PLANNING & DEVELOPMENT ADVISORY COMMITTEE
VIRTUAL MEETING BY ELECTRONIC PARTICIPATION &
IN-PERSON AT THE TOWNSHIP MUNICIPAL OFFICE –
7404 WELLINGTON ROAD 34, PUSLINCH
OCTOBER 10, 2023
7:00 p.m.

Register in advance:
https://us02web.zoom.us/webinar/register/WN_PPUWGd9NTsuUhjVvQdkE9g
Or join by phone:
Dial (for higher quality, dial a number based on your current location):
Canada: +1 647 558 0588
or +1 778 907 2071
or +1 438 809 7799
or +1 587 328 1099
or +1 613 209 3054
or +1 647 374 4685
Webinar ID: 814 7416 2662
Passcode: 174183
International numbers available: https://us02web.zoom.us/u/keGFQb8Y0D

AGENDA

PLANNING & DEVELOPMENT ADVISORY COMMITTEE:

≠ Denotes resolution prepared

1. Call the Meeting to Order (Opening Remarks)

2. Roll Call

3. Moment of Reflection

4. Confirmation of Agenda ≠

5. Disclosure of Conflict of Interest

6. Delegations

6.1 Specific Interest (Items Listed on the Meeting Agenda)

6.2 General Interest (Items Not Listed on the Meeting Agenda)

7. Consent Agenda

7.1 Approval of Minutes ≠

7.1.1 September 12, 2023

7.2 Other Consent Items

8. Notice of Public Meetings/Hearings

9. Reports

9.1 Land Division (Consents)

9.1.1 Severance Application B28-23 - REVISED (D10-AUG) – Susan & Jerry Auger – Part Lot 10, Concession 10, municipally known as 164 Hume Road, RR#1, Township of Puslinch. **≠**

Proposed severance is 1.18 hectares with 16 meters frontage, vacant land for proposed rural residential use.

Retained parcel is 6.49 hectares with 128 meters frontage, existing and proposed rural residential use with existing dwelling, septic and well.

9.2 Zoning By-Law Amendment Applications

10. Correspondence

10.1 (Items Referred by Council for Committee Comments)

11. New Business
11.1 Committee Memo – Training Opportunity – Property Standards Appeals

12. Adjournment ≠

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH
SEPTEMBER 12, 2023 PLANNING AND DEVELOPMENT
ADVISORY COMMITEE MEETING
IN-PERSON AND VIRTUAL MEETING BY ELECTRONIC PARTICIPATION

M I N U T E S

DATE: September 12, 2023
MEETING: Following Committee of Adjustment

The September 12, 2023 Planning and Development Advisory Committee Meeting was held on the above date and called to order at 7:16 p.m. via electronic participation and in-person at 23 Brock Rd S, Puslinch.

1. CALL THE MEETING TO ORDER

2. ROLL CALL

ATTENDANCE:

PRESENT:
Councillor John Sepulis, Chair
Jeffrey Born
Dennis O'Connor
Chris Pickard
Paul Sadhra

ABSENT:
None

STAFF IN ATTENDANCE:
Lynne Banks, Secretary/Treasurer
Laura Emery, Communications and Committee Coordinator
Zachary Prince, Senior Planner, County of Wellington
Asavari Jadhav, Planner, County of Wellington

3. MOMENT OF REFLECTION

4. CONFIRMATION OF THE AGENDA

Resolution No. 2023-082: Moved by Committee Member Dennis O'Connor and Seconded by Committee Member Chris Pickard

That the Committee approves the September 12, 2023 Agenda as circulated.

CARRIED.

5. DISCLOSURE OF CONFLICT OF INTEREST:

None

6. DELEGATIONS

None

7. CONSENT AGENDA

7.1 Approval of the Minutes

7.1.1 September 12, 2023

Resolution No. 2023-083: Moved by Committee Member Paul Sadhra and Seconded by Committee Member Jeff Born

That the Planning and Development Advisory Committee approves the Minutes from the meeting held August 9, 2023

CARRIED.

7.2 Other Consent Items

None

8. NOTICE OF PUBLIC MEETINGS/HEARINGS

None

9. REPORTS

9.1. LAND DIVISION (CONSENTS

9.1.1 Severance Application B62-23 (D10-DAM) – Flavia Damaren – Part Lot 10, Concession 10, municipally known as 218 Hume Road, Township of Puslinch. ≠

Proposed severance is 45 meters frontage x 180 meters = 0.8 hectares, vacant land for proposed rural residential use.

Retained parcel is 3.3 hectares with 55.58 meters frontage, existing and proposed rural residential use with existing house, shop and pool.

Resolution No. 2023-084: Moved by Committee Member Paul Sadhra and
Seconded by Committee Member Jeff Born

That the Committee supports Severance Application B62-23 subject to the following condition(s):

1. That the Owner satisfy all the requirements of the Township of Puslinch, financial and otherwise (including taxes paid in full and Consent Review/Condition Clearance fee) which the Township may deem to be necessary at the time of issuance of the Certificate of Consent for the property and orderly development of the subject lands. Any fees incurred by the Township for the review of this application will be the responsibility of the applicant; and further that the Township of Puslinch file with the Secretary-Treasurer of the Planning and Land Division Committee a letter of clearance of this condition.

2. That an EIS is provided to the Township for the purpose of a peer review to the satisfaction of the Township; and further that the Township of Puslinch file with the Secretary-Treasurer of the Planning and Land Division Committee a letter of clearance of this condition.

3. That the Owner enter into a Development Agreement with the Township of Puslinch for the purpose of the peer review of the EIS to include third party cost recovery; and further that the Township of Puslinch file with the Secretary-Treasurer of the Planning and Land Division Committee a letter of clearance of this condition.

CARRIED

9.2 ZONING BY-LAW AMENDMENT APPLICATIONS

None

10. CORRESPONDENCE

None

11. NEW BUSINESS

None

13. ADJOURNMENT

Resolution No. 2023-085 Moved by Committee Member Dennis O'Connor and Seconded by Committee Member Chris Pickard

That the Planning and Development Advisory Committee hereby adjourns at 7:27 p.m.

CARRIED.

County of Wellington Planning and Land Division Committee
Deborah Turchet, Secretary-Treasurer
Wellington County Administration Centre
74 Woolwich Street, Guelph ON N1H 3T9

September 8, 2023

NOTICE OF A REVISED APPLICATION FOR CONSENT

Ontario Planning Act, Section 53(4)

The County of Wellington Planning and Land Division Committee requests your written comments on this application for consent.

REVISED APPLICATION SUBMITTED ON: August 30, 2023

FILE NO. B28-23

APPLICANT
Susan & Jerry Auger
164 Hume Road
RR#1
Puslinch N0B 2J0

LOCATION OF SUBJECT LANDS
Township of Puslinch
Part Lot 10
Concession 10

Proposed severance is 1.18 hectares with 16m frontage, vacant land for proposed rural residential use.

Retained parcel is 6.49 hectares with 128m frontage, existing and proposed rural residential use with existing dwelling, septic and well.

IF YOU WISH TO SUBMIT COMMENTS ON THIS APPLICATION, WE MUST HAVE YOUR WRITTEN COMMENTS BEFORE

October 18, 2023

Comments can be provided by mail at address above or by email landdivisioninfo@wellington.ca

Please note that if the Comments are not received by the requested date, the Planning and Land Division Committee may proceed to consider the application, and may assume that you have no objection to this Application for Consent.

NOTE: Any verbal or written comment/objection submitted to the County of Wellington regarding this application which is being processed under the Planning Act, may be made public as part of the process.

Please also be advised that if a person or public body that files an appeal of a decision of the County of Wellington Planning and Land Division Committee in respect of the proposed consent has not made written submission to the County of Wellington Planning and Land Division Committee before it gives or refuses to give a provisional consent, then the Ontario Land Tribunal may dismiss the appeal.

If you wish to **attend** the public meeting to consider the application, please request to be **NOTIFIED OF THE DATE AND TIME OF THE CONSIDERATION** of this application - **please make your request in writing and provide your email address** to the Planning and Land Division Committee before the "Comments Return Date" noted above.

If you wish to be **NOTIFIED OF THE DECISION** of the County of Wellington Planning and Land Division Committee in respect of this proposed consent, **you must make a request in writing** to the County of Wellington Planning and Land Division Committee. This will also entitle you to be advised of a possible Ontario Land Tribunal. Even if you are the successful party, you should request a copy of the decision since the County of Wellington Planning and Land Division Committee's decision may be appealed to the Ontario Land Tribunal by the applicant or another member of the Public.

INFORMATION REGARDING THE APPLICATION is available to the public during regular business hours, Monday to Friday at the County of Wellington Planning and Land Division Office- 74 Woolwich St. Guelph, ON N1H 3T9.
Phone: (519) 837-2600 x2170 Fax: (519) 837-3875

MAILED TO:

Local Municipality – Puslinch County Planning Conservation Authority - GRCA

Source Water Protection

Bell Canada (email) County Clerk Roads/Solid Waste Civic Addressing

Neighbour - as per list verified by local municipality and filed by applicant with this application

APPLICATION FOR CONSENT

Ontario Planning Act

1. Approval Authority:

County of Wellington Planning and Land Division Committee
County of Wellington Administration Centre
74 Woolwich Street, GUELPH, Ontario N1H 3T9

Phone: 519-837-2600, ext. 2170 or 2160 **Fax:** 519-837-3875

Required Fee: $ 4960
Fee Received: Mar 29/23
File No. B28-23
Accepted as Complete on: Mar 29/23

A COPY OF YOUR CURRENT DEED MUST BE SUBMITTED WITH THIS APPLICATION

2. (a) Name of Registered Owner(s) or Purchaser Susan and Jerry Auger

Address 164 Hume Road, Puslinch

Phone No. [redacted] **Email:** [redacted]

NOTE: if application submitted by purchaser, a copy of the signed "Purchase/Sale agreement" is required.

(b) Name and Address of Applicant (as authorized by Owner/Purchaser)

N/A

Phone No. _____ **Email:** _____

(c) Name and Address of Owner's Authorized Agent:

GSP Group Inc.

201 - 72 Victoria Street South, Kitchener, ON

Phone No. 519-569-8883 **Email:** vschmidt@gspgroup.ca

(d) All Communication to be directed to:

REGISTERED OWNER/PURCHASER [ ] **APPLICANT [ ]** **AGENT [x]**

(e) Notice Cards Posted by:

REGISTERED OWNER/PURCHASER [x] **APPLICANT [ ]** **AGENT [ ]**

(f) Number of Certificates Requested 1 **(Please see information pages)**

3. **Type and Purpose of Proposed Transaction:** (Check off appropriate box & provide short explanation)

RURAL RESIDENTIAL[x] AGRICULTURAL[ ] URBAN RESIDENTIAL[ ] COMMERCIAL/INDUSTRIAL[ ]

Create a new lot on rural lands

OR

EASEMENT [ ] RIGHT OF WAY [ ] CORRECTION OF TITLE [ ] LEASE [ ] CANCELLATION [ ]

(a) If known, the name of person to whom the land or an interest in the land is to be transferred, charged or leased.

4. (a) Location of Land in the County of Wellington:

Local Municipality: Township of Puslinch

Concession 10 Lot No. Part Lot 10

Registered Plan No. _____ Lot No. _____

Reference Plan No. _____ Part No. _____

Civic Address 164 Hume Road

(b) When was property acquired: October 14, 2011 **Registered Instrument No.** WC325467

5. Description of **Land** intended to be **SEVERED**: **Metric [x]** **Imperial [ ]**

Frontage/Width 16 m AREA 1.2 h

Depth 409 m Existing Use(s) Vacant

Existing Buildings or structures: None

Proposed Uses (s): Rural Residential

Type of access (Check appropriate space) **Existing [ ]** **Proposed [x]**

[ ] Provincial Highway
[ ] County Road
[x] Municipal road, maintained year round
[ ] Municipal road, seasonally maintained
[ ] Easement

[ ] Right-of-way
[ ] Private road
[ ] Crown access road
[ ] Water access
[ ] Other

Type of water supply - Existing [ ] Proposed [x] (check appropriate space)

[ ] Municipally owned and operated piped water system
[x] Well [x] individual [ ] communal
[ ] Lake
[ ] Other _____

Type of sewage disposal - Existing [ ] Proposed [x] (check appropriate space)

[ ] Municipally owned and operated sanitary sewers
[x] Septic Tank (specify whether individual or communal): _____
[ ] Pit Privy
[ ] Other (Specify): _____

6. Description of **Land** intended to be **RETAINED**: **Metric [x]** **Imperial [ ]**

Frontage/Width 128 m AREA 6.4 h

Depth 303 m Existing Use(s) Rural Residential

Existing Buildings or structures: Single detached dwelling, septic and well

Proposed Uses (s): No change in use.

Type of access (Check appropriate space) **Existing [x]** **Proposed [ ]**

[ ] Provincial Highway
[ ] County Road
[x] Municipal road, maintained year round
[ ] Municipal road, seasonally maintained
[ ] Easement
[ ] Right-of-way
[ ] Private road
[ ] Crown access road
[ ] Water access
[ ] Other

Type of water supply - Existing [x] Proposed [ ] (check appropriate space)

[ ] Municipally owned and operated piped water system
[x] Well [x] individual [ ] communal
[ ] Lake
[ ] Other

Type of sewage disposal - Existing [x] Proposed [ ] (check appropriate space)

[ ] Municipally owned and operated sanitary sewers
[x] Septic Tank (specify whether individual or communal):
[ ] Pit Privy
[ ] Other (Specify):

7. Is there an agricultural operation, (either a barn, manure storage, abattoir, livestock area or stockyard) within 500 metres of the Subject lands (severed and retained parcels)? **YES [x]** **NO [ ]**
*If yes, see sketch requirements and the application must be accompanied by a MINIMUM DISTANCE SEPARATION FORM.

8. Is there a landfill within 500 metres [1640 feet]? **YES [ ]** **NO [x]**

9. a) Is there a sewage treatment plant or waste stabilization plant within 500 metres [1640']? **YES [ ]** **NO [x]**

10. Is there a Provincially Significant Wetland (e.g. swamp, bog) located on the lands to be retained or to be severed or within 120 metres [394 feet]? **YES [x]** **NO [ ]**

11. Is there any portion of the land to be severed or to be retained located within a floodplain? **YES [ ]** **NO [x]**

12. Is there a provincial park or are there Crown Lands within 500 metres [1640']? **YES [ ]** **NO [x]**

13. Is any portion of the land to be severed or retained within a rehabilitated mine/pit site? **YES [ ]** **NO [x]**

14. Is there an active or abandoned mine, quarry or gravel pit within 500 metres [1640']? **YES [ ]** **NO [x]**

15. Is there a noxious industrial use within 500 meteres [1640']? **YES [ ]** **NO [x]**

16. Is there an active or abandoned principal or secondary railway within 500 metres [1640']? **YES [ ]** **NO [x]**

Name of Rail Line Company:

17. Is there an airport or aircraft landing strip nearby? **YES [ ] NO [x]**

18. Is there a propane retail outlet, propane filling tank, cardlock/keylock or private propane outlet/container refill centre within 750 metres of the proposed subject lands? **YES [ ] NO [x]**

19. PREVIOUS USE INFORMATION:

a) Has there been an industrial use(s) on the site? **YES [ ] NO [x] UNKNOWN [ ]**

If YES, what was the nature and type of industrial use(s)?

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b) Has there been a commercial use(s) on the site? **YES [ ] NO [x] UNKNOWN [ ]**

If YES, what was the nature and type of the commercial use(s)

---

c) Has fill been brought to and used on the site (other than fill to accommodate septic systems or residential landscaping?) **YES [ ] NO [ ] UNKNOWN [x]**

d) Has there been commercial petroleum or other fuel storage on the site, underground fuel storage, or has the site been used for a gas station at any time, or railway siding? **YES [ ] NO [x] UNKNOWN [ ]**

If YES, specify the use and type of fuel(s) _____

20. Is this a **resubmission** of a previous application? **YES [ ] NO [x]**

If YES, is it identical **[ ]** or changed **[ ]** Provide previous File Number _____

21. a) Has any severance activity occurred on the land from the holding which existed as of March 1, 2005 and as registered in the Land Registry/Land Titles Office? **YES [ ] NO [x]**

b) If the answer in (a) is YES, please indicate the previous severance(s) on the required sketch and provide: **Transferee's Name, Date of the Transfer and Use of Parcel Transferred.**

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22. Has the parcel intended to be severed ever been, or is it now, the subject of an application for a plan of subdivision or other Consent or approval under the Planning Act or its predecessors? **YES [ ] NO [x] UNKNOWN [ ]**

23. Under a separate application, is the Owner, applicant, or agent applying for additional consents on this holding simultaneously with this application? **YES [ ] NO [x]**

24. Provide explanation of how the application is consistent with the Provincial Policy Statement.

Please see cover letter.

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25. In addition to Places to Grow (Provincial Growth Plan), is the subject land within an area of land designated under the Greenbelt Plan? Provide explanation of how the application conforms or does not conflict with the Provincial plan or plans.

