeprotection.aspx • The following plans will be required: <ul style="list-style-type: none"> ○ Planning Rationale Report (including draft zoning by-law) ○ Conceptual Site Plan ○ Grading Plan ○ Natural Heritage Evaluation ○ Sustainable Development Report/Checklist (can be combined into the Planning Rationale Report) ○ Conceptual Elevation Plans ○ Conceptual Landscape Plan 	
<p>Staff Recommendations</p>	<p>Next Steps:</p> <ul style="list-style-type: none"> • Contact the TRCA regarding the Violation Notice • Before initiating the Natural Heritage Evaluation, have the Terms of Reference reviewed by the TRCA and City 	
<p>Technical Reports Required</p>	<p>Please see attached Technical Report Check List</p>	

Item	Details & Discussion & Conclusion	Action Items/Status
Fees Requirement	<p>For the proposed development the following fees are required (fees are subject to change pending on application submission date):</p> <p>City of Pickering</p> <p>City Development Department</p> <ul style="list-style-type: none"> • Zoning By-law Amendment: \$15,400.00 <p>Engineering Services</p> <p>Toronto & Region Conservation Authority</p> <p>Region of Durham</p>	

Meeting Adjourned: 11:30 am

Copy: Martin Simpatico - Simpatico Property Services Ltd.
 Alex Simpatico - Simpatico Property Services Ltd.
 Art Simpatico - Simpatico Property Services Ltd.
 Grant Morris – Grant Morris Associates Ltd.
 Paul Davis – Public Health Inspector, Region of Durham Health Department
 Peter Castellan – Development Approvals, Region of Durham Works Department
 Lino Trombino – Manager of Plan Implementation & Secretary Treasurer, Land Division Committee, Region of Durham
 Lori Riviere-Doersam, Principal Planner, Region of Durham Planning and Economic Development Department
 Vanessa Aubrey – Planner II, Toronto and Region Conservation Authority
 Kyle Bentley – Director, City Development Department & CBO
 Catherine Rose – Chief Planner
 Nilesh Surti – Manager, Development Services & Urban Design
 Jeff Brooks – Manager, Policy & Geomatics
 Déan Jacobs – Principal Planner - Policy
 Brad Suckling – Municipal Law Enforcement Officer II
 Carl Kolbe – Manager, Building Services
 Paal Helgesen – Manager, Development Services
 Rollie Oriol – Project Manager, Development Approvals
 Irina Marouchko – Water Resources Engineer
 Bob Trajceski – Coordinator, Water Resources
 Nadeem Zahoor – Transportation Engineer

APPENDIX D – TRCA AND CONSULTING TEAM CORRESPONDENCE

To: "vaubrey@trca.on.ca" <vaubrey@trca.on.ca>
Date: 02/28/2017 02:36 PM
Subject: Property at 5329 Old Brock Road

Hi Vanessa

5329 Old Brock Road.

We are providing a drawing of the proposed site that we would like to build a modular warehouse structure.

Please let me know if there is anything else that is required from us.

Thanks,
Art Simpatico
Leisure Pools of Toronto

Office: 416-332-8780
Cell: 416-676-1964
Fax: 416-332-3763

www.leisurepoolstoronto.ca

[Spam](#)

[Phish/Fraud](#)

[Not spam](#)

[Forget previous vote\[attachment "5329 Old Brock Road Proposal \(1\) \(1\).pdf" deleted by Vanessa Aubrey/TRCA\]](#)

****PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING, STORING OR FORWARDING THIS MESSAGE***

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{In Archive} Fw: TRCA Regulated Area: 5329 Old Brock Road, Pickering

Vanessa Aubrey to: artsimpatico

03/01/2017 10:29 PM

Cc: "Lalita Paray (lparay@pickering.ca)", nicole

Archive: This message is being viewed in an archive.

Hi Art,

I had the opportunity to chat with your surveyor Nicole this afternoon. She was very helpful and seems to have a solid understanding of the role that TRCA plays in the development process. She was asking what TRCA would want to see on the survey - which is great. We often don't speak with surveyors directly and it definitely saves time and cost to clarify any questions in advance.

However, in tandem, with preparing the survey, I would suggest contacting staff at the City of Pickering to determine if/what planning approvals are required. If its just a permit application, it could be straightforward - however, I suspect that planning approvals (ie// Zoning By-law Amendment; Site Plan Control) may be required. If they are required to facilitate the proposal, there are additional studies and review processes involved. City staff at Pickering are great at providing this advice and you should confirm this with them.

If planning approvals are required - I would strongly suggest that you hire a Professional Planner to assist you with this process. These lots where environmental features are present can be complex and require a properly executed planning process to be successful. The money spent on a Professional Planner will, in my opinion, potentially considerable sums of money because if the process derails and we end up assisting you with project management, then it can get very expensive. Our fee schedule is based on the complexity of the application. The more the process drags on, the higher the fees. The hiring of a Professional Planner will assist in making sure the submissions are complete and correct. You can find Professional Planners on the Ontario Professional Planners Institute website here: <https://ams.ontarioplanners.ca/consultant/directory/> . Choose the category "Environmental Planning" or "Community Design" for a list of firms in Toronto.

Please contact Lalita at the City and confirm what's involved. Let me know what the result is and we can take it from there. You can work on putting together the rest of the plans, NHE Report, and application in the interim.

Vanessa Aubrey | Planner II | Planning & Development | **Toronto and Region Conservation Authority**
| tel 416.661.6600 ext. 5662 | fax 416.661.6898 | **Office Location & Courier Address:** 101 Exchange Avenue, Vaughan, ON, L4K 5R6

----- Forwarded by Vanessa Aubrey/TRCA on 03/01/2017 10:18 PM -----

From: Vanessa Aubrey/TRCA
To: Leisure Pools of Toronto <artsimpatico@leisurepoolstoronto.ca>
Cc: "Lalita Paray (lparay@pickering.ca)" <lparay@pickering.ca>
Date: 02/28/2017 04:34 PM
Subject: TRCA Regulated Area: 5329 Old Brock Road, Pickering

Art,

Thank you for your email and concept plans. I've detailed the necessary information below. As you have recently purchased the property, I would suggesting contacting staff at the City of Pickering first to determine if/what planning approvals are required in advance of submitting any permit applications.

The property 5329 Old Brock Road, Pickering is within the TRCA Regulated Area of the Duffins Creek Watershed and within the Oak Ridges Moraine Conservation Plan. It is regulated by TRCA with respect

to the natural features and a wetland present on the site. **Any proposed development and/or site alteration** will be subject to the criteria of O.Reg. 166/06 and require TRCA permit approval.

TRCA Permit Application: To move forward with the proposal, please provide the following as one complete package in hard copy format:

- Application Form (all signatures incl.) :

https://trca.ca/wp-content/uploads/2016/11/TRCA-PERMIT-APPLICATION-FORM_new.pdf

- Topographic Plan of Survey (2 x copies)

- Site Grading Plan (3 x copies) (*you can sketch an idea(s) of the lot survey. A more detailed grading plan can be submitted after the design is finalized)

- Building Elevations/Design Details (3 x copies) (*can be provided at a later date once the location of the proposed works has been determined)

- Scoped Natural Heritage Evaluation (1 x copy) (*see note below)

- Fee: \$5,500 (*includes site visit) (cash/cheque/visa)

*additional fees and/or information may be required.

Note: The property is within the Oak Ridges Moraine Conservation Plan and as such a Natural Heritage Evaluation is required to demonstrate negative impacts to the adjacent natural features minimized. The Natural Heritage Evaluation should be prepared by a qualified environmental consultant. At minimum, it must address the following:

Existing Conditions: include brief description and evaluation of the existing vegetation on site, identify vegetation communities (ELC), a figure showing ELC communities, buffer areas and development.

Evaluation of the Ecological Impacts: briefly describe the impacts of the proposed development on the surrounding natural feature.

Describe Mitigation Measures and Provide Recommendations: how the proposal can maintain or enhance ecological and hydrological functions of the natural area; how any negative impacts will be mitigated pre/post construction

Planning Applications - City of Pickering, Region of Durham: Please be advised that any planning application related to changing the zoning, consent/severance, site plan control, or otherwise, will be circulated to TRCA by the City of Pickering or Region of Durham and we will be required to comment. By copy of this email, the potential applicant is advised that the TRCA has implemented a fee schedule for our planning review services. Our planning fee schedule can be found on our website at:

<http://www.trca.on.ca/dotAsset/189188.pdf> .

We would strongly encourage you to discuss the feasibility of a new commercial development on the vacant lot with municipal staff to understand the current Official Plan policies, applicable zoning, and location of the site within the Oak Ridges Moraine. Please contact Lalita Paray at 905-420-4660 ex. 2169 or lparay@pickering.ca.

I trust this information is of assistance. Any further questions/concerns, please don't hesitate to contact me.

Vanessa Aubrey | Planner II | Planning & Development | **Toronto and Region Conservation Authority**
| tel 416.661.6600 ext. 5662 | fax 416.661.6898 | **Office Location & Courier Address:** 101 Exchange Avenue, Vaughan, ON, L4K 5R6

David Cunningham

From: Vanessa Aubrey <vaubrey@trca.on.ca>
Sent: January 23, 2019 1:22 PM
To: Grant Morris; Leisure Pools of Toronto
Cc: Bal, Tanjot; Michael Brestansky; Suckling, Brad
Subject: TRCA Comments and Review Process: 5329 Brock Road, Pickering (also known as 5329 Old Brock Rd)
Attachments: Email Correspondence 2017 Fw_ TRCA Regulated Area_ 5329 Old Brock Road.pdf

Grant and Art,

I have detailed TRCA comments regarding the works that have been completed and the current proposal. We recommend that you undertake the preliminary review process with TRCA before applying for any planning or permit applications with the City of Pickering, with their own associated application requirements.

Based on our records (attached) TRCA staff advised the owner, Art Sympatico, in 2017 that the site was within a TRCA Regulated Area and permit approval from TRCA and the City was required before any development, including site grading could be carried out on the property. Until the natural feature limits have been defined and the outstanding violation resolved, TRCA will not be able to support any future planning or permit applications.

The property 5329 Old Brock Road, Pickering is within the TRCA Regulated Area of the Duffins Creek Watershed and within the Oak Ridges Moraine Conservation Plan. It is regulated by TRCA with respect to the natural features and a wetland present on the site. **Any proposed development and/or site alteration** will be subject to the criteria of O.Reg. 166/06 and require TRCA permit approval. The site is also within the Oak Ridges Moraine and any development will have to address the applicable policies as noted in the Oak Ridges Moraine Conservation Plan (ORMCP).

