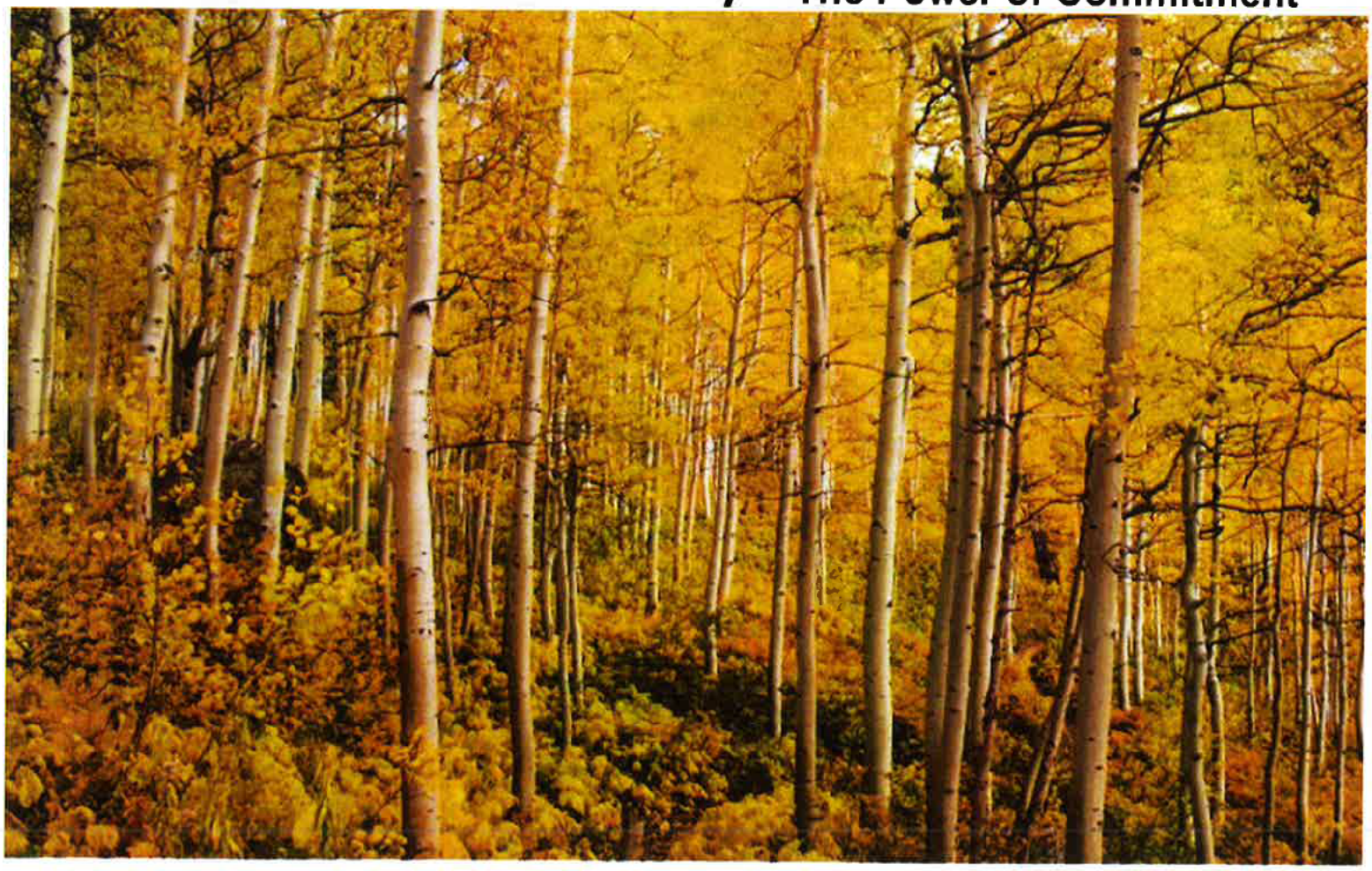
Environmental Impact Assessment – Zoning By-Law Amendment

6678 Wellington Rd. 34
Township of Puslinch

2374868 Ontario Inc.

May 9, 2022

→ The Power of Commitment



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Document title		Environmental Impact Assessment – Zoning By-Law Amendment | 6678 Wellington Rd. 34 Township of Puslinch						
Project number		11210029						
File name		11210029-01-RPT-8-Environmental Impact Assessment Rezoning Application						
Status Code	Revision	Author	Reviewer		Approved for issue			
			Name	Signature	Name	Signature	Date	
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Executive Summary

GHD Limited was retained to complete an Environmental Impact Assessment (EIA) as part of the requirements for a Zoning By-law Amendment Application for the northern portion of a property located at 6678 Wellington Rd. 34 within the Township of Puslinch, County of Wellington. The Subject Lands encompasses the northern portion of the property within the Extractive Industrial zoned area.

The Subject Lands are rectangular in shape and the Study Area is defined as the Subject Lands and lands within 120 meters. The Subject Lands are currently used for the beneficial reuse of imported inert (meet Table 1 Background Standards) soils as part of the permitted rehabilitation activities for a former aggregate pit.

The Study Area contains the Wellington County Greenlands (Schedule A7: Wellington County Official Plan, 2021). The confirmation of the status of the woodland and the functions regarding the woodland and Greenlands is important to verify. The Study Area is also within the Paris Galt Moraine Policy Area and is subject to the Growth Plan for the Greater Golden Horseshoe. The Study Area contains portions of the Oil Well Bog Little Tract ANSI, with the closest Provincially Significant Wetland, Cranberry Oil Well Bog over 120-meter east of the Subject Lands.

An EIA is required as part of the supporting documentation for the proposed zoning by-law amendment as the property contains portions of the Wellington County Greenlands.

GHD biologists attended the Subject Lands on November 9th, 2021 & April 5th, 2022, to document vegetation and complete Ecological Land Classification (ELC), search for Species at Risk (SAR) and their habitats and confirm the presence or absence of Significant Wildlife Habitat. None of the bird species detected during GHD's area search for birds was considered significant on a national and provincial level. Candidate and Confirmed Significant Wildlife Habitat (Woodland Area Sensitive Bird Breeding Habitat (Candidate), Special Concern and rare wildlife species (Candidate), Deer winter congregation area (Confirmed), bat maternity colonies (Candidate) were identified within the Study Area. No federal, provincial, or regionally significant plant or wildlife species were identified on the Subject Lands. Additionally, no sensitive vegetation communities or provincially rare ecological communities were found in the Study Area.

Three areas within the Study Area were forested, classified in various types including deciduous, coniferous and mixed forest. The Greenlands system encompassed the woodlands to the east of the Subject Lands. Only the woodlands to the east and south were considered Significant woodlands based on the County of Wellington policies.

The land use will remain the same, as a hydrovac operation, with continued rehabilitation of the Subject Lands to agricultural use similar to the areas which have been already rehabilitated. No significant negative impacts are anticipated on the adjacent woodland and ANSI. The approved Rehabilitation Plan (**Appendix B**) includes use of imported soil for fill, grading and drainage, and vegetation planting in rehabilitated areas. The addition of trees also will enhance the woodlot and ANSI and provide additional protection to the PSW and ANSI while creating additional opportunity for wildlife.

The proposed zoning by-law amendment for the Subject Lands to include all of the hydro-vac operations will not result in significant negative impacts on the identified natural heritage features provided the mitigation outlined in Section 6.0 are implemented. GHD's recommendations have been made to address potential impacts to natural features and/or their functions.

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1. Introduction

1.1 Background

GHD Limited (GHD) has been retained to complete an Environmental Impact Assessment (EIA) as part of the requirements for a By-Law Amendment Application for the northern portion of the property located at 6678 Wellington Rd. 34 within the Township of Puslinch, County of Wellington, Ontario (Subject Lands) (**Figure 1**). This area is currently used for the beneficial reuse of imported inert (meet Table 1 Background Standards) soils as part of the permitted rehabilitation activities for the former aggregate pit.

The property owner currently has an agreement with Capital Paving to allow beneficial reuse of imported soils as part of the permitted rehabilitation activities for a former on-site aggregate pit. These soils are being brought to the Subject Lands by a hydrovac operation through 2374868 Ontario Incorporated. The Subject Lands are zoned as Extractive Industrial on the northern half within the associated Aggregate license area, according to the Township of Puslinch Zoning by-law No. 023-18 Schedule "A". The proposed use for the hydrovac services will require a zoning by-law amendment (to include Commercial use) to ensure proper compliance in land use for the current operation. The zoning by-law amendement is anticipated to be applied to the existing lands associated with the hydrovac operation.

The literature review identified the potential presence of Significant Wildlife Habitat (white-tailed deer wintering area), potential habitat of Species at Risk (birds, bats, other wildlife, butternut trees), Wellington County-Greenlands, Woodland, ANSI-Oil Well Bog Little Tract and Wildlife Corridor functions on or within 120 m of the property. An EIA is required as supporting documentation for the proposed zoning by-law amendment for compliance of the existing uses of the property as the property contains portions of the Wellington County Greenlands.

The Terms of Reference (TOR) completed in December 2021 and provided as **Appendix A,** proposed the inclusion of in-season breeding bird surveys and two-season vegetation surveys. Based on the results of the background screening, findings of the November 2021 and April 2022 site visits and limitations of "development" to re-zoning, these additional in-season surveys are no longer deemed necessary to evaluate potential impacts to the natural environment as a result of continued land use under a new zoning classification.

1.2 Location and Study Area

The Subject Lands encompass the northern portion of the property within the Extractive Industrial zoned area. The Subject Lands are rectangular in shape and identified on the north side of Wellington Rd. 34. The features identified in the Study Area included pasturelands and deciduous/mixed forest encompassing the eastern boundary. The central woodland overlapping the Subject Lands was a deciduous forest pocket of sugar maple and beech. Areas within the extraction lands are in a state of rehabilitation with areas of disturbed cultural meadow.

The adjacent property land use to the west is an operating aggregate extraction pit, to the north is agricultural land, to the east is forested land, and to the south are residential and agricultural lands. The Subject Lands, for purposes of this EIA will include the Extractive Industrial zoned area (EXI), northern half of the property, with the Study Area including the surrounding 120-meter adjacent lands (**Figure 2**).

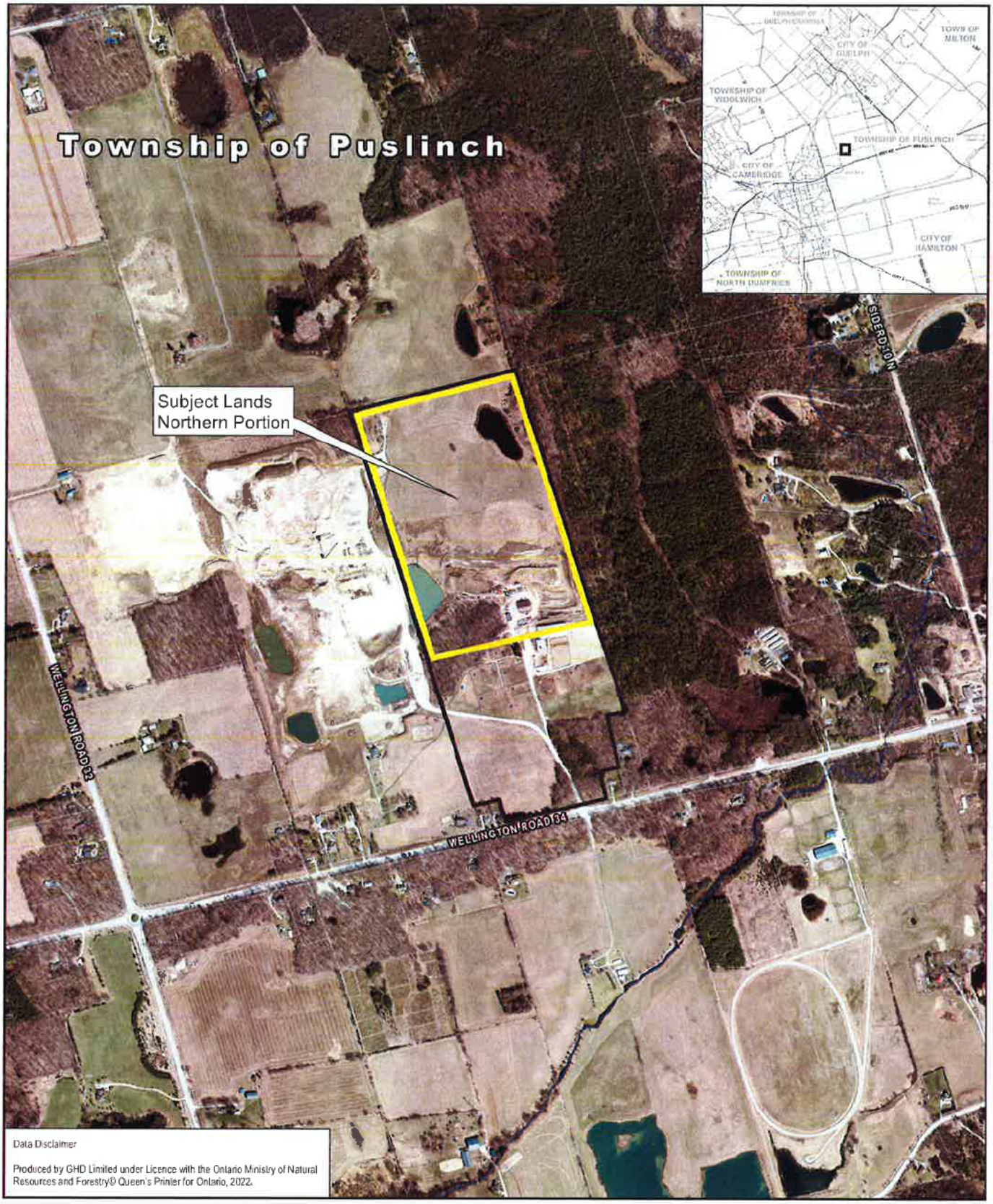
1.3 Study Rationale

This section identifies federal, provincial and other regulatory legislation, policies, official plans (OP) and OP amendments that are applicable and relevant to the Study Area and the immediate vicinity. This includes policies that triggered the study. These documents may identify natural features, Species at Risk and other habitat as well as other features relevant to this study.

The Study Area contains the Wellington County Greenlands (Schedule A7: Wellington County Official Plan, 2021). The confirmation of the status of the woodland and the functions regarding the woodland and Greenlands is important to verify. The Study Area is also within the Paris Galt Moraine Policy Area and is subject to the Growth Plan for the

Greater Golden Horseshoe. The Study Area contains portions of the Oil Well Bog Little Tract ANSI, with the closest Provincially Significant Wetland, Cranberry Oil Well Bog approximately 30 meters east of the Study Area.