Please see cover letter.

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26. a) Indicate the existing **County Official Plan** designation(s) of the subject land, and provide explanation of how the application conforms with the Official Plan (severed and retained).

Please see cover letter.

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b) Indicate the existing **Local Official Plan** (if any) designation(s) of the subject land, and provide explanation of how the application conforms with the Official Plan (severed and retained).

N/A

c) If this consent relates directly to an Official Plan Amendment(s) currently under review by an approval authority, please indicate the Amendment Number and the applicable file number(s).

Amendment Number(s): _____ File Number(s): _____

27. Is the subject land a proposed surplus farm dwelling?* **YES [ ] NO [x]**

*If yes, an application to sever a surplus farm dwelling must be accompanied by a FARM INFORMATION FORM.

28. What is the zoning of the subject lands? Agricultural and Environmental Protection Overlay

29. Does the proposal for the subject lands conform to the existing zoning? **YES [ ] NO [x]**

If NO, a) has an application been made for re-zoning?
YES [ ] NO [x] File Number _____

b) has an application been made for a minor variance?
YES [ ] NO [x] File Number _____

30. Are the lands subject to any mortgages, easements, right-of-ways or other charges? **YES [x] NO [ ]**

If the answer is YES, please provide a copy of the relevant instrument.
For mortgages just provide complete name and address of Mortgagee. Line of Credit - TD Bank - 496 Edinburgh Road South, Guelph, N1G 4Z1

Questions 31 – 34 must be answered for Applications for severance in the Rural/Agricultural Area -- Otherwise, if this is not applicable to your application, please state "not Applicable"

31. **Type of Farm Operation** conducted on these subject lands: N/A

Type: Dairy [ ] Beef Cattle [ ] Swine [ ] Poultry [ ] Other [ ]

32. **Dimensions of Barn(s)/Outbuildings/Sheds (*that are to remain*) Severed & Retained Lands**

Severed Width _____ Length _____ Area _____ Use _____

Width _____ Length _____ Area _____ Use _____

Retained Width _____ Length _____ Area _____ Use _____

Width _____ Length _____ Area _____ Use _____

33. **Manure Storage Facilities** on these lands:

DRY	SEMI-SOLID	LIQUID
Open Pile [ ]	Open Pile [ ]	Covered Tank [ ]
Covered Pile [ ]	Storage with Buck Walls [ ]	Aboveground Uncovered Tank [ ]
		Belowground Uncovered Tank [ ]
		Open Earth-sided Pit [ ]

GSP group

SHAPING GREAT COMMUNITIES

August 30, 2023 File No. 22165

Land Division
74 Woolwich Street
Administration Centre, Third Floor
Guelph, ON N1H 3T9

Attn: Deborah Turchet
Supervisor, Secretary-Treasurer Land Division

Re: Consent Application - County File No. B28-23
164 Hume Road, Township of Puslinch

On March 29, 2023, GSP Group Inc., on behalf of the owners, Jerry and Susan Auger, submitted a Consent application to create on new parcel on the property legally described as Part of Lot 10, Concession 10 in the Township of Puslinch or municipally known as 164 Hume Road (the "Subject Property").

The Owners are proposing to create a new lot (the "Severed Lot") that will be approximately 1.18 hectares (2.9 acres) in area with access from a 16-metre-wide entrance onto Hume Road. The remaining lands (the "Retained Lot") that currently contains the existing dwelling, septic and well will be approximately 6.4 hectares (15.8 acres) in area and will utilize the existing entrance onto Hume Road.

On June 1, 2023, GSP Group Inc., sent a request to the County of Wellington to defer Consent application B28-23 for 164 Hume Road to address some of the issues identified within the Land Division report dated May 17th, 2023. The following below will highlight some those concerns and how they have been addressed.

1. The Consent Sketch (dated July 10, 2023) prepared by Van Harten Surveying Inc. has been updated to:
    a. Delineate the existing shed which is proposed to be used in the future for agricultural purposes on the neighbouring property at 178 Hume Road.
    b. Illustrate a revised 30-metre buffer for a portion of the Severed Lot from the identified wetland feature. The entire Severed Lot will now maintain a 30-metre buffer from the wetland feature.

2. Scoped Environmental Impact Study R2 (Revision 2) prepared by Aboud & Associates Inc. that has been reviewed by Azimuth Environmental Consulting Inc. On August 28, 2023, Azimuth Environmental Consulting Inc. issued a letter with respect to the above report confirming all that review comments have been addressed. The Land Division report raised concerns that the Severed Lot would be located less than 30 metres from an

identified Key Hydrological Feature (wetland) on the Retained Lot. As such, the EIS has been updated to ensure the Severed Lot is greater than 30 metres from the identified Provincially Significant Wetland ("PSW") which is consistent with the Provincial Growth Plan and County of Wellington Official Plan. The refined 30-metre buffer from the PSW has also been revised on the Consent Sketch prepared by Van Harten Surveying Inc.

3. Further discussions with the GRCA were held based on their correspondence dated April 21, 2023, in the May 23, 2023 Land Division report. Based on preliminary discussions with the GRCA, it is our understanding that there are no concerns with the proposed Severed Lot provided a paige wire fence is located at the rear of the property. We would confirm that there is an existing paige wire fence at the rear of the Severed Lot. Accordingly, we would request that Condition 10 (noted in the May 17, 2023 Land Division Report) related to fencing be removed as it is no longer required. We would also confirm that no gates or access will be available to Starkey Hill via the proposed Severed Lot.

4. Based on information provided from the owner at 178 Hume Road, the MDS setback was calculated at 171 metres by the County of Wellington Planning and Development Department. The distance between the shed and the existing property line is 18.8 metres. We note that the proposed house on the Severed Lot will be further setback from the east property line. We believe that based on the size of the shed and range of animals proposed that this will be for hobby farming purposes and is able to co-exist with the proposed home on the Severed Lot.

As a condition of final approval of the Consent, a Minor Variance application will be required to request relief from the minimum lot frontage from the required 25 metres to 16 metres. The Minor Variance application will also include a request for a reduced MDS setback to facilitate a residential dwelling on the proposed Severed Lot.

In support of the Consent application B28-23, the following documents have been provided:

- Updated Consent Sketch prepared by Van Harten Surveying Inc., dated July 10, 2023 (with revised 30-metre buffer and location of adjacent shed to be used for future agricultural purposes).
- Revised Scoped Environmental Impact Study R2 (Revision 2) prepared by Aboud & Associates Inc., dated August 23, 2023, and
- A copy of the peer review letter dated August 28, 2023, prepared by Azimuth Environmental Consulting Inc., confirming all peer review comments have been addressed.

If you require any additional information, please contact one of the undersigned below.

Sincerely,
GSP Group Inc.

Hugh Handy, MCIP, RPP
Vice President
226-243-7296
hhandy@gspgroup.ca

Valerie Schmidt, MCIP, RPP
Senior Planner
226-243-7445
vschmidt@gspgroup.ca

Cc: Jerry and Susan Auger
Shannon Davison, Aboud & Associates
Jeff Buisman, Van Harten Surveying Ltd.

34. Are there any drainage systems on the retained and severed lands? **YES [ ] NO [ ]**

Type	Drain Name & Area	Outlet Location
Municipal Drain [ ]		Owner's Lands [ ]
Field Drain [ ]		Neighbours Lands [ ]
		River/Stream [ ]

35. Source Water Protection Plan

Is the subject land within a Wellhead Protection Area, Issue Contributing Area, or Intake Protection Zone of a Source Protection Plan in effect? (www.wellingtonwater.ca) **YES [x] NO [ ]**

If YES, please complete the Source Water Protection Form and submit with your application.

36. Have you had a pre-consultation meeting with **County Planning Staff** before filling out this application form? **Please refer to instruction page.**

YES [ ] NO [ ]

If yes, please indicate the person you have met/spoken to: Zach Prince

37. If you wish to provide some further information that may assist the Planning and Land Division Committee in evaluating your application, please provide by a letter and attach it to this application.

NOTES:

1. **One original completed application and two original sketches must be filed with the County of Wellington Planning and Land Division office.** Please provide sketch no larger than 11" x 17".
2. The location of the lands (severed & retained) which are the subject of the application must also be shown on the Surveyor's sketch or on an attached "Key Map" and included with the application.
3. Since the filing fee for applications for consent change from time to time, please contact the Planning and Land Division office for current fee information. This fee may be paid in cash or by cheque payable to the County of Wellington.
4. Additional information about the process, about any particular application or obtaining application forms may be obtained by attending at the County of Wellington Administration Centre, 74 Woolwich Street, Guelph Ontario N1H 3T9, by telephone at 519-837-2600, ext. 2170; or by facsimile (fax) at 519-837-3875.
5. Generally, regular severance application forms are also available at the local municipal office.
6. Some municipalities may require the applicant to complete a pre-consultation prior to the Municipality's submitting comments to the County of Wellington Planning and Land Division Committee. Please check with your local municipality on this matter.
7. If the applicant is a Corporation, then the applicant's Declaration or if applicable, the Owner's authorization too, must be signed by an officer of the corporation who has authority to bind the corporation; or the corporation's seal must be affixed.

OWNER'S/PURCHASER'S AUTHORIZATION:

The Owner/Purchaser must complete the following to authorize applicant, agent or solicitor to act on their behalf.

NOTE: If more than one owner/purchaser is listed in item #2 of this application, then all owners/purchasers must sign this authorization section of the application form or by a letter of authorization duly signed.

If the Owner/Purchaser is a corporation, the authorization must be by an officer of the corporation who has authority to bind the corporation.

I, (we), Susan and Jerry the Registered Owners/Purchasers of 164 Hume Road Of the Township of Puslinch in the County/Region of Wellington severally and jointly, solemnly declare that GSP Group c/o Hugh Handy and Valerie Schmidt

Is authorized to submit an application for consent on my (our) behalf.

[redacted] [redacted]

Owner(s)/Purchasers or Corporation's Officer

APPLICANT'S DECLARATION

This must be completed by the Applicant for the proposed consent

I, (we) Valerie Schmidt of the City of Waterloo In the County/Region of Waterloo **Solemnly declare that all the statements contained in this application for consent for** (property description) 164 Hume Road in Township of Puslinch.

And all the supporting documents are true, and I, (we), make this solemn declaration conscientiously believing it to be true and complete, and knowing that it is of the same force and effect as if made under oath, and virtue of the CANADA EVIDENCE ACT.

DECLARED before me at the

[redacted]

CITY Of

(Owner/Purchaser or Applicant)

KITCHENER In the

County/Region of WATERLOO

This 28 day of MARCH 20 23

(Owner/Purchaser or Applicant)

[redacted]

Natasha Wilson, a Commissioner, etc., Province of Ontario, for GSP Group Inc. Expires August 25, 2024.

Commissioner of Oaths

Printed Commissioner's, etc. Name

APPLICANT'S CONSENT (FREEDOM OF INFORMATION):

In accordance with the provisions of the Planning Act, it is the policy of the County Planning and Development Department to provide public access to all development applications and supporting documentation. In submitting this development application and supporting documentation, I, Valerie Schmidt, the applicant, hereby acknowledge the above-noted and provide my consent in accordance with the provisions of the Municipal Freedom of Information and Protection of Privacy Act that the information on this application and any supporting documentation provided by myself, my agents, solicitors, and consultants will be part of the public record and will also be available to the general public.

[redacted]

Signature of Owner/Purchaser/Applicant/Agent(s)

March 28, 2023

Date

THIS APPLICATION PACKAGE IS TO BE SUBMITTED TO:

Secretary-Treasurer
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph, Ontario
N1H 3T9

Phone (519) 837-2600 Ext. 2170

FARM DATA SHEET
Minimum Distance Separation I (MDSI)

County of Wellington

NOTE TO FARM OWNER(S)
By filling out this form you will help to ensure that new land uses will be located a suitable distance from your livestock operation. Feel free to contact the County Planning office with any questions.

Owner(s) of Livestock Facility: Brigitte Strachan

Contact Information

Email: _____ Telephone: _____

Civic Address: 169 Hume Road Municipality: Puslinch

Lot: _____ Concession: _____ Division: _____

Lot Size (where livestock facility is located): 3.8 hectares 9.7 acres

Signature of Livestock Facility Owner (based on Severance B147-17) Date: _____

BARN(S) SIZE Please provide the size of the barns located on the property. This information is used to verify maximum livestock capacity. 163 ft²/m² _____ ft²/m²

Manure Storage Types Solid manure: 18% dry matter, or more Liquid manure: <18% dry matter

V1	Solid, inside, bedded pack
V2	Solid, outside, covered
V3	Solid, outside, no cover, ≥30% dry matter
V4	Solid, outside, no cover, 18% - <30% dry matter, with covered liquid runoff storage
V5	Liquid, inside, underneath slatted floor
V6	Liquid, outside, with a permanent, tight-fitting cover
L1	Solid, outside, no cover, 18%- <30% dry matter, with uncovered liquid runoff storage
L2	Liquid, outside, with a permanent floating cover
M1	Liquid, outside, no cover, straight-walled storage
M2	Liquid, outside, roof, but with open sides
H1	Liquid, outside, no cover, sloped-sided storage

Animal Type of Material	Description	Housing Capacity (maximum)	Manure Storage Type (select from list)
Beef Cattle	Cows, including calves to weaning (all breeds)		
	Feeders (7 – 16 months)		
	Backgrounders (7 – 12.5 months)		
	Shortkeepers (12.5 – 17.5 months)		
Dairy Cattle	Milking-age cows (dry or milking)		
	Large-framed; 545 – 658 kg (e.g. Holsteins)		
	Medium-framed; 455 – 545 kg (e.g. Guernseys)		
	Small-framed; 364 – 455 kg (e.g. Jerseys)		
	Heifers (5 months to freshening)		
	Large-framed; 182 – 545 kg (e.g. Holsteins)		
	Medium-framed; 148 – 455 kg (e.g. Guernseys)		
	Small-framed; 125 – 364 kg (e.g. Jerseys)		
	Calves (0 – 5 months)		
	Large-framed; 45 – 182 kg (e.g. Holsteins)		
	Medium-framed; 39 – 148 kg (e.g. Guernseys)		
	Small-framed; 30 – 125 kg (e.g. Jerseys)		
Horses	Large-framed, mature; >681 kg (e.g. draft or draft cross breeds including unweaned offspring)		
	Medium-framed, mature; 227 – 680 kg (e.g. saddle, riding and racing breeds including unweaned offspring)	7	V3
	Small-framed, mature; <227 kg (e.g. ponies and miniatures including unweaned offspring)		

FARM DATA SHEET (continued) **County of Wellington**

Minimum Distance Separation I (MDSI)

Animal Type of Material	Description	Housing Capacity (maximum)	Manure Storage Type (select from list)
Swine	Sows with litter, dry sows or boars		
	Breeder gilts (entire barn designed specifically for this purpose)		
	Weaners (7 – 27 kg)		
	Feeders (27 – 136 kg)		
Sheep	Ewes & rams (for meat lambs; includes unweaned offspring & replacements)		
	Ewes & rams (dairy operation; includes unweaned offspring & replacements)		
	Lambs (dairy or feeder lambs)		
Goats	Does & bucks (for meat kids; includes unweaned offspring and replacements)		
	Does & bucks (for dairy; includes unweaned offspring & replacements)		
	Kids (dairy or feeder kids)		
Chickens	Layer hens (for eating eggs; after transfer from pullet barn)		
	Layer pullets (day-olds until transferred into layer barn)		
	Broiler breeder growers (males/females transferred out to layer barn)		
	Broiler breeder layers (males/females transferred in from grower barn)		
	Broilers on any length of cycle		
Turkeys	Turkey poults (day-old until transferred to grow out turkey barn)		
	Turkey breeder layers (males/females transferred in from grower barn)		
	Breeder toms		
	Broilers (day-olds to 6.2 kg)		
	Hens (day-olds up to 6.2 to 10.8 kg; 7.5 kg is typical)		
	Toms (day-olds to over 10.8 to 20 kg; 14.5 kg is typical)		
	Turkeys at any other weights, or if unknown (by floor area)		
Veal	Milk-fed		
	Grain-fed		
Other	Please refer to Factor Table 1 of The Minimum Distance Separation (MDS) Document for complete list of animal types		
Imported manure	Use the volume of the manure storages		
Unoccupied livestock barns	A livestock barn that does not currently house any livestock, but that housed livestock in the past and continues to be structurally sound and reasonably capable of housing livestock.*		

*NOTE: This should only be used where obtaining information from the farm operator(s) and/or owner(s) was not possible (see Implementation Guideline 20 for more information).