We understand that gravel fill was placed and graded onto the site and a trailer installed the site in the summer of 2018. A violation of O.Reg 166/06 was issued by TRCA Enforcement Staff on September 22, 2018. We understand that infractions have also been issued by the City's Bylaw staff (copied). To resolve the outstanding violation and determine the limits of development, we recommend that you undertake a TRCA specific review process by submitting a Concept Development Application. Through this process, TRCA staff will carry out a site visit, assess the impacts and review your proposed plan with any additional information as requested below and/or through the review process. Once our review process is complete, we will then provide you a formal response letter outlining how the violation must be/will be resolved and the applicable policies that would apply to your proposal given the site's location within the Oak Ridges Moraine and adjacent natural features. If it is feasible and the violation has been resolved you can then move forward with formal planning applications to the City of Pickering. To move forward, please provide the following as one complete package:

- Concept Development Application - <https://trca.ca/app/uploads/2018/02/Concept-Development-Application-Form-1.pdf>
- Topographic Plan of Survey - 2 x copies
- Concept Plan - 2 x copies
- Natural Heritage Evaluation - 1 x copy ** See notes below
- Review Fee: \$1,660 * Note - Applicable fee is \$830, fees are doubled for works carried out without permit approval

Natural Heritage Evaluation- The property is within the Oak Ridges Moraine Conservation Plan and as such a Natural Heritage Evaluation is required to demonstrate negative impacts to the adjacent natural features minimized. The Natural Heritage Evaluation should be prepared by a qualified environmental consultant retained by the landowner. At minimum, it must address the following:

Existing Conditions: include brief description and evaluation of the existing vegetation on site, identify all vegetation communities (ELC), a figure showing ELC communities, buffer areas and development. Must also identify all key natural heritage features (KNHFs) and buffers in the report and plan view.

Evaluation of the Ecological Impacts: briefly describe the impacts of the proposed development on the surrounding natural feature. Must also address any natural features removals or impacts that have occurred as part of the violation through an analysis of air photography.

Evaluation of Proposal and Applicable Policies - speak to policies of the ORMCP, Region of Durham Official Plan, City of

Pickering Official Plan and TRCA's Living City Policies that would apply to the site and proposal.

Describe Mitigation Measures and Provide Recommendations: how the proposal can maintain or enhance ecological and hydrological functions of the natural area; how any negative impacts will be mitigated pre/post construction

Additional Comments for the NHE & retained Environmental Consultant - Based on site observations from TRCA Enforcement staff and as shown on the concept plan provided at preconsultation meeting last week, there appears to be a wetland on the property. The wetland is not mapped but is a wetland on the Oak Ridges Moraine and in proximity to other defined Provincially Significant Wetlands (PSWs). As such, it would be considered a key natural heritage feature. The woodland on site may also be considered a key natural heritage feature if it meets the criteria in the ORMCP or if it is part of the wetland.

I trust these comments are of assistance. Any further questions/concerns, please don't hesitate to contact me.

Vanessa Aubrey, MES

Planner II

Development Planning and Regulation | Planning and Development

T: 416-661-6600 ext. 5662

E: vaubrey@trca.on.ca

A: 101 Exchange Avenue, Vaughan, ON, L4K 5R6

Toronto and Region Conservation Authority (TRCA) | trca.ca

David Cunningham

From: Cunningham Environmental Associates <cea@cogeco.ca>
Sent: May 17, 2019 3:12 PM
To: (VAubrey@TRCA.on.ca)
Cc: Cunningham Environmental Associates; Grant Morris (grant.morris@rogers.com); D A White (dawhitetreecare@gmail.com)
Subject: 5329 Old Brock Road, City of Pickering
Attachments: A1 site plan 28.pdf; Site Survey 11x17.pdf; TRCA Comments and Review Process: 5329 Brock Road, Pickering (also known as 5329 Old Brock Rd); Concept-Development-Application-Form-1.pdf
Importance: High

Vanessa,

As per my voice message, attached is the Site Plan and Site Survey for the property located at 5329 Old Brock Road. We are aware of outstanding violation notices from the City and TRCA. It is our understanding that Grant Morris will be addressing this issue.

CEA has been requested to provide a proposal/cost quote to prepare a Natural Heritage Evaluation. D A White Consulting (Arborist) has been retained to prepare a Tree Inventory & Preservation Report (TIPP).

We are in receipt of your January 23, 2019 email that outlines the requirements of an NHE (attached).

We propose the following DRAFT Terms of Reference (TOR) to address the TRCA natural environment issues, which will be undertaken in concert with but separate to the violation notice(s) resolution and planning/zoning land use issues arising therefrom.

Natural Heritage Evaluation- The property is within the Oak Ridges Moraine Conservation Plan and as such a Natural Heritage Evaluation is required to demonstrate negative impacts to the adjacent natural features minimized. The Natural Heritage Evaluation should be prepared by a qualified environmental consultant retained by the landowner. At minimum, it must address the following:

Existing Conditions: include brief description and evaluation of the existing vegetation on site, identify all vegetation communities (ELC), a figure showing ELC communities, buffer areas and development. Must also identify all key natural heritage features (KNHFs) and buffers in the report and plan view.

Evaluation of the Ecological Impacts: briefly describe the impacts of the proposed development on the surrounding natural feature. Must also address any natural features removals or impacts that have occurred as part of the violation through an analysis of air photography.

Evaluation of Proposal and Applicable Policies - speak to policies of the ORMCP, Region of Durham Official Plan, City of Pickering Official Plan and TRCA's Living City Policies that would apply to the site and proposal.

Describe Mitigation Measures and Provide Recommendations: how the proposal can maintain or enhance ecological and hydrological functions of the natural area; how any negative impacts will be mitigated pre/post construction

Additional Comments for the NHE & retained Environmental Consultant - Based on site observations from TRCA Enforcement staff and as shown on the concept plan provided at Pre-Consultation meeting last week, there appears to be a wetland on the property. The wetland is not mapped but is a wetland on the Oak Ridges Moraine and in proximity to other defined Provincially Significant Wetlands (PSWs). As such, it would be considered a key natural heritage feature. The woodland on site may also be considered a key natural heritage feature if it meets the criteria in the ORMCP or if it is part of the wetland.

In addition to the requested above NHE components, CEA will undertake:

- One flora inventory during late May/early June;
- One breeding bird survey, given that most of the remaining trees on-site consist of black locust, white ash and eastern white cedar, all with a sparse distribution, save an except for the wetland feature;

- One May evening call amphibian survey in the wetland feature, and given the lack of on-site forest cover and preponderance of fill and gravel, a June survey in our opinion is not warranted;
- Incidental fauna sightings/call/nests/roosting/feeding will be noted during the flora inventory;
- Staking of the on-site “other wetland” edge with TRCA staff (**please provide ASAP some dates and times convenient to TRCA staff**)

The TIPP will supplement the flora/ELC inventory. Given the wide spatial distribution, even-age, form and species composition of the on-site tree (namely non-native black ash), CEA/D A White will determine if the assemblage of trees qualifies as a KNHF upon review of the ORM technical guide for the determination and delineation of KNHFs.

Please advise if you find these additional NHE tasks acceptable and adequate as part of the TOR in order to proceed with the NHE. Again, Grant Morris will be addressing the TRCA and Town violation notices, and planning/engineering issues, and CEA will be addressing the NHE issues as part of the overall proposed development submission.

Regards,

DGC

David G. Cunningham, Hons. B.Sc.

Senior Ecologist/Principal

Cunningham Environmental Associates

5 Karen Drive, Lindsay, ON K9V 5V3

Tel: 705-878-5830 Fax: 705-878-5198 Cell: 705-879-2709 Email: cea@cogeco.ca

Grant Morris Associates Ltd.

TOWN PLANNING • ARBITRATION • LAND MANAGEMENT • INDUSTRIAL DEVELOPMENT

CANADA*CARIBBEAN

GST N° R1304-7754

File No. 5329 Old Brock Road.11

September 11th, 2019

Vanessa Aubrey, Planner II
Development Planning and Permits
Toronto and Region Conservation Authority
101 Exchange Avenue, Vaughan, ON L4K 5R6
Via email: vaubrey@trca.on.ca

**Re: Survey of the Wetland Boundary as Staked in the field by Dave Cunningham of
Cunningham Environmental Associates**

Dear Vanessa:

This will refer to our site meeting on Friday, June 14th, 2019, at which the staking of the wetland boundary was discussed with TRCA. *We are now in possession of the revised survey showing the following:*

The revised survey shows the wooden stakes which were placed by Dave Cunningham to identify the wetland boundary. This was agreed to in principle by TRCA staff member. It was understood that this staked boundary maybe further refined once TRCA has had an opportunity to review its mapping of the area.

We have enclosed a copy of the revised survey and ask that you advise as to the TRCA's requirements to overcome the violation problem of Ontario Regulation 166/06.

Yours very truly,



Grant Morris
Dip. Eng. Tech., B.A., M.Ed., LL.D (honoris causa)
Planning Consultant

Attachment

c.c. Art Simpatico, via email: art@swimleisure.ca
Dave Cunningham, via email: cea@cogeco.ca
David White, via email: dawhitetreecare@gmail.com
Brad Suckling, City of Pickering, via email: BSuckling@pickering.ca

SPECIALIZED PLANNING & DEVELOPMENT CONSULTING SERVICES

397 Sheppard Avenue, Pickering, ON, Canada L1V 1E6 • Tel: Office/Fax (905) 420-3990

Email: grant.morris@rogers.com

LOTS 16, 17, 18, AND 20 AND PART OF LOTS 15, 19, 21 AND 22 AND PART OF ALFRED STREET AND PART OF TRACEY STREET, REGISTERED PLAN 94

GEOGRAPHIC TOWNSHIP OF PICKERING, NOW IN THE CITY OF PICKERING REGIONAL MUNICIPALITY OF DURHAM

SCALE 1:250
0 1 2 3 4 5 10 15
Metres
© COPYRIGHT ertl surveyors 2017
Ontario Land Surveyors

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

Caution
THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED FOR EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
THIS SKETCH IS PROTECTED BY COPYRIGHT ©

Notes
THE LOCATION IS AT 5329 OLD BROCK ROAD, CITY OF PICKERING.
FIELD WORK WAS COMPLETED ON 10TH DAY OF MARCH, 2017.
THIS SKETCH IS AN ORIGINAL IF EMBOSSED BY THE SURVEYOR'S SEAL, OR IF IT IS PDF CERTIFIED IN AN ELECTRONIC VERSION.