An EIA is required as part of the supporting documentation for the proposed zoning by-law amendment as the Subject Lands contain portions of the Wellington County Greenlands.



Data Disclaimer

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1 cm = 120 meters

0 80 160 240 320

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

2374868 Ontario Inc.
6678 Wellington Road 34, Puslinch, ON
Puslinch Township
County of Wellington

Environmental Impact Assessment

Site Location Plan

Project No. 11210029
Revision No.
Date Apr 26, 2022

Figure 1

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Print date: 26 Apr 2022 - 09:10

Data source: © Township of Puslinch, 2020.

1.3.1 Federal Legislation

Migratory Birds Convention Act, 1994 (S.C. 1994, c.22)

The purpose of the Migratory Birds Convention Act (MBCA 1994) is to implement the Convention by protecting and conserving migratory birds — as populations and individual birds — and their nests.

No work is permitted to proceed that would result in the destruction of active nests (i.e., nests with eggs or young birds), or the wounding or killing of bird species protected under the MBCA and/or Regulations under that Act.

1.3.2 Provincial Legislation

Endangered Species Act, 2007

The purposes of the Ontario Endangered Species Act (ESA 2007) are to:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk;
- To promote stewardship activities to assist in the protection and recovery of species that are at risk. 2007, c. 6, s. 1. (Government of Ontario, 2019)

The ESA clearly defines the five classifications of species status as extinct, extirpated, endangered, threatened, or special concern, and provides guidelines on the process of species status determination.

Regulations made under this Act include: Ontario Regulation 230/08 and 242/08. Ontario Regulation 230/08 provides the list of Species at Risk (SAR) in Ontario, which is updated regularly. This list was most recently consolidated on August 1, 2018. Species status provided in the list is assessed by an independent body, the Committee on the Status of Species at Risk in Ontario (COSSARO), based on the best-available science and Indigenous Traditional Knowledge.

Provincial Policy Statement, 2020

The Provincial Policy Statement, 2020 (PPS) is the statement of the Ontario government's policies on land use planning. It applies province-wide (in the province of Ontario) and provides provincial policy direction on land use planning. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters. The PPS is issued under Section 3 of the Planning Act and all decisions affecting land use planning matters shall be consistent with' the Provincial Policy Statement (Government of Ontario, 2020).

Portions of Sections 2.1.4-2.1.8 of the Provincial Policy Statement (PPS 2020) apply to this project.

2.1.4 Development and site alteration shall not be permitted in:

a. significant wetlands in Ecoregions 5E, 6E and 7E1; and

2.1.5 Development and site alteration shall not be permitted n:

b. significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River)1;

c. significant wildlife habitat;

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 identified 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.

ANSI-Oil Well Bog Little Tract is adjacent to the Subject Lands. To comply with Sections 2.1.4 and 2.1.5, alteration of the Subject Lands must not negatively impact the feature or its function (PPS 2020).

Woodlands are present on the eastern and southern borders of the Subject Lands. To comply with section 2.1.4 and 2.1.6. of the PPS (2020), development or alteration on lands within or adjacent to Significant Woodlands are not permitted unless it is demonstrated that there will be no negative impact to the feature or its function.

In addition, Significant Wildlife Habitat (SWH) is a Key Natural Heritage Feature in the PPS, and development or alteration of lands on or within SWH is prohibited. Potential SWH of deer overwinter habitat has been identified within the forests to the east. An EIA is required to demonstrate that the proposed works will not negatively effect any of the features or their ecological functions.

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020

A Place to Grow: Growth Plan for the Greater Golden Horseshoe 2020 came into effect on August 28th, 2020 replacing the Growth Plan for the Greater Golden Horseshoe 2017. The 2020 Growth Plan for the Greater Golden Horseshoe (Growth Plan) is a strategic, long-range, comprehensive and integrated approach to guide future growth in Ontario. It includes planning for infrastructure, land use, economic development, and population health (OMMAH 2020). The Study Area does not fall within an identified settlement area; as a result, the portions of Sections 4.2.2 and 4.2.3 of the Growth Plan 2020 referencing the Natural Heritage System for the Growth Plan are applicable to the Study Area. Section 4.2.4 and 4.2.8 of the Growth Plan (2020) is also applicable.

Section 4.2.2 States:

> *1. A Natural Heritage System for the Growth Plan has been mapped by the Province to support a comprehensive, integrated, and long-term approach to planning for the protection of the region's natural heritage and biodiversity. The Natural Heritage System for the Growth Plan excludes lands within settlement area boundaries that were approved and in effect as of July 1, 2017.*
>
> *2. Municipalities will incorporate the Natural Heritage System for the Growth Plan as an overlay in official plans, and will apply appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or hydrologic functions of the features and areas as set out in the policies in this subsection and the policies in subsections 4.2.3 and 4.2.4.*

Section 4.2.3 States:

> *Outside of settlement areas, development or site alteration is not permitted in key natural heritage features that are part of the Natural Heritage System for the Growth Plan or in key hydrologic features, except for:*
>
> *a) forest, fish, and wildlife management;*
>
> *b) conservation and flood or erosion control projects, but only if they have been demonstrated to be necessary in the public interest and after all alternatives have been considered;*
>
> *c) activities that create or maintain infrastructure authorized under an environmental assessment process;*
>
> *d) mineral aggregate operations and wayside pits and quarries;*
>
> *e) expansions to existing buildings and structures, accessory structures and uses, and conversions of legally existing uses which bring the use more into conformity with this Plan, subject to demonstration that the use does not expand into the key hydrologic feature or key natural heritage feature or vegetative protection zone unless there is no other alternative, in which case any expansion will be limited in scope and kept within close geographical proximity to the existing structure;*
>
> *f) expansions or alterations to existing buildings and structures for agricultural uses, agriculture-related uses, or on-farm diversified uses and expansions to existing residential dwellings if it is demonstrated that: i. there is no alternative, and the expansion or alteration in the feature is minimized and, in the vegetation protection zone, is directed away from the feature to the maximum extent possible; and ii. the impact of the expansion or alteration on the feature and its functions is minimized and mitigated to the maximum extent possible; and*

g) small-scale structures for recreational uses, including boardwalks, footbridges, fences, docks, and picnic facilities, if measures are taken to minimize the number of such structures and their negative impacts

Section 4.2.4 States

1. settlement areas, a proposal for new development or site alteration within 120 metres of a key natural heritage feature within the Natural Heritage System for the Growth Plan or a key hydrologic feature will require a natural heritage evaluation or hydrologic evaluation that identifies a vegetation protection zone, which:

a) is of sufficient width to protect the key natural heritage feature or key hydrologic feature and its functions from the impacts of the proposed change;

b) is established to achieve and be maintained as natural self-sustaining vegetation; and

c) for key hydrologic features, fish habitat, and significant woodlands, is no less than 30 metres measured from the outside boundary of the key natural heritage feature or key hydrologic feature

2. Evaluations undertaken in accordance with policy 4.2.4.1 will identify any additional restrictions to be applied before, during, and after development to protect the hydrologic functions and ecological functions of the feature

3. *Development or site alteration is not permitted in the vegetation protection zone, with the exception of that described in policy 4.2.3.1 or shoreline development as permitted in accordance with policy 4.2.4.5.*

Section 4.2.8 (7) identifies *where an application under the Aggregate Resources Act has been received and deemed complete by the Province as of July 1, 2017, any applications under the Planning Act to permit the making, establishment or operation of the pit or quarry to which the Aggregate Resources Act application relates, if approved, will not be subject to to the policies of this Plan*

Paris Galt Marine Conservation Act, 2019

The Paris Galt Marine Conservation Act 2019 came into effect on February 20, 2019. The Act amends the Paris Galt Moraine Conservation Plan and addresses ecological conservation concerns for the Paris Galt Moraine Area, such as planning for land use, maintaining ecological and hydrological function and integrity, and extraction of resources and sprawl (Legislative Assembly of Ontario 2019).

As identified within Section 4 of the Paris Galt Moraine Conservation Plan

The objectives of the Paris Galt Moraine Conservation Plan are,

a) *protecting the ecological and hydrological integrity of the Paris Galt Moraine Area;*

b) *ensuring that only land and resource uses that maintain, improve or restore the ecological and hydrological functions of the Paris Galt Moraine Area are permitted;*

c) *maintaining, improving and restoring all the elements that contribute to ecological and hydrological functions of the Paris Galt Moraine Area, including the quality and quantity of its water;*

d) *ensuring that the Paris Galt Moraine Are is maintained as a contiguous natural landform and environment for the benefit of present and future generations;*

e) *providing for land and resource development that conforms with the objectives of the Plan and any applicable Ontario climate change plan;*

f) *providing for an approach to ecological and hydrological management that considers the cumulative impact of water use and future population growth on water needs, and that ensures water will be available for use as public drinking water for individuals and communities in the area;*

g) *restricting the extraction of mineral aggregates that are below the water table; and*

h) *any other prescribed objectives.*

1.3.3 Local and Other Regulatory Bodies

Wellington County (July 2021 Office Consolidation)

In the 2021 Wellington County Official Plan (OP) Office Consolidation, the Subject Lands are designated as "Greenlands" and "Secondary Agriculture" (Schedule A7, Puslinch). The Subject Lands also fall within Paris Galt Moraine Policy Area (Schedule B7, Puslinch Township). As such, sections 5.5.4, 10.2.2 and schedule A7 (Significant Woodlands), sections 5.6.3. (ANSI), as well as 5.6.1, 5.6.2, 5.6.5 and Schedule A7 (Core Greenlands and Greenlands) apply to this project. An EIA report is required in accordance with the County's Official Plan section 4.6.3, as the proposed site alteration is within 120 m of significant natural heritage features.

Under the OP, significant woodlands can be identified as woodlands over 4 ha and plantations over 10 ha.

Township of Puslinch Zoning by-law No. 023-18 Schedule "A"

According to by-law No. 023-18 Schedule "A", the northern part of the property (the Subject Lands for the purposes of this EIA) is currently zoned as EXI from the associated Aggregate license. To ensure compliance with this bylaw, the zoning requires an amendment to Commercial use for the proposed addition of hydrovac services to the current operation.

Section 2.0 of the by-law defines the relevant zones as follows:

> *"Extractive Industrial (EXI)- Provides for and regulates land that may be included within a license issued by the Ministry of Natural Resources and Forestry.*
>
> *Commercial use (C)- Provides for and regulates local commercial uses in the in the H*
>
> *amlet of Arkell"*

Section 8.0 and 9.0 of the by-law sets out the permitted uses and zone standards and requirements for C and EXI zones, respectively. Grand River Conservation Authority

The conservation authority whose jurisdiction the Study Area falls under is Grand River Conservation Authority (GRCA), however the Study Area is not within a regulated area and therefore a permit is not required from the GRCA.

1.4 Scope and limitations

This report has been prepared by GHD for *[Client]* and may only be used and relied on by *[Client]* for the purpose agreed between GHD and *[Client]* as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than *[Client]* arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

1.5 Other Resources Referenced

Prior to field surveys, background information for the Study Area and surrounding lands from a variety of sources was reviewed to provide context for the setting and sensitivity of the site. Background information sources included:

1.5.1 Data Sources

- Aerial imagery
- MNRF Land Information Ontario (LIO) database mapping and Natural Heritage Information Centre (NHIC) Make-a-map tool (2021)
- GRCA map your Property tool (2022)
- Ontario Breeding Bird Atlas data (Bird Studies Canada, (BSC) 2001-2005 field data)
- Fisheries and Oceans Canada (DFO) Aquatic Species at Risk Map
- Ontario Insects (Ontario Nature)
- Ontario Reptile and Amphibian Atlas (Ontario Nature)

1.5.2 Literature and Resources

- Natural Heritage Reference Manual (MNRF, 2010)
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Peterborough, 38pp. (OMNRF, 2015)

1.6 Description of Zoning Amendment

The proposed zoning amendment is to add the use of the hydrovac services from 2374868 Ontario Incorporated, used to dispose of separated soils from the on-site aggregate pit, which are currently existing. These soils will continue to be used as part of the rehabilitation plans for the Subject Lands from an old Aggregate license. The Rehabilitation plan includes spreading of topsoil and planting within terrestrial and created/existing ponds (**Appendix B**).

1.6.1 Scope of Report

As mentioned in Section 1.1 of this Report a TOR was completed for the proposed work plan for this EIA, however based on the timing of the field visit in Nov 2021 and early April 2022, the scope of field work was modified slightly (**Appendix A**).

The scope of work for the project included the following:

- Description of current and proposed land uses
- Ecological Land Classification (ELC) mapping of vegetation communities
- An assessment of Species at Risk habitat
- Assessment of ecological functions of the woodland
- Assessment of candidate Significant Wildlife Habitat
- Mitigation recommendations
- Identification of the significant natural features and any buffers/setbacks as required

This report will only deal with the suitability of the Subject Lands from a ecological perspective and the constraints due to the presence of the key natural heritage features. Further, the scope of this EIA is limited to an ecological assessment of the northern portion of the property for rezoning purposes. Any other approvals or constraints due to zoning, flood and fill regulations, health regulations, archaeology, slope stability studies, minimum distance separation or other approvals for the municipality and other agencies are the responsibility of the owner.

2. Study Methods

2.1 General Approach

Our approach to preparation of the EIA consisted of three distinct phases.

In the first phase we collected and reviewed available information on the Subject Lands including recent air photography, Ministry of Northern Development, Mines, Natural Resources and Forest (NDMNRF) key natural features GIS mapping, wetland mapping, Official plan schedules and other correspondence or files available from the County, Township or NDMNRF. The TOR (**Appendix A**), as required by the County of Wellington, was also part of this phase, and provided a framework for our work plan and the completion of the EIA. It should be noted that due to the timing of the field visit in early April, Breeding Bird surveys were not included as part of the field component for this EIA.

The second phase consisted of site visits by our biologist to confirm the data collected in the literature review and obtained the boundaries of any natural features. Surveys included site visits that encompassed ELC mapping, vegetation community boundaries, and the presence of significant species including Species at Risk and their habitat. The significance of the features and the ecological functions were determined during field surveys.

The third phase was the preparation of an EIA with site-specific mitigation measures for protecting the natural features, sensitive species, and other natural features within the Study Area. Recommendations regarding the woodland, ANSI and Greenlands System were included. This report also included figures that show the location of all the natural features, and other mitigation measures and recommendations.

2.2 Study Site Methodology

2.2.1 Physical Site Characteristics

Site characteristics were assessed during field visits. This assessment included general documentation of existing disturbances, current property use, topography and natural features.