QUESTIONS?
PLEASE CONTACT

County of Wellington
Planning and Development Department
74 Woolwich Street, Guelph
ON N1H 3T9

P 519.837.2600 x2170
F 519.923.1694

Ontario

AgriSuite

MDS I

General information

Application date
Mar 29, 2023

Municipal file number

Proposed application
Lot creation for four, or more, residential lots outside of a settlement area

Applicant contact information
Susan and Jerry Auger
164 Hume Road
Township of Puslinch, ON
N0B 2J0
[redacted]

Location of subject lands
County of Wellington
Township of Puslinch
PUSLINCH
Concession 10 , Lot 10
Roll number: 2301000008039000000

Calculations

169 Hume Road, Horse Barn

Farm contact information
Brigitte Strachan
169 Hume Road
Township of Puslinch, ON
N0B 2J0

Location of existing livestock facility or anaerobic digestor
County of Wellington
Township of Puslinch
PUSLINCH
Concession 10 , Lot 11
Roll number: 2301000008039000000

Total lot size
9.4 ac

Livestock/manure summary

Manure Form	Type of livestock/manure	Existing maximum number	Existing maximum number (NU)	Estimated livestock barn area
Solid	Horses, Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	7	7 NU	1750 ft²

⚠ **Confirm Livestock/Manure Information (169 Hume Road, Horse Barn)**
The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Setback summary

Existing manure storage	V3. Solid, outside, no cover, >= 30% DM
Design capacity	7 NU
Potential design capacity	7 NU

Factor A (odour potential)	0.7	Factor B (design capacity)	156.66
Factor D (manure type)	0.7	Factor E (encroaching land use)	2.2

Building base distance 'F' (A x B x D x E) (minimum distance from livestock barn)	169 m (554 ft)
Actual distance from livestock barn	NA
Storage base distance 'S' (minimum distance from manure storage)	No existing manure storage
Actual distance from manure storage	NA

Preparer signoff & disclaimer

Preparer contact information
Valerie Schmidt
GSP Group Inc.
72 - 201 Victoria Street South
Kitchener, ON
N2G 4Y9
519-569-8883
vschmidt@gspgroupca

Signature of preparer

[redacted] March 29, 2023

Valerie Schmidt , Senior Planner — **Date (mmm-dd-yyyy)**

Note to the user

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has developed this software program for distribution and use with the Minimum Distance Separation (MDS) Formulae as a public service to assist farmers, consultants, and the general public. This version of the software distributed by OMAFRA will be considered to be the official version for purposes of calculating MDS. OMAFRA is not responsible for errors due to inaccurate or incorrect data or information; mistakes in calculation; errors arising out of modification of the software, or errors arising out of incorrect inputting of data. All data and calculations should be verified before acting on them.

NOTES:

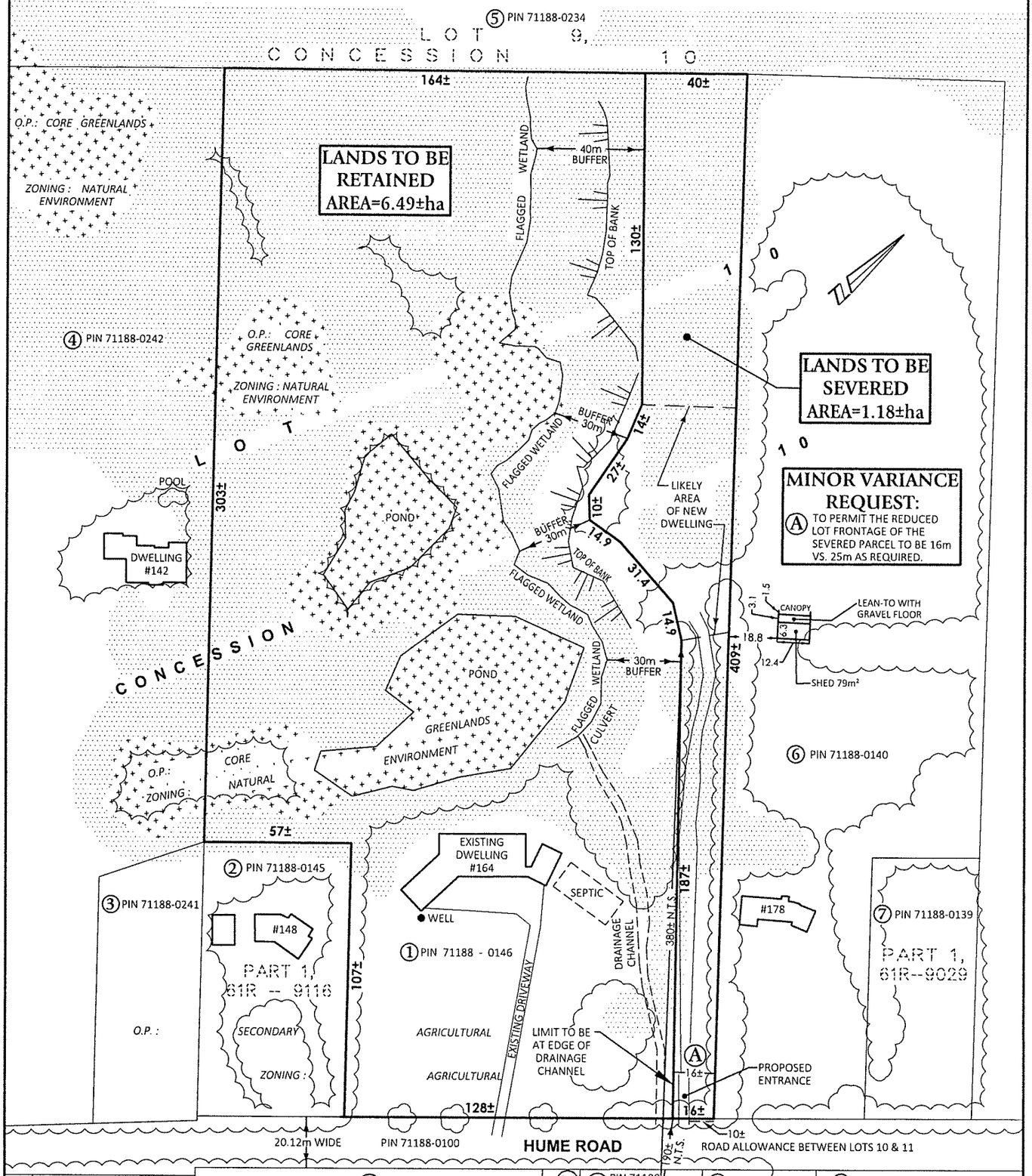
1. **THIS IS NOT A PLAN OF SURVEY AND SHOULD NOT BE USED FOR REAL ESTATE TRANSFERS OR MORTGAGES.**
2. SUBJECT LANDS ARE ZONED AGRICULTURAL, ENVIRONMENTAL PROTECTION OVERLAY, AND NATURAL ENVIRONMENT.
3. SUBJECT LANDS HAVE AN OFFICIAL PLAN DESIGNATION OF SECONDARY AGRICULTURAL, GREENLANDS & CORE GREENLANDS.
4. DISTANCES ON THIS PLAN ARE SHOWN IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.
5. SEE ATTACHED LIST OF NAMES AND ADDRESSES OF OWNERS.
6. DIMENSIONS ON THIS SKETCH ARE APPROXIMATE AND HAVE NOT BEEN VERIFIED BY SURVEY.
7. N.T.S. DENOTES NOT TO SCALE.

SEVERANCE SKETCH
PART OF LOT 10, CONCESSION 10
TOWNSHIP OF PUSLINCH
COUNTY OF WELLINGTON

SCALE 1 : 1500

0 15 30 60 90 metres

VAN HARTEN SURVEYING INC.



OP : GREENLANDS
ZONING : ENVIRONMENTAL PROTECTION OVERLAY

OP : CORE GREENLANDS
ZONING : NATURAL ENVIRONMENT

SURVEYORS CERTIFICATE:

THIS SKETCH WAS PREPARED ON THE 27th DAY OF MARCH 2023.
UPDATED ON THE 10th DAY OF JULY 2023.

JEFFREY E. BUISMAN
ONTARIO LAND SURVEYOR

Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

Waterloo	Guelph	Orangeville
Ph: 519-742-8371	Ph: 519-821-2763	Ph: 519-940-4110

www.vanharten.com info@vanharten.com

DRAWN BY: ARN	CHECKED BY: JEB	PROJECT No. 29812-21

Jul 10,2023–1:29pm
G:\PUSLINCH\Con10\LOT 10\ACAD\SEV PTLOT10 (AUGER) UTM 2.dwg

RAR-23

164 Hume Road

Puslinch Township, Wellington County

Scoped Environmental Impact Study R2

Prepared for:

Sue and Jerry Auger

Prepared by:

Aboud & Associates Inc.

Shannon Davison, Author

Cheryl-Anne Ross, Senior Review

Project Number:

AA21-148A

Date:

August 23, 2023

ABOUD & ASSOCIATES INC.

Consulting Arborists • Ecologists • Landscape Architects

3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8 . 519.822.6839 . www.aboudtng.com

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Appendices

Glossary of Terms

BBS: Breeding Bird Survey

CC: Coefficient of Conservatism

CW: Coefficient of Wetness

COSSARO: Committee on the Status of Species at Risk Ontario

COSEWIC: Committee on the Status of Endangered Wildlife in Canada

DFO: Department of Fisheries and Oceans Canada

ELC: Ecological Land Classification

END: Endangered Species

ESA: Endangered Species Act

G-Rank: Conservation Status of Species at the Global Level

GRCA: Grand River Conservation Authority

LIO: Land Information Ontario

MECP: Ministry of Environment, Conservation, and Parks

MMP: Marsh Monitoring Protocol

MNDMNRF: Ministry of Northern Development, Mines, Natural Resources and Forestry

NHIC: Natural Heritage Information Center

NRVIS: Natural Resources and Values Information System

OBBA: Ontario Breeding Bird Atlas

OMA: Ontario Mammal Atlas

ORAA: Ontario Reptile and Amphibian Atlas

OP: Official Plan

OWES: Ontario Wetland Evaluation System

PPS: Provincial Policy Statement

PIF: Partners in Flight

SAR: Species at Risk

SARA: Species at Risk Act

SC: Special Concern Species

SPA: Special Policy Area

Species of Conservation Concern: All species listed under SARA, COSEWIC, ESA and/or an S1-S3 provincial designation.

S-Rank: Conservation Status of Species at the Provincial Level

SWH: Significant Wildlife Habitat

THR: Threatened Species

VASCAN: Database of Vascular Plants of Canada

1.0 Introduction

Aboud & Associates Incorporated (AA) was retained by Sue and Jerry Auger to complete a scoped Environmental Impact Study (EIS) in support of a proposed property severance intended for future residential development. The property is located at 164 Hume Road, in the Township of Puslinch, Wellington County. A scoped EIS is required by the Grand River Conservation Authority (GRCA), Wellington County, and Township of Puslinch to better understand the potential impact of the proposed severance and future development on existing natural features, identify policy requirements to support the proposed severance and future development, and identify that the proposed severance and future development will not have a negative impact on the adjacent natural heritage features.

1.1 Proposed Development

The proposed development includes the severance of land to accommodate the construction of a residential dwelling, driveway and amenities. The land to be severed is designated as Greenlands and Secondary Agriculture per Schedule A7 of the Wellington County Official Plan (2022), is within the Township of Puslinch Environmental Protection Overlay, and includes lands identified as Natural Environment (NE) zone.

The land to be retained is within the Growth Plan for the Greater Golden Horseshoe Natural Heritage System, contains key hydrologic features, and includes a portion of the adjacent Arkell-Corwhin Provincially Significant Wetland (PSW) Complex. The land to be severed is within the GRCA regulation limit and the Growth Plan for the Greater Golden Horseshoe Natural Heritage System but does not include any key hydrologic features or PSWs. The Site Plan for Severance prepared by Van Harten Surveying Inc. (2023) includes the proposed severance limits, dwelling area and driveway.

1.2 Existing Land Use and Study Area

The study area, located at 164 Hume Road in the Township of Puslinch, comprises the lands proposed to be severed, as well as those to be retained and up to 120 metres from the proposed severance (Figure 1). Rural residential lands occur to the east, west and south of the study area, with Starkey Hill Conservation Area occurring to the north.

1.3 Existing Regulations

The Provincial Policy Statement (PPS 2020), Endangered Species Act (ESA 2007), Species at Risk Act (SARA 2002), policies of the Grand River Conservation Authority

(GRCA), Wellington County Official Plan (2022) and the Growth Plan for the Greater Golden Horseshoe (2020) are applicable to this severance and are outlined in detail in *Appendix 1*, including the policy, sections, applicable details, conformity and any proposed mitigation or permitting requirements as it relates to these policies.

1.4 Terms of Reference

Based upon the above Acts, Policies and Regulations, Terms of Reference (ToR) for the scoped EIS were developed and submitted to the GRCA, Township of Puslinch and Wellington County on February 23, 2023. GRCA provided a response on March 6, 2023 indicating that the proposed field study program is generally appropriate and that it should be specified that the wetland boundary was delineated using the Ontario Wetland Evaluation System (OWES). Wellington County provided approval of the TOR on February 27, 2023.

Azimuth Environmental Consulting (AEC) was retained by the Township of Puslinch to provide a peer review of the proposed Terms of Reference. A response was provided by AEC on March 23, 2023, which included general and technical comments as well as additional survey recommendations.

The ToR and agency correspondence are provided in their entirety in *Appendix 2*.

2.0 Methods

2.1 Background Review

A background information review was conducted of both biological and physical features within the vicinity of the study area. The following resources were consulted during this review:

- GRCA mapping of natural heritage features (regulation limit, wetlands, ANSI's, and NDMNRF Woodlands);
- Wellington County Official Plan and Schedules;
- Growth Plan for the Greater Golden Horseshoe;
- Township of Puslinch Zoning By-law No. 023-18;
- Natural Heritage Information Center (NHIC), Make-a-map, accessed December 15, 2022;

- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. 2019;
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007;
- Atlas of the Mammals of Ontario. Dobbyn, 1994;
- iNaturalist. Accessed December 15, 2022;
- eBird. Cornell Lab of Ornithology. Accessed December 15, 2022;
- Ontario Butterfly Atlas. Toronto Entomologists' Association. Accessed December 15, 2022.

2.2 Wetland Boundary Delineation

The lands proposed to be retained contain portions of the Arkell Corwhin PSW Complex. Cheryl-Anne Ross, Certified Ontario Wetland Evaluator, Aboud & Associates (AA), performed an initial staking of the boundary of the wetlands adjacent to the proposed severance and GRCA confirmed the staking on June 15th, 2022.

2.3 Woodland Dripline Delineation

The dripline of the existing woodland within the limits of the subject property was surveyed by Shannon Davison, AA, on July 19, 2023. The dripline was surveyed by AA using a Trimble GeoXT hand-held device with sub-metre accuracy and is shown on *Figure 1*.

2.3.1 Buffer Recommendations and Setbacks

Recommended buffers and setbacks for wetland boundaries were determined through a variety of resources, including The GRCA's Wetland Policy Appendix – Interim Wetland Buffer Policy (2003); The City of London – Guidelines for Determining Setbacks and Ecological Buffers (2004); and the Ecological Buffer Guideline Review (Beacon 2012).

2.4 Vegetation

A detailed Ecological Land Classification (ELC) survey was completed by qualified Ecologist, Jenny Andrews, on July 28, 2022. ELC surveys were conducted within the study area where access was permitted. Vegetation communities within the study area were characterized and delineated through field investigation, following the ELC system for Southern Ontario 1st approximation; community codes generally follow the 2nd approximation (Lee et al., 1998, 2008) and were assigned by Cheryl-Anne Ross, OMNRF Certified in Ecological Land Classification. Boundaries of ELC communities were mapped using aerial imagery and field observation (*Figure 1*). Digitized ELC data

sheets are provided in *Appendix 4*. Detailed survey dates and weather information are provided in *Appendix 10*.

Identified ELC communities were cross-referenced with the NHIC Ontario Plant Community List (NHIC 2015) to determine the presence of rare plant communities (S3-S1). The subnational, or provincial ranks (S-rank) are assigned by the Ontario Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC) to help assign protection priorities.

2.4.1 Botanical Inventory

Concurrent with ELC evaluations, the study area was inventoried where access was permitted to provide a comprehensive two season botanical inventory. A summer and fall inventory were considered appropriate due to the nature of the vegetation communities present on site, including large open wetland features, and meadow areas which are better inventoried with a fall assessment. Due to the closer proximity of the proposed severance and development to the existing wetland features than the larger contiguous deciduous woodland feature, AA prioritized a fall botanical assessment over a spring botanical assessment due to the higher potential for direct and indirect impacts to the wetland features. In addition, the majority of the deciduous forest is inaccessible and outside of the property boundary. AA did not have access to adjacent properties and would not have been able to complete a comprehensive spring assessment for ephemeral species.

Removal of deciduous forest habitat is not anticipated as the proposed building envelope is at least 25m from the limit of the deciduous forest habitat. Detailed survey dates and weather information are provided in *Appendix 10*.

Identified vascular plant species were compared to provincial and federal SAR lists (COSSARO, SARA), provincial ranks (NHIC 2015), global ranks, and Distribution and Status of the Vascular Plants of Southwestern Ontario (Oldham 1993) in order to assess federal, provincial, regional and local conservation status of each species. English colloquial names and scientific binomials of plant species generally follow the Database of Vascular Plants of Canada (VASCAN 2016).