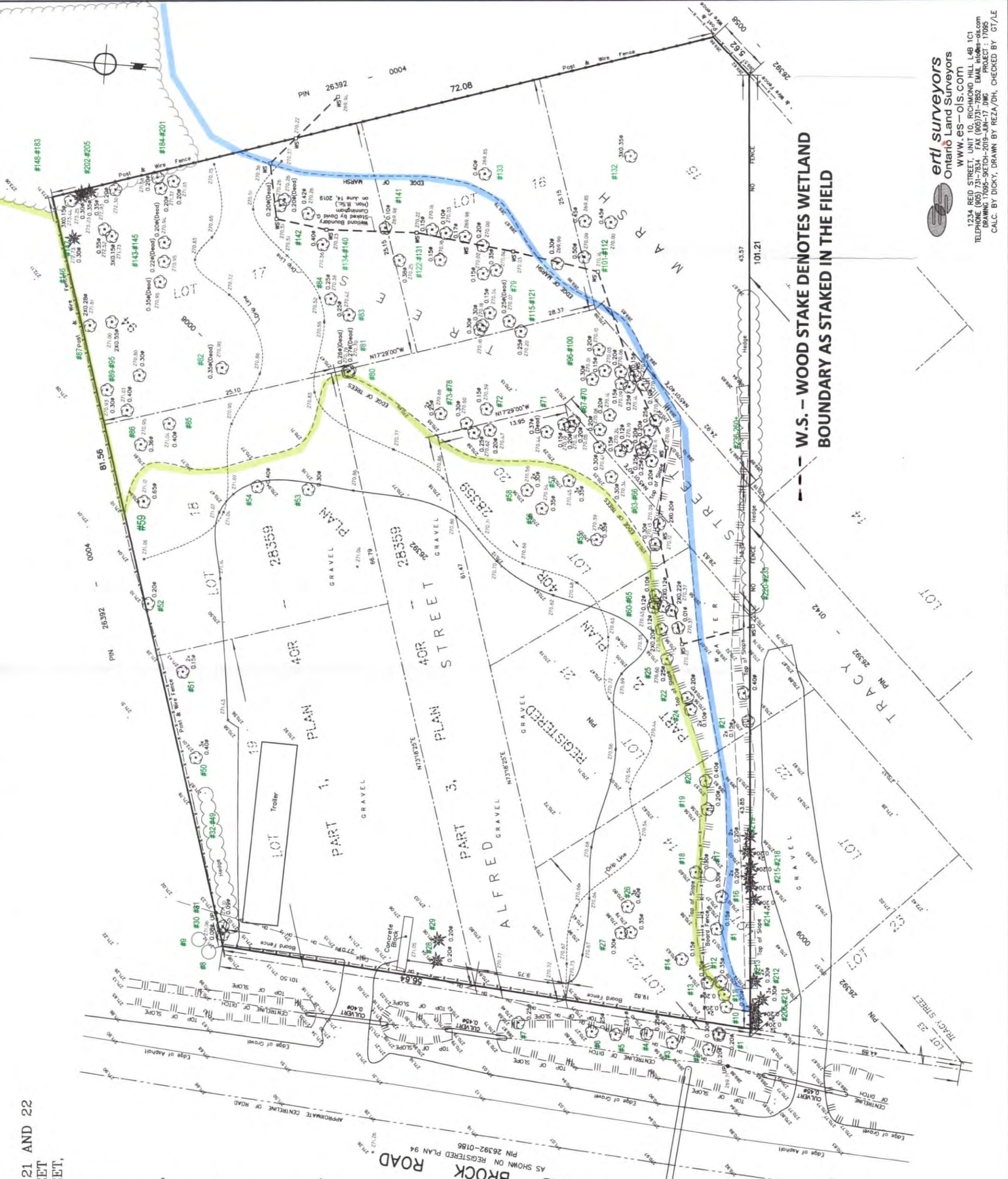
Benchmark
CITY OF PICKERING BENCHMARK No.9-004
ELEVATION = 272.553m

Legend

- ☉ DENOTES SURVEY MONUMENT FOUND
- ☉ DENOTES SURVEY MONUMENT SET
- ☉ DENOTES STANDARD IRON BAR
- ☉ DENOTES NORTH/SOUTH/EAST/WEST
- ☉ DENOTES UTILITY POLE
- ☉ DENOTES DOOR SILL
- ☉ DENOTES WOOD STAKE
- ☉ DENOTES DECIDUOUS TREE
- ☉ DENOTES CONIFEROUS TREE
- ☉ DENOTES INDICATES DIAMETER

Revision note
ADDED TOPOGRAPHIC INFORMATION ON NOVEMBER 21ST, 2018
ADDED TOPOGRAPHIC INFORMATION ON JUNE 14TH, 2019

THIS IS NOT AN ORIGINAL COPY UNLESS EMBOSSED WITH SEAL



--- W.S. - WOOD STAKE DENOTES WETLAND BOUNDARY AS STAKED IN THE FIELD

ertl surveyors
Ontario Land Surveyors
www.es-ols.com
1234 REID STREET, UNIT 10, RICHMOND HILL, L4B 1C1
TELEPHONE (905) 731-7851 FAX (905) 731-7852 EMAIL h44@es-ols.com
DRAWING 17095-SKETCH-2019-JUN-17 DWG PROJECT : 17095
CALC. BY DICKY, DRAWN BY REZA/DH, CHECKED BY GT/LE

David Cunningham

From: Suckling, Brad <BSuckling@pickering.ca>
Sent: September 13, 2019 8:45 AM
To: 'Grant Morris'; 'stephanie.worron@trca.ca'
Cc: 'Art Simpatico'; 'David Andrew White'; Dave Cunningham
Subject: RE: Survey of the Wetland Boundary as staked in the field by Dave Cunningham of Cunningham Environmental Associates

Morning Grant,

Vanessa is no longer with TRCA. The new planner for Ajax, Pickering and Uxbridge is Stephanie Worron. I have included her email address in this email to assist in this matter.

Regards,

Brad Suckling c.p.s.o.
Municipal Law Enforcement Officer II | Corporate Services Department
905.420.4660 ext. 2120 | 1.866.683.2760
bsuckling@pickering.ca



Your City. Right Now. pickering.ca



From: Grant Morris <grant.morris@rogers.com>
Sent: Thursday, September 12, 2019 9:24 PM
To: 'Vanessa Aubrey' <Vanessa.Aubrey@trca.ca>
Cc: 'Art Simpatico' <art@swimleisure.ca>; 'David Andrew White' <dawhitetreecare@gmail.com>; Dave Cunningham <cea@cogeco.ca>; Suckling, Brad <BSuckling@pickering.ca>
Subject: Re: Survey of the Wetland Boundary as staked in the field by Dave Cunningham of Cunningham Environmental Associates

Good Morning Vanessa:

Please see the attached correspondence.

Thank you
Grant

Grant Morris
Dip. Eng. Tech., B.A., M. Ed., LLD (honoris causa)
Planning Consultant
Grant Morris Associates Ltd.
Tel. 905-420-3990

David Cunningham

From: Grant Morris <grant.morris@rogers.com>
Sent: November 10, 2020 5:26 AM
To: 'Laurie Nelson'; 'Steve Heuchert'
Cc: 'Stephanie Worrton'; 'David Cunningham'; 'David Andrew White'; 'Art Simpatico'; Brad Suckling
Subject: RE: November 5, 2020 Zoom Meeting with TRCA concerning 5329 Old Brock Road

Good Morning Laurie & Steve:

It was a pleasure meeting you via zoom, which proved to be helpful for the parties in moving forward. My client also informed me of his satisfaction with the discussions at the meeting. I am in receipt of an email from Stephanie Worrton, dated November 9, 2020, setting out the agreement in principle reached at the meeting.

I will be discussing our response with Dave Cunningham to ensure that the development limits for the property are properly addressed in his EIS.

Once again, thank you for your assistance in moving this matter forward.

Thank you and stay safe.

Dr Grant Morris
Dip. Eng. Tech., B.A., M Ed., Hon LLD
Planning Consultant
Grant Morris Associates Ltd.
Tel. 905-420-3990

From: Stephanie Worrton [mailto:Stephanie.Worrton@trca.ca]
Sent: Monday, November 9, 2020 9:33 AM
To: Grant Morris
Cc: Laurie Nelson; Steve Heuchert
Subject: TRCA Meeting with 5329 Old Brock Road (November 5, 2020)

Good Morning Mr. Morris,

Thank you for meeting with TRCA staff to discuss your concerns pertaining to 5329 Old Brock Road.

Further to our discussion it is understood by both parties that the process moving forward is as follows:

1. TRCA Staff will await your submission of the Natural Heritage Evaluation to be completed by Mr. David Cunningham. In order to ensure all TRCA concerns have been outlined in this report, Jamie (TRCA Ecologist) has prepared the below advice for you;
2. Upon receipt and review of the NHE, TRCA staff will provide a formal commenting letter to yourself and the landowner indicating our conclusions of the review and the proposed development setbacks. Landowner to then apply for any necessary Planning Act Applications with the City of Pickering;
3. TRCA Staff to review and comment on the relevant Planning Act Applications once circulated by the City.
4. Once Planning approvals have been received, TRCA staff will work with the landowner to issue a TRCA Permit which will in turn resolve the violation while also permitting the proposed works.

Natural Heritage Evaluation Requirements:

- a. Although not specifically mentioned in the minimum requirement provided by Vanessa Aubrey in 2017 (see below), please be sure to demonstrate how the proposed development conforms to the relevant policies (Official Plans, ORMCP, TRCA etc.);
 - o **V. Aubrey 2017 Note:** The property is within the Oak Ridges Moraine Conservation Plan and as such a Natural Heritage Evaluation is required to demonstrate negative impacts to the adjacent natural features minimized. The Natural Heritage Evaluation should be prepared by a qualified environmental consultant. At minimum, it must address the following:
- b. Existing Conditions: include brief description and evaluation of the existing vegetation on site, identify vegetation communities (ELC), a figure showing ELC communities, buffer areas and development;
- c. Evaluation of the Ecological Impacts: briefly describe the impacts of the proposed development on the surrounding natural feature. Describe Mitigation Measures and Provide Recommendations: how the proposal can maintain or enhance ecological and hydrological functions of the natural area; how any negative impacts will be mitigated pre/post construction.

If you have any questions, please feel free to contact me, otherwise we will await your submission.

Regards,

Stephanie Worrone

Planner

Development Planning and Permits | Development and Engineering Services

T: [\(416\) 661-6600](tel:4166616600) ext. 5907

E: stephanie.worrone@trca.ca

A: [101 Exchange Avenue, Vaughan, ON, L4K 5R6](https://www.trca.ca) | [trca.ca](https://www.trca.ca)



APPENDIX E – ARBORIST REPORT & WOODED AREA CALCULATED TREE DENSITY

Arborist Report For 5329 Old Brock Road

Pickering, Ontario (April 16, 2020)



DAWhiteTreeCare.com Tel: 416 431 2453, e-mail: DAWhiteTreeCare@gmail.com

D. Andrew White M. Sc. ISA Certified Arborist ON-0734. 78 Marcella St. Toronto, ON, M1G 1L2.

1. Introduction

The following is an updated arborist report for the property at 5329 Old Brock Road, in Pickering Ontario. The purpose of this report was to inventory the trees on the site and ascertain the potential impacts of the proposed development on the trees on, and near, the subject site.