2.2.2 Biophysical Inventory

2.2.2.1 Level of Effort

A summary of surveys with natural environment conditions and level of effort has been provided in **Table 1**. The surveys were completed within the Subject Lands by GHD biologists according to methodologies outlined in the sections below.

Table 1 Surveys - Level of Effort

Survey Date	Survey Type	Weather	Start Time	Effort (person hrs.)
November 9, 2021	Preliminary assessment of SAR habitat, ELC, incidental wildlife	6°C, Cloud cover 10%, Beaufort Wind Scale 1, no precipitation	9:00 AM	3.75
April 5, 2022	ELC, assessment of SAR habitat, assessment of ecological functions of the woodland, assessment of candidate SWH	16°C, Cloud cover 0%, Beaufort Wind Scale 1, no precipitation	8:30 AM	12

2.2.2.2 Vegetation

ELC Survey Method

All vegetation encountered within the Subject Lands was inventoried during the site visits. Delineation and classification of the vegetation community types was based on the ELC for Southern Ontario (Lee et al., 1998). General notes on disturbance, topography and the state of each community were also compiled. All vegetation communities in the Study Area were included.

Rare, significant, or uncommon species were searched for. Species significance or rarity on a national, provincial, regional or local level was based on published literature and standard status lists. These included SARA (2021), COSEWIC (2021), COSSARO (2020) and Riley (1989).

2.2.2.3 Wildlife

Area Searches

While GHD was on site conducting surveys of vegetation communities observations of any wildlife encountered were recorded (including birds, mammals, amphibians and reptiles). Documentation included notes about the species detected, their location and the type of encounter (i.e., direct sightings and indirect evidence such as calls, tracks, scat, burrows, dens, trails and browse).

2.2.2.4 Significant Wildlife Habitat (SWH)

Prior to the site visits, a candidate list of SWH features were determined based on the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E, 2015. During site visits, GHD biologists looked for evidence of those candidate significant wildlife habitat features (i.e., to determine presence/absence). Upon compiling field data, further consideration was given to which candidate SWHs could be confirmed as present within the Subject lands.

3. Survey Results

The following section presents GHD site-specific survey data only. Supporting information, the background review and other sources of information will be presented and discussed in Section 4.0 – Discussion and Analysis.

3.1 Physical Site Characteristics

The Subject Lands can be described as generally flat wth some rolling topography within the woodlands and a steeper decline with the southwest corner of the Subject Lands. The Subject Lands contained the hydrovac business and associated office on the southern portions. Cultural field meadow, cultural thicket and active hay fields were all identified within the boundary of the Subject Lands. A large forested area containing mixed, coniferous and deciduous forest types was identified to the east of the Subject Lands, with deciduous forest to the north-west and south-west. Two ponds were identified within the boundary of the Subject Lands, one used as an active stormwater management pond for the hydrovac business, with the other an open aquatic pond.

3.2 Biological Inventories

3.2.1 Vegetation

The vegetation communities were delineated within the Study Area according to methodologies outlined in Section 3.2.1.1.

3.2.1.1 ELC Code Descriptions

Seven vegetation communities were identified within the Study Area. The community is described below and illustrated in a photographic inventory (**Appendix C**).

A total of 50 plant species were identified during field surveys. The dominant species in each community are described below and a complete plant list is found in **Appendix D.**

Dry - Fresh White Pine - Sugar Maple Mixed Forest Type (FOM2-2)

This community type was identified to the northeast of the Subject lands, within the forested area continuous with the ANSI-Oil Well Bog Little Tract. This upland area had a mix of sugar maple (*Acer saccharum*), red pine (*Pinus resinosa*), eastern white pine (*Pinus strobus*), European buckthorn (*Rhamnus cathartica*) and black cherry (*Prunus serotina var. serotina*).

Dry - Fresh Sugar Maple Deciduous Forest Ecosite (FOD5)

This community was found in three areas around the Subject Lands, one being in the southeast corner, another on the west side of the Subject Lands, near the southern limits of the EXI zoned area and to the west of the Subject Lands at the northwest corner. This community was densely dominated by sugar maple (*Acer saccharum*). Other species identified included American beech (*Fagus* sp.), ironwood (*Ostrya virginiana*), American basswood (*Tilia americana*) and common lilac (*Syringa vulgaris*).

Dry - Fresh White Pine - Red Pine Coniferous Forest Type (FOC1-2)

This community was identified within the area running along the eastern edge of the Subject Lands. The dominant tree species identified here included eastern white pine (*Pinus strobus*) and red pine.

Open Aquatic (OAO)

This anthropogenic pond was identified in the northeast corner of the Subject Lands. The pond contained no recorded submergent vegetation, with willow species identified around the perimeter. The pond was identified as being approximately 2 meters deep with no online connection, and was used for recreational purposes.

Dry - Moist Old Field Meadow Type (CUM1-1)

The area to the west of the fill piles, north of the FOD5 woodland and south of the hayfield near the northern limits of the Subject Lands, was identified as CUM1-1. This area showed signs of heavy disturbance comprised of long stemmed grasses and the other of species such as Russian knapweed (*Rhaponticum repens*), Canada goldenrod (*Solidago canadensis*) and bull thistle *(Cirsium vulgare*).

Mineral Cultural Thicket Ecosite (CUT1)

This community type was identified in the northeastern corner of the parcel, between the pond to the north and the eastern limit of the Subject Lands. Dominant species included staghorn sumac (*Rhus typhina*), eastern red cedar (*Juniperus virginiana var. virginiana*), eastern white cedar (*Thuja occidentalis*) and white spruce (*Picea glauca*). Willows (*Salix ssp*) also bordered the pond.

Pasturelands (No ELC Code applicable)

This community was comprised of pasturelands used for the horses that existed onsite as part of the equestrian centre up until summer of 2021. This area was identified to the west of the existing driveway and north of Wellington Rd 34. The majority of the vegetation here was comprised of long stemmed grasses typically grown in pastures, however has been maintained upon the removal of the horses.

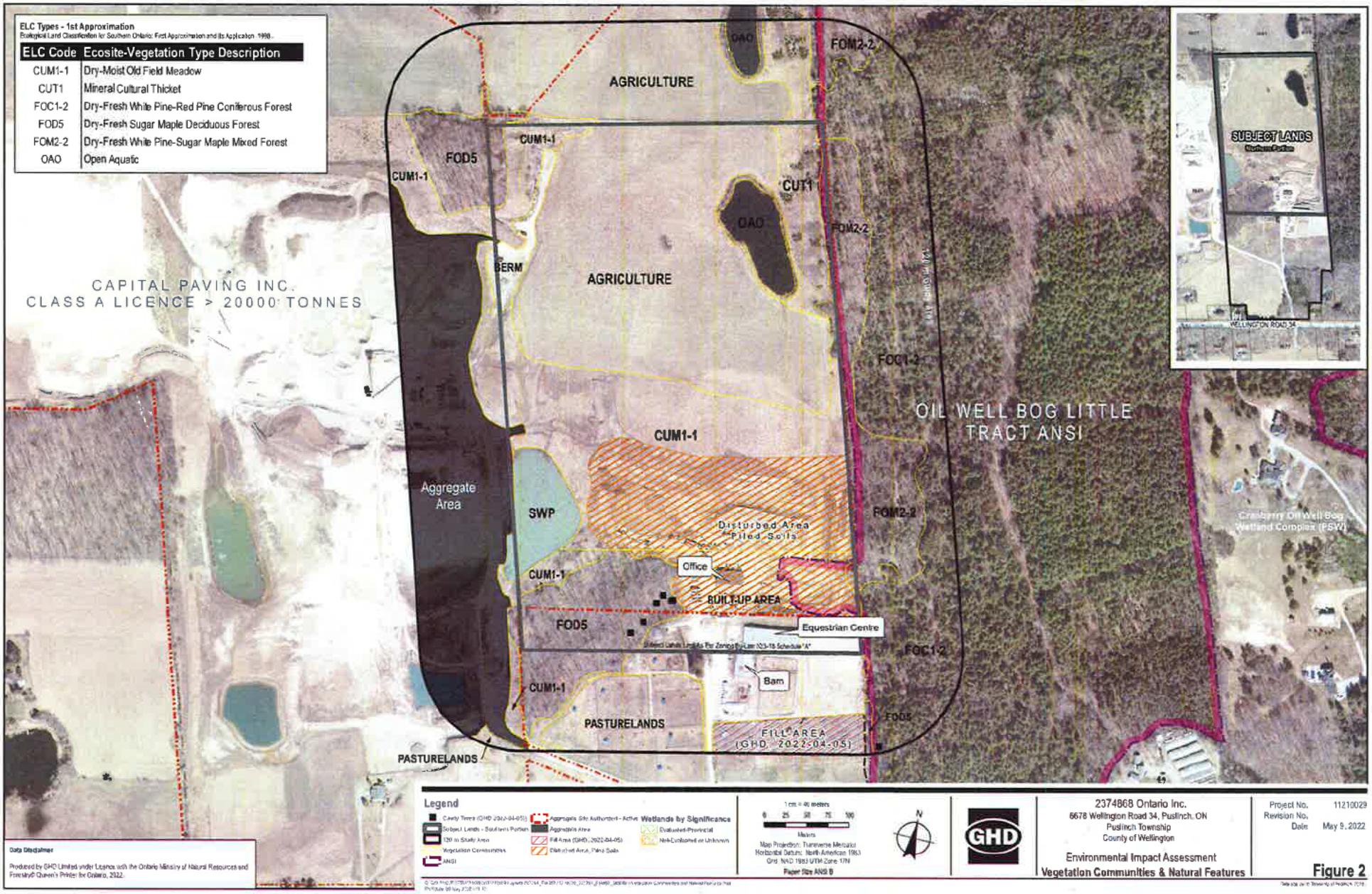
3.2.2 Birds

3.2.2.1 Incidental Bird Observations

Twenty bird species were identified within the Study Area which included a range of common species including killdeer (*Charadrius vociferus*), ring-billed gull (*Larus delawarensis*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescence*), blue jay (*Cyanocitta cristata*), black-capped chickadee (*Poecile atricapilla*), American robin (*Turdus migratorius*), song sparrow (*Melospiza melodia*) and northern cardinal (*Cardinalis cardinalis*). Other birds were identified flying over the Subject Lands and included turkey vulture (*Catharrtes aura*), sandhill crane (*Grus canadensis*) and Canada goose (*Branta canadensis*). A full list of all birds encountered are summarized in **Appendix E**.

3.2.3 Other Wildlife

Only three other wildlife species were identified on the Subject Lands during area searches, which included visual observation of eastern cottontail (*Sylvilagus floridanus*) and eastern gray squirrel (*Sciurus carolinensis*), and scat identified to belong to eastern coyote (*Canis latrans*).


ELC Types - 1st Approximation
Ecological Land Classification for Southern Ontario: First Approximation and its Application 1998
ELC Code | Ecosite-Vegetation Type Description
CUM1-1 | Dry-Moist Old Field Meadow
CUT1 | Mineral Cultural Thicket
FOC1-2 | Dry-Fresh White Pine-Red Pine Coniferous Forest
FOD5 | Dry-Fresh Sugar Maple Deciduous Forest
FOM2-2 | Dry-Fresh White Pine-Sugar Maple Mixed Forest
OAO | Open Aquatic
AGRICULTURE
CUM1-1
FOD5
CUT1
OAO
FOM2-2
BERM
120 m Study Area
CAPITAL PAVING INC.
CLASS A LICENCE > 20000 TONNES
OIL WELL BOG LITTLE TRACT ANSI
Aggregate Area
SWP
Disturbed Area Piled Soils
Office
BUILT-UP AREA
Equestrian Centre
Subject Lands Limit As Per Zoning By-Law 103-18 Schedule "A"
Barn
PASTURELANDS
FILL AREA (GHD 2022-04-05)
SUBJECT LANDS
WELLINGTON ROAD 34
Cranberry Oil Well Bog Wetland Complex (PSW)
Data Disclaimer
Produced by GHD Limited under Licence with the Ontario Ministry of Natural Resources and Forestry© Queen's Printer for Ontario, 2022.
Legend
Cavity Trees (GHD 2022-04-05)
Subject Lands - Southern Portion
120 m Study Area
Vegetation Communities
ANSI
Aggregate Site Authorized - Active
Aggregate Area
Fill Area (GHD, 2022-04-05)
Disturbed Area, Piled Soils
Wetlands by Significance
Evaluated-Provincial
Non-Evaluated or Unknown
1 cm = 40 meters
0 25 50 75 100
Meters
Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N
Paper Size ANSI B
N
GHD
2374868 Ontario Inc.
6678 Wellington Road 34, Puslinch, ON
Puslinch Township
County of Wellington
Environmental Impact Assessment
Vegetation Communities & Natural Features
Project No. 11210029
Revision No.
Date May 9, 2022
Figure 2

4. Discussion and Analysis

4.1 Species and Communities

4.1.1 Vegetation

GHD identified no vegetation species that were classified as federally and/or provincially rare in the Subject Lands (SARA 2021; COSEWIC 2021; COSSARO 2020). Additionally, no regionally rare plant species (Riley, 1989) were detected within the Subject Lands.

None of the ecological communities (i.e., ELC ecosites or vegetation communities) found in the Study Area are considered provincially rare (NHIC, 2021).

Data from NHIC was reviewed in the general area of the Study Area, which documented the potential presence of SAR species. Butternut, an endangered species provincially and federally (COSSARO, 2020; COSEWIC, 2021) was identified in the literature. The detailed botanical inventories of the Subject Lands identified no butternut trees (**Appendix F**).

4.1.2 Birds

None of the bird species detected during GHD's area search for birds was considered significant on a national or provincial level (COSEWIC, 2021; COSSARO, 2020). See **Appendix F** for the full list of species identified in the literature review.

One species detected during field inventories was area-sensitive as per MNRF Significant Wildlife Habitat Technical Guide (2015) definitions, red-breasted nuthatch (*Sitta canadensis).* This bird was identified using the adjacent forest and ANSI to the east of the Subject Lands. Area-sensitive species are those that require a minimum area of suitable habitat to successfully breed.

Data from other sources (NHIC, OBBA) have also been used to get a picture of avifauna that may be present within the Study Area. Those species that were identified as containing a moderate or high likelihood for presence are listed below: barn swallow (*Hirundo rustica*), bobolink (*Dolichonyx oryzivorus*), eastern meadowlark (*Sturnella magna*), eastern wood-pewee (*Contopus virens*), wood thrush (*Hylocichla mustelina*), common nighthawk (*Chordeiles minor*), and grasshopper sparrow (*Ammodramus savannarum*).