Identification of environmentally sensitive plant species was completed based on assignment of a coefficient of conservatism value (CC) for each native species (Oldham, et al., 1995). The value of CC, ranging from 0 (low) to 10 (high), is based on a species' tolerance to disturbance and fidelity to specific natural habitat parameters. Species with a CC value of 9 or 10 generally exhibit a high degree of fidelity to a narrow range of habitat parameters. These species may be more sensitive to environmental changes (Mortarello et al., 2010).

A list of all identified plant species is provided in *Appendix 5*. The list provides botanical names, common names, provincial rarity rank (S-rank), global rarity rank (G-rank), provincial Species at Risk status (SARO), federal Species at Risk status (SARA), local rarity/significance within Wellington County (Dougan & Associates, 2009), coefficient of conservatism (CC) and coefficient of wetness (CW). Plant species that could only be identified to genus were not assigned the above information.

2.5 Wildlife Habitat

2.5.1 Amphibians (Anurans)

Evening point count surveys to detect breeding calls of anurans (frogs and toads) were conducted by AA staff (Cheryl-Anne Ross, Wildlife Ecologist, Jenny Andrews, Terrestrial Ecologist, and Heather Dixon, Aquatic Ecologist), in accordance with the Marsh Monitoring Program Participants Handbook for Surveying Amphibians (Bird Studies Canada 2008). Three surveys were completed during the recommended windows for the spring and early summer, in order to maximize chances of detecting all potential species. Surveys coincided with optimal weather conditions for anuran breeding activity and detection of calls, i.e., suitable temperature relative to each survey window, humid or damp but not raining, and low wind. Call Level Codes were applied to each species detected per area of suitable habitat, and numbers of individuals were counted or estimated, where applicable. The surveys took place on April 30, May 25, and June 28, 2022. The point count location is illustrated on *Figure 1*, and survey results and call level code descriptions are provided in *Appendix 8*. Detailed survey dates and weather information are provided in *Appendix 10*.

2.5.2 Breeding Birds

Breeding Bird Surveys were conducted in 2022 by Jenny Andrews, Terrestrial Ecologist, to determine if significant breeding bird habitat occurs within, or adjacent to, the study area. Two surveys were conducted, comprised of 10-minute point counts positioned at pre-determined locations and an area search while travelling between points. Surveys followed the Ontario Breeding Bird Atlas: Guide for Participants (Bird Studies Canada, 2001). The highest observed level of breeding evidence was used to assign breeding status (i.e., confirmed, possible, probable, or observed) to each species.

Surveys were performed during the peak breeding season for most species in southern Ontario (last week of May through early July), and were spaced at least 10 days apart in order to determine presumed permanent territories through territorial singing males. The two surveys took place on the mornings of June 17th and June 30th, 2022, between 30 minutes before sunrise and 5 hours after sunrise. The point count locations are illustrated on *Figure 1*, and survey results and breeding evidence code descriptions are

provided in *Appendix 9*. Detailed survey dates and weather information are provided in *Appendix 10*.

2.5.3 Incidental Wildlife Observations

Incidental observations of insects, mammals, birds and reptiles were recorded during all field visits.

2.5.4 Significant Wildlife Habitat Assessment

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the *SWH EcoRegion Criterion Schedule 6E* (2015), the study area, where access was permitted, was considered for the presence of Significant Wildlife Habitat (e.g., specialized habitats for wildlife, and habitat for species of conservation concern). Significant Wildlife Habitat was considered during all surveys conducted on the site. An assessment of the study area for all SWH is provided in *Appendix 6.*

2.5.5 Species at Risk Habitat Assessment

A thorough review of background documents was conducted to compile a master list of all Species at Risk and species with conservation designations that may occur in the study area. A review of the study area, where access was permitted, along with habitat requirements for each species was conducted. The site was then evaluated for potential habitat using ELC, guidance from MNRF documents, and on-site knowledge acquired through field surveys. Detailed survey dates and weather information are provided in *Appendix 10.* An assessment of the study area for candidate habitat for Species at Risk is provided in *Appendix 7.*

2.5.6 Marsh Breeding Bird Surveys

Marsh Breeding Bird surveys were not conducted as the wetland communities within the study area do not meet the size threshold and/or vegetation characteristics as defined by the Ontario Breeding Bird Atlas (OBBA) Marshbird Survey Instruction Manual (2021). Per the OBBA, the definition of a marshbird habitat patch is:

“A low-lying wet area that is partially or entirely vegetated with emergent (above water), floating, or submersed (below water) plants, and is periodically or regularly inundated up to a depth of 2 metres with standing or slowly moving water.”

Additionally, the Marshbird Survey Instruction Manual states:
“The preferred minimum size (area) of a marshbird habitat patch is 1 hectare of more-or-less contiguous marshbird habitat.”

Per the results of the Ecological Land Classification, Open Water Aquatic and Cattail Mineral Shallow Marsh wetland communities were identified. The Open Water Aquatic community exceeded 1 hectare in size; however, it exhibited little to no emergent, floating or submersed vegetation. The Cattail Mineral Shallow Marsh was comprised of Broad-leaved Cattail and Joe-Pye-Weed, however it measures 0.15 hectares, with little to no standing water, significantly less than the preferred minimum size of a habitat patch.

2.5.7 Turtle Visual Encounter Surveys

Per the General Habitat Description for the Blanding's Turtle (*Emydoidea blandingii*) (MECP, 2021), Blanding's Turtles habitat consists of nesting sites and overwintering sites. Nests of Blanding's Turtles are created in open habitats with low vegetation cover and high sun exposure such as in forest clearings, meadows, shorelines, beaches and rock outcrops (MECP, 2021). Overwintering habitat typically consists of permanent bogs, marshes, ponds, channels or other habitat with free (unfrozen) shallow water (MECP, 2021). After review of various background sources, the closest Blanding's Turtle observation (noted in 2020) was observed north of Highway 7 greater than 5km from the subject site.

With the implementation of a 30m setback from the wetland feature, the proposed severance and building envelope is located outside any category 1 habitat that may be present. Furthermore, the proposed development is small in size relative to the surrounding natural habitat and is situated at the top of a steep embankment, with the slope between the south-western building envelope and the confirmed limit of the existing open aquatic habitat being approximately 20%. In addition, Erosion and Sediment Control fencing is recommended to be installed to avoid the wandering of wildlife into the proposed building envelope during and post-construction.

Based on the absence of recent observations of Blanding's Turtles near the subject property, the implementation of a 30m buffer from potential category 1 habitat, the existing topography between the wetland feature and the proposed development, and the limited potential for impacts due to the size of the development, it is the opinion of AA that Turtle Visual Encounter Surveys were not required for this EIS.

3.0 Existing Conditions

3.1 Background Review

3.1.1 Natural Heritage Information Centre - Species at Risk

Preliminary investigation through the Natural Heritage Information Centre (NHIC 2019) included six (6) provincial Species at Risk (SAR) records in the 1km x 1km square containing the study area. Habitat for some of the species listed below was identified as potentially occurring within the study area. Species and habitat requirements are summarized in *Table 1*.

Although Black Ash is identified within the Background Review, it was not identified during the completed flora surveys.

Table 1. NHIC Species at Risk Records

SCIENTIFIC NAME	COMMON NAME	COSEWIC	SARO	HABITAT REQUIREMENTS
Ammodramus henslowii	Henslow's Sparrow	END	END	Breeds in grassland habitat and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011a).
Hirundo rustica	Barn Swallow	THR	SC	Occurs in farmland, along lake-river shorelines, in wooded clearings and in urban populated areas. May nest inside or outside buildings; under bridges and in road culverts (COSEWIC 2011b).
Dolichonyx oryzivorus	Bobolink	THR	THR	Nests in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover (COSEWIC 2010).
Sturnella magna	Eastern Meadowlark	THR	THR	Prefer grassland habitats including native prairies and savannahs as well as non-native pastures, hayfields, weedy meadows, herbaceous fencerows, and airfields (COSEWIC 2011c).
Cardellina canadensis	Canada Warbler	THR	SC	Wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC, 2008).
Chrysemys picta marginata	Midland Painted Turtle	SC		Occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. Semi -tolerant of human-altered landscapes, occasionally found occupying urban ponds and lands subject to anthropogenic disturbance (COSEWIC 2018a).
Nicrophorus americanus	American Burying Beetle	EXP	EXP	Variety of vegetated and open habitats, including deciduous and coniferous forest, tallgrass prairie, shrub thicket, mown fields and grazed pasture (Environment and Climate Change Canada 2022).
Fraxinus nigra	Black Ash	THR	END	Predominantly swamps, floodplains and fens. It has an intermediate light requirement and a tendency toward greater abundance in more alkaline sites. Most sites in which it is dominant are flood prone. Also occurs widely in moist upland forests, but generally at lower densities than in wet areas (COSEWIC 2018b).

3.1.2 Ministry of Natural Resources and Forestry

A request for information was sent to the Ministry of Natural Resources and Forestry on January 12th, 2023. A reply was received on January 13th, 2023 from David Denyes with a wetland evaluation report for the Arkell-Corwhin Wetland Complex. The request for information and reply are provided in *Appendix 11*.

3.1.3 Ministry of Environment, Conservation and Parks

A request for information was sent to the Ministry of Environment, Conservation and Parks on January 12th, 2023. A reply was received on January 30th, 2023 from Catherine Stewart stating that Jefferson Salamander, Unisexual Ambystoma – Jefferson Salamander dependent population, and Butternut are known to occur in the vicinity of the project location. The request for information and reply are provided in *Appendix 12*.

3.1.4 Ontario Breeding Bird Atlas

A list of birds determined to be breeding (Possible, Probable or Confirmed) in the 10km x 10km square (17NJ62) containing the study area during the 2001-2005 Ontario Breeding Bird Atlas (Cadman et. al. 2007) was compiled. This list includes 112 species; 10 of which are considered Species at Risk under the ESA and SARA, respectively; Least Bittern (*Ixobrychus exilis*) (THR, THR), Chimney Swift (*Chaetura pelagica*) (THR, THR), Red-headed Woodpecker (*Melanerpes* erythrocephalus) (END, END), Eastern Wood-pewee (*Contopus virens*) (SC (SARO)), Bank Swallow (*Riparia riparia*) (THR, THR), Barn Swallow (*Hirundo rustica*) (SC, THR), Wood Thrush (*Hylocichla mustelina*) (SC, THR), Grasshopper Sparrow (*Ammodramus savannarum*) (SC, SC), Bobolink (*Dolichonyx oryzivorus*) (THR, THR) and Eastern Meadowlark (*Sturnella magna*) (THR, THR). Seventy-five of the species determined to be breeding in the 10km x 10km square containing the study area are considered significant in Wellington County (Dougan & Associates, 2009). The findings of this review are presented in *Appendix 3*.

3.1.5 Ontario Reptile and Amphibian Atlas

Review of the Ontario Reptile and Amphibian Atlas (Ontario Nature 2019b) identified 27 species that are known to occur within the 10km x 10km square containing the study area (17NJ62). The list includes six species of conservation concern listed under the ESA and SARA, respectively: Blanding's Turtle (*Emydoidea blandingii*) (END, THR), Midland Painted Turtle (*Chrysemys picta marginata*) (SC (SARA)), Northern Map Turtle (*Graptemys geographica*) (SC, SC), Snapping Turtle (*Chelydra sepentina*) (SC, SC), Milksnake (*Lampropeltis Triangulum*) (SC (SARA)) and Western Chorus Frog (*Pseudacris triseriata pop. 2*) (THR (SARA)). Fifteen of the species which may occur in the square are considered significant in Wellington County (Dougan & Associates, 2009). The findings of this review are presented in *Appendix 3.*

3.1.6 Atlas of the Mammals of Ontario

Review of the Atlas of the Mammals of Ontario (Dobbyn 1994) identified 37 species that are known to occur within approximately 10km the study area. Two of these species, Little Brown Myotis (*Myotis lucifugus*) and Tri-coloured Bat (*Perimyotis subflavus*) are considered species of Conservation Concern, listed as Endangered under both SARA and SARO. However, it is expected that Northern Myotis (*Myotis septentrionalis*) and Eastern Small-footed Myotis (*Myotis leibii*) may also occur in treed landscapes anywhere in the province. A total of twelve species within 10km of the study area are considered significant in Wellington County (Dougan & Associates, 2009). The findings of this review are presented in *Appendix 3*.

3.1.7 Ontario Butterfly Atlas

Review of the Ontario Butterfly Atlas online database (Toronto Entomologists' Association, 2019) identified 72 species that are known to occur within the 10km x 10 km square containing the study area. Two species are considered species of conservation concern, listed under the ESA and SARA, respectively: Monarch (*Danaus plexippus*) (SC, SC) and West Virginia White (*Pieris virginiensis*) (SC (SARO)). A total of eight species are considered significant in Wellington County (Dougan & Associates, 2009). The findings of this review are presented in *Appendix 3*.

3.1.8 eBird

eBird is an online reporting system for birdwatchers managed by the Cornell Lab of Ornithology. The database was searched to see what bird species had been reported in the vicinity of the subject property. The closest reporting location is Guelph-Arkell (Starkey Hill Trail), which is located approximately 2km from the subject property. One hundred and forty-one species have been observed at this site. This list includes 10 species at risk under the ESA and SARA, respectively (Eastern Wood-Pewee, Wood Thrush, Barn Swallow, Bobolink, Grasshopper Sparrow, Canada Warbler (*Cardellina canadensis*) (SC, THR), Cerulean Warbler (*Setophaga cerulea*) (THR, END), Red-headed Woodpecker, Golden-winged Warbler (*Vermivora chrysoptera*) (SC, THR), and Eastern Meadowlark). Unlike the Atlas of Breeding Birds, many of the observations documented on eBird are migrants or observations outside of the breeding season. The findings of this review are presented in *Appendix 3*.

3.1.9 iNaturalist

iNaturalist, a self-reporting system that is not limited by taxa, was also consulted. The search was limited to a 1 km radius around the study area and only research grade reports, which are confirmed independently. Two hundred and ninety-two species, including 44 insect and arachnids, 115 vascular plant species, 41 fungi, 8 bird species, 2 mammal species, 1 fish species, 9 amphibian species and 4 reptile species were

observed. Three of the species observed (Wood Thrush, Painted Turtle and Snapping Turtle) are considered species of conservation concern. The findings of this review are presented in *Appendix 3*.

3.1.10 Species Observations

Of the species noted within Sections 3.1.1- 3.1.9, the following species were observed during surveys conducted within the study area; Eastern Wood-pewee, Wood Thrush, Barn Swallow and Butternut. Eastern Wood-pewee and Wood Thrush were observed within the Sugar Maple Deciduous Forest, described in Section 3.3.1. Butternut was observed north-east of the existing dwelling along the limit of the Mixed Meadow, described in Section 3.3.1. Barn Swallow was detected as a fly-over during the Breeding Bird Surveys.

3.2 Wetland Boundary Delineation

3.2.1 Boundary Survey

Following the initial staking, the staked limits of the wetlands within and adjacent to the parcel proposed to be severed were surveyed by Van Harten Surveying Inc. (*Figure 1*).

3.2.2 Wetland Characteristics

The GRCA's online mapping (Grand River Information Network, 2020) shows pockets of the Arkell Corwhin PSW Complex within the lands to be retained. The wetland communities are classified as Open Aquatic and Cattail Mineral Shallow Marsh, with a Fresh-Moist Mixed Meadow community to the north.

The small wetland community immediately north-east of the existing residence (*Figure 1*) identified by LIO & GRCA mapping was investigated during the boundary survey and was confirmed by GRCA to no longer be present.

3.3 Vegetation

3.3.1 Ecological Land Classification and Botanical Inventory

The community polygons identified during the ELC survey are summarized in *Table 2* below. Field forms and a comprehensive vascular plant list for the entire study area are presented in *Appendices 3* and *4*, respectively.