This report was prepared for *Grant Morris Associates Ltd.*

2. Methods

On-site inspections were made between May 9 and May 24, 2019. The sizes of individual trees were measured as diameter at breast height (DBH), breast height being 140 cm from ground level. From the data collected plant Condition Rating (CR), Location Rating (LR), Species Rating (SR), and minimum. Tree Protection Zones (TPZ), were estimated.^{1,2}

3. Discussion

There are plans to develop the site at 5329 Old Brock Road. Several non-exempt trees, according to the owner, were removed because of the snow storm a few years ago. Two trees on the east side of the proposed worksite area would be removed. All of the remaining trees in the Toronto and Region Conservation Area (TRCA) wetland to the southeast would be protected and retained (Table 1, Figs. 1 & 2, Photos 1-9).

Road Allowance Trees:

All of the road allowance trees could be retained without significant risk of injury. The trees would be more than their TPZ radii from the worksite (Table 1, Fig. 1, Photos 1-2).

Private Trees:

Six (6) privately owned trees over 15 cm DBH would be removed. The trees would be too close to the worksite to be retained without undue risk of injury. These trees in the 10 metre wide TRCA Wetland Buffer zone could be protected without significant risk of injury (Table 1, Fig. 1, Photos 3-9).

All of the invasive buckthorns should be removed (Table 1, Fig. 1).

There are several dead trees on the site. The dead trees outside the worksite area should be felled. The logs of the trees less than six metres should be removed. In the TRCA protected area, more than six metres from the worksite, felled trees should be left on the ground (Table 1, Fig. 1, Photos 3-9).

All of the remaining private trees, including those near the marsh (wetland), would be retained and protected with virtual no risk of injury (Table 1, Fig. 1).

Neighbours' Trees:

All of the neighbouring trees on neighbouring properties would be retained, without significant risk of injury (Table 1, Fig. 1).

3.2 Tree Protection:

It is necessary to protect all trees designated for preservation during both demolition and construction. This tree protection can be accomplished by protecting the said trees with *tree protection barriers*. The minimum tree protection zone (TPZ) radius is based on the diameter of the tree ($TPZ \approx 0.06_{m/cm} \times DBH_{cm}$). Tree barriers for road allowance areas would be composed of a 1.2 metre (4 ft) high orange plastic web snow fencing secured on 2"x4" wood frames. Usually, tree protection barriers, not on road allowance, are to be 1.2 metre (4 ft) high, and composed of plywood. Down-slope areas are to be protected by 1.2 metre (4 ft) erosion and sediment control barriers (silt fence).^{3,4}

Roadside Barriers:

The road allowance trees nearest the worksite entrance way would be protected by web-fence barriers. The tree protection barriers would extend at least 1.8 metres from the trees closest to the entrance way (Fig. 1, Table 1).

Worksite Barriers:

A tree protection barrier would protect the trees on the north side of the worksite area. An existing wooden fence would protect the trees in the gully to the south (Fig. 1).

Trees to the south and east, near the gully and wetland are to be protected by an erosion and sediment control fence (silt fence). This sediment barrier would be close to the top-of-slope of the gully to the south, and just west of the 10 metre TRCA wetland buffer to the southeast. Most of the east side of the property would be protected by the erosion sediment control barrier (Table 1, Fig. 1).

3.3 Replacement Trees:

Grant Morris Associates Ltd. is developing a landscape plan for the 5329 Old Brock Road property. All new trees would be of large calliper nursery grown stock. The trees would be transplanted as according to municipal codes and bylaws.^{4,5}

- (1) Minimum 50 mm calliper (2-inch wide stem) for deciduous trees
- (2) Minimum 1.75-2.5 m height for coniferous trees

Trees would best be transplanted during the spring or autumn. Mid-summer transplanting should be avoided. These trees are to be maintained in good condition. Supplemental watering may be required during the drier periods of the year, especially during the first two or three years after their transplantation.^{4,5}

4. Conclusions

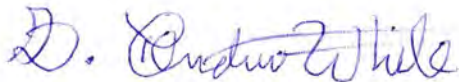
In order to allow for the proposed development at 5329 Old Brock Road, six (6) privately owned trees over 15 cm DBH would be removed. All of the remaining trees on the site are to be retained.

All of the trees down-slope of the 10 metre TRCA Wetland Buffer would be retained.

The road allowance trees nearest the worksite entrance way would be protected by web-fence barriers. The tree protection barriers would extend out at least 1.8 metres from the trees near the entranceway. A tree protection barrier would protect the trees on the north side of the worksite. An existing wooden fence on the south side of the site would protect trees near the gully. The trees down-slope of the 10 metre TRCA Wetland Buffer would be protected with erosion and sediment control barrier.

Grant Morris Associates Ltd. is developing a landscape plan for the 5329 Old Brock Road property. All new trees would be of large calliper nursery grown stock. The trees would be transplanted as according to municipal codes and bylaws.

D. Andrew White M. Sc.



April 16, 2020

5. Tree Data:

21 AND 22
ET
2T.

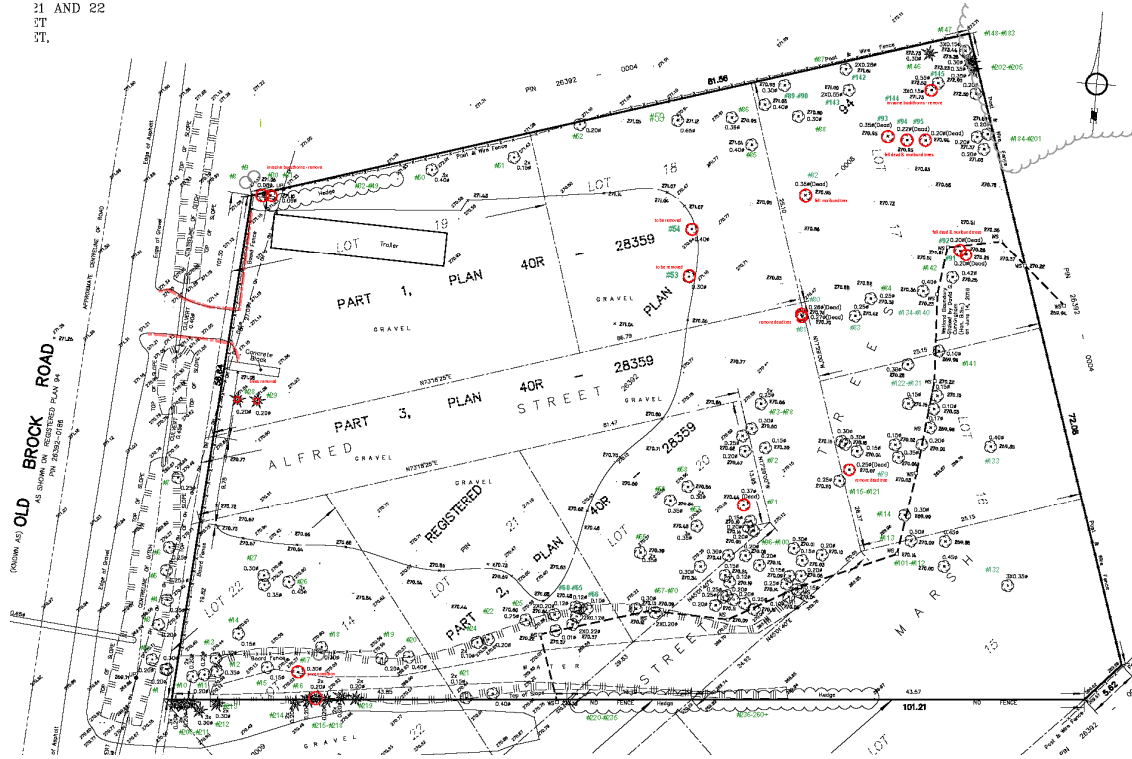


Figure #1: Arborist's Plan and layout (survey) of the 5329 Old Brock Road property, with trees are numbered (green), with trees to be removed or felled (red) indicated.

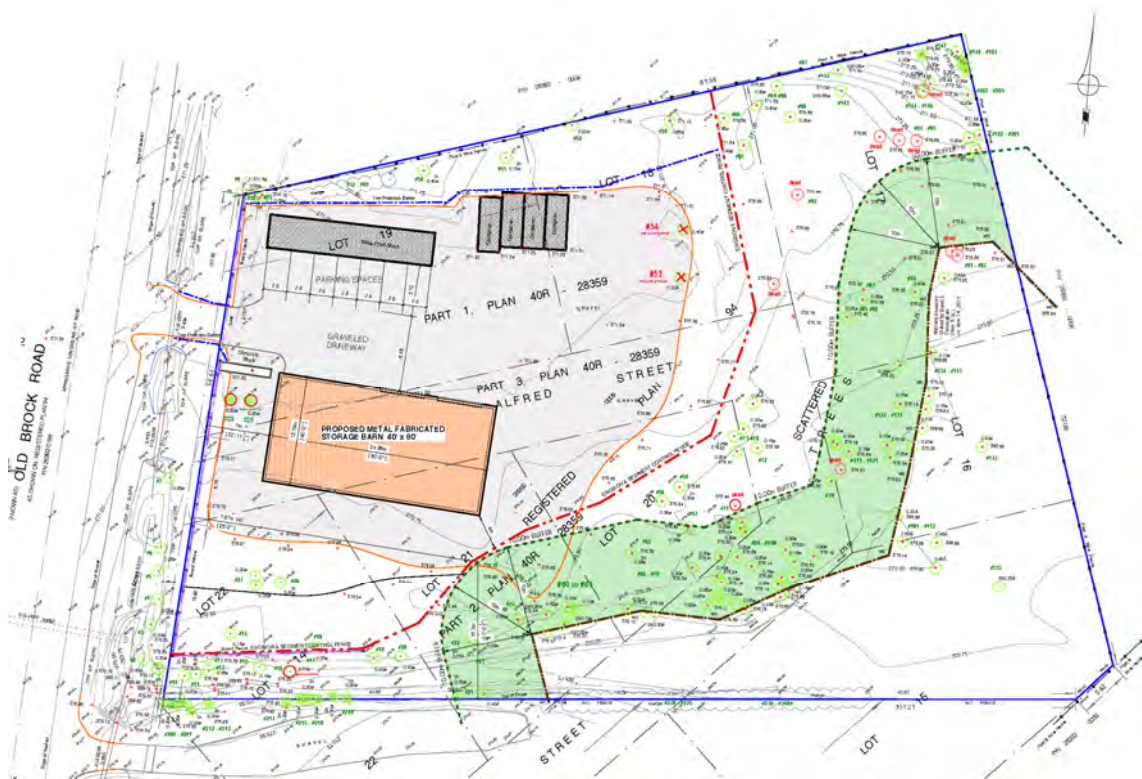


Figure #2: Proposed Development on the 5329 Old Brock Road property, with in the 10 m Wetland Buffer (green), tree protection barriers (blue), and erosion and sediment control fence (red) are indicated.