Barn swallow is listed as a threatened species provincially and federally (COSSARO, 2020, COSEWIC, 2021). In Ontario, barn swallows breed in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared rights-of-way, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 1999). A newer barn existed within the Study Area however is actively used for storage and when not in use (doors closed) there are no openings or gaps for bird entrance. Additionally, no old or current nests were identified in the barn. This barn would not provide suitable habitat for barn swallow nesting.

Bank swallow is listed as a threatened species provincially and federally (COSSARO, 2020; COSEWIC, 2021). In Ontario, the bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and riverbanks, sand and gravel pits, and roadcuts. Nests are built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999). Surveys were targeted to look for soil piles that would provide suitable habitat for this species within the Study Area, however the Subject Lands are in active use with disturbances on-going, providing no opportunity for nesting birds.

Bobolink is listed as a threatened species provincially and federally (COSSARO, 2020; COSEWIC, 2021). In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Martin and Gavin 1995). The pasturelands are currently mainained and will be used for on-going agricultural practises. Additionally, the northern hayfields are actively farmed and will continue to be farmed, with no change in land use. The Old field meadow (CUM1-1) contained an abundance of typical weed species with grasses present as well, due to the abundance of weed species this habitat would likely not provide suitable habitat for bobolink. This community will remain, with the current land use unchanged.

Eastern meadowlark is listed as a threatened species provincially and federally (COSSARO, 2020; COSEWIC, 2021). In Ontario, eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2003). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970). The paturelands are currently mainained and will be used for on-going agricultural practises. Additionally, the northern hayfields are actively farmed and will continue to be farmed, with no change in land use. The Old field meadow (CUM1-1) contained an abundance of typical weed species with grasses present as well, due to the abundance of weed species this habitat would likely not provide suitable habitat for eastern meadowlark. This community will remain, with the current land use unchanged.

Eastern wood-pewee is listed as a special concern species provincially and federally (COSSARO, 2020; COSEWIC, 2021). The eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats but is most commonly associated with the mid-canopy of forest clearings, and edge habitat in deciduous and mixed forests. It also occurs in anthropogenic habitats that provide an open forested aspect such as parks and suburban neighborhoods. It prefers intermediate-age mature forest stands with little understory vegetation (COSEWIC 2012). Suitable habitat exists within the wooded communities within the Subject Lands and adjacent lands to the east.

Wood thrush is listed as a special concern species provincially and a threatened species federally (COSSARO, 2020; COSEWIC, 2021). In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than 16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012). Suitable habitat exists within the wooded communities within the Subject Lands and adjacent lands to the east.

Common nighthawk is listed as a special concern species provincially and threatened federally (COSSARO, 2020; COSEWIC, 2021). These aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bog ferns, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007). Due to the disturbed nature of the Subject Lands this would not provide suitable habitat for the common nighthawk.

Grasshopper sparrow is listed as a special concern species provincially and federally (COSSARO, 2020; COSEWIC, 2021). In Ontario, grasshopper sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC 2013). The pasturelands are currently mainained and will be used for on-going agricultural practises. Additionally, the northern hayfields are actively farmed and will continue to be farmed, with no change in land use. The Old field meadow (CUM1-1) contained an abundance of typical weed species with grasses present as well, due to the abundance of weed species this habitat would likely not provide suitable habitat for grasshopper sparrow. This community will remain, with the current land use unchanged.

4.1.3 Other Wildlife

No other federal or provincial species at risk were recorded on the Subject Lands during the site visit (SARA 2021; COSEWIC 2021; COSSARO, 2020).

Data from NHIC identified the potential presence of three provincially and federally endangered bat species; Little Brown Myotis (*Myotis lucifugus*), tri-colored bat (*Eastern pipistrelle*), Northern myotis (*Myotis septentrionalis*).

Little Brown Myotis will roost in both natural and man-made structures. They require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas (Lacki, 2007). May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used for hibernaculum, but high humidity and stable above freezing temperatures are required. Although a few cavity trees were identified along the eastern border of the Subject Lands (within the adjacent ANSI and Little Tract Forest) **(Figure 2)** the trees were not in significant stages of decay. Additionally, no habitat for hibernaculum or nursery colonies were identified with the absence of caves or abandoned mines and any attics in buildings.

Tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada (Poissant et al, 2010). They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year. The presence of forests in the Study Area indicated the potential for roosting habitat for tri-colored bat, however with the absence of large bodies of water preferred for feeding and no hibernation sites including caves or mines the presence of this bat on the Subject Lands is highly unlikely.

Northern myotis will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used for hibernaculum, but high humidity and stable above freezing temperatures are required (COSSARO 2012). Although one cavity tree was identified along the eastern border of the Subject Lands (within the adjacent ANSI and Little Tract Forest) and five cavity trees within the sugar maple forest (FOD5) within the Subject Lands in the south-west. No habitat for hibernaculum or nursery colonies were identified with the absence of caves or abandoned mines and any attics in buildings. The proposed use of the Subject Lands will remain unchanged and any cavity trees identified will remain.

4.2 Natural Features

4.2.1 Woodlands

Three areas within the Study Area were forested, classified in various types including deciduous, coniferous, mixed and plantation. There was a deciduous pocket identified within the south-western limits of the Subject Lands, as well as a deciduous/coniferous/mixed forest encompassing the eastern boundary, contiguous with the Oil Well Bog Little Tract ANSI. The northwestern corner of the Subject Lands contained a sugar maple forest (FOD5; **Figure 2**).

According to Schedule 7 within the County of Wellington Official Plan (2021) the adjacent lands to the east of the Subject Lands fall within the Greenlands system. The Greenlands system encompasses woodlands. As identified in Section 5.5.4 in the County of Wellington Official Plan *in the rural system woodlands over 4 ha and plantations over 10 ha are considered to be significant by the County.* The woodlands to the east (FOC1-2/FOD5/FOM1-1) of the Subject Lands are contiguous with a large woodland identified as Little Tract, owned by the County of Wellington. This forest is much greater than 4 ha in size therefore would be considered Significant Woodlands according to policies laid out by County of Wellington.

The sugar maple forests (FOD5) identified within the north-western and south-eastern corner of the Subject Lands were less than 1 ha in size and therefore would not meet the criteria laid out in the County of Wellington OP for

significance. These features were also not designated as part of the Greenlands System in Schedule 7 (County of Wellington, 2021).

4.2.2 Wetlands

No Provincially Significant Wetlands or unevaluated wetlands were identified within the Subject Lands. The Cranberry Oil Well Bog PSW was identified as greater than 250 m to the east of the Subject Lands and outside of the Study Area.

4.2.3 Ponds

Two ponds were identified within the Subject Lands. The northern pond was identified as an Open Aquatic. This pond contained no visible aquatic vegetatioin at the time of the field visit, however contained some perimeter vegetation consisting of trees and shrubs. This pond was entirely offline with no surface water connections.

The pond identified in the south-western corner of the Subject Lands was utilized as a Stormwater pond for the existing hydrovac business.

4.2.4 ANSI

The Regionally Significant Oil Well Bog Little Tract Life Science ANSI was identified directly abutting the Subject Lands to the east and contained various Landform features as identified in the Life Science Inventory Checklist: Oil Well Bog Little Tract (NDMNRF, 2022) and listed below:

1. Size: 452.83 ha in size
2. Vegetation types: 10 vegetation communities including black spruce bog supporting 4 bog forms, swamps, upland, lowland disturbed and mature forest
3. High quality biological communities and rich species diversity
4. Glacial spillway in the northern side of the Paris Moraine
5. Bedrock: dolomite of Silurian age at 15 meters, muck, kame deposits, outwash sand
6. Surficial Geology: Three soils mapped, Burford, Fox and organic soils

4.2.5 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) often occurs within other natural heritage features and areas covered by Policy 2.1 of the PPS (e.g., significant wetlands). Therefore, it has been suggested that identification and evaluation of SWH is best undertaken after other natural heritage features have been identified (Natural Heritage Reference Manual, 2010).

GHD biologists analyzed the information collected from the ecological communities on the Subject Lands using the criteria for Significant Wildlife Habitat in Ecoregion 6E (2015) and identified three (3) potential candidate SWH within the Study Area:

- Woodland Area-Sensitive Bird Breeding Habitat,
- Special Concern and Rare Wildlife Species, and
- Bat maternity colonies.

White-tailed deer overwintering area (Stratum II) was confirmed through the review of Land Information Mapping and noted to be present within the Oil Well Bog Little Tract ANSI adjacent the Subject Lands (Table 3). This category was most closely related to Deer Winter Congregation Areas as identified within the Significant Wildlife Habitat Ecoregion 6E (MNRF, 2015) therefore will be named as this moving forward.

All forest communities were surveyed for cavity trees that could serve as possible maternity roost habitat for SAR bats. The FOD5 community to the southeast of the Subject Lands was noted to contain one suitable cavity tree, and the

FOD5 community on the southwest side of the Subject Lands contained five cavity trees; identified in **Appendix C** and on **Figure 2**.

Table 2 Significant Wildlife Habitat – Candidate and Confirmed as identified within the Significant Wildlife Habitat Technical Guide 6E

Wildlife Habitat	Wildlife Species	Candidate SWH and Habitat Criteria		Confirmed SWH and Defining Criteria	Candidate Habitat found within Study Area	Confirmed Habitat found within Study Area
		ELC Ecosite	Habitat Criteria			
Woodland Area-Sensitive Bird Breeding Habitat *Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest songbirds*	– *Yellow-bellied sapsucker* – *Red-breasted Nuthatch* – *Veery* – *Blue-headed Vireo* – *Northern Parula* – *Black-throated Green Warbler* – *Blackburnian Warbler* – *Black-throated Blue Warbler* – *Ovenbird* – *Scarlet Tanager* – *Winter Wren*	*FOC* *FOM* *FOD* *SWC* *SWM* *SWD*	*Typically, large mature (>50 yrs. Old) forest stands or woodlots >30 ha.* *Interior forest habitat is at least 200m from forest edge habitat*	*Presences of nesting or breeding pairs of 3 or more of the listed wildlife species* *Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH*	Sugar Maple Forest (FOD5); White Pine-Red Pine Coniferous Forest (FOC1-2); White Pine-Sugar Maple Mixed Forest (FOM2-2)	**Potential**: Although only one of the listed species (red-breasted nuthatch) was identified in area searches within the Study Area, the large size of the adjacent woodland/ANSI to the east would provide suitable habitat for any of the listed area sensitive species and better captured within breeding bird season. Due to the small size, the sugar maple forest on the south-western corner and northwestern corner of the Subject Lands would not provide suitable habitat for woodland Area Sensitive breeding birds requiring larger areas of forest.
Special Concern and Rare Wildlife Species *Rationale: These species are quite rare or have experienced significant population declines in Ontario*	*All Special Concern and Provincially rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.*	*All plant and animal element occurrences (EO) within a 1 or 10km grid.* *Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.*	*When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites lxxviii Information Sources • Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data. • NHIC Website "Get Information": http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas • Expert advice should be sought as many of the rare spp. Have little information available about their requirements*	*Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat. • SWHMiST cxlix Index #37 provides development effects and mitigation measures*	Sugar maple forest (FOD5)	**Potential**: Field studies did not confirm the presence of any special concern species based on the timing of the field season, however records from the literature review identified the potential habitat presence of eastern wood-pewee and wood thrush to occur within the Study Area, particularly within the sugar maple forests to the east and southwestern/northwestern corners of the Subject Lands as well as potential for grasshopper sparrow to occur within the Old field meadow (CUM1-1).
Deer Winter Congregation Areas *Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions*	*White-tailed Deer*	*All Forested Ecosites with these ELC Community Series: FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.*	*woodlots will typically be >100 ha in size(E). Woodlots 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha ccxxiv. • Woodlots with high densities of deer due to artificial feeding are not significant(E). Information Sources • MNRF District Offices. • LIO/NRVISS*	*Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF cxlviii. • Use of the woodlot by whitetailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF (E) • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniquesccxxiv , ground or road surveys. or a pellet count deer density surveyccxxv. • If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMiST cxlix Index #2 provides development effects and mitigation measures.*	White Pine- Red Pine Coniferous Forest (FOC1-2); Sugar Maple Forest (FOD5)	**Confirmed**: through the review of Land Information Ontario Mapping and noted to be present within the Oil Well Bog Little Tract ANSI to the east of the Subject Lands.

Wildlife Habitat	Wildlife Species	Candidate SWH and Habitat Criteria		Confirmed SWH and Defining Criteria	Candidate Habitat found within Study Area	Confirmed Habitat found within Study Area
		ELC Ecosite	Habitat Criteria			
Bat Maternity Colonies	– *Big Brown Bat* – *Silver-haired Bat*	*Maternity Colonies considered SWH are found in forested Ecosites.* *All ELC Ecosites in ELC Community Series:* *FOD* *FOM* *SWD* *SWM*	*Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings were not considered to be SHW).* *Maternity roosts are not found in caves and mines in Ontario* *Maternity colonies located in Mature deciduous or mixed forest stands with >10ha large diameter (>25 cm dbh) wildlife trees* *Female bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2* *Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred*	*Maternity Colonies with confirmed use by;* *>10 Big Brown Bats* *>5 Adult Female Silver haired Bats* *The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Eco element containing the maternity colonies.* *Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects*	Sugar maple forest (FOD5)	**Potential**: 5 cavity trees were identified within the sugar maple forest (FOD5) within the southwest corner of the Subject Lands. 1 cavity tree was identified within the Oil Well Bog Little Tract ANSI to the east of the Subject Lands -bat boxes identified within the sugar maple forest (FOD5) within the southwest corner of the Subject Lands.

5. Impact Assessment and Recommendations

The following section provides a description of the predicted impacts that may result from the zoning by-law amendment to allow use of the property to include an existing hydrovac operation. Under the proposed conditions, the land use will remain the same with continued rehabilitation of the Subject Lands operating under an MNRF approved Pit Rehabilitation Plan. As identified within the Design and Operations Report (GHD, 2021) as part of the operations of this *business the facility receives soil mixed with water from hydrovacing operations conducted by Site personnel and trucks at multiple sites in southern Ontario. The soil water mixture is placed in stockpiles, water gravity drains off and the soil is tested to confirm it meets Table 1 (Background) Standards.*

The hydrovac facility will continue to operate within its current footprint, with the runoff designed to drain to the Stormwater Pond (also regularly tested for water quality) which was located within the southwestern limits of the Subject Lands. It is important to continue to ensure that no soil encroachment occurs within the eastern woodlot as part of the stockpiling of the soils.