Table 2. Ecological Land Classification

ELC CODE	VEGETATION TYPE	COMMUNITY DESCRIPTION
Deciduous Forest (FOD)		
FODM5-1	Dry- Fresh Sugar Maple Deciduous Forest	This community occurs within the northwestern portion of the subject property, to the southwest of the larger Naturalized Coniferous Plantation. The canopy and sub-canopy layers consist primarily of Sugar Maple (*Acer saccharum*) with Silver Maple (*Acer saccharinum*), Red Pine (*Pinus resinosa*) and White Ash (*Fraxinus americana*) as secondary species. The understorey includes Alternate-leaved Dogwood (*Cornus alternifolia*), and Tartarian Honeysuckle (*Lonicera tatarica*), while the ground layer is comprised of Sugar Maple, Choke Cherry (*Prunus virginiana*) and Zigzag Goldenrod (*Solidago flexicaulis*).
Mixed Forest (FOM)		
FOM	Mixed Forest	This community is located in the southwestern portion of the property. The canopy includes Sugar Maple and Red Pine, with the subcanopy being comprised of Sugar Maple and some Eastern Hop-hornbeam (*Ostrya virginiana*). The understorey is predominantly White Ash, Alternate-leaved Dogwood and American Elm (*Ulmus americana*), with the ground layer being comprised of White Ash and the occasional Jack-in-the-Pulpit (*Arisaema triphyllum*).
Meadow (ME)		
MEFM4	Fresh-Moist Forb Meadow	This community occurs between the MASM1-1 and FOM communities. The canopy is comprised of the occasional Red Pine and the subcanopy is made up of a small Fresh-Moist White Cedar Coniferous Forest inclusion in the centre. The understorey is dominated by Canada Goldenrod (*Solidago canadensis*), with Spotted Joe Pye Weed (*Eutrochium maculatum*) and Riverbank Grape (*Vitis riparia*) common as well. The ground layer is composed of Meadow Horsetail (*Equisetum pratense*), Rough Goldenrod (*Solidago rugosa*), and Dudley's Rush (*Juncus dudleyi*).
MEMM4	Fresh-Moist Mixed Meadow	This community encompasses the majority of the northeastern edge of the subject property, within the severance area. The canopy and subcanopy are limited to the edges of this community, and consist of Sugar Maple, Norway Spruce (*Picea abies*), Balsam Poplar (*Populus balsamifera*) and Staghorn Sumac (*Rhus typha*). The understorey consists primarily of Common Reed (*Phragmites australis*), Red-osier Dogwood (*Cornus sericea*) and Willow (*Salix*) sp. The ground layer includes Canada Goldenrod, Orchard Grass (*Dactylis glomerata*) and Wild Carrot (*Daucus carota*).
Coniferous Forest (FOC)		
FOCM6-1	Dry-Fresh White Pine Naturalized Coniferous Plantation	This community compromises the entire north half of the severance area. The canopy and subcanopy are dominated by White Pine (Pinus strobus), but also include the occasional White Ash, American Elm and Black Cherry. The understorey and ground layer consist of White Ash, Common Buckthorn.

Table 2. Ecological Land Classification

ELC CODE	VEGETATION TYPE	COMMUNITY DESCRIPTION
Open Aquatic (OAO)		
OAO	Open Aquatic	This community occurs to the northwest of the existing residential dwelling. The Open Water is surrounded by a canopy of Silver Maple and Crack Willow, a subcanopy of Silver Maple and Red Maple, and an understorey of Hemp Dogbane (*Apocynum cannabinum*), Common Buckthorn and Eastern Hop-Hornbeam. The ground layer consists of Nodding Beggarticks (*Bidens cernua*), Sensitive Fern (*Onoclea sensibilis*), Spotted Jewelweed (*Impatiens capensis*) and Dudley's Rush.
Shallow Marsh (MAS)		
MASM1-1	Cattail Mineral Shallow Marsh	This community is located between the TAGM1 and OAQ communities, with a narrow watercourse running between the FOM and TAGM1 communities. It dominantly consists of Broad-leaved Cattail (*Typha latifolia*), with some Joe Pye Weed occurring as well.
Treed Agriculture (TAG)		
TAGM1	Coniferous Plantation	This community occurs between the Deciduous Forest and Forb Meadow on the subject property. The canopy is sparse due to recent logging and comprised of Red Pine, while the subcanopy is Sugar Maple and Manitoba Maple (*Acer negundo*). The understorey includes White Ash, Common Buckthorn and Choke Cherry, with the ground layer consisting primarily of Canada Goldenrod, Virginia Creeper, and Tartarian Honeysuckle.
Green Lands (CGL)		
CGL_2	Parkland	This community surrounds the residential dwelling. It has had all Common Buckthorn, as well as dead Ash and Red Pine removed in recent years, and it was planted with Black Walnut (*Juglans nigra*), Norway Maple (*Acer platanoides*) and White Spruce (*Picea glauca*). The subcanopy is made up of Balsam Fir (*Abies balsamifera*), Blue Spruce (*Picea pungens*) and Black Locust (*Robinia pseudoacacia*). The understorey is some young Norway Maples and the ground layer is manicured grass.

3.3.1.1 Species at Risk, Regional and Local Significance

No vegetation communities listed in *Table 2* are considered rare in the province.

A detailed two-season (summer and fall) botanical inventory of the study area, where access was permitted, was completed on July 28th and September 9th, 2022. A total of 68 vascular plants were identified to species within the study area, with an additional two identified to genus. Of those identified to species, 49 species or 72% were native and 19 species or 28% were exotic. Most of the native species are ranked S5 (Secure in Ontario) or SNA (S-Rank not applicable) with one species, White Ash (*Fraxinus americana*) ranking S4 (apparently secure in Ontario), two species ranked S4? (Apparently Secure); Virginia Creeper (*Parthenocissus quinquefolia*) and Black Walnut (*Juglans nigra*), and one species ranked S2?; Butternut (*Juglans cinerea*). The '?' indicates uncertainty in the ranking. One species observed has a Conservation Coefficient (CC) of 9 or 10 (Daisy Fleabane (*Erigeron hyssopifolius*)) and one has a CC

of 7 or 8 (Meadow Horsetail (*Equisetum pratense*)). Two species observed; Meadow Horsetail and Butternut are considered Significant in Wellington County (Dougan & Associates, 2009). Butternut is also listed as Endangered by both SARA and SARO.

The Butternut trees identified on the subject property are located between the existing residence and the Mixed Meadow (Figure 1), within the landscaped area. An assessment of the Butternuts on the property was conducted in August 2020 by Ron Wu-Winter which identified the Butternuts noted in Figure 1 as being Category 1. Category 1 trees are identified as being affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut in the area in which the tree is located; and is considered “non-retainable”.

A complete list of the vascular plant species observed during the vegetation surveys is provided in *Appendix 5.*

3.4 Wildlife Habitat

3.4.1 Amphibians (Anurans)

The results of the Anuran Point Count Surveys are summarized in *Table 3* and discussed below. The Point Count Location is illustrated in *Figure 1*, and Call Level Code descriptions, along with the complete survey results, are provided in *Appendix 8*.

Table 3. Amphibian survey results

	VISIT DATE			
SPECIES	30/04/22	25/05/22	28/06/22	**Total**
Spring Peeper	1-3	2-4		2-7
Wood Frog				
American Toad				
Gray Treefrog				
Green Frog		1-2	1-2	1-4
American Bullfrog			1-2	1-2
Significant Habitat				***No***

Significance: Yes- Indicates Amphibian Habitat meets the criteria listed under the Ecoregion 6E SWH Criteria guide (2015). No-Indicates Amphibian Habitat did not meet the criteria listed under the Ecoregion 6E SWH Criteria guide (2015).

3.4.1.1 Amphibian Habitat A

Three anuran species were detected calling from within the station area for Amphibian Habitat A. This survey location targeted the Open Water community adjacent to the parcel proposed for severance. Based on the Significant Wildlife Habitat Criteria Guide (OMNRF, 2015), Amphibian Habitat A does not meet the criteria for Significant Wildlife

Habitat- Amphibian Breeding Habitat (Woodland), as no species with a call level code of 3 or greater than 20 individuals were detected.

3.4.1.2 SAR, Regional and Local Significance

No species observed are considered federal or provincial Species at Risk. The subnational or provincial ranks (SRank) are assigned by the Ontario Ministry of Natural Resources and Forestry (OMNRF) Natural Heritage Information Centre (NHIC) in order to help assign protection priorities. Most of the species detected are ranked S5 (Secure) in Ontario (NHIC, 2019), with one species, American Bullfrog (*Lithobates catesbeianus*), ranked S4 (Apparently Secure).

3.4.2 Breeding Birds

The results of the Breeding Bird Survey (BBS) are presented in *Table 4* and significant species are shown on *Figure 1*. During BBS visits, a total of 22 species were detected during point counts. Species exhibiting high levels of breeding evidence (probable or confirmed) were presumed to be breeding within the ELC community in which they were observed. The following species are those that can be presumed to have been breeding within the study area: Eastern Wood Pewee (*Contopus virens*), Red-eyed Vireo (*Vireo olivaceus*), Indigo Bunting (*Passerina cyanea*) and Chipping Sparrow (*Spizella passerina*). The Breeding Bird Survey results in their entirety can be found in *Appendix 9.*

Marsh Breeding Bird surveys were not conducted as the wetland communities within the study area do not meet the size threshold and/or vegetation characteristics as defined by the Ontario Breeding Bird Atlas (OBBA) Marshbird Survey Instruction Manual (2021). Per the OBBA, the definition of a marshbird habitat patch is:

“A low-lying wet area that is partially or entirely vegetated with emergent (above water), floating, or submersed (below water) plants, and is periodically or regularly inundated up to a depth of 2 metres with standing or slowly moving water.”

Additionally, the Marshbird Survey Instruction Manual states:
“The preferred minimum size (area) of a marshbird habitat patch is 1 hectare of more-or-less contiguous marshbird habitat.”

Per the results of the Ecological Land Classification, Open Water Aquatic and Cattail Mineral Shallow Marsh wetland communities were identified. The Open Water Aquatic community exceeded 1 hectare in size; however, it exhibited little to no emergent, floating or submersed vegetation. The Cattail Mineral Shallow Marsh was comprised of Broad-leaved Cattail and Joe-Pye-Weed, however it measures 0.15 hectares, with little

to no standing water, significantly less than the preferred minimum size of a habitat patch.

Table 4. Point count results – highest breeding evidence (HBE)

COMMON NAME	SCIENTIFIC NAME	COSARO	COSEWIC	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED (HA)	PIF PRIORITY SPECIES	GRCA (DATE UNK.)	WELLINGTON COUNTY	A		B		FINAL HBE
											TOTAL	HBE	TOTAL	HBE	
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	G5			✓		✓			2	T	T
Eastern Kingbird	*Tyrannus tyrannus*			S4B	G5			✓			1	H			H
Barn Swallow	*Hirundo rustica*	SC	THR	S4B	G5				CP						X
Blue Jay	*Cyanocitta cristata*			S5	G5						2	H	1	H	H
Red-breasted Nuthatch	*Sitta canadensis*			S5	G5	✓	>10ha		CP		1	H	1	H	H
House Wren	*Troglodytes aedon*			S5B	G5						1	S			S
Wood Thrush	*Hylocichla mustelina*	SC	THR	S4B	G5			✓		✓			1	S	S
American Robin	*Turdus migratorius*			S5	G5						1	H	1	S	S
Cedar Waxwing	*Bombycilla cedrorum*			S5B	G5						1	H			H
Red-eyed Vireo	*Vireo olivaceus*			S5B	G5						1	T	1	T	T
Pine Warbler	*Dendroica pinus*			S5B,S3N	G5	✓	15-30ha		CP		1	S			S
Ovenbird	*Seiurus aurocapilla*			S5B	G5	✓	>70ha		CP				1	S	S
Common Yellowthroat	*Geothlypis trichas*			S5B,S3N	G5								1	S	S
Northern Cardinal	*Cardinalis cardinalis*			S5	G5						1	S			S
Rose-breasted Grosbeak	*Pheucticus ludovicianus*			S5B	G5			✓					1	S	S
Indigo Bunting	*Passerina cyanea*			S5B	G5						1	T			T
Chipping Sparrow	*Spizella passerina*			S5B,S3N	G5						1	T	1	S	T
Song Sparrow	*Melospiza melodia*			S5	G5						2	H	2	S	S
Common Grackle	*Quiscalus quiscula*			S5	G5						2	H			H
Brown-headed Cowbird	*Molothrus ater*			S5	G5						1	H			H
Baltimore Oriole	*Icterus galbula*			S4B	G5			✓		✓	1	H			H
American Goldfinch	*Carduelis tristis*			S5	G5				CP		3	H			H

Legend:
COSARO: Committee on the status of Species at Risk Ontario
COSEWIC: Committee on the status of Endangered Wildlife in Canada
SARA: Species at Risk Act
THR: Threatened SC: Special Concern

S-Rank:
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the province
S3: Vulnerable—Vulnerable, relatively few populations
G-Rank:
G5: Very common globally; demonstrably secure

Breeding Evidence:
Possible
H-suitable habitat
S-singing male
Probable
T-presumed territory

Grand River CA:
CP: Conservation Priority

3.4.2.1 Species at Risk, Regional and Local Significance

Two species observed, Eastern Wood-Pewee and Wood Thrush, are listed as Special Concern under the ESA (2007). Both species were observed singing within the Dry-Fresh Sugar Maple Deciduous Forest community. Locations of the observations are shown on *Figure 1*. The Subnational, or Provincial Ranks (SRank) are assigned by the Ontario Ministry of Natural Resources' Natural Heritage Information Centre (NHIC) in order to help assign protection priorities. All species detected in the study area are ranked as either S4 (apparently secure) or S5 (secure) in Ontario. The rank qualifier 'B' denotes the status of a migratory species during the breeding season.

Seven of the species observed; Red-Breasted Nuthatch, Wood Thrush, Baltimore Oriole, Pine Warbler, Ovenbird, Eastern Wood-Pewee and Rose-breasted Grosbeak, are considered significant in Wellington County (Dougan & Associates, 2009). Six of the species observed are considered Conservation Priorities by the Grand River Conservation Authority (date unk.).

3.4.2.2 Regional Priority Species

The Ontario Landbird Conservation Plan (OLCP): Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13 (Partners in Flight, 2008) has identified a number of species that are considered conservation priorities for the region (Ontario PIF, 2008). Five priority species (Eastern Wood-Pewee, Eastern Kingbird, Wood Thrush, Rose-breasted Grosbeak and Baltimore Oriole) were observed in or adjacent to the study area. The OLCP does not provide legislative protection of species or their habitat, but rather identifies species that should be conservation priorities on a regional level, beyond those designated as Species at Risk.

3.4.3 Jefferson Salamander

Per Section 3.1.3, the MECP indicated that there are known occurrences of Jefferson Salamander & Unisexual Ambystoma- Jefferson Salamander dependent population in the general area and have the potential to occur at the project location.

Jefferson Salamander breeding ponds are typically characterized as ponds located in or near high quality forest habitats with a sufficient hydro-period and are dry in mid to late summer (non-permanent, ephemeral) (COSEWIC, 2010). Breeding ponds must not have predatory fish and have sufficient attachment sites in the water, including shrubs, twigs, branches and submerged riparian or emergent vegetation (Linton et. al., 2018).

The ponds/open wetland features were not screened for salamander egg masses for multiple reasons including, confirmation from the landowner that the ponds are dredged

and permanent, the lack of attachment surfaces at the water's edge for egg masses, and the known presence of American Bullfrogs and Midland Painted Turtle based on amphibian studies (Section 3.4.1) and iNaturalist observations, respectively.

As noted in Section 3.4.1, American Bullfrog were observed within the open aquatic wetland feature within the subject site. American Bullfrogs are known to be opportunistic predators and will consume a wide range of invertebrates and small vertebrates (Canadian Herpetological Society, 2023). The presence of American Bullfrogs also indicates permanent water as Bullfrogs require multiple years for their tadpoles to mature. Due to the presence of American Bullfrogs, lack of attachment sites, and the permanent nature of the ponds, it is the opinion of AA that the open aquatic wetland feature within the subject property does not contain suitable habitat for Jefferson Salamander.

3.4.4 Incidental Wildlife Observations

Incidental wildlife observations made outside of the above formal field surveys are presented in *Table 5.* All observations were of single individuals unless otherwise stated.

Table 5. Incidental wildlife observations

COMMON NAME	SCIENTIFIC NAME	TAXA	DATE	LOCATION/NOTES
Wood Frog	*Lithobates sylvaticus*	Amphibian	9/9/2022	Observed in Mixed Forest during fall botanical
Great Blue Heron	*Ardea herodias*	Bird	28/7/2022	Observed hunting in Open Water during ELC
Belted Kingfisher	*Megaceryle alcyon*	Bird	28/7/2022	Observed flying through Open Water during ELC
Hairy Woodpecker	*Picoides villosus*	Bird	9/9/2022	Heard calling in Mixed Forest during fall botanical
Eastern Towhee	*Pipilo erythrophthalmus*	Bird	9/9/2022	Heard calling in Forb Meadow during fall botanical

3.4.3.1 Pileated Woodpecker

Per the Government of Canada's Pileated Woodpecker Cavity Identification Guide (2022), Pileated Woodpeckers nest in mature mixed or coniferous forests or in younger forests with numerous large, dead trees. The forested communities within the study area may provide suitable habitat for Pileated Woodpeckers; however, no evidence of Pileated Woodpecker or nesting cavities were observed during the multiple field visits.

3.4.4 Significant Wildlife Habitat

With guidance from the *Significant Wildlife Habitat Technical Guide* (2000) and the SWH EcoRegion Criterion Schedule 6E (MNRF, 2015), we have determined that Significant Wildlife Habitat for Special Concern and Rare Wildlife Species is present within the Study Area.