Photograph #1: Front yard trees on the southwest roadside of the 5329 Old Brock Road property.



Photograph #2: Trees on the northwest roadside of the 5329 Old Brock Road property.



Photograph #3: Trees on the southeast side of the 5329 Old Brock Road property.



Photograph #4: Trees on the northeast margin of the 5329 Old Brock Road property.



Photograph #5 Trees on the southwest side of the 5329 Old Brock Road property.



Photograph #6: Trees on the north and northeast side of 5329 Old Brock Road property.



Photograph #7: Trees on the northwest side 5329 Old Brock Road property.



Photograph #8: Trees on the east side 5329 Old Brock Road property.



Photograph #9: Trees on the southwest side 5329 Old Brock Road property..

Table #1. Tree number (No.), species, diameter at breast height (DBH), comments, Condition Rating (CR) and Tree Category.

No.	Tree Species	DBH	Comments	CR	TC
#1	Norway Maple	26 cm	Roadside tree	60%	Town
#1b	stump	c 20 cm	Dead tree, to remove	0%	Town
#2	Manitoba Maple	17 cm	Roadside tree	60%	Town
#3	Black Locust	20 cm	Roadside tree	55%	Town
#4	Black Locust	22 cm	Roadside tree	55%	Town
#5	Black Locust	25 cm	Roadside tree	55%	Town
#6	Black Locust	22 cm	Roadside tree	60%	Town
#7	Black Locust	23 cm	Roadside tree	55%	Town
#8-9	Norway Maple	8-10 cm	Coppice	50%	Town
#9-10	Manitoba Maples	22-26	SW corner	60-65%	Private
#11	Manitoba Maple	27 cm	SW corner	65%	Private
#12	Manitoba Maple	34 cm	SW corner	65%	Private
#13	Manitoba Maple	36 cm	SW corner	60%	Private
#14	Black Locust	15 cm	SW Remove	65%	Private
#15	Manitoba Maple	20-22 cm	SW corner	65%	Private
#16	Manitoba Maple	30-56 cm	SW very poor	50%	Private
#17	Norway Maple	15 cm	SW corner	65%	Private
#18	Norway Maple	22 cm	SW Remove	65%	Private
#19	Norway Maple	24 cm	SW corner	65%	Private
#20	Norway Maple	42 cm	SW corner	60%	Private
#21	Manitoba Maple	16 cm	SW corner	65%	Private
#22	Manitoba Maple	20-22 cm	SW corner	60%	Private
#23	Manitoba Maple	52 cm	SW corner	55%	Private
#24	Manitoba Maple	15-17 cm	S side	60 %	Private
#25	Manitoba Maple	24 cm	S side	65%	Private
#26	Black Locust	25 cm	SW Remove	60%	Private
#27	Black Locust	37 cm	SW Remove	60%	Private
#28-29	stumps	NA	W side, removed	0%	Private
#30-31	Buckthorns	11-12 cm	NW invasive	55-60%	Private
#32-35	White Cedars	12-14 cm	NW protect	50-60%	Private
#36-49	White Cedars	14-16 cm	NW side	50-60%	Private
#50	Silver Maple	48-52 cm	NW side	55%	Private
#51	Manitoba Maple	18 cm	N side	60%	Private

No.	Tree Species	DBH	Comments	CR	TC
#52	Manitoba Maple	85 cm	N side	40%	Private
#53	Basswood	58-64 cm	N Remove	50%	Private
#54	Manitoba Maple	23 cm	N Remove	55%	Private
#54	Manitoba Maple	35 cm	N worksite	60%	Private
#55	Black Locust	36-38	W protect	60%	Private
#56	Black Locust	32-62 cm	W protect	55%	Private
#57	Black Locust	31 cm	W protect	60%	Private
#58	Black Locust	29 cm	W protect	55%	Private
#59	Manitoba Maple	59 cm	N protect	60%	Private
#60	Manitoba Maple	12	SE treed area	60%	Private
#61-62	Manitoba Maples	15-35 cm	SE protect	60-65%	Private
#63	Sugar Maple	19 cm	SE protect	65%	Private
#64-66	Manitoba Maples	18-30 cm	SE protect	65-70%	Private
#67-69	Manitoba Maples	18-27 cm	SE very poor	45-50%	Private
#70	Black Locust	27 cm	SE treed area	60%	Private
#71	Manitoba Maple	37 cm	SE dead tree	0%	Private
#72-76	Manitoba Maples	14-39 cm	E treed area	55-65%	Private
#77-78	Black Locust	24-31 cm	E treed area	60-65%	Private
#79-82	Manitoba Maples	19-28 cm	E very poor, to dead	0-20%	Private
#83-84	Balsam Poplar	12-28	E treed area	60-65%	Private
#85	Silver Maple	36 cm	NE treed area	65 %	Private
#86	Balsam Poplar	33 cm	NE treed area	65 %	Private
#87	Sugar Maple	62 cm	NE treed area	55%	Private
#88-89	Balsam Poplar	28-36 cm	NE treed area	60-65%	Private
#90-95	Manitoba Maples	16-35	NE treed area, fell dead trees	0-20%	Private
#96-100	Manitoba Maples	16-24 cm	SE wetland	60-65%	Private
#101-111	Balsam Poplars	10-12 cm	E near wetland	65-70%	Private
#112-114	Balsam Poplars	42-48 cm	E near wetland	60-65%	Private
#115-121	Balsam Poplars	10-12 cm	E near wetland	65-70%	Private
#122	Balsam Poplar	29 cm	E near wetland	65%	Private
#123-131	Manitoba Maples	10-19 cm	E near wetland	65-70%	Private
#.132	White Willow	12-16 cm	E near wetland	70%	Private
#133	Silver Maple	26 cm	NE wetland	65%	Private
#134-138	Manitoba Maples	10-16 cm	NE near field, to remove	20-50%	Private

No.	Tree Species	DBH	Comments	CR	TC
#139-140	Balsam Poplars	9-14 cm	NE near field	60-65%	Private
#141-143	Manitoba Maples	20-22 cm	NE near field	60-65%	Private
#144	Buckthorn	14-18 cm	NE invasive	55%	Private
#145-147	White Cedars	24-36 cm	NE margin	65-70%	Private
#148-183	White Cedars	16-24 cm	NE off-site	60-70%	Neighbour
#184-201	Balsam Poplars	20-28 cm	E offsite	65-70%	Neighbour
#202-205	Paper Birch	20-28 cm	E off-site	65-70%	Neighbour
#206	White Cedar	27 cm	SW off-site	60%	Neighbour
#207	White Cedar	12-14 cm	SW off-site	55%	Neighbour
#208	White Cedar	11-20 cm	SW off-site	60%	Neighbour
#209	White Cedar	24 cm	SW off-site	60%	Neighbour
#210	White Cedar	19 cm	SW off-site	60%	Neighbour
#211	White Cedar	18-19 cm	SW off-site	60%	Neighbour
#212	White Cedar	18 cm	SW off-site	55%	Neighbour
#213	White Cedar	26 cm	SW off-site	65%	Neighbour
#214	White Cedar	20-27 cm	S off-site	60%	Neighbour
#215	White Cedar	18 cm	S off-site	55%	Neighbour
#216	White Cedar	24 cm	S leaning tree	50%	Neighbour
#217	White Cedar	22 cm	S off-site	60%	Neighbour
#218	White Cedar	16-18 cm	S off-site	60%	Neighbour
#219	White Cedar	15-22 cm	S off-site	60%	Neighbour
#220-235	White Cedars	25-36 cm	SE off-site	60-70%	Neighbour
#236-260+	White Cedars	22-42 cm	SE off-site	60-70%	Neighbour

6. References

- 1- Council of Tree Landscape Appraisers. 2000. Guide for Plant Appraisal. 9th Edition. International Society of Arboriculture.
- 2- International Society of Arboriculture of Ontario. 1998. Ontario Supplement to Guide for Plant Appraisal 8th Edition. Ontario Chapter, International Society of Arboriculture.
- 3- City of Pickering. 2020. Pickering Website. <http://www.cityofpickering.com> . Pickering Civic Complex. One The Esplanade. Pickering, ON L1V 6K7.
- 4- City of Pickering. 2003. TREE PROTECTION BY-LAW - BY-LAW NUMBER 6108/03. Corporation of the City of Pickering.
- 5- MMAH. 2005. Greenbelt Plan No. 208/2005. Feb 28, 2005. Ministry of Municipal Affairs & Housing.

D. Andrew White M. Sc. ISA Certified Arborist ON-0734.

78 Marcella St.

Toronto, ON, M1G 1L2.

Tel: 416 431 2453

Web: DAWhiteTreeCare.com

E-mail: DAWhiteTreeCare@gmail.com

Regarding:

Wooded Area at 5329 Old Brock Road, in Pickering Ontario;

Regarding: Calculated tree density.

There are 135 trees on-site at 5329 Old Brock Road. Of these trees, 86 are over 20 cm DBH. The entire site is about 0.5 hectares in area. The wooded section of the site is between 0.10 hectares and 0.2 hectares in area, depending on whether the wooded area extends close to the proposed worksite area, or whether it is equal to the 10 metre Wetland Buffer.

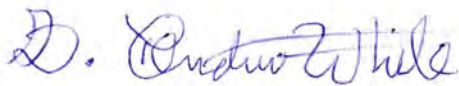
Area Considered Woodlot	Wooded Area	Trees DBH > 10 cm	Trees DBH > 20 cm
#1 Entire area of Subject Site	0.5 ha	270 / ha	172 / ha
#2 Wooded area E & SE of worksite.	0.2 ha	675 / ha	430 / ha
#3 Wooded area in 10 m Wetland Buffer	0.1 ha	1350 / ha	860 / ha

The density of trees over 10 cm DBH is over 250 trees per hectare. The density of trees over 20 cm DBH is over 1000 trees per hectare. As calculated from the entire area of the subject site, the property has less than 1000 trees per hectare

Therefore, the wooded portion of the site qualifies as a “woodlot” according to the City of Pickering Definition. However, most of the treed area is outside of the wooded area. The site as a whole would not be a “woodlot”.