5.1 Species and Communities

5.1.1 Birds

The red-breasted nuthatch (*Sitta canadensis)* will not be negatively impacted by the proposed re-zoning and existing hydrovac operation. The continued use and rehabilitation of the Subject Lands will not impact the forested areas within the Study Area. No tree removal is proposed as part of the commercial use as a hydrovac facility or as part of the rehabilitation of the Subject Lands therefore no significant negative impacts are anticipated on the habitat for this species. The existing uses of the Subject Lands will not change. The rehabilitation plan proposed tree planting in areas within the Subject Lands which would enhance the habitat and adjacent woodlands, providing additional cover.

The eastern wood-pewee will not be negatively impacted by the proposed re-zoning. No tree removal is proposed as part of the commercial use as a hydrovac facility or as part of the rehabilitation of the Subject Lands therefore no significant negative impacts are anticipated on the habitat for this species. The existing uses of the Subject Lands will not change. The rehabilitation plan proposed tree planting in areas within the Subject Lands which would enhance the habitat and adjacent woodlands, providing additional cover.

The wood thrush will not be negatively impacted by the proposed re-zoning and existing hydrovac operation. No tree removal is proposed as part of the commercial use as a hydrovac facility or as part of the rehabilitation of the Subject Lands therefore no significant negative impacts are anticipated on the habitat for this species. The existing uses of the Subject Lands will not change. The rehabilitation plan proposed tree planting in areas within the Subject Lands which would enhance the habitat and adjacent woodlands, providing additional cover.

The bobolink, eastern meadowlark and grasshopper sparrow were not identified during field surveys, however based on the absence of breeding bird or grassland bird surveys could not be confirmed due to the timing of the field visit. No clearing of the Old field meadow is expected, the area of the disturbed soils as utilized by the existing hydrovac operation will remain the same.

5.1.2 Other Wildlife

Potential roosting habitat was identified for little Brown Myotis and Northern myotis within the forests to the east (ANSI) and within the south-western forest (FOD5). No woodland removal is proposed as part of the continued use of the Subject Lands as a hydrovac business and the proposed rehabilitation of the Subject Lands. The cavity trees (all d determined to be low quality trees) will not be impacted as a result of the continued use of the Subject Lands. The trees will remain in place, with no negative impacts to potential habitat within cavity trees for any of the listed bat species above.

5.2 Natural Features

5.2.1 Significant Woodland/ANSI/Greenlands System

Three areas within the Study Area were forested, classified in various types including deciduous, coniferous and mixed. There was a deciduous pocket (FOD5) identified along the northwestern and southwestern limits of the Subject Lands, as well as a deciduous/coniferous/mixed forest encompassing the eastern boundary and contiguous with the Oil Well Bog Little Tract ANSI and Greenlands system.

According to Schedule A7 within the County of Wellington Official Plan (2021) the adjacent lands to the east of the Subject Lands fall within the Greenlands system. The Greenlands system encompasses woodlands. As identified in Section 5.5.4 in the County of Wellington Official Plan *in the rural system woodlands over 4 ha and plantations over 10 ha are considered to be significant by the County*. The woodlands to the east (FOC1-2/FOM1-1/FOD5) of the Subject Lands are well over 4 ha in size therefore are considered Significant Woodlands according to County of Wellington policies. The woodland to the east was designated as part of the Natural Heritage System (Growth Plan for the Greater Golden Horseshoe). Some of the functions of the eastern woodland included habitat for area sensitive species, cover for wildlife, SWH (deer winter congregation area, potential for bat maternity colonies, special concern species). The woodlot also contains portions of PSW and Regional Life Science ANSI, and therefore provides value in the continued protection of these features.

The existing footprint of the operation should be utilized. If the expansion of the operation is proposed, lands should be evaluated further to ensure policy compliance.

No significant negative impacts are anticipated on the adjacent woodland and ANSI as a result of the proposed zoning change.

The Rehabilitation Plan (**Appendix B**) includes proposed fill importation, grading, drainage and tree planting areas around the Subject Lands. The addition of trees will enhance the significant woodland and ANSI and provide additional protection to the PSW and ANSI while creating additional opportunity for wildlife.

5.2.2 Significant Wildlife Habitat

Four types of Significant Wildlife Habitat were confirmed (Deer winter congregation area) or contained potential (candidate) habitat within in the Study Area (habitat for woodland Area Sensitive Bird Breeding, special concern species and rare wildlife species, and bat maternity colonies). Each of these habitats is located outside of the Subject Lands.

No woodland or tree removal is proposed or will occur as a result of the on-going operation of the hydrovac business and rehabilitation of the Subject Lands. Additionally, no clearing of the Old field meadow is expected, the disturbed soils as utilized by the existing hydrovac operations will remain the same. None of these habitats will be negatively impacted as a result of the proposed re-zoning for existing operations.

5.2.3 Pond

The northern pond was identified as an Open Aquatic. This anthropogenic pond is entirely offline with no surface water connections. The pond is within the hay fields at the north end of the Subject Lands, and north of the hydrovac operations. This land use will remain as agriculture and no change to the landscape or landuse will occur surrounding the pond. The pond will continue to provide water storage and provide aquatic habitat for species that may be utilizing it. No significant negative impacts are anticipated on the pond as a result of the zoning bylaw amendment for the Subject Lands and continued commercial use as a hydrovac operation in the southern limits. The pond is currently used for drainage purposes and will be continued to be used as such.

5.2.4 Wildlife Corridors/Connectivity

The woodland to the east of the Subject Lands was part of a large contiguous woodland that provided a movement corridor from north to south. This feature is also part of the Regional Life Science ANSI/ and Greenlands system. The re-zoning of the Subject Lands will not result in any significant negative impacts on the corridor function. The land use will remain the same, with the use as a hydrovac business and contined efforts to rehabilitate the Subject Lands. No woodland removal is proposed, and therefore no change in corridor or connectivity is proposed. The proposed rehabilitation efforts (i.e. tree planting) will provide additional vegetation within the Subject Lands and along the edges of the corridor, further enhancing the existing adjacent habitat.

5.2.5 Paris Galt Moraine

The continued use of the land as a hydrovac business meets the objectives of the Paris Galt Moraine Conservation Plan. The ecological and hydrological integrity of the Area will be protected, no surface water features will be impacted as a result of the re-zoning of the Subject Lands and continued land use. Two ponds were identified within the Subject Lands, one of which was utilized for stormwater. The north pond will remain, as will the surrounding agricultural fields, and therefore no impacts to the hydrology of the area are anticipated. Section 5.2.1 identifies that no significant negative impacts will occur as a result on the Adjacent ANSI/woodlot or its ecology. The Paris Galt Moraine Area will be maintained as a contiguous landform and will not be affected. No further extraction of mineral aggerates is proposed for the Subject Lands.

5.2.6 General Mitigation Measures

Additional measures to mitigate on-going site operations under the proposed re-zoning include:

1. Mitigation measures to avoid nests and vegetation clearing during the nesting season (April 1 – August 31 of any year).
2. No woodland or tree removal be completed.
3. Ensure hydrovac operations and stockpiling of soils do not encroach into the eastern woodlot and remain within the existing footprint of the facility.
4. The existing permitted Rehabilitation Plan includes include native woody and herbaceous vegetation in selected areas as part of the re-vegetation of the Subject Lands.
5. If the existing use for the Subject Lands changes in the future, site specific applications will be subject to their own approvals.
6. If the proponent wishes to expand the hydrovac facility outside of its current boundary, further evaluation of the lands is required to assess its compliance with applicable policies.

6. Policies and Legislative Compliance

The following section describes how the proposed development will be in conformance with the relevant federal, provincial and other regulatory legislation, policies, official plans and OP amendments that are applicable and relevant to the Study Area and the immediate vicinity.

Table 3 ***Policy Compliance***

Applicable Legislation/Policy	Summary of Findings	Policy Compliance
Migratory Bird Convention Act (MBCA) (Government of Canada, 1994)	Mitigation measures to avoid nests and vegetation clearing during the nesting season (April 1 – August 31) will support conformity with the MBCA.	Yes
Endangered Species Act (Government of Ontario, 2007)	No Provincially END or THR individuals were observed within the Subject Lands.	Yes
Provincial Policy Statement (PPS) (MMAH, 2020)	No development or site alteration will occur within any Natural Heritage Features. No negative impacts are anticipated on these features with the proposed mitigation as laid out in **Section** 5. No negative impacts are anticipated on any of the potential Significant Wildlife Habitat occurring within the adjacent lands (**Section 5.2.2**). No habitat for endangered or threatened species was identified within the Subject Lands. The closest PSW was identified outside of the Study Area. The Regional Life Science ANSI will be protected, with no removal or proposed development. This EIA has demonstrated that no negative effects will occur as a result of continued land use on the Subject lands.	Yes
Growth Plan for the Greater Golden Horseshoe (Government of Ontario, 2020)	The Study Area does not fall within an identified settlement area. As a result, Sections 4.2.2 and 4.2.3 of the GPGGH 2020 referencing the Natural Heritage System for the Growth Plan applies to the Study Area. Section 4.2.4 of the Growth Plan (2020) applies to this project. Section 4.2.8 (7) identifies *where an application under the Aggregate Resources Act has been received and deemed complete by the Province as of July 1, 2017, any applications under the Planning Act to permit the making, establishment or operation of the pit or quarry to which the Aggregate Resources Act application relates, if approved, will not be subject to to the policies of this Plan.* As the Subject Lands are operating under a NDMNRF approved Pit Rehabilitation permit, activities related to this apply. Additionally the proposed hydrovac use is in keeping with the typical uses that occur at the extraction site and processing facility. Additionally, this EIA demonstrates in **Section 5.2.1** that no negative impacts are anticipated on the adjacent woodland as a result of the re-zoning and continued land use. **Section 5** outlines mitigation measures to mitigate any potential impacts that may occur while protecting the natural heritage features in a manner that is consistent with the Growth Plan.	Yes
Paris Galt Moraine Policy (Government of Ontario, 2019)	**Section 5.2.5** identifies the proposed re-zoning of the Subject Lands meets the objectives of the Paris Galt Moraine Policy.	Yes

Applicable Legislation/Policy	Summary of Findings	Policy Compliance
County of Wellington Official Plan (July, 2021)	The woodlot identified to the east of the Subject Lands was identified as Significant based on the County of Wellington size criteria for Rural Systems (>4ha). **Section 5.2.1** of this Report identifies the compliance with the OP. No significant negative impacts will occur as a result of the re-zoning with the land use remaining the same.	Yes
Township of Puslinch Zoning by-law No. 023-18 Schedule "A"	This EIA was prepared as part of the requirements for the Re-zoning Application.	The zoning requires an amendment to Commercial use for the proposed addition of hydrovac services to the current operation.in order to comply with Bylaw 023-18
Grand River Conservation Authority Regulation 161/06 (Government of Ontario, 2006)	The GRCA regulation limit does not fall within the Subject Lands boundary/Subject Lands therefore a permit is not required.	Yes

7. Conclusion

GHD Limited has prepared this EIA to address potential environmental issues associated with the zoning by-law amendment of the Subject Lands to include all aspects of the hydrovac business on the northern portion of a property located at 6678 Wellington, within the County of Wellington, Township of Puslinch.

Significant natural features identified within the Study Area included Significant Woodland, ANSI-Oil Well Bog Little Tract, Candidate and Confirmed Significant Wildlife Habitat (Woodland Area-sensitive bird breeding habitat (Candidate), Special Concern and rare wildlife species (Candidate), Deer winter congregation area (Confirmed), bat maternity colonies (Candidate)). Each of these features are located outside of the Subject Lands. Measures have been recommended to mitigate impact of the on-going land use to the ANSI/ Significant Woodland, and Significant Wildlife.

The proposed re-zoning of the Subject Lands to include the hydrovac operations (on the southern portion of the Subject Lands) will not result in significant negative impacts on the identified natural heritage features provided the mitigation outlined in Section 5.0 are implemented. This opinion is limited to the identified zoning by-law amendment application; if the use of the Subject Lands is to change in the future, the site specific application will be subject to review and approval pertaining to any potential impacts to natural features and/or their functions.

8. References

Bird Studies Canada. 2007. Atlas of the Breeding Birds of Ontario square summary information sheets. Accessed on the World Wide Web at: https://www.birdsontario.org/atlas/datasummaries.jsp?lang=en.

Brown, C.R. and M.B. Brown. 1999. Barn Swallow (Hirundo rustica). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. URL: http://bna.birds.cornell.edu/bna/species/452

Cadman, M. and N. Kopysh. 2001. Ontario Breeding Bird Atlas guide for participants. Environment Canada, Ontario Ministry of Natural Resources, Government of Ontario, Human Resources Development Canada. Guelph, 35pp.

COSEWIC. (2019). Species at Risk Public Registry. Retrieved from Government of Canada: http://www.registrelep-sararegistry.gc.ca/sar/index/default_e.cfm

COSSARO. (2018). Species at Risk in Ontario. Retrieved from Government of Ontario: https://www.ontario.ca/page/species-risk-ontario#section-2

COSEWIC.2012. COSEWIC assessment and status report on the Easter Wood-pewee Contopus virens in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x +39 pp.

COSEWIC. 2012. COSEWIC assessment and status report on the Wood Thrush Hylocichla mustelina in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 46 pp.

COSEWIC. 2011. COSEWIC assessment and status report on the Barn Swallow Hirundo rustica in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 37 pp.

Garrison, B.A. 1999. Bank Swallow (Riparia riparia), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. URL: http://bna.birds.cornell.edu/bna/species/414

COSEWIC. 2013. COSEWIC assessment and status report on the Grasshopper Sparrow pratensis subspecies Ammodramus savannarum pratensis in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 36 pp.

Government of Canada. 1994. Migratory Birds Convention Act, S.C. 1994, c. 22. URL: https://laws lois.justice.gc.ca/PDF/M 7.01.pdf

Government of Ontario. 2019. Ontario Regulation 230/08: Species at Risk in Ontario list under the Endangered Species Act, 2007, S.O. 2007, c.6. Accessed from the World Wide Web at: https://www.ontario.ca/laws/regulation/080230.

Government of Ontario. 2019b. Ontario Regulation 242/08: General under the Endangered Species Act, 2007, S.O. 2007, c.6 Accessed from the World Wide Web at: https://www.ontario.ca/laws/regulation/080242.

Government of Ontario. 2020. Provincial Policy Statement, 2020. Ministry of Municipal Affairs and Housing. Queen's Printer for Ontario. Accessed on the World Wide Web at: http://www.mah.gov.on.ca/Page215.aspx.