3.4.4.1 Special Concern and Rare Wildlife Species

Eastern Wood-Pewee and Wood Thrush, both listed as Special Concern under the ESA, were observed during field investigations. One individual Eastern Wood-Pewee was detected singing during both breeding bird point count surveys. During the survey on June 17th, 2022, one individual was heard within range of station 2, during the survey on June 30th, 2022, two individuals were heard within range of station 2 (Figure 1). One individual Wood Thrush was detected singing in station 2 on June 30th, 2022 (Figure 1).

Per the SWH EcoRegion Criterion Schedule 6E (MNRF, 2015), the SWH consists of the area of the habitat to the finest ELC scale that protects the habitat form and function. Since both species were observed within the Sugar Maple Deciduous Forest community, which provides suitable habitat, that vegetation community is classified as Significant Wildlife Habitat. It is the opinion of AA that the proposed severance containing the proposed dwelling area and driveway will not negatively impact the SWH for Special Concern and Rare Species as no removal of the Sugar Maple Deciduous Forest community is being proposed.

See *Appendix 6* for a detailed assessment of Significant Wildlife Habitat.

3.4.4.1 Bat Maternity Colony

Bat maternity colonies can be located in human structures (e.g., barns and attics), abandoned mines, tree hollows and rock faces (OMNRF, 2014). For several species, mature woodland communities, that include dead or dying stems are important, others roost individually in the foliage of several species of trees. Based on the Ecological Land Classification, standing snags that met the criteria for candidate bat habitat were not present in the vegetation communities within the area proposed for severance.

3.4.5 Species at Risk Habitat

Candidate habitat for Endangered Little Brown Myotis (*Myotis lucifugus*) and Northern Myotis (*Myotis septentrionalis*) was identified in the Sugar Maple-Hardwood Deciduous Forest community, however no individuals were observed during site visits. All woodland features with mature deciduous trees are assumed significant bat maternity habitat, baring the completion of detailed surveys prior to development. Additionally, Butternut was observed on the south edge of the Open Aquatic community.

See *Appendix 7* for a detailed assessment of Species at Risk habitat.

3.5 Geology and Soils

The surface soil type within the subject lands falls within the Dumfries series (Hoffman et al., 1963). The Dumfries series is described as stony, sandy loam till derived mainly from limestone. Dumfries series soils are known to be well-drained; however, there are areas of poorly drained soils too small to be delineated on the soil mapping.

4.0 Impact Assessment and Mitigation

The proposed severance and future development would result in minor impacts to the existing natural features without appropriate mitigation. Through the implementation of the proposed mitigation described in *Table 6*, the impact will be minor to none.

4.1 Potential Impacts and Mitigation Recommendations

An assessment of the impacts (potential and actual) and mitigation measures are provided in *Table 6*.

Table 6. Impact Assessment, Mitigation and Recommendations

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing	Vegetation Removal – clearing & grubbing *upland areas*	• Loss of vegetation and wildlife habitat	ST	P	SA	O	PD	H	N	Moderate	• Avoid or minimize loss of vegetation and edge habitat • Revegetate areas with native species after site preparation • Establish and maintain buffers around existing natural features	Minor	• Monitor revegetated areas for establishment and install and monitor ESC to ensure encroachment into established buffers is avoided.

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing (cont.)	Vegetation Removal – clearing & grubbing *upland areas (cont.)*	▪ Loss of linkages, corridors	LT	P	SA	O	U	L	Y	Minor	▪ Avoid fragmentation and severing linkages of natural features	None	
		▪ Disturbance of wildlife species	ST	P	SA	O	PD	H	N	Moderate	▪ Avoid removal or destruction of animal movement corridors ▪ Time activities to avoid wildlife disturbance during important life stages ▪ Vegetation removal is to occur outside of April 1-August 31 for birds and April 1-September 30 for bats.	Minor-None	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area

Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High

Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing (cont.)	Vegetation Removal – clearing & grubbing *upland areas (cont.)*	▪ Impacts to nesting birds protected under the Migratory Bird Convention Act	ST	P	SA	O	PD	H	N	Severe	▪ Complete all vegetation removal outside the Environment Canada breeding bird nesting window (April 1-August 31). ▪ Where avoidance is not possible, conduct a bird nest survey to determine locations of active nests prior to construction works including installation of Erosion Sediment Control (ESC) fence and any site clearing. ▪ Create nest protection zones where active bird nests are found and monitor (as needed, e.g. weekly) until inactive.	Minor	▪ Where nests are identified, complete weekly follow up visits to determine nesting completion prior to completion of work.

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing (cont.)	Grading	▪ Increased erosion	ST	P	SA	O	PD	H	N	Moderate	▪ Maintain or restore vegetative buffers ▪ Develop & implement ESC Plan per GGH Erosion and Sediment guidelines (TRCA, 2019)	Minor-None	▪ Monitor ESC fence monthly, and after a major storm event for any breaks, and repair.
		▪ Increase nutrient inputs and contaminants to waterbodies and wetlands	LT	P	SA	O	U	L	Y	Minor	▪ Develop & implement ESC plan ▪ Designate areas for equipment storage	None	▪ Monitor ESC fence monthly, and after a major storm event for any breaks, and repair.
		▪ Increased soil compaction	ST	P	SA	O	PD	H	N	Minor	▪ Control access and movement of equipment and people	None	
		▪ Changes to drainage ▪ Changes to surface runoff	ST	P	SA	O	PD	H	N	Minor	▪ Schedule grading to avoid high runoff volumes ▪ Minimize changes to land contours and natural drainage	None	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing (cont.)	Grading (cont.)	▪ Changes in soil moisture, tree cover and vegetation	ST	P	SA	O	PD	H	N	Moderate	▪ Minimize the area and duration of soil exposure	Minor	
		▪ Disturbance to wildlife ▪ Alteration or destruction of Wildlife Habitat	ST	P	SA	O	PD	H	N	Moderate	▪ Time activities to avoid sensitive periods (Breeding birds) ▪ Identify sensitive species prior to work and design grading to avoid disturbing sensitive species ▪ Conduct work outside timing windows of sensitive species	Minor	
		▪ Wildlife Entering Construction Areas	ST	P	SA	O	PD	H	N	Minor	▪ Develop and implement an Erosion Sediment Control (ESC) plan to exclude wildlife.	None	▪ Monitor ESC fence monthly, and after a major storm event for any breaks and repair

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Site Preparation and Servicing (cont.)	Installation of services and utilities (sewer, hydro, infrastructure) Installation of Services and utilities (sewer, hydro, infrastructure, (cont.)	▪ Increased erosion	ST	P	SA	O	PD	H	N	Moderate	▪ Maintain vegetated buffers ▪ Develop sediment and erosion control plan	Minor	▪ ESC fence to be inspected monthly during site preparation.
		▪ Disturbance to wildlife including sensitive species	ST	R	SA	O	PD	M	N	Minor	▪ Conduct work outside timing windows of sensitive species	None	
		▪ Hydrological changes	LT	P	SA	O	PD	LY	Y	Moderate-Minor	▪ Conduct appropriate studies to determine how to maintain existing hydrology	Minor-None	
		▪ Wildlife Entering Construction Areas	ST	P	SA	O	PD	H	N	Minor	▪ Develop and implement an Erosion Sediment Control (ESC) plan to exclude wildlife	None	▪ ESC fence to be inspected monthly during site preparation.
Construction	Building Construction (including accessory uses and amenities)	▪ Increased erosion, sedimentation and turbidity	ST	P	SA	O	PD	H	N	Moderate	▪ Maintain vegetated buffers ▪ Develop sediment and erosion control plan	Minor	▪ ESC fence to be inspected monthly during site preparation.

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Construction (cont.)	Building Construction (including accessory uses and amenities) (cont.)	▪ Water contamination by oils, gasoline, grease and other materials	LT	P	SA	O	PD	M	Y	Moderate	▪ Control water contamination through good housekeeping practices by completing regular maintenance on any proposed septic systems.	Minor	
		▪ Increased impervious surfaces causing increased runoff, reduced infiltration and groundwater discharge	ST	P	SA	O	PD	H	N	Minor	▪ Maintain or provide vegetative buffers ▪ Implement infiltration techniques ▪ Control quantity and quality of stormwater discharge	None	
		▪ Loss of vegetation at forest edges and removal of dead trees for homeowner safety	ST	P	SA	O	PD	M	N	Moderate	▪ Maintain sufficient buffer between buildings and significant features	Minor	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area
Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High
Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
		▪ Barriers to animal and plant movement	LT	P	SA	O	PD	H	N	Minor	▪ Ensure wildlife corridors are maintained	None	
		▪ Loss of wildlife (mortality) due to collisions with buildings	LT	P	SA	O	PD	M	N	Minor	▪ Design buildings to minimize/prevent mortality	Minor	
Post-Construction	Use of Septic Systems	▪ Adverse effects to vegetation from faulty septic system	LT	R	SA	O	PD	M	N	Minor	▪ Ensure regular maintenance and inspections are completed.	None	
	Human Occupation	▪ Increased nutrient and contaminant inputs to wetlands from fertilizers, pesticides etc.	LT	P	SA	S	PD	H	N	Minor	▪ Avoid using fertilizers/pesticides	None	
		▪ Vegetation and soil compaction	ST	P	SA	S	PD	H	N	Minor	▪ Minimize erosion by using gravel, stones or wood on paths	None	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area

Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High

Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Post-Construction (cont.)	Human Occupation (cont.)	▪ Noise and light pollution from pets and residents ▪ Predation on wildlife by pets ▪ Non-native species introductions, increased competition, predators and parasites ▪ increased erosion and sedimentation from dumping of debris and compost in natural areas	LT	P	SA	S	PD	H	N	Moderate	▪ Direct exterior lighting away from natural feature edges ▪ Provide copy of EIS to owner for recommendations to reduce impacts.	Minor	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area

Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High

Cumulative Effects- Y- Yes, N- No

PHASE	ACTIVITY	POTENTIAL IMPACTS	DURATION OF IMPACT	REVERSIBILITY	GEOGRAPHIC LEVEL OF INFLUENCE	FREQUENCY	ECOLOGICAL SITE CONTEXT	LIKELIHOOD OF OCCURRING	CUMULATIVE EFFECTS?	POTENTIAL IMPACT RATING[1]	MITIGATION RECOMMENDATIONS / COMMENTS	FINAL [2] IMPACT RATING	MONITORING / FOLLOW-UP RECOMMENDATION
Post-Construction (cont.)	Human Occupation (cont.)	• Tree and vegetation removals, changes to vegetation structure and composition	ST	P	SA	O	PD	M	Y	Minor	• Maintain or provide vegetative buffers	None	

Duration of Impact- ST- Short-term, LT- Long-term
Reversibility- R- Reversible, P- Permanent
Geo.Level of Influence- SA- Subject Area

Frequency- O- Occurs once, S- Sporadic
Eco. Site Context- PD- Past disturbance, U- Undisturbed
Likelihood of Occurring- L- Low, M- Medium, H- High

Cumulative Effects- Y- Yes, N- No

4.2 Buffers

4.2.1 Wetlands

Per Section 4.2.4 of the Growth Plan for the Greater Golden Horseshoe (2019), Vegetation Protection Zone in the form of a 30 metre setback from the surveyed wetland limits has been applied for the Site Plan for Proposed Severance (Van Harten Surveying Inc., 2023) (Figure 2). Based on the Site Plan for Proposed Severance (Van Harten Surveying Inc., 2023), no new development is to occur within the wetland or 30 setback of the Arkell-Corwhin PSW Complex.

A full 30 metre setback from the features of the Arkell-Corwhin PSW complex present within the subject property has been applied. Within the proposed severance, the proposed building area includes Coniferous Plantation and a Mixed Meadow. Based on site topography, the floodplain for the wetland is located on the south and northwest sides of the wetland, with little to no flooding on development lands. The wetland configuration is such that steep slopes and a high point present and flooding of the site to the north east of the wetland.

Based on the above, it is not anticipated that the development will have any negative impact on the wetland features within the retained portion of the subject property.

4.2.2 Woodlands

As identified through the ELC, the study area contains several different treed communities which provide contiguous canopy cover through a large portion of the study area as well as the surrounding lands. Per Section 5.5.4 of the Wellington County Official Plan (2022), within the Rural System, woodlands over 4 hectares and plantations over 10 hectares are considered to be significant. Due to the contiguous canopy cover between the Coniferous Plantation (FOCM6-1) and Deciduous Forests (FODM5-1, FOD), the area of continuous canopy cover within and adjacent to the study area is approximately 139.5 ha (Land Information Ontario (LIO)) and is therefore considered Significant within Wellington County.

The Natural Heritage Reference Manual (NHRM) (OMNR, 2010) provides technical guidance for implementing the natural heritage policies of the Provincial Policy Statement (OMMHA, 2020). Section 7.3.1 of the NHRM provides the recommended evaluation criteria for determining significant woodlands. Table 7 below defines the criteria and how it applies to the woodland features within the study area.

Table 7. Woodland Significance Criteria Evaluation

Criteria	Standards	Application to Study Area
Woodland Size Criteria	Where woodlands cover: · Is less than about 5% of the land cover, woodlands 2 ha in size or larger should be considered significant · Is about 5-15% of the land cover, woodlands 4 ha in size or larger should be considered significant · Is about 15-30% of the land cover, woodlands 20 ha in size or larger should be considered significant · Is about 30-60% of the land, a minimum size is not suggested, and other factors should be considered. *Note:* The size threshold criteria should be reduced in the absence of information for the other three criteria. As a consideration in addressing the potential loss of biodiversity, the largest woodland in the planning area (or sub-unit) should be identified as significant.	The contiguous woodland feature (which includes several woodland communities, that include plantation and deciduous forests) within and adjacent the study area is approximately 139.5 ha in size. Therefore, the feature is considered significant per the NHRM.
Woodland Interior	Woodlands should be considered significant if they have: · Any interior habitat where woodlands cover less than about 15% of the land cover · 2 ha or more of interior habitat where woodlands cover about 15-30% of the land cover · 8ha or more of interior habitat where woodlands cover about 30-60% of the land cover · 20ha or more of interior habitat where woodlands cover more than about 60% of the land cover.	Based on the LIO Woodlands layer, the woodland feature within and adjacent to the study area contains approximately 30.4ha of interior habitat (100m from the edge of the woodland limit). Therefore, the feature is considered significant per the NHRM.
Proximity to other woodlands or other habitats	Woodlands should be considered significant if: · A portion of the woodland is located within a specified distance (e.g., 30m) of a significant natural feature or fish habitat likely receiving ecological benefit from the woodland and the entire woodland meets the minimum area threshold (e.g., 0.5-20ha, depending on circumstance).	The woodland feature within and adjacent the study area is within 30m of the Arkell-Corwhin Provincially Significant Wetland Complex. Therefore, the feature is considered significant per the NHRM.

Linkages	Woodland should be considered significant if they: · Are located within a defined natural heritage system or provide a connecting link between two other significant features, each of which is within a specified distance (e.g., 120m) and meets minimum area thresholds (e.g., 1-20ha, depending on circumstance)	The woodland feature within and adjacent to the study area provides linkages to wetlands within the Arkell-Corwhin Provincially Significant Wetland complex. Therefore, the feature is considered significant per the NHRM.
Water Protection	Woodlands should be considered significant if they: · Area located within a sensitive or threatened watershed or a specified distance (e.g., 50m or top of valley bank if greater) of a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, watercourse or fish habitat and meet minimum area thresholds (e.g., 0.5-10ha, depending on circumstance)	The woodland feature within and adjacent to the study area is located within a Significant Groundwater Recharge- Tier 2 area per GRCA mapping. Therefore, the feature is considered significant per the NHRM.
Woodland Diversity	Woodlands should be considered significant if they have: · A naturally occurring composition of native forest species that have declined significantly south and east of the Canadian Shield and meet minimum area thresholds (e.g., 1-20 ha, depending on circumstance) · A high native diversity through a combination of composition and terrain (e.g, a woodland extending from hilltop to valley bottom or to opposite slopes) and meet minimum area thresholds (e.g., 1-20ha, depending on circumstance)	Only a small portion of the woodland feature within the study area could be comprehensively inventoried for botanical species. Due to the contiguity with woodland features to the north within Starkey Hill, it is presumed that the woodland feature has a high native diversity throughout a combination of composition and terrain. Therefore, the feature is considered significant per the NHRM.
Uncommon Characteristics	Woodland should be considered significant if they have: · A unique species composition or the site is represented by less than 5% overall in woodland area and meets minimum area thresholds (e.g., 0.5ha, depending on circumstance) · A vegetation community with a provincial ranking of S1, S2 or S3 (as ranked by the NHIC and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance) · Habitat (e.g., with 10 individual stems or 100m^2 of leaf coverage) of a rare, uncommon or restricted woodland plant species and meet minimum area thresholds (e.g., 0.5ha, depending on circumstance) o Vascular plant species for which the NHIC's Southern Ontario Coefficient of Conservatism is 8, 9, or 10.	Only a small portion of the woodland feature within the study area could be comprehensively inventoried for botanical species. AA cannot note with confidence whether the woodland feature meets the criteria for uncommon characteristics. The woodland within the parcel did not contain any uncommon characteristics.