Thank you for your patience, sincerely

D. Andrew White M. Sc.



June 8, 2020

Tree Data:

21 AND 22
ST
VT.

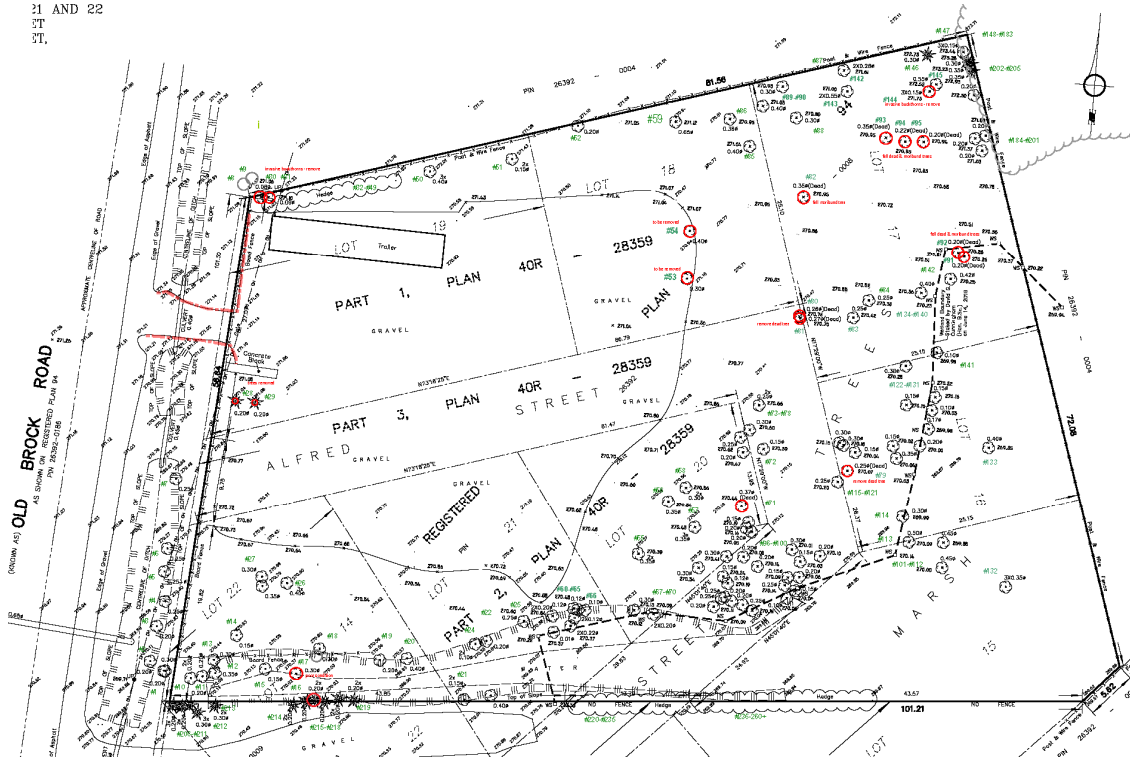


Figure #1: Arborist's Plan and layout (survey) of the 5329 Old Brock Road property, with trees are numbered (green), with trees to be removed or felled (red) indicated.

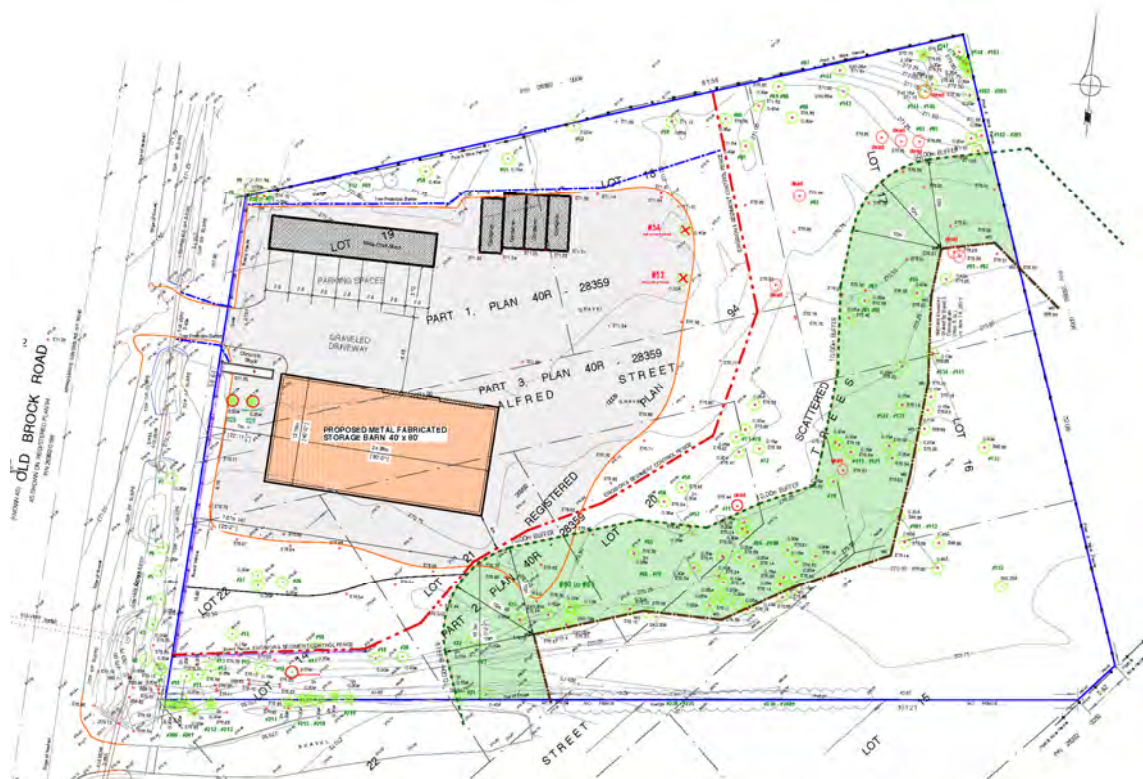


Figure #2: Proposed Development on the 5329 Old Brock Road property, with in the 10 m Wetland Buffer (green), tree protection barriers (blue), and erosion and sediment control fence (red) are indicated.

Table #1. Tree number (No.), species, diameter at breast height (DBH), comments, Condition Rating (CR) and Tree Category.

No.	Tree Species	DBH	Comments	CR	TC
#1	Norway Maple	26 cm	Roadside tree	60%	Town
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#2	Manitoba Maple	17 cm	Roadside tree	60%	Town
#3	Black Locust	20 cm	Roadside tree	55%	Town
#4	Black Locust	22 cm	Roadside tree	55%	Town
#5	Black Locust	25 cm	Roadside tree	55%	Town
#6	Black Locust	22 cm	Roadside tree	60%	Town
#7	Black Locust	23 cm	Roadside tree	55%	Town
#8-9	Norway Maple	8-10 cm	Coppice	50%	Town
#9-10	Manitoba Maples	22-26	SW corner	60-65%	Private
#11	Manitoba Maple	27 cm	SW corner	65%	Private
#12	Manitoba Maple	34 cm	SW corner	65%	Private
#13	Manitoba Maple	36 cm	SW corner	60%	Private
#14	Black Locust	15 cm	SW Remove	65%	Private
#15	Manitoba Maple	20-22 cm	SW corner	65%	Private
#16	Manitoba Maple	30-56 cm	SW very poor	50%	Private
#17	Norway Maple	15 cm	SW corner	65%	Private
#18	Norway Maple	22 cm	SW Remove	65%	Private
#19	Norway Maple	24 cm	SW corner	65%	Private
#20	Norway Maple	42 cm	SW corner	60%	Private
#21	Manitoba Maple	16 cm	SW corner	65%	Private
#22	Manitoba Maple	20-22 cm	SW corner	60%	Private
#23	Manitoba Maple	52 cm	SW corner	55%	Private
#24	Manitoba Maple	15-17 cm	S side	60 %	Private
#25	Manitoba Maple	24 cm	S side	65%	Private
#26	Black Locust	25 cm	SW Remove	60%	Private
#27	Black Locust	37 cm	SW Remove	60%	Private
#28-29	stumps	NA	W side, removed	0%	Private
#30-31	Buckthorns, 2	11-12 cm	NW invasive	55-60%	Private
#32-35	White Cedars,	12-14 cm	NW protect	50-60%	Private
#36-49	White Cedars	14-16 cm	NW side	50-60%	Private
#50	Silver Maple	48-52 cm	NW side	55%	Private
#51	Manitoba Maple	18 cm	N side	60%	Private

No.	Tree Species	DBH	Comments	CR	TC
#52	Manitoba Maple	85 cm	N side	40%	Private
#53	Basswood	58-64 cm	N Remove	50%	Private
#54	Manitoba Maple	23 cm	N Remove	55%	Private
#54	Manitoba Maple	35 cm	N worksite	60%	Private
#55	Black Locust	36-38	W protect	60%	Private
#56	Black Locust	32-62 cm	W protect	55%	Private
#57	Black Locust	31 cm	W protect	60%	Private
#58	Black Locust	29 cm	W protect	55%	Private
#59	Manitoba Maple	59 cm	N protect	60%	Private
#60	Manitoba Maple	12	SE treed area	60%	Private
#61-62	Manitoba Maples	15-35 cm	SE protect	60-65%	Private
#63	Sugar Maple	19 cm	SE protect	65%	Private
#64-66	Manitoba Maples	18-30 cm	SE protect	65-70%	Private
#67-69	Manitoba Maples	18-27 cm	SE very poor	45-50%	Private
#70	Black Locust	27 cm	SE treed area	60%	Private
#71	Manitoba Maple	37 cm	SE dead tree	0%	Private
#72-76	Manitoba Maples	14-39 cm	E treed area	55-65%	Private
#77-78	Black Locust	24-31 cm	E treed area	60-65%	Private
#79-82	Manitoba Maples	19-28 cm	E very poor, to dead	0-20%	Private
#83-84	Balsam Poplar	12-28	E treed area	60-65%	Private
#85	Silver Maple	36 cm	NE treed area	65 %	Private
#86	Balsam Poplar	33 cm	NE treed area	65 %	Private
#87	Sugar Maple	62 cm	NE treed area	55%	Private
#88-89	Balsam Poplar	28-36 cm	NE treed area	60-65%	Private
#90-95	Manitoba Maples	16-35	NE treed area, fell dead trees	0-20%	Private
#96-100	Manitoba Maples	16-24 cm	SE wetland	60-65%	Private
#101-111	Balsam Poplars	10-12 cm	E near wetland	65-70%	Private
#112-114	Balsam Poplars	42-48 cm	E near wetland	60-65%	Private
#115-121	Balsam Poplars	10-12 cm	E near wetland	65-70%	Private
#122	Balsam Poplar	29 cm	E near wetland	65%	Private
#123-131	Manitoba Maples	10-19 cm	E near wetland	65-70%	Private
#.132	White Willow	12-16 cm	E near wetland	70%	Private
#133	Silver Maple	26 cm	NE wetland	65%	Private
#134-138	Manitoba Maples	10-16 cm	NE near field, to remove	20-50%	Private