Government of Ontario. 2021. Endangered Species Act, SO 2007, c. 6. Accessed on the World Wide Web: https://www.ontario.ca/laws/statute/07e06

Gabhauer, M.A. 2007. Bobolink, pp. 586-587 in Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.T. Couturier, eds. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Envoronment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature, Toronto, xxii + 706 pp.

Hull, S. D. 2003. Effects of management practices on grassland birds: Eastern Meadowlark. Northern Prairie Wildlife Research Center, Jamestown, ND. Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/resource/literatr/grasbird/eame/eame.htm (Version 12DEC2003).

Lee, H., Bakowsky, W., Riley, J., Bowles, J., Puddister, M., Uhlig, P. and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. OMNR, South Central Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Legislative Assembly of Ontario. 2019. Bill 71 An Act to conserve the Paris Galt Moraine by providing for the Paris Galt Moraine Conservation Plan, February 20, 2019. 10 pp

Martin, S.G. and T.A. Gavin. 1995. Bobolink (Dolichonyx oryzivorus). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology. URL: http://bna.birds.cornell.edu/bna/species/176

Ontario Ministry of Natural Resources. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd Edition. Toronto: Queen's Printer for Ontario. 248pp.

Ontario Ministry of Municipal Affairs and Housing (OMMAH). 2019. A Place to Grow: Growth Plan for the Greater Golden Horseshoe (May 2019). Queen's Printer for Ontario, 89pp + Schedules.

Ontario Ministry of Municipal Affairs and Housing (OMMAH). 2017. A Place to Grow: Growth Plan for the Greater Golden Horseshoe (May 2017)., 90pp + Schedules.

Ontario Ministry of Natural Resources. October 2000. Significant Wildlife Habitat Technical Guide. Queen's Printer for Ontario. 384pp.

Roseberry, J. L. and W. D. Klimstra. 1970. The nesting ecology and reproductive performance of the Eastern Meadowlark. Wilson Bull. 82:243-267.

The Corporation of the Township of Pushlinch. 2022. BY-LAW NUMBER 31/12. Consolidation January 13, 2022. 14 pp + Schedules and Appendices. Retrieved from Township of Pushlinch: https://puslinch.ca/wp-content/uploads/2022/01/BL2012-031-Site-Alteration-By-Law-Consolidated-2022.01.13-1.pdf

The Corporation of the County of Wellington. 2021. County of Wellington Official Plan. Consolidation July 20, 2021. 202 pp + Schedules and Appendices. Retrieved from Wellington County: https://www.wellington.ca/en/resident-services/resources/Planning/Official-Plan/Wellington-County-Official-Plan-07-20-2021.pdf

Appendices

Appendix A

Terms of Reference

Terms of Reference for Environmental Impact Assessment

6678 Wellington Rd. 34, Township of Puslinch

2374868 Ontario Inc.

December 1, 2021

→ The Power of Commitment

Contents

Figure index

1. Introduction

The existing lot is located on the north side of Wellington Rd. 34 within the Township of Puslinch, County of Wellington. The property currently has an agreement with Capital Paving to allow disposal of separated soils as part of the rehabilitation activities for an on-site aggregate pit. These soils are being brought to the site by a hydrovac operation through 2374868 Ontario Incorporated. The property is zoned as Agricultural (A) on the southern half and Extractive Industrial (EXI) on the northern half from the associated Aggregate license, according to the Township of Puslinch Zoning by-law No. 023-18 Schedule "A". The proposed use for the hydrovac services will require a zoning amendment (to Commercial use) to ensure proper compliance in land use for his current operation. The rezoning is anticipated to be applied to the entire property; however, for purposes of this EIA the Study Area is proposed to be the northern half of the property and within the EXI zoning plus an additional 120 meters area of investigation. The features identified in the Study Area included active hay field (southern fields) and deciduous forest encompassing the eastern boundary. The south-eastern corner contained mostly sugar maple with a small plantation. The central woodland overlapping the property was a deciduous forest pocket of sugar maple and beech. Areas within the EXI lands are in a state of rehabilitation with cultural meadow (Figure 1).

The Study Area contains the Wellington County Greenlands (Schedule A7: Wellington County Official Plan, 2021). The confirmation of the status of the woodland and the functions regarding, the woodland and Greenlands, is important to verify. The Study Area is also within the Paris Galt Moraine Policy Area and is subject to the Growth Plan for the Greater Golden Horseshoe. The Study Area contains portions of the Oil Well Bog Little Tract ANSI, with the closest Provincially Significant Wetland, Cranberry Oil Well Bog approximately 30 meters east of the Study Area.

An EIA is required as part of the supporting documentation for the proposed zoning by-law amendment as the property contains portions of the Wellington County Greenlands.

Based on our literature review, the following natural features are present on or within 120 meters of the property:

- Potential habitat of Species at Risk
- Wellington County-Greenlands
- Woodland
- Wildlife Corridor and Linkages
- Significant Wildlife Habitat: White-tailed Deer Wintering Area (Stratum 2)
- Oil Well Bog Little Tract ANSI (Regional Life Science ANSI)

2. Approach

2.1 General Approach

Our approach to preparation of the EIA will consist of three distinct phases.

In the first phase we will collect and review available information on the site including recent air photography, Ministry of Northern Development, Mines, Natural Resources and Forest (NDMNRF) key natural features GIS mapping, wetland mapping, Official plan schedules and other correspondence or files available from the County, Township or NDMNRF. This Terms of Reference, as required by the County of Wellington, is also part of this phase, and will act as a framework for our work plan and the completion of the EIA.

The second phase will consist of site visits by our terrestrial and wetland biologists to confirm the data collected in the literature review and boundary of any natural features. The boundary any wetlands and the woodlands on or adjacent to the property will be confirmed, GPS readings taken and the features mapped. Surveys will include site visits that

encompass breeding bird surveys, Ecological Land Classification (ELC) mapping, vegetation community boundaries, and presence of significant species including Species at Risk. The significance of the features and the ecological functions will be determined during our field surveys.

The proposed multi-season 2022 surveys will occur where property access is available, and includes:

- Breeding bird surveys (two rounds)
- Ecological Land Classification mapping of vegetation communities
- An assessment of Species at Risk habitat
- Two-season botanical inventory of the Study Area
- Assessment of ecological functions of the woodland
- Assessment of candidate Significant Wildlife Habitat

The third phase will be the preparation of an EIA with site-specific mitigation measures for protecting the natural features, sensitive species, and other natural features within the Study Area. Recommendations regarding the woodland and Greenlands, including buffers and setbacks will be included. This report will include figures that show the location of all the natural features, and other mitigation measures and recommendations. GHD will discuss our findings and sensitive species or features identified through background review and field investigations.

The report will follow the content requirements of the County of Wellington Official Plan and procedural policies for an EIA report. The property is not within the regulated area of the Grand River Conservation Authority.

It is our understanding that retaining a third-party consultant may be required to review the EIA report. Please confirm if any third party review of this TOR is required at this time, or if the third party can be retained to review the completed the peer review of the EIA when it has been prepared.

2.2 Field Inventories

2.2.1 Timing and Schedule

The EIA for the proposed project will be undertaken during the spring and summer of 2022 with surveys expected to be completed by late summer. Surveys must be conducted in the proper season and as per established protocols for the target species. The surveys will cover all portions of the Study Area and adjacent areas to assess the boundary of natural features such as the woodland.

2.2.2 Detailed Methodology

Vegetation: vegetation communities within the Study Area will be visited and species composition of dominant species determined. Community type criteria will follow the Ecological Land Classification for Southern Ontario (ELC) program (Lee et al. 1998) and will be done to the vegetation type level. The presence of rare species or significant communities, if any, will be documented and locations mapped. Timing of vegetation surveys will coincide with peak growing seasons; with visits occurring in the late spring ephemeral and summer flowering plants.

The presence of invasive species, regenerating vegetation, disturbances and land uses will be noted.

A master plant species list will be compiled from field notes in the final phase.

Bird Surveys: Bird surveys will be conducted following the protocols of the Ontario Breeding Bird Atlas point count. Birds seen or heard within the 10-minute station period will be documented and breeding evidence codes recorded. Surveys will be conducted in the early morning at dawn on two days approximately 10-14 days apart (June). Survey stations will be established in the woodland and hayfields to encompass all habitat types. We will also check for raptor nests (hawks and owls) that can be found in woodlots.

Wildlife: Incidental observations of reptiles, amphibians and mammals will be made during all site visits. Observations will include direct sightings and indirect evidence such as calls, scat, browse, burrows, dens and nests. The presence

of cavity trees and wildlife tracks and trails will also be noted. A spring survey for early breeding frog species will not be conducted, as there are no ponds or waterbodies or vernal pools on the southern portions of the site.

Species At Risk: The Ontario Endangered Species Act (ESA) places the onus on developers to determine if Species at Risk (birds, snakes, trees, plants) are present or absent on a property through targeted in-season field surveys by a qualified biologist. Candidate habitat for Species at Risk will be evaluated through field investigations.

Woodland: The boundary of wooded area, species composition, including the age, diameter, species composition and dripline will be examined during our field surveys. The significance of the woodland based on NDMNRF criteria will be assessed from our field surveys, GIS mapping and the size of the treed area on site. The health, disturbance, presence of non-native species, disease and storm damage will be noted, as these types of forests tend to have multiple influences.

Significant Wildlife Habitat: The areas identified by NDMNRF as Deer Wintering Habitat (Stratum 2) will be verified and habitat confirmed in the field. The potential for candidate SWH will be determined using the Ecoregion 7e criteria schedules (MNRF 2015).

Surface and Groundwater: No surface water features were identified within the southern portions of the property therefore no hydrological studies are proposed. As the proposed by-law amendment does not require a change in land-use no impacts are anticipated to the groundwater of the site therefore no hydrogeological studies have been proposed.

2.3 Analysis and Reporting

2.3.1 Evaluation of Significance

Following field surveys, the significance of all natural heritage features and species found on site will be assessed in light of the relevant policies and regulations. Species lists from our field work will be compared to the most current federal, provincial, and regional plant and wildlife lists.

2.3.2 Impact Assessment

In this component of the EIA, the details of the proposed zoning change will be considered in the context of the significance of the natural features and species present in the area. Potential impacts to the Greenlands and the features and functions identified on site will be outlined. This would include the dripline of woodland. In addition, the potential for setbacks or buffers from identified features will be considered as per the County Official Plan.

2.3.3 Mitigation and Enhancement Recommendations

Based on the site conditions, buffers and the proposed zoning change, we will recommend mitigation measures applicable to the potential changes in land use. Mitigation measures may include such items as sediment and erosion control, timing windows, protection areas and fencing. Considerations will also be made for the potential to maintain, restore and improve the long-term ecological functions and biodiversity of the associated Greenlands. The potential for enhancement of environmental features and functions will also be considered and when necessary provided in a proposal for monitoring.

2.3.4 Conclusions and Recommendations

Project conclusions will be summarized in a concise manner at the end of the EIA report to ensure readability of the document and clear transference of information to the project team.

3. Deliverables

GHD will provide electronic portable document files (.pdf) of the EIA to the proponent and the agencies unless otherwise stated. This report will be prepared as per the requirements in the Official Plans and the details outlined in this Terms of Reference (ToR). The EIA will act as supporting documentation for the zoning amendment application. Our vegetation community layers and ELC boundary lines can be made available to the agencies to update their GIS mapping.

If you have any questions on this Terms of Reference, please contact me. A formal response on the receipt acceptance of the ToR is appreciated.

All of Which is Respectfully Submitted,

GHD

[redacted]

Katherine Ryan
Terrestrial and Wetland Biologist

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[redacted]

Brandon Holden
Senior Terrestrial Ecologist

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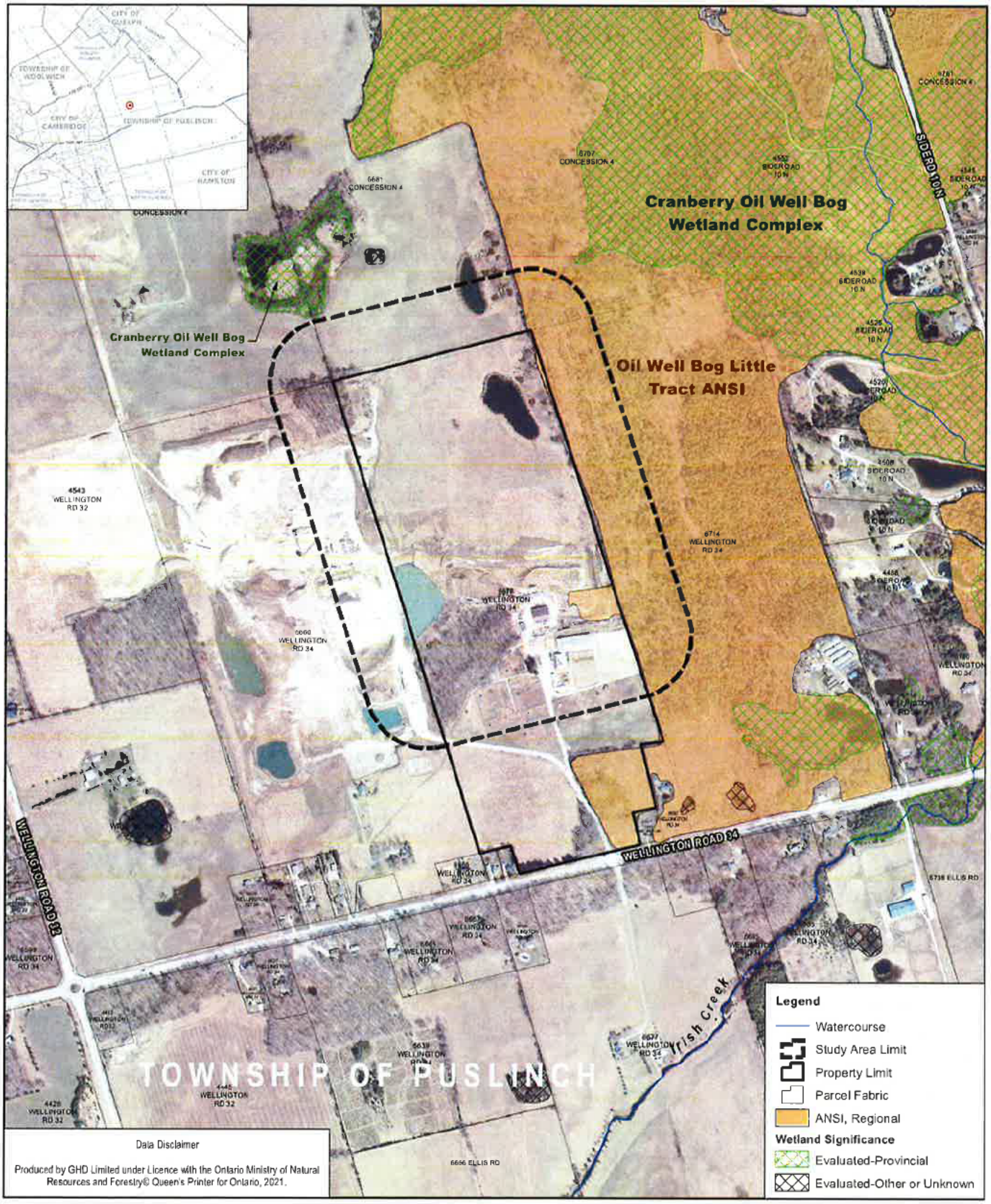


Data Disclaimer

Produced by GHD Limited under Licence with the Ontario Ministry of Natural Resources and Forestry© Queen's Printer for Ontario, 2021.