	○ Tree species of restricted distribution such as sassafras or rock elm. ○ Species existing in only a limited number of sites within the planning area. · Characteristics of older woodlands or woodland with larger tree size structure in native species ad meet minimum area thresholds (e.g, 1-10ha, depending on circumstance). ○ Older woodlands could be defined as having 10 or more trees/ha greater than 100 years old. ○ Larger tree size structure could be defined as 10 or more trees/ha at least 50cm in diameter, or basal area of 8 or more m^2/ha in trees that are at least 40cm in diameter.	
Economic and Social Functional Values	Woodlands should be considered significant if they have: · High productivity in terms of economically valuable products together with continuous native natural attributes and meet minimum area thresholds (e.g. 2-10ha, depending on circumstance) · A high value in special services, such as air-quality improvement or recreation at a sustainable level that is compatible with long-term retention and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance) · Important identified appreciation, education, cultural or historical value and meet minimum area thresholds (e.g., 0.2-10ha, depending on circumstance).	AA is unaware of any information pertaining to the economic viability or value of services of the woodland feature within and adjacent to the study area. Therefore, AA cannot note with confidence whether the woodland feature meets the criteria for economic and social functional values.

Based on the Significant Woodland Criteria Evaluation presented in Table 7, the contiguous woodland feature within and adjacent the study area is considered Significant per the NHRM. Based on the proposed Site Plan (July 2023), the proposed building envelope and amenities would result in a loss of approximately 0.26 hectares, or 0.2% of the greater woodland area. Since the woodland feature meets several of the NHRM criteria for significance, the removal of 0.2% of the woodland, within the Coniferous Planation, would not result in the woodland feature losing its significance.

With the proposed building area being located near the outer limit of the significant woodland feature, it will avoid any impacts to the interior habitat noted in Table 7 which is crucial for several wildlife species. In addition, the proposed building area is located solely within the Coniferous Plantation (FOCM6-1) which through the ELC demonstrates little diversity and therefore provides little ecological value to the significant woodland as a whole.

Per Section 4.4.3 of the Wellington County Conservation and Sustainable Use of Woodlands By-law (5115-09), a clearing permit may be issued by an Officer provided the total area of tree removal does not exceed 0.5 hectares. The proposed dwelling area is only 0.36 hectares in total, therefore a clearing permit may be issued.

Per Section 4.2.4 of the of the Growth Plan for the Greater Golden Horseshoe (2019), any proposed development must be located no less than 30 metres from the outside boundary of a key natural heritage feature or key hydrologic feature. Key natural heritage features are not currently mapped within the Wellington County Official Plan, however, significant woodlands are present within the study area.

4.2.3 Development Limit

The proposed driveway for future development will be 30 metres or more from all Arkell-Corwhin PSW communities. The proposed driveway will be located entirely within the Coniferous Plantation and Mixed Meadow communities. *Figure 2* illustrates a schematic of the driveway based on the Site Plan for Proposed Severance (Van Harten Surveying Inc., 2023). A building envelope of approximately 0.36 hectares has been proposed within the Site Plan for Proposed Severance, however, a detailed site plan indicating the location and size of a future dwelling, septic system and private well has not been defined at this time. It is anticipated that any future development will result in a reduction in infiltration due to the addition of a residential dwelling and amenities, however, the reduction can be compensated for by using permeable materials where possible and providing herbaceous vegetation cover and shrubs along both sides of the driveway. The removal of Common Buckthorn and plantings of Black Walnut and White Spruce to prevent the return of the Buckthorn have already occurred throughout the Parkland

community adjacent to the existing dwelling on the subject property to improve the ecological value of the community.

4.3 Hydrological Function of the Wetland

A detailed hydrological study of the subject property was not completed as part of the EIS. However, a general assessment of hydrological function and potential impacts to the wetland was completed using field observations and background resources. No seeps or springs were identified on the subject property during any of the site visits throughout 2022.

The dwelling area within the proposed severance slopes down north to south, with a high flat area in the north half. Based on the current topography of the parcel proposed for severance, it is anticipated that some grading may be required to complete construction, depending on the size of the building. Significant changes to drainage patterns are not expected with the required grading.

In accordance with the Ontario Building Code and GRCA wetland policies, the distribution pipe and stone trenches in the leaching bed shall be a minimum of 900 mm above the seasonal high groundwater table, to be determined during a subsurface investigation. This will ensure the potential for contamination to the local groundwater will not occur. The foundation of the proposed structure shall be positioned above the seasonal high groundwater table and result in minor to no changes to hydrology and groundwater levels.

In summary, given the location of the proposed dwelling area, the implementation of the 30m setback from the verified wetland limit, highly permeable nature of the native soils, and the general unchanged surface flow directions, it is the opinion of AA that no impact to the wetland hydrology is expected.

5.0 Legislation and Policy Compliance

5.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) (OMMHA, 2020) provides policy direction on matters of provincial interest related to land use planning and development. Section 2.1.5 of the PPS states that "*Development and site alteration shall not be permitted in: Significant Wetlands, south and east of the Canadian Shield; Significant Woodlands, Significant Valleylands, Significant Wildlife Habitat… unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological function."*

As noted in the above report, the subject property contains wetland communities within the Arkell-Corwhin PSW complex and woodland communities that meet the size criteria for significance. In addition, breeding bird studies confirmed that the Sugar Maple Deciduous Forest meets the criteria for Special Concern and Rare Wildlife Species.

Based on the Site Plan for Proposed Severance (Van Harten Surveying Inc., July 2023), the proposed severance, containing the proposed dwelling area and driveway, will be 30 metres from all PSW communities, resulting in no removal of these features.

The SWH Criteria Schedules for EcoRegion 6E (MNRF, 2015) states that the confirmed SWH for Special Concern and Rare Wildlife Species consists of the area of the habitat to the finest ELC scale that protects the habitat form and function. Based on this, the Sugar Maple Deciduous Forest community defined during the ELC investigation is the confirmed SWH. As the proposed severance is to occur outside the Sugar Maple Deciduous Forest, no removal of the SWH is being proposed.

Section 4.2.2 indicates that the woodland feature within and adjacent to the study area is significant within Wellington County and meets criteria for significance within the NHRM (MNRF 2010). However, the proposed building envelope is located within a Coniferous Plantation near the limits of the feature which provides little ecological value. Additionally, the removal of woodland to accommodate the proposed development amounts to approximately 0.2% of the overall feature and no change in the status of the woodland meeting the criteria for significance.

It is the opinion of AA that with the implementation of the mitigation measures recommended in Sections 4.0 & 7.0, the proposed severance and future development including amenities, will not negatively impact the woodland or wetland. Therefore, the proposed severance is in compliance with the Provincial Policy Statement (2020).

5.2 Endangered Species Act (2007)

The provincial Endangered Species Act, 2007 (ESA) provides protection to species designated as Threatened or Endangered on the Species at Risk in Ontario list (MNRF 2019). As noted in Section 3.4.5.1, the Butternut trees identified on the subject property were assessed in 2020 as being Category 1; non-retainable. Per Ontario Regulation 830/21, under the Endangered Species Act (2007), the Root Harm Prevention Zone pertains to trees assessed to be Category 2 or 3. Seeing as the trees within the subject property are Category 1, the Root Harm Prevention Zone does not apply and an authorization under the ESA is not required. However, an inspection of all trees within 25 metres of the proposed development envelope prior to tree removal for any previously undetected Butternut is recommended.

As both Eastern Wood-Pewee and Wood Thrush are listed as Special Concern, they are not afforded habitat protection under the Endangered Species Act.

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

Provincial mapping of the Natural Heritage System for the Growth Plan does not apply until it has been implemented in the applicable upper- or single-tier official plan. Until that time, the policies of the growth plan that refer to the Natural Heritage System for the Growth Plan will only apply outside settlement areas to the natural heritage systems identified in Official Plans that were approved and in effect as of July 1, 2017.

Per correspondence with Zachary Prince, Senior Planner, Wellington County (Appendix 2), we have confirmed that Wellington County does not have a Natural Heritage System as defined by the Growth Plan, thus the 30 metre vegetative buffer setback applies to Key Hydrologic Features only.

Section 4.2.4 states:

"1. Outside settlement areas, a proposal for new development or site alteration within 120m of a key natural heritage feature within the Natural Heritage System or a key hydrologic feature will require a natural heritage evaluation or hydrologic evaluation that identities 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.

Based on the Wellington County Official Plan Schedule A7 (2022), the proposed severance, building area and driveways, are within 120m of a portion of the Arkell-Corwhin PSW Complex, a key hydrologic feature.

As detailed in *Figure 2*, a setback of 30 metres has been applied to the portion of the Arkell-Corwhin PSW complex that is within the study area. Per the Site Plan for Proposed Severance (Van Harten Surveying Inc., July 2023), the proposed severance and building envelope are located outside of the 30m setback. With the implementation of the mitigation measures recommended in Sections 4.0 & 7.0, it is the opinion of AA that the existing PSW communities along with their ecological functions will not be negatively impacted by the proposed severance and future development.

5.4 GRCA Wetland Policies

Section 8.4 of the GRCA's *Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation* (Ontario Regulation 150/06, 2015) identifies the area of interference of a Provincially Significant Wetland as being 120 metres.

Section 8.4.10 states:
"Development within an area of interference between 30 metres and 120 metres from a wetland, which in the opinion of the GRCA may result in hydrologic impact, may be permitted where an Environmental Impact Study demonstrates that policies in Section 7.1.2-7.1.3- General Policies are met."

It is the opinion of AA that the proposed severance and future development per the Site Plan for Proposed Severance (Van Harten Surveying Inc., July 2023), with the implementation of the mitigation measures recommended in Sections 4.0 & 7.0 of the EIS, will result in no negative hydrological or ecological impacts upon the PSW. *Figure 2*

demonstrates that all development is proposed to occur outside of the PSW complex and the 30 metre setback. Prior to the completion of a detailed site plan and building permit application, a brief subsurface investigation to determine soil type and groundwater conditions is recommended. This is to ensure the footings and sewage system for the proposed dwelling has proper separation of at least 900mm to the seasonal high groundwater table. As per the Ontario Building Code and GRCA wetland policies, the distribution pipe and stone trenches in the leaching bed must be a minimum of 900mm above the seasonal high groundwater table, as determined during a subsurface investigation. Therefore, the proposed development complies with the GRCA's wetland policies.

5.5 Wellington County Official Plan

The Wellington County Official Plan (2022; Township of Puslinch- Schedule A7) indicates that the parcel proposed to be severed contains lands designated as Greenlands and Secondary Agriculture. Section 5.4 of the *Official Plan* (Section 5 – The Greenlands System) specifies that within the Greenlands System, areas with greater sensitivity or significance are identified and protected as *Core Greenlands* and include Provincially Significant Wetlands (PSWs). The proposed severance is adjacent to portions of the Arkell Corwhin PSW complex.

Section 5.6.2 states:
"Where development is proposed in the Greenlands System or on adjacent lands, the County of local municipality shall require the developer to:

a) *Identify the nature of the features potentially impacted by the development;*
b) *Prepare, where required, an environmental impact assessment to ensure that the requirements of this Plan will be met, and consider enhancement of the natural area where appropriate and reasonable.*
c) *Address any other relevant requirements set out in Section 4.6.3 Environmental Impact Assessment."*

Section 6.5.3 states:
"Permitted uses and activities in Secondary Agricultural Areas may include:

a) *All uses allowed in the Prime Agricultural Area;*
b) *Small scale commercial, industrial and institutional uses;*
c) *Public service facilities.*

In Secondary Agricultural Areas, all types, sizes and intensities of agricultural uses and normal farm practices shall be promoted and protected in accordance with provincial standards".

Per Section 6.4.3 permitted uses within Prime Agricultural Areas include single detached homes.

Section 5.5.4 of the Official Plan indicates that in the Rural System, plantations over 10 hectares are considered significant. As noted in Section 4.2.2, the Coniferous Plantation and Deciduous Forest communities form a contiguous canopy, and therefore meet the size criteria for significance outlined in the Official Plan.

Per Section 5.6.2 of the Official Plan, the conditions of the existing features and potential impacts from the proposed severance and future development were evaluated in the above report. Based on the Site Plan (Van Harten Surveying Inc., July 2023), the proposed severance and future development would remove approximately 0.2% of the larger significant woodland feature, and the feature will continue to meet the criteria for significant woodland.

Since the location of a future dwelling and septic cannot be indicated at this time a specified woodland buffer cannot be shown; however, AA highly recommends that the future dwelling be located within the southern portion of the proposed building area to minimize woodland removals. With the implementation of the mitigation measures recommended in Sections 4.0 & 7.0; it is the opinion of AA that the proposed severance and development will not negatively impact the Core Greenland or its ecological functions.

5.6 Puslinch Township Zoning By-law 023-2018

Township of Puslinch Zoning By-law 023-2018 Schedule ‘A’ indicates that a portion of the Natural Environment Zone is adjacent to the parcel proposed for severance. The limit of the NE Zone follows the boundary of the Arkell-Corwhin PSW complex and the Core Greenlands (as designated in the *Wellington County Official Plan*, 2022).

Section 4.31 states:
“No buildings or structure, including a private sewage treatment system and associated tile weeping bed, shall be constructed closer than 30.0m (98.4 ft) from the limit of the Natural Environmental Zone.”

The proposed dwelling area and driveway within the parcel proposed for severance only encroach within 30 metres of the Natural Environment Zone by a maximum of 15 metres along the southwestern edge. Provided the mitigation recommendations outlined in Sections 4.0 & 7.0 are implemented, there will be no negative impact upon the Natural Environment Zone.

5.7 Conservation and Sustainable Use of Woodlands By-law 5115-09

The Wellington County Conservation and Sustainable Use of Woodlands By-law (5115-09) (2009) regulates the destruction and injuring of trees in Wellington County. As per section 4.4.3, a Clearing Permit for woodlands is only to be issued if the total area of tree removal is not any more than 0.5 hectares (1.24 acres). The area of the proposed dwelling parcel and driveway is less than 0.5 hectares, therefore a Clearing Permit may be obtained.

6.0 Summary and Conclusions

It is the opinion of AA that the measures to mitigate construction impacts from the proposed severance and potential residential development will result in no negative impacts to the natural heritage features identified within and adjacent to the proposed severance. The Provincially Significant Wetland identified adjacent to the proposed severance will be protected. Below is a summary of the identified Natural Heritage features and constraints, and associated mitigation and/or protection measures.

6.1 Biological Constraints

1. Surveys were conducted for Ecological Land Classification and Vegetation (ELC and Vascular Plant List), breeding birds and anurans.
2. Three Species at Risk; Eastern Wood-Pewee, Wood Thrush were detected within the Sugar Maple Deciduous Forest near the northeastern property limits and Butternut was detected on the south edge of the Open Aquatic community, within the landscaped lawn area, respectively.

6.2 Impact Assessment

1. Potential impacts from the proposed severance and development were assessed to determine their extent (see *Table 7*), and mitigation guidelines have been provided.

2. Impacts primarily involve the removal of coniferous plantation and mixed meadow, site grading and wildlife disturbance.

3. Residual impacts from occupation are expected and can be minimized through provision of an environmental guide/brochure to advise occupants of action and activities that can be taken to avoid impacts to the adjacent natural feature.

4. There are opportunities on the severed parcel for edge enhancement to mitigate and offset potential sediment run-off between the proposed development, the surrounding plantation community and the forb mineral shallow marsh.

6.3 Legislation and Policy Compliance

1. The *Provincial Policy Statement (2020)* does not permit development and site alteration within Provincially Significant Wetlands or Significant Wildlife Habitat that would negatively impact the natural feature or its ecological function. The proposed severance is located along the northeast edge of the property, with the dwelling area and driveway being greater than 30 metres from identified PSW. The north-western portion of the proposed building envelope is within the 30m buffer of the identified SWH; however, none of the forested community containing the SWH will be removed. It is the opinion of AA that there will be no negative impacts to the PSW or SWH or their ecological function from the proposed severance and residential development.
2. The proposed development can occur in accordance with GRCA's *Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation* (Ontario Regulation 150/06, 2015) because it has been demonstrated that there will be no negative impacts to the PSW as the proposed severance, building envelope and driveway are greater than 30 metres from the limits of the PSW and provided the recommended mitigation measures are implemented.
3. The proposed severance and residential development can occur in accordance with the Growth Plan for the Greater Golden Horseshoe as it has been demonstrated that the proposed development will not cause negative impacts to the adjacent PSW or its ecological functions as all new development is outside of the 30 metre setback from the Arkell-Corwhin PSW complex.

7.0 Recommendations

The following recommendations are provided to ensure protection of natural heritage features and function within and adjacent the severed parcel from the proposed development.