No.	Tree Species	DBH	Comments	CR	TC
#139-140	Balsam Poplars	9-14 cm	NE near field	60-65%	Private
#141-143	Manitoba Maples	20-22 cm	NE near field	60-65%	Private
#144	Buckthorn	14-18 cm	NE invasive	55%	Private
#145-147	White Cedars	24-36 cm	NE margin	65-70%	Private
#148-183	White Cedars	16-24 cm	NE off-site	60-70%	Neighbour
#184-201	Balsam Poplars	20-28 cm	E offsite	65-70%	Neighbour
#202-205	Paper Birch	20-28 cm	E off-site	65-70%	Neighbour
#206	White Cedar	27 cm	SW off-site	60%	Neighbour
#207	White Cedar	12-14 cm	SW off-site	55%	Neighbour
#208	White Cedar	11-20 cm	SW off-site	60%	Neighbour
#209	White Cedar	24 cm	SW off-site	60%	Neighbour
#210	White Cedar	19 cm	SW off-site	60%	Neighbour
#211	White Cedar	18-19 cm	SW off-site	60%	Neighbour
#212	White Cedar	18 cm	SW off-site	55%	Neighbour
#213	White Cedar	26 cm	SW off-site	65%	Neighbour
#214	White Cedar	20-27 cm	S off-site	60%	Neighbour
#215	White Cedar	18 cm	S off-site	55%	Neighbour
#216	White Cedar	24 cm	S leaning tree	50%	Neighbour
#217	White Cedar	22 cm	S off-site	60%	Neighbour
#218	White Cedar	16-18 cm	S off-site	60%	Neighbour
#219	White Cedar	15-22 cm	S off-site	60%	Neighbour
#220-235	White Cedars	25-36 cm	SE off-site	60-70%	Neighbour
#236-260+	White Cedars	22-42 cm	SE off-site	60-70%	Neighbour

References

1- Council of Tree Landscape Appraisers. 2000. Guide for Plant Appraisal. 9th Edition. International Society of Arboriculture.

2- International Society of Arboriculture of Ontario. 1998. Ontario Supplement to Guide for Plant Appraisal 8th Edition. Ontario Chapter, International Society of Arboriculture.

3- City of Pickering. 2020. Pickering Website. <http://www.cityofpickering.com> . Pickering Civic Complex. One The Esplanade. Pickering, ON L1V 6K7.

4- City of Pickering. 2003. TREE PROTECTION BY-LAW - BY-LAW NUMBER 6108/03. Corporation of the City of Pickering.

5- MMAH. 2005. Greenbelt Plan No. 208/2005. Feb 28, 2005. Ministry of Municipal Affairs & Housing.

APPENDIX F – MASTER VASCULAR PLANT LIST

Appendix F. List of Vascular Plants Observed on the 1972229 Ontario Ltd. Property (5329 Old Brock Road, City of Pickering)

SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Acer negundo</i>	Manitoba maple	G5	S5		
<i>Acer platanoides</i>	Norway maple	GNA	SNA		
<i>Acer rubrum</i>	red maple	G5	S5		
<i>Acer saccharinum</i>	silver maple	G5	S5		
<i>Acer saccharum</i>	sugar maple	G5	S5		
<i>Achillea millefolium</i>	common yarrow	G5	SNA		
<i>Agrimonia gryposepala</i>	hooked agrimony	G5	S5		
<i>Agrostis gigantea</i>	redtop	G5	S5		
<i>Agrostis stolonifera</i>	creeping bent grass	G5	SNA		
<i>Alisma triviale</i>	large-flowered water plantain	G5	S5		
<i>Alliaria petiolata</i>	garlic mustard	GNR	SNA		
<i>Ambrosia artemisiifolia</i>	annual ragweed	G5	S5		
<i>Amelanchier arborea</i>	downy serviceberry	G5	S5		
<i>Amphicarpa bracteata</i>	hog-peanut	G5	S5		
<i>Anemone canadensis</i>	Canada anemone	G5	S5		
<i>Apocynum androsaemifolium</i>	spreading dogbane	G5	S5		
<i>Arctium minus</i>	common burdock	GNR	SNA		
<i>Artemisia biennis</i>	biennial wormwood	G5	SNA		
<i>Asclepias incarnata</i>	swamp milkweed	G5	S5		
<i>Asclepias syriaca</i>	common milkweed	G5	S5		
<i>Athyrium filix-femina var. angustum</i>	northeastern lady fern	G5T5	S5		
<i>Barbarea vulgaris</i>	yellow rocket	GNR	SNA		
<i>Betula papyrifera</i>	white birch	G5	S5		
<i>Brassica kaber</i>	field mustard	GNR	SNA		
<i>Bromus inermis</i>	awnless brome brass	G5TNR	SNA		
<i>Calamagrostis canadensis</i>	Canada bluejoint grass	G5	S5		
<i>Capsella bursa-pastoris</i>	common shepherd's purse	GNR	SNA		
<i>Carex bebbii</i>	Bebb's sedge	G5	S5		
<i>Carex deweyana</i>	Dewey's sedge	G5	S5		

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SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Carex gracillima</i>	graceful sedge	G5	S5		
<i>Carex granularis</i>	meadow sedge	G5	S5		
<i>Carex hystericina</i>	porcupine sedge	G5	S5		
<i>Carex stipata</i>	awl-fruited sedge	G5	S5		
<i>Carex vulpinoidea</i>	fox sedge	G5	S5		
<i>Centaurea jacea</i>	brown knapweed	GNR	SNA		
<i>Cerastium fontanum</i>	mouse-eared chickweed	GNR	SNA		
<i>Chenopodium album</i>	lamb's quarters	G5	SNA		
<i>Chrysanthemum leucanthemum</i>	ox-eye daisy	GNR	SNA		
<i>Cichorium intybus</i>	chicory	GNR	SNA		
<i>Circaea lutetiana</i>	enchanters' nightshade	G5T5	S5		
<i>Cirsium arvense</i>	Canada thistle	GNR	SNA		
<i>Cirsium vulgare</i>	bull thistle	GNR	SNA		
<i>Clematis virginiana</i>	virgin's-bower	G5	S5		
<i>Clinopodium vulgare</i>	wild basil	G5	S5		
<i>Convolvulus arvensis</i>	field bindweed	GNR	SNA		
<i>Cornus alternifolia</i>	alternate-leaved dogwood	G5	S5		
<i>Cornus rugosa</i>	round-leaved dogwood	G5	S5		
<i>Cornus stolonifera</i>	red-osier dogwood	G5	S5		
<i>Crataegus macracantha</i>	large-thorned hawthorn	GNRTNR	SU		
<i>Dactylis glomerata</i>	orchard grass	GNR	SNA		
<i>Daucus carota</i>	wild carrot	GNR	SNA		
<i>Digitaria ischaemum</i>	smooth crabgrass	GNR	SNA		
<i>Dryopteris carthusiana</i>	spinulose wood-fern	G5	S5		
<i>Echinochloa crus-galli</i>	large barnyard grass	GNR	SNA		
<i>Echinocystis lobata</i>	wild cucumber	G5	S5		
<i>Echium vulgare</i>	common viper's-bugloss	GNR	SNA		
<i>Eleocharis erythropoda</i>	red-stemmed spike-rush	G5	S5		
<i>Eleocharis obtusa</i>	blunt spike-rush	G5	S5		
<i>Elymus repens</i>	quackgrass	GNR	SNA		

Appendix F. List of Vascular Plants Observed on the 1972229 Ontario Ltd. Property (5329 Old Brock Road, City of Pickering)

SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Epilobium parviflorum</i>	small-flowered willowherb	GNR	SNA		
<i>Epipactis helleborine</i>	helleborine	GNR	SNA		
<i>Equisetum arvense</i>	field horsetail	G5	S5		
<i>Equisetum hymale</i>	common scouring-rush	G5	S5		
<i>Equisetum fluviatile</i>	water horsetail	G5	S5		
<i>Equisetum pratense</i>	meadow horsetail	G5	S5		
<i>Erigeron canadensis</i>	Canada horseweed	G5	S5		
<i>Erigeron hyssopifolius</i>	daisy fleabane	G5	S5		
<i>Erigeron philadelphicus</i>	Philadelphia fleabane	G5	S5		
<i>Erysimum cheiranthoides</i>	wormseed mustard	G5	SNA		
<i>Erythronium americanum</i>	yellow trout-lily	G5	S5		
<i>Eupatorium perfoliatum</i>	common boneset	G5	S5		
<i>Eurybia macrophylla</i>	large-leaved aster	G5	S5		
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	G5	S5		
<i>Eutrochium maculatum</i>	spotted Joe-pye weed	G5T5	S5		
<i>Fallopia scandens</i>	climbing false buckwheat	G5	S4S5		
<i>Fragaria vesca</i>	woodland strawberry	G5	S5		
<i>Fragaria virginiana</i>	common strawberry	G5	S5		
<i>Fraxinus americana</i>	white ash	G5	S4		
<i>Fraxinus pennsylvanica</i>	green ash	G5	S5		
<i>Galium palustre</i>	marsh bedstraw	G5	S5		
<i>Galium triflorum</i>	fragrant bedstraw	G5	S5		
<i>Geranium robertianum</i>	herb-robert	G5	S5		
<i>Geum aleppicum</i>	yellow avens	G5	S5		
<i>Geum canadense</i>	white avens	G5	S5		
<i>Glyceria striata</i>	fowl mannagrass	G5	S5		
<i>Hesperis matronalis</i>	dame's rocket	G4G5	SNA		
<i>Hypericum perforatum</i>	common St. John's-wort	GNR	SNA		
<i>Impatiens capensis</i>	spotted jewelweed	G5	S5		
<i>Juncus effusus</i>	soft rush	G5	S5		

Appendix F. List of Vascular Plants Observed on the 1972229 Ontario Ltd. Property (5329 Old Brock Road, City of Pickering)

SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Juncus tenuis</i>	path rush	G5	S5		
<i>Lactuca biennis</i>	tall blue lettuce	G5	S5		
<i>Lemna minor</i>	common duckweed	G5	S5		
<i>Leonurus cardiaca</i>	motherwort	GNR	SNA		
<i>Lepidium campestre</i>	field peppergrass	GNR	SNA		
<i>Lonicera morrowii</i>	Morrow's honeysuckle	GNR	SNA		
<i>Lonicera tatarica</i>	tartarian honeysuckle	GNR	SNA		
<i>Lotus corniculatus</i>	bird's-foot trefoil	GNR	SNA		
<i>Lycopus europaeus</i>	European water-horehound	GNR	SNA		
<i>Lysimachia ciliata</i>	fringed loosestrife	G5	S5		
<i>Lysimachia nummularia</i>	moneywort	GNR	SNR		
<i>Lythrum salicaria</i>	purple loosestrife	G5	SNA		
<i>Maianthemum stellatum</i>	starry false solomon's-seal	G5	S5		
<i>Malus pumila</i>	common apple	G5	SNA		
<i>Matricaria matricarioides</i>	pineapple-weed	G5	SNA		
<i>Matteuccia struthiopteris</i>	ostrich fern	G5	S5		
<i>Medicago lupulina</i>	black medic	GNR	SNR		
<i>Melilotus albus</i>	white sweet-clover	G5	SNA		
<i>Mentha arvensis</i>	field mint	G5	S5		
<i>Myosotis stricta</i>	small forget-me-not	G5	S5		
<i>Nepeta cataria</i>	catnip	GNR	SNA		
<i>Oenothera biennis</i>	common evening primrose	G5	S5		
<i>Onoclea sensibilis</i>	sensitive fern	G5	S5		
<i>Oxalis stricta</i>	European wood-sorrel	G5	S5		
<i>Oxybasis glauca ssp. glauca</i>	oak-leaved goosefoot	G5	SNA		
<i>Panicum capillare</i>	common panic grass	G5	S5		
<i>Parthenocissus quinquefolia</i>	Virginia creeper	G5	S4?		
<i>Persicaria hydropiperoides</i>	false water-pepper	G5	S5		
<i>Phalaris arundinacea</i>	reed canary grass	G5	S5		

Appendix F. List of Vascular Plants Observed on the 1972229 Ontario Ltd. Property (5329 Old Brock Road, City of Pickering)

SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Phleum pratense</i>	timothy	GNR	SNA		
<i>Phragmites australis</i>	common reed	G5T5	SNA		
<i>Picea glauca</i>	white spruce	G5	S5		
<i>Plantago lanceolata</i>	English plantain	G5	SNA		
<i>Plantago major</i>	common plantain	G5	S5		
<i>Poa annua</i>	annual bluegrass	GNR	SNA		
<i>Poa compressa</i>	Canada bluegrass	GNR	SNA		
<i>Poa palustris</i>	fowl bluegrass	G5	S5		
<i>Poa pratensis ssp. pratensis</i>	Kentucky bluegrass	G5T5	S5		
<i>Populus balsamifera</i>	balsam poplar	G5	S5		
<i>Populus grandidentata</i>	large-tooth aspen	G5	S5		
<i>Populus tremuloides</i>	trembling aspen	G5	S5		
<i>Potentilla recta</i>	common cinquefoil	GNR	SNA		
<i>Prunella vulgaris ssp. vulgaris</i>	self-heal	G5TU	SNA		
<i>Prunus serotina</i>	black cherry	G5	S5		
<i>Prunus virginiana</i>	choke cherry	G5	S5		
<i>Pteridium aquilinum</i>	eastern bracken fern	G5	S5		
<i>Quercus rubra</i>	red oak	G5	S5		
<i>Ranunculus acris</i>	common buttercup	G5	SNA		
<i>Ranunculus repens</i>	creeping buttercup	GNR	SNA		
<i>Ranunculus sceleratus</i>	cursed crowfoot	G5T5	SNA		
<i>Rhamnus cathartica</i>	common buckthorn	GNR	SNA		
<i>Rhus typhina</i>	staghorn sumac	G5	S5		
<i>Ribes cynosbati</i>	pasture gooseberry	G5	S5		
<i>Ribes hirtellum</i>	smooth gooseberry	G5	S5		
<i>Robinia pseudo-acacia</i>	black locust	G5	SNA		
<i>Rosa multiflora</i>	multiflora rose	GNR	SNA		
<i>Rubus idaeus ssp. idaeus</i>	wild red raspberry	G5T5	SNA		
<i>Rubus occidentalis</i>	black raspberry	G5	S5		
<i>Rumex crispus</i>	curly dock	GNR	SNA		

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SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Rumex obtusifolius</i>	great water dock	GNR	SNA		
<i>Salix bebbiana</i>	Bebb's willow	G5	S5		
<i>Salix discolor</i>	pussy willow	G5	S5		
<i>Salix eriocephala</i>	Missouri river willow	G5	S5		
<i>Salix fragilis</i>	crack willow	GNR	SNR		
<i>Salix petiolaris</i>	slender willow	G5	S5		
<i>Salix x rubens</i>	hybrid willow	GNR	SNA		
<i>Sambucus canadensis</i>	common elderberry	G5T5	S5		
<i>Sambucus racemosa</i>	red-berried elder	G5	S5		
<i>Saponaria officinalis</i>	bouncing bet	GNR	SNR		
<i>Scirpus atrovirens</i>	dark-green bulrush	G5?	S5		
<i>Setaria glauca</i>	yellow foxtail	GNR	SNA		
<i>Setaria viridis</i>	green foxtail	GNR	SNA		
<i>Solanum dulcamara</i>	deadly nightshade	GNR	SNA		
<i>Solidago altissima ssp. altissima</i>	tall goldenrod	GNR	S5		
<i>Solidago canadensis</i>	Canada goldenrod	G5T5	S5		
<i>Sonchus oleraceus</i>	common sow-thistle	GNR	SNA		
<i>Spiraea alba</i>	meadowsweet	G5	S5		
<i>Stellaria graminifolia</i>	grass-leaved stitchwort	GNR	SNA		
<i>Symphyotrichum cordifolium</i>	heart-leaved aster	G5	S5		
<i>Symphyotrichum novae-angliae</i>	New England aster	G5	S5		
<i>Symphyotrichum puniceum</i>	purple-stemmed aster	G5	S5		
<i>Syringa vulgaris</i>	common lilac	GNR	SNA		
<i>Taraxacum officinale</i>	common dandelion	G5	SNA		
<i>Thalictrum dioicum</i>	early meadow-rue	G5	S5		
<i>Thalictrum pubescens</i>	tall meadow-rue	G5	S5		
<i>Thelypteris palustris</i>	marsh fern	G5	S5		
<i>Thlaspi arvense</i>	field penny-cress	GNR	SNA		
<i>Thuja occidentalis</i>	eastern white cedar	G5	S5		
<i>Tilia americana</i>	basswood	G5	S5		

Appendix F. List of Vascular Plants Observed on the 1972229 Ontario Ltd. Property (5329 Old Brock Road, City of Pickering)

SCIENTIFIC NAME	COMMON NAME	G-RANK	S-RANK	SARA, 2002	ESA, 2007
<i>Toxicodendron radicans</i>	poison ivy	G5	S5		
<i>Tragopogon pratensis</i>	yellow goat's-beard	GNR	SNA		
<i>Trifolium campestre</i>	low hop clover	GNR	SNA		
<i>Trifolium pratense</i>	red clover	GNR	SNA		
<i>Trifolium repens</i>	white clover	GNR	SNA		
<i>Tussilago farfara</i>	colt's-foot	GNR	SNA		
<i>Typha angustifolia</i>	narrow-leaved cattail	GNR	SNA		
<i>Typha latifolia</i>	broad-leaved cattail	G5	S5		
<i>Ulmus americana</i>	American elm	G5?	S5		
<i>Urtica dioica ssp. dioica</i>	European stinging nettle	G5T5?	SNA		
<i>Verbascum thapsus</i>	common mullein	GNR	SNA		
<i>Verbena hastata</i>	blue vervain	G5	S5		
<i>Veronica officinalis</i>	common speedwell	G5	SNA		
<i>Viburnum acerifolium</i>	maple-leaf viburnum	G5	S5		
<i>Viburnum lentago</i>	nannyberry	G5	S5		
<i>Vicia cracca</i>	cow vetch	GNR	SNA		
<i>Viola cucullata</i>	marsh blue violet	G4G5	S5		
<i>Viola sororia</i>	woolly blue violet	G5	S5		
<i>Vitis riparia</i>	riverbank grape	G5	S5		

Legend

Provincial Rank (SRANK)

S1 - Critically Imperiled

S2 - Imperiled

S3 - Vulnerable

S4 - Apparently Secure

S5 - Secure

SNA - Non Applicable or equivalent to non-native

SARA, 2002

NAR - Not at Risk

SC - Special Concern

T - Threatened

E - Endangered

ESA, 2007

NAR - Not at Risk

SC - Special Concern

THR - Threatened

END - Endangered

**APPENDIX G – NATURAL HERITAGE INFORMATION CENTRE (NHIC)
ELEMENT OCCURRENCE RECORDS**

About Bookmarks Map Layers Find Information Markup & Printing Measure

 Search By Location
  Identify
  NHIC Report
  Clear Selection
  Pan
  Zoom In
  Zoom Out
  Initial View
  Previous Extent
  Next Extent
  Help

I want to...



NHIC Data

To work further with this data select the content and copy it into your own word or excel documents.

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	ATLAS NAD83 IDENT	COMMENTS
1034025	SPECIES	Redside Dace	<i>Clinostomus elongatus</i>		END	END	17PJ4971	
1034025	SPECIES	Bobolink	<i>Dolichonyx oryzivorus</i>		THR	THR	17PJ4971	



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Hint: Filter columns using

OGF ID	Wetland Type	Evaluated Wetland Indicator	Evaluated Wetland Object ID	Evaluated Wetland Name	Wetland Significance	Coas
67148101	Marsh	No				No
127728275	Marsh	No				No
112467100	Marsh	Yes	1201560890	Glen Major Wetland Complex	Evaluated-Provincial	No
112467092	Swamp	Yes	1201560890	Glen Major Wetland Complex	Evaluated-Provincial	No
112467098	Swamp	Yes	1201560890	Glen Major Wetland Complex	Evaluated-Provincial	No
127718394	Swamp	No				No
67148195	Swamp	No				No
67148215	Swamp	No				No
67150566	Unknown	No				No

LIO Glen Major Wetland Complex (PSW) Swamp (crop)



subject property (approx.)



Search data and map

Wetlands

OGF ID: 112467100

Wetland Type: Marsh

Evaluated Wetland Indicator: Yes

Evaluated Wetland Object ID: 1201560890

Evaluated Wetland Name: Glen Major Wetland Complex

Wetland Significance: Evaluated-Provincial

Zoom to

Overview Data API Explorer

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Hint: Filter columns using

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LIO Glen Major Wetland Complex (PSW) Marsh (crop)



subject property (approx.)