Paper Size ANSI A

0 70 140 210 280

Metres

Map Projection: Transverse Mercator
Horizontal Datum: North American 1983
Grid: NAD 1983 UTM Zone 17N

N

GHD

JEFF BUNN
6678 WELLINGTON ROAD 34, CAMBRIDGE, ON
PT LOT 8, CON 3, GEO. TOWNSHIP OF PUSLINCH
TOWNSHIP OF PUSLINCH
COUNTY OF WELLINGTON

TERMS OF REFERENCE
STUDY AREA

Project No. **11210029**
Revision No.
Date **Nov 26, 2021**

FIGURE 1

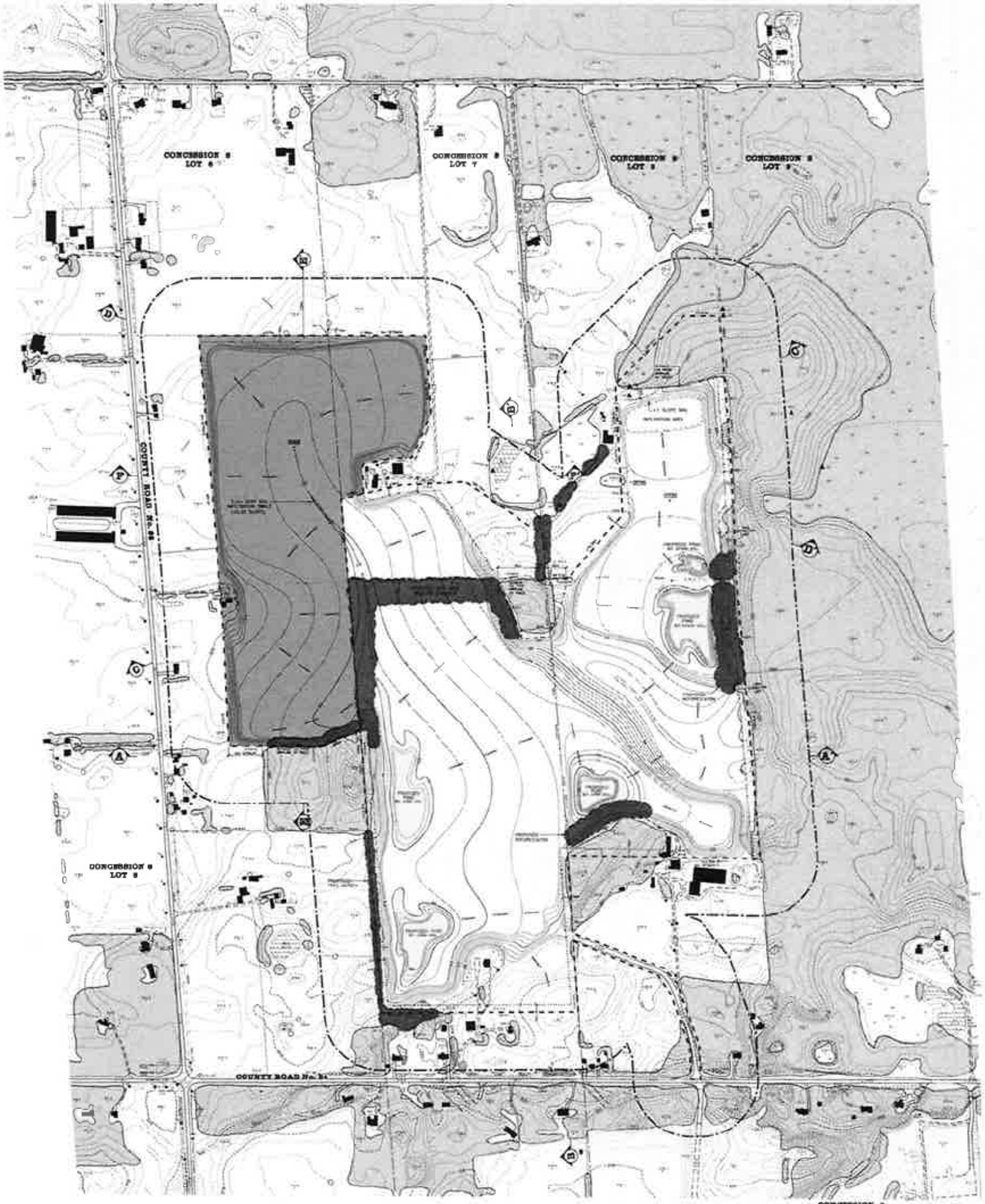
Q:\GIS\PROJECTS\11210000\11210029\Layouts\202111_RPT001\11210029_202111_RPT001_GIS0001 - Study Area.mxd
Print date: 26 Nov 2021 - 08:09

Data source: © County of Wellington, 2020.


GHD

Appendix B

Rehabilitation Plan



CONCESSION 8 LOT 6 — CONCESSION 8 LOT 7 — CONCESSION 8 LOT 8 — CONCESSION 8 LOT 9

LEGEND

NOTES

NO. DATE REVISIONS — **Pre Licence Review**

NO. DATE REVISIONS — **Site Plan Amendments**

Harrington and Hoyle Ltd.
LANDSCAPE ARCHITECTS

Project Name

CAPITAL PAVING INC.

Wellington Pit #5 and Extension
Licence Number 20089

Scale	North	Stamp
1:3000		
Drawing Status PRELIMINARY FOR DISCUSSION		

Drawn	Checked	Issue Date	Project Number
R.M.	G.D.H./ B.J.		02-08

Drawing Title

REHABILITATION PLAN

Drawing Number 5 OF 5

Appendix C

Photographic Inventory

EIA – Rezoning: Photographic Inventory

Photo 1 - April 5, 2022. Overview of the disposal area for the separated soils as part of the hydrovac business

Photo 2 - April 5, 2022. Stormwater pond, with aggregate pit beyond, facing northwest.

Photo 3 - April 5, 2022. Northeast pond, facing south

Photo 4 - April 5, 2022. The Provincially Significant Wetland Cranberry Oil Well Bog Wetland, outside of the 120 m buffer around the property, surrounded by intermittent red osier dogwood (Gsvrywŝwivgie- and cattails (*Thypha* sp.). Facing south.

Photo 5 - April 5, 2022. Pasturelands just southwest of EXI zoned limit, facing west.

Photo 6 - April 5, 2022. Hayfield community at the northern end of the property, facing north.

Photo 7 - April 5, 2022. FOD5 community on the east side of the Study Area, facing west towards fill pile.

Photo 8 - April 5, 2022. CUT1 community identified in the northeastern corner of the Subject Lands, between the north pond and the eastern limit of the property.

Photo 9 - April 5, 2022. FOD5 community pocket identified on the western limit of the property, facing west.

Photo 10 - April 5, 2022. CUM1-1 community identified near the western limit of the property, north of the FOD5 deciduous forest pocket and adjacent to the northwest stormwater pond. Facing southwest.

Photo 11 - April 5, 2022. FOC1-2 community, facing east.

Photo 12 - April 5, 2022. FOM2-2, within the eastern forest (Wellington County's Little Tract)

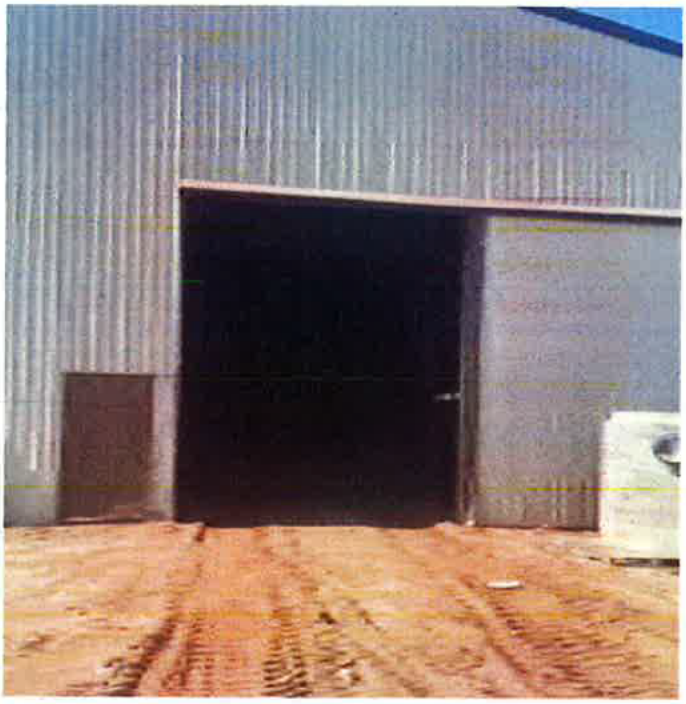


Photo 13 - April 5, 2022. Barn structure

Photo 14 - April 5, 2022. Cavity # 1, sugar maple (*Acer saccharum*), FOD5 community

Photo 15 - April 5, 2022. Cavity # 2, sugar maple, within the western FOD5 community.

Photo 16 - April 5, 2022. Snag # 4, sugar maple within the western FOD5 community.

Appendix D

Plant List

Appendix D

Plant Species List
Environmental Impact Assessment – Rezoning
2374868 Ontario Inc
6678 Wellington Rd. 34
Township of Puslinch

Scientific Name	Common Name	Coefficient of Conservatism (CC)	Wetness Index	Weediness Index	Provincial Status (S-Rank)	ESA Status	SARA Status	Local Status Wellington Dufferin
Athyriaceae	**Athyriaceae Family**							
Dryopteris marginalis	Marginal Wood Fern	5	3		S5			X
Cupressaceae	**Cypress Family**							
Juniperus virginiana var. virginiana	Eastern Red Cedar	4	3		S5			X
Thuja occidentalis	Eastern White Cedar	4	-3		S5			X
Pinaceae	**Pine Family**							
Picea abies	Norway Spruce		5	-1	SNA			X
Picea glauca	White Spruce	6	3		S5			X
Pinus resinosa	Red Pine	8	3		S5			X
Pinus strobus	Eastern White Pine	4	3		S5			X
Pinus sylvestris	Scots Pine		3	-3	SNA			X
Viburnum opulus ssp. opulus	Cranberry Viburnum		-3		SNA			X
Anacardiaceae	**Cashew Family**							
Rhus typhina	Staghorn Sumac	1	5		S5			X
Apiaceae	**Carrot Family**							
Daucus carota	Wild Carrot		5	-2	SNA			X
Asclepias syriaca	Common Milkweed	0	5		S5			X
Asteraceae	**Aster Family**							
Ambrosia artemisiifolia	Common Ragweed	0	3		S5			X
Arctium lappa	Great Burdock		3		SNA			X
Cirsium vulgare	Bull Thistle		3	-1	SNA			X
Eutrochium maculatum var. maculatum	Spotted Joe Pye Weed	3	-5		S5			X
Rhaponticum repens	Russian Knapweed		5		SNA			X
Solidago canadensis	Canada Goldenrod	1	3		S5			X
Tussilago farfara	Coltsfoot		3	-2	SNA			X
Xanthium strumarium	Rough Cockleburr	2	0		S5			X
Betula papyrifera	Paper Birch	2	2		S5			X
Ostrya virginiana	Eastern Hop-Hornbeam	4	4		S5			X
Brassicaceae	**Mustard Family**							
Alliaria petiolata	Garlic Mustard		0	-3	SNA			X
Caprifoliaceae	**Honeysuckle Family**							
Dipsacus fullonum	Common Teasel		3	-1	SNA			X
Cornus stolonifera	Red-Osier Dogwood	2	-3		S5			X
Fabaceae	**Legume Family**							

Appendix D

Plant Species List
Environmental Impact Assessment – Rezoning
2374868 Ontario Inc
6678 Wellington Rd. 34
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Medicago sativa ssp. sativa	Alfalfa		5	-1	SNA			X
Trifolium pratense	Red Clover		3	-2	SNA			X
Quercus rubra	Northern Red Oak	6	3		S5			X
Juglans nigra	Black Walnut	5	3		S4?			X
Lamiaceae	**Mint Family**							
Leonurus cardiaca ssp. cardiaca	Common Motherwort		5	-2	SNA			X
Tilia americana	Basswood	4	3		S5			X
Oleaceae	**Olive Family**							
Fraxinus americana	White Ash	4	3		S4			X
Fraxinus pennsylvanica	Green Ash	3	-3		S4			X
Syringa vulgaris	Common Lilac		5	-2	SNA			X
Papaveraceae	**Poppy Family**							
Chelidonium majus	Greater Celandine		5	-3	SNA			X
Polygonaceae	**Buckwheat Family**							
Rumex crispus	Curled Dock		0	-2	SNA			X
Rhamnaceae	**Buckthorn Family**							
Rhamnus cathartica	European Buckthorn		0	-3	SNA			X
Rosaceae	**Rose Family**							
Prunus serotina var. serotina	Black Cherry	3	3		S5			X
Rubus idaeus ssp. strigosus	North American Red Raspberry	0	-2		S5			X
Salicaceae	**Willow Family**							
Populus balsamifera	Balsam Poplar	4	-3		S5			X
Populus grandidentata	Large-Toothed Aspen	5	3		S5			X
Salix discolor	Pussy Willow	3	-3		S5			X
Sapindaceae	**Maple Family**							
Acer negundo	Manitoba Maple	0	-2		S5			X
Acer saccharinum	Silver Maple	5	-3		S5			X
Acer saccharum	Sugar Maple	4	3		S5			X
Ulmaceae	**Elm Family**							
Ulmus americana	White Elm	3	-2		S5			X
Poaceae	**Grass Family**							
Calamagrostis canadensis var. canadensis	Bluejoint Reedgrass	4	-5		S5			X
Phalaris arundinacea var. arundinacea	Reed Canary Grass	0	-3		S5			X
Phragmites australis ssp. australis	European Reed		-3		SNA			X
Typhaceae	**Cattail Family**							
Typha latifolia	Broad-Leaved Cattail	3	-5		S5			X

Appendix D

Plant Species List
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Notes
Co-efficient of Conservatism: This value, ranging from 0 (low) to 10 (high), is based on a species tolerance of disturbance and fidelity to a specific habitat integrity.
Weediness Index: This value, ranging from -1 (low) to -3 (high) quantifies the potential invasiveness of non-native plants. In combination with the percentage of non-native plants, it can be used as an indicator of disturbance.
Wetness Index: This value, ranging from -5 (obligate wetland) to 5 (upland) provides the probability of a species occurring in wetland or upland habitats.
S-Ranks- **S1: Critically Imperiled -** Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province. **S2: Imperiled** - Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province. vulnerable to extirpation. **S4: Apparently Secure -** Uncommon but not rare; some cause for long-term concern due to declines or other factors. **S5: Secure -** Common, widespread, and abundant in the nation or state/province. **SH: Possibly Extirpated (Historical)**—Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences. **SR: Reported** in Ontario, but without persuasive documentation. **SX: Presumed Extirpated**—Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered. **SE: Exotic**; not believed to be a native component of Ontario's flora. Numerical rankings after SE follow designations described above for native species. **SNA: Unranked** — Status not assigned. **SU: Unranked** — Nation or state/province conservation status not yet assessed.
ESA Status Endangered Species Act (ESA), 2007. Extirpated - EXP, Endangered - END, Threatened - THR, Special Concern - SC
SARA Status Species at Risk Act (SARA), 2002. Extirpated - EXP, Endangered - END, Threatened - THR, Special Concern - SC
Local Status Wellington: Riley, J.L., 1989. Distribution and Status of the Vascular Plants of Central Region, Ontario Ministry of Natural Resources, Central Region, Richmond Hill, ON. 110 pp. X - No status. Present and native in the CZ but no status assigned because of lack or information, often due to confusion with similar species

Appendix E

Bird List

Appendix E

Bird List
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Common Name	Scientific Name	Ontario Status	COSEWIC	SARA
Canada Goose	*Branta canadensis*	S5		
Bufflehead	*Bucephala albeola*	S4		
Hooded Merganser	*Lophodytes cucullatus*	S5B,S5N		
Turkey Vulture	*Cathartes aura*	S5B		
Sandhill Crane	*Grus canadensis*	S5B	NAR	
Killdeer	*Charadrius vociferus*	S5B,S5N		
Ring-billed Gull	*Larus delawarensis*	S5B,S4N		
Red-bellied Woodpecker	*Melanerpes carolinus*	S4		
Downy Woodpecker	*Picoides pubescens*	S5		
Blue Jay	*Cyanocitta cristata*	S5		
Black-capped Chickadee	*Poecile atricapilla*	S5		
American Robin	*Turdus migratorius*	S5B		
Song Sparrow	*Melospiza melodia*	S5B		
Dark-eyed Junco	*Junco hyemalis*	S5B		
Northern Cardinal	*Cardinalis cardinalis*	S5		
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	S4B		
Red-winged Blackbird	*Agelaius phoeniceus*	S4		
Common Grackle	*Quiscalus quiscula*	S5B		
Pine Siskin	*Spinus pinus*	S4B		

Acronyms:
S1: Extremely rare in Ontario; usually fewer than 5 occurrences
S1S2: Extremely rare to very rare in Ontario
S2: Very rare in Ontario; usually betw 5-20 occurrences
S2S3: Very rare to uncommon in Ontario
S3: Rare to uncommon in Ontario; usually between 20-100 occurrences
S3S4: Rare to common in Ontario
S4: Common in Ontario: apparently secure, usually more than 100 occurrences
S4S5: Common to very common in Ontario
S5: Very common in Ontario, demonstrably secure
SE: Exotic; not believed to be a native component of Ontario's fauna
SHB: Hypothetical breeder; not positively confirmed breeding in Ontario
SZ: Not of practical conservation concern as there are no clearly definable occurrences
SZB: No clearly definable occurrences of breeding
SZN: no clearly definable occurrences of a non-breeding species

END: Endangered
END-R: Regulated under the Ontario Endangered Species Act
THR: Threatened
SC: Special Concern
NAR: Not At Risk

Appendix F

Screening

Appendix F

SAR Background Screening
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Common Name	Scientific Name	Species At Risk Act (Sch 1)[1]	Endangered Species Act[2]	Habitat Requirements	*Likelihood to Occur within Site*	*Rationale to Occur*
Amphibians						
Western chorus frog - Great Lakes St. Lawrence/Canadian Shield Population	Pseudacris triseriata	THR	—	In Ontario, habitat of this amphibian species typically consists of marshes or wooded wetlands, particularly those with dense shrub layers and grasses, as this species is a poor climber. They will breed in almost any fishless pond including roadside ditches, gravel pits and flooded swales in meadows. This species hibernates in terrestrial habitats under rocks, dead trees or leaves, in loose soil or in animal burrows. During hibernation, this species is tolerant of flooding (Environment Canada 2015).	Low-	No wetlands within the Subject Lands
Birds						
Bank swallow	Riparia riparia	THR	THR	In Ontario, the bank swallow breeds in a variety of natural and anthropogenic habitats, including lake bluffs, stream and river banks, sand and gravel pits, and roadcuts. Nests are built in a vertical or near-vertical bank. Breeding sites are typically located near open foraging sites such as rivers, lakes, grasslands, agricultural fields, wetlands and riparian woods. Forested areas are generally avoided (Garrison 1999).	Low-	Soil piles were actively managed and disturbed with no nesting opportunity
Barn swallow	Hirundo rustica	THR	THR	In Ontario, barn swallow breeds in areas that contain a suitable nesting structure, open areas for foraging, and a body of water. This species nests in human made structures including barns, buildings, sheds, bridges, and culverts. Preferred foraging habitat includes grassy fields, pastures, agricultural cropland, lake and river shorelines, cleared right-of-ways, and wetlands (COSEWIC 2011). Mud nests are fastened to vertical walls or built on a ledge underneath an overhang. Suitable nests from previous years are reused (Brown and Brown 1999).	Moderate	A barn existed on site, however is actively used for storage and when doors are closed there are no openings or gaps for entrance. No old or current nests identified in the barn
Bobolink	Dolichonyx oryzivorus	THR	THR	In Ontario, bobolink breeds in grasslands or graminoid dominated hayfields with tall vegetation (Gabhauer 2007). Bobolink prefers grassland habitat with a forb component and a moderate litter layer. They have low tolerance for presence of woody vegetation and are sensitive to frequent mowing within the breeding season. They are most abundant in established, but regularly maintained, hayfields, but also breed in lightly grazed pastures, old or fallow fields, cultural meadows and newly planted hayfields. Their nest is woven from grasses and forbs. It is built on the ground, in dense vegetation, usually under the cover of one or more forbs (Martin and Gavin 1995).	Moderate	Potential within the cultural field meadows if left unmaitained- however these were all active hayfields

Appendix F

SAR Background Screening
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Township of Puslinch

Common Name	Scientific Name	Species At Risk Act (Sch 1)[1]	Endangered Species Act[2]	Habitat Requirements	*Likelihood to Occur within Site*	*Rationale to Occur*
Chimney swift	Chaetura pelagica	THR	THR	In Ontario, chimney swift breeding habitat is varied and includes urban, suburban, rural and wooded sites. They are most commonly associated with towns and cities with large concentrations of chimneys. Preferred nesting sites are dark, sheltered spots with a vertical surface to which the bird can grip. Unused chimneys are the primary nesting and roosting structure, but other anthropogenic structures and large diameter cavity trees are also used (COSEWIC 2007).	Low-	No strucutres with chimneys
Common nighthawk	Chordeiles minor	THR	SC	These aerial foragers require areas with large open habitat. This includes farmland, open woodlands, clearcuts, burns, rock outcrops, alvars, bog ferns, prairies, gravel pits and gravel rooftops in cities (Sandilands 2007)	Moderate	No-the site was continuously disturbed with continuous truck movement
Eastern meadowlark	Sturnella magna	THR	THR	In Ontario, the eastern meadowlark breeds in pastures, hayfields, meadows and old fields. Eastern meadowlark prefers moderately tall grasslands with abundant litter cover, high grass proportion, and a forb component (Hull 2003). They prefer well drained sites or slopes, and sites with different cover layers (Roseberry and Klimstra 1970)	Moderate	Potential within the cultural field meadows if left unmaitained-however these were all active hayfields
Eastern wood-pewee	Contopus virens	SC	SC	The eastern wood-pewee inhabits a wide variety of wooded upland and lowland habitats but is most commonly associated with the mid-canopy of forest clearings, and edge habitat in deciduous and mixed forests. It also occurs in anthropogenic habitats that provide an open forested aspect such as parks and suburban neighborhoods. It prefers intermediate-age mature forest stands with little understory vegetation (COSEWIC 2012).	High	suitable habitat within wooded communities in the Study Area
Grasshopper sparrow pratensis subspecies	Ammodramus savannarum (pratensis subspecies)	SC	SC	In Ontario, grasshopper sparrow is found in medium to large grasslands with low herbaceous cover and few shrubs. It also uses a wide variety of agricultural fields, including cereal crops and pastures. Close-grazed pastures and limestone plains (e.g. Carden and Napanee Plains) support highest density of this bird in the province (COSEWIC 2013).	Moderate	Potential within the cultural field meadows if left unmaitained-however these were all active hayfields

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SAR Background Screening
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Common Name	Scientific Name	Species At Risk Act (Sch 1)[1]	Endangered Species Act[2]	Habitat Requirements	*Likelihood to Occur within Site*	*Rationale to Occur*
Wood thrush	Hylocichla mustelina	THR	SC	In Ontario, wood thrush breeds in moist, deciduous hardwood or mixed stands that are often previously disturbed, with a dense deciduous undergrowth and with tall trees for singing perches. This species selects nesting sites with the following characteristics: lower elevations with trees less than16 m in height, a closed canopy cover (>70 %), a high variety of deciduous tree species, moderate subcanopy and shrub density, shade, fairly open forest floor, moist soil, and decaying leaf litter (COSEWIC 2012).	High	suitable habitat within wooded communities in the Study Area
Mammals						
Eastern small-footed myotis	Myotis leibii	—	END	This species is not known to roost within trees, but there is very little known about its roosting habits. The species generally roosts on the ground under rocks, in rock crevices, talus slopes, or rock piles, and occasionally inhabits buildings. Areas near the entrances of caves or abandoned mines may be used for hibernaculum, where the conditions are drafty with low humidity, and may be subfreezing (Humphrey 2017).	Moderate	Cavity trees identified within the Subject Lands
Little brown myotis	Myotis lucifugus	END	END	In Ontario, this species range is extensive and covers much of the province. It will roost in both natural and man-made structures. They require a number of large dead trees, in specific stages of decay and that project above the canopy in relatively open areas (Lacki, 2007). May form nursery colonies in the attics of buildings within 1 km of water. Caves or abandoned mines may be used for hibernaculum, but high humidity and stable above freezing temperatures are required.	Moderate	Cavity trees identified within the Subject Lands
Tri-colored bat	Perimyotis subflavus	END	END	In Ontario, tri-colored bat may roost in foliage, in clumps of old leaves, hanging moss or squirrel nests. They are occasionally found in buildings although there are no records of this in Canada (Poissant et al, 2010). They typically feed over aquatic areas with an affinity to large-bodied water and will likely roost in close proximity to these. Hibernation sites are found deep within caves or mines in areas of relatively warm temperatures. These bats have strong roost fidelity to their winter hibernation sites and may choose the exact same spot in a cave or mine from year to year.	Moderate	Potential within the wooded communities in the Study Area

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Common Name	Scientific Name	Species At Risk Act (Sch 1)[1]	Endangered Species Act[2]	Habitat Requirements	*Likelihood to Occur within Site*	*Rationale to Occur*
Northern myotis	Myotis septentrionalis	END	END	In Ontario, this species range is extensive and covers much of the province. It will usually roost in hollows, crevices, and under loose bark of mature trees. Roosts may be established in the main trunk or a large branch of either living or dead trees. Caves or abandoned mines may be used for hibernaculum, but high humidity and stable above freezing temperatures are required (COSSARO 2012).	Moderate	Cavity trees identified within the Subject Lands
Reptiles						
Eastern ribbonsnake - (Great Lakes population)	Thamnophis sauritus	SC	SC	In Ontario, eastern ribbonsnake is semi-aquatic, and is rarely found far from shallow ponds, marshes, bogs, streams or swamps bordered by dense vegetation. They prefer sunny locations and bask in low shrub branches. Hibernation occurs in mammal burrows, rock fissures or even ant mounds (COSEWIC 2012).	Low-	No wetlands within the Subject Lands
Milksnake	Lampropeltis triangulum	SC	NAR	In Ontario, milksnake uses a wide range of habitats including prairies, pastures, hayfields, wetlands and various forest types, and is well-known in rural areas where it frequents older buildings. Proximity to water and cover enhances habitat suitability. Hibernation takes place in mammal burrows, hollow logs, gravel or soil banks, and old foundations (COSEWIC 2014).	Low-	a lack of cover within the Subject Lands and level of disturbance would not create suitable habitat conditions
Snapping turtle	Chelydra serpentina	SC	SC	In Ontario, snapping turtle utilizes a wide range of waterbodies, but shows preference for areas with shallow, slow-moving water, soft substrates and dense aquatic vegetation. Hibernation takes place in soft substrates under water. Nesting sites consist of sand or gravel banks along waterways or roadways (COSEWIC 2008).	Low-	no wetlands within the Subject Lands, two offline ponds , the pond in the southwest was a Stormwater Management Pond with the Northern pond lacking vegetation
Vascular Plants						
Butternut	Juglans cinerea	END	END	In Ontario, butternut is found along stream banks, on wooded valley slopes, and in deciduous and mixed forests. It is commonly associated with beech, maple, oak and hickory (Voss and Reznicek 2012). Butternut prefers moist, fertile, well-drained soils, but can also be found in rocky limestone soils. This species is shade intolerant (Farrar 1995).	Low-	No butternut trees identified during field surveys

Notes
1 Species at Risk Act (SARA), 2002. Schedule 1; Part 1 (Extirpated), Part 2 (Endangered), Part 3 (Threatened), Part 4 (Special Concern)
2 Endangered Species Act (ESA), 2007. Schedule 1 (Extirpated - EXP), Schedule 2 (Endangered - END), Schedule 3 (Threatened - THR), Schedule 4 (Special Concern - SC)