1) Implement Erosion and Sediment Control Plan (ESC) per the Erosion & Sediment Control Guideline for Urban Construction (GGHACA, 2019).
   a) ESC fencing should be installed prior to construction activities

2) Minimize tree loss through the completion of a Tree preservation/enhancement plan at the site plan/building plan stage and installation of a silt and sediment control barrier consisting of combination of silt fencing as well as orange construction fencing. This fencing barrier is to be installed at least 1m beyond the dripline of

existing trees wherever possible.

a) Sediment control barrier to be inspected monthly during construction and following a storm event of 25 mm of rainfall within 24 hours.

3) ESC measures to be kept in place until construction is completed and disturbed soils have been vegetated.

4) Accumulated sediment and debris to be removed before silt fence is removed.

5) All disturbed areas to be re-vegetated or restored with site appropriate indigenous plants wherever opportunities exist, including within the Vegetation Protection Zone to encourage the development of native species and diversity throughout the coniferous plantation.

6) Sediment control fencing to be installed as shown on a Detailed Site Plan. Installed sediment control fencing is to be inspected to ensure that it is in place and functioning as designed prior to any activities or construction.

7) Install tree and shrub enhancement plantings next to proposed driveway, and along woodland and plantation edges within the severance, in order to mitigate increased impervious surfaces within the severance as a result of the Site Plan for Proposed Severance (Van Harten Surveying Inc., 2023).

8) Conduct an active nest survey immediately prior to any site disturbances or alterations (e.g. tree removal) that must occur within the Core Nesting Period (April 1-August 31).

9) Complete studies to identify potential Bat Maternity Colony habitat in areas where tree removal/damage is proposed to occur.

10) Review all areas within 25 metres of the proposed development for the presence of additional Butternut Trees that may be protected under the ESA.

11) Promote occupant's environmental stewardship through provision of this EIS to avoid/minimize residual impacts (e.g. control pets, avoid tree removals, avoid use of pesticides and toxic materials, use of invasive plant species).

12) Direct any exterior light fixtures away from the natural feature edges.

Prepared by:

ABOUD & ASSOCIATES INC.

Shannon Davison, B. Env. Eco. Rest. Cert.
Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Wetland Evaluation
CERPIT #0499

Reviewed By:

Cheryl-Anne Ross, B. Sc.
Ecology Lead & Wildlife Ecologist
MNRF Certified Ecological Land Classification System
MNRF Certified Ontario Wetland Evaluation System

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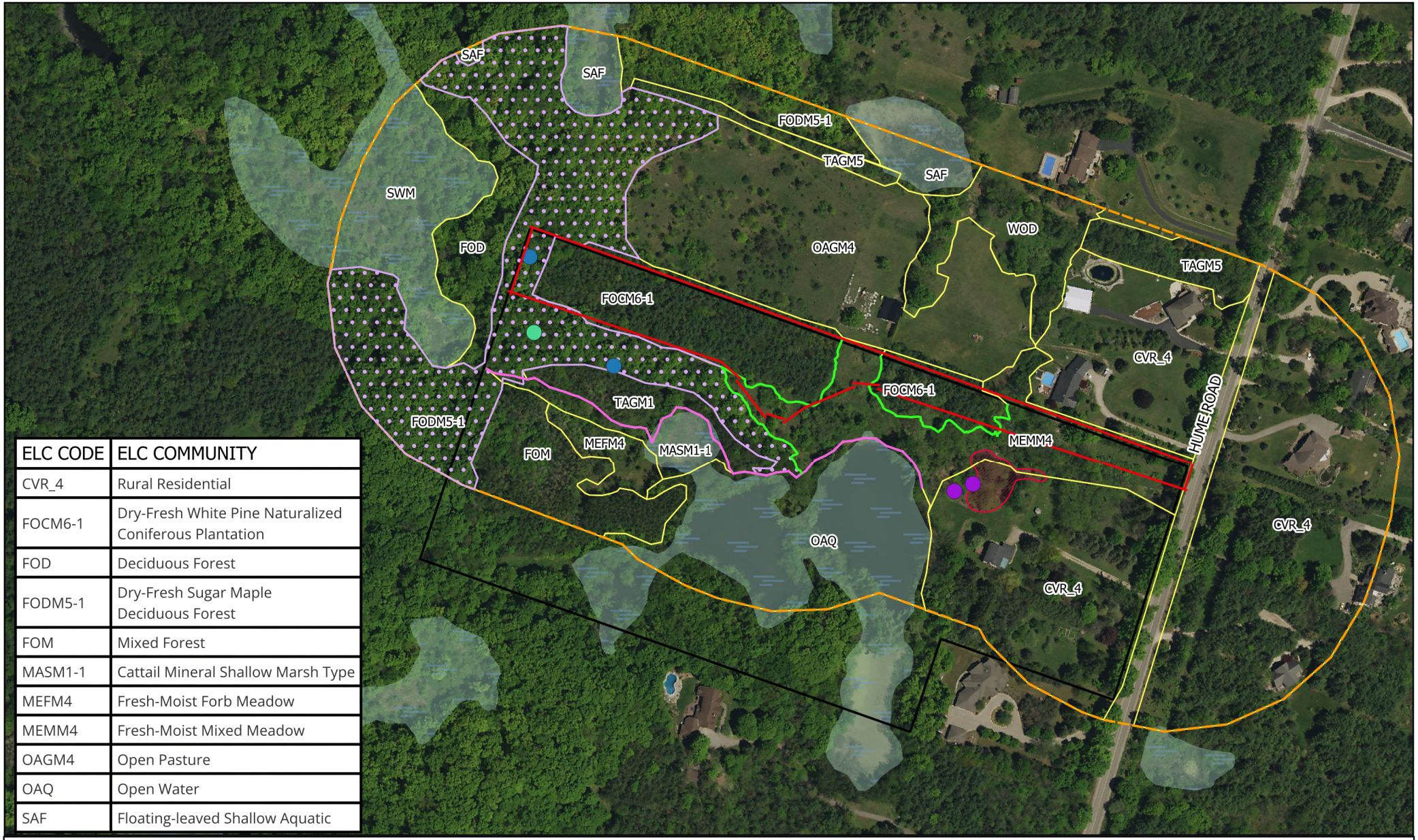
FIGURES



ELC CODE	ELC COMMUNITY
CVR_4	Rural Residential
FOCM6-1	Dry-Fresh White Pine Naturalized Coniferous Plantation
FOD	Deciduous Forest
FODM5-1	Dry-Fresh Sugar Maple Deciduous Forest
FOM	Mixed Forest
MASM1-1	Cattail Mineral Shallow Marsh Type
MEFM4	Fresh-Moist Forb Meadow
MEMM4	Fresh-Moist Mixed Meadow
OAGM4	Open Pasture
OAQ	Open Water
SAF	Floating-leaved Shallow Aquatic

LEGEND

- SUBJECT PROPERTY
- STUDY AREA
- PROPOSED SEVERANCE
- VERIFIED WETLAND LIMIT
- ECOLOGICAL LAND CLASSIFICATION
- SIGNIFICANT WILDLIFE HABITAT (SWH)
- BREEDING BIRD SURVEY POINT
- AMPHIBIAN SURVEY POINT
- PROVINCIALLY SIGNIFICANT WETLAND
- PSW NO LONGER PRESENT

SPECIES AT RISK

- EASTERN WOOD-PEWEE
- WOOD THRUSH
- BUTTERNUT
- GRCA REGULATION LIMIT

Information Sources:
1. Orthophotography provided by First Base Solutions Accessed June 2022.
2. Wetland limit provided by Van Harten Surveying, 2022

NOTE: The aerial imagery accessible for Wellington County is not reflective of current site conditions.

Title:
EXISTING CONDITIONS, SURVEY LOCATIONS & SIGNIFICANT SPECIES

Project:
164 HUME ROAD
PUSLINCH ON

Date: JULY 2023
Project: AA21-148A
Scale: 1 : 3000

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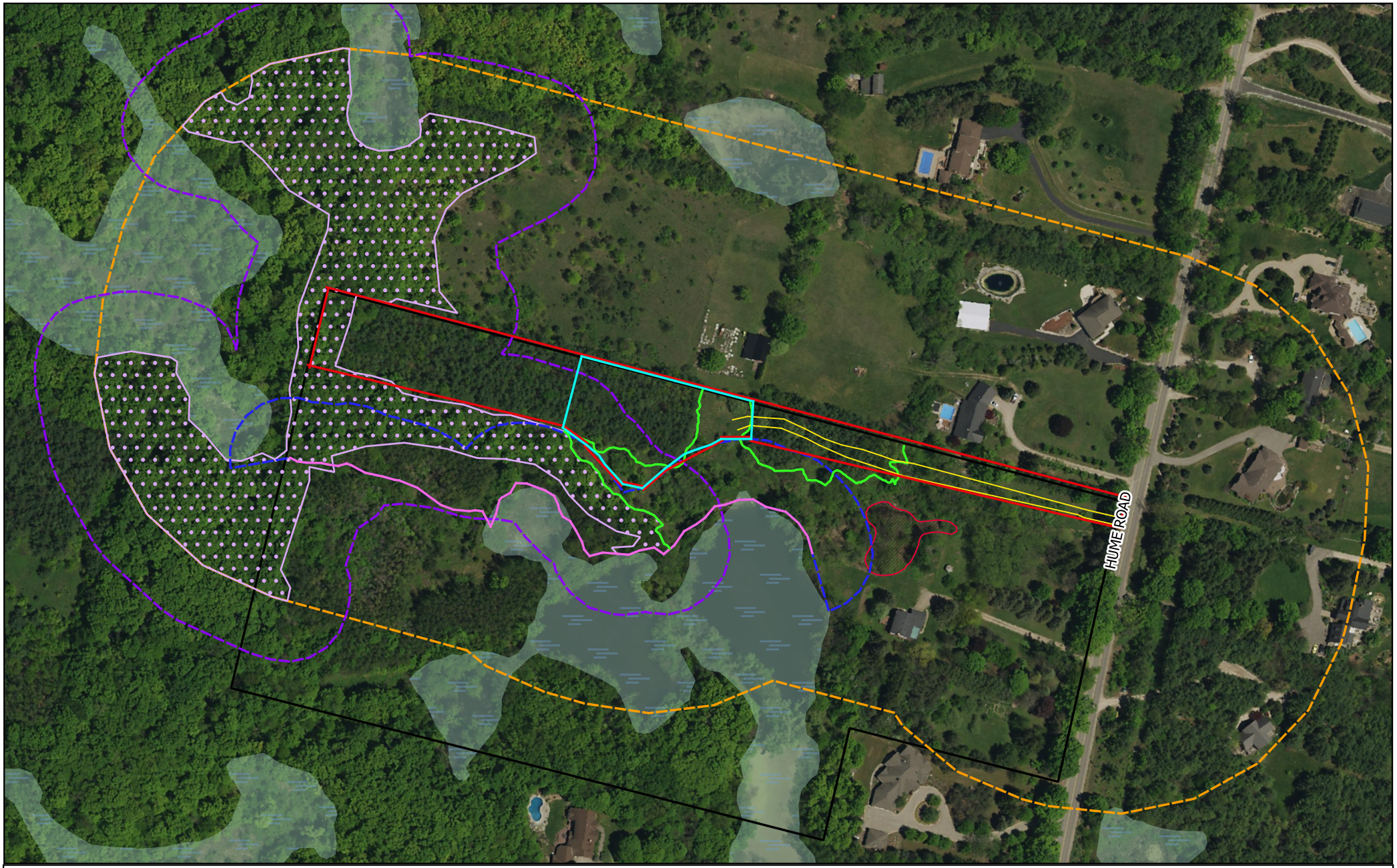
Consulting Arborists • Ecologists • Landscape Architects
3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8 . 519.822.6839 . www.aboudng.com

Figure No: 1



LEGEND

- SUBJECT PROPERTY
- STUDY AREA
- PROPOSED BUILDING ENVELOPE
- PROPOSED SEVERANCE
- PROPOSED DRIVEWAY
- WOODLAND DRIPLINE
- VERIFIED WETLAND LIMIT
- PROVINCIALLY SIGNIFICANT WETLAND
- PSW NO LONGER PRESENT
- 30M WETLAND SETBACK
- SIGNIFICANT WILDLIFE HABITAT (SWH)
- 30M SWH SETBACK
- GRCA REGULATION LIMIT

Information Sources:

1. Orthophotography provided by First Base Solutions Accessed June 2022.
2. Wetlands provided by LIO Open Data accessed March 2022
3. Proposed building area and wetland limits provided by Van Harten Surveying, 2022.

NOTE: The aerial imagery accessible for Wellington County is not reflective of current site conditions.

Title:

NATURAL HERITAGE LIMITS & SETBACKS

Project:

164 HUME ROAD
PUSLINCH ON

Date: JULY 2023

Project: AA21-148A

Scale: 1 : 2500

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3-5 Edinburgh Road South . Guelph . Ontario . N1H 6N8 . 519.822.6839 . www.aboudtng.com

Figure No: 2

APPENDIX 1

Applicable Policies and Conformity

POLICY	RELEVANT SECTIONS OF THE POLICY	POLICY CONSTRAINTS WITHIN STUDY AREA	PROJECT POLICY CONFORMITY	PROPOSED MITIGATION
Provincial Policy Statement (2020)	Section 2.1; Natural Heritage, including sections 2.1.4 and section 2.1.5 Section 3.0; Protecting Public Health and Safety, including Subsections 3.1.2 c) and d), Section 3.1.4, Section 3.1.6, and Section 3.1.7.	Confirmed Significant Wildlife Habitat (SWH) is present within the Study Area.	The proposed limits of development are outside of the SWH and the appropriate setbacks that have been applied.	No mitigation is necessary.
Endangered Species Act (2007)	Subsection 9(1) Clause 10(1)(a) Clause 16(5) Clause 17(1)	Habitat for several Bat Species at Risk is present in the Study Area.	The proposed limits of development are outside of the Species at Risk habitat and the appropriate setbacks that have been applied.	No mitigation is necessary.
A Place to Grow: Growth Plan for the Greater Golden Horseshoe 2020	Section 4.2.4; Lands Adjacent to Key Hydrologic Features and Key Natural Heritage Features	Key Hydrologic Features are located adjacent to the land proposed for severance.	The proposed limits of development are outside of the Key Hydrologic Feature and a 30m setback has been applied.	Plant native plantings within the buffer area to reduce intrusions and naturalize it.
Species at Risk Act	Subsection 32 (1) and (2) Subsection 33 Subsection 34(1) Subsection 58 (1)	Wood Thrush (THR) breeding habitat is present within the study area.	The proposed limits of development are outside of the breeding habitat and the appropriate setbacks that have been applied.	No mitigation is necessary.
Grand River Conservation Authority's Ontario Regulation 150/06, 2015	Clause 2(1)(c) Subsection (3)(1)	Provincially Significant Wetlands (PSW) are present in the study area.	Permission from the GRCA will be required to interfere with 120 m PSW buffer.	Mitigation as described in Table 6 will be utilized.
Wellington County Official Plan	Schedule A7; Map of Puslinch Section 5.5.4; Woodlands Section 5.6.2; Development Impacts	Significant Woodlands are located within and adjacent the study area.	The proposed severance and building envelope are partially within the Significant Woodland.	Mitigation as described in Sections 4.0 and 7.0 will be utilized.

Puslinch Township Zoning By-law 023-2018	Schedule A Section 4.31; Setbacks from the Natural Environment (NE) Zone	Portions of the NE Zone are located adjacent to the land proposed for severance.	The proposed limits of development are outside of the NE Zone and the appropriate buffers that have been applied.	No mitigation is necessary.
Conservation and Sustainable Use of Woodlands By-law 5115-09	Section 4.4.2 Section 4.4.3	A portion of the Coniferous Plantation is within the proposed development area.	A clearing permit may be obtained as the total area of tree removal will not exceed 0.5 ha.	Mitigation as described in Table 6 will be utilized.

APPENDIX 2

Agency Correspondence

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects

3-5 Edinburgh rd. S
Guelph . Ontario
N1H 5N8

T: 519.822.6839
F: 519.822.4052
info@aboudtng.com
www.aboudtng.com

February 22, 2023

Our Project No.: AA21-148A
Sent by Email: clorenz@grandriver.ca;
Planning@puslinch.ca
zacharyp@wellington.ca

Chris Lorenz
Policy Planner
Grand River Conservation Authority
400 Clyde Road PO Box 729
Cambridge, ON
N1R 5W6

Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph ON N1H 3T9

Township of Puslinch Planning Department
7404 Wellington Road 34
Puslinch, ON
N0B 2J0

Re: 164 Hume Road, Proposed Severance
Township of Puslinch, County of Wellington
Terms of Reference – Scoped Environmental Impact Study

Dear Mr. Lorenz & Township of Puslinch Planning Staff,

This document outlines the Terms of Reference (ToR) of the Scoped Environmental Impact Study (EIS) for a proposed Severance at 164 Hume Road in the Township of Puslinch, Wellington County. The EIS will characterize the natural environment and propose reasonable measures to mitigate any potential impacts that may arise through the proposed severance on the subject land. Please review the terms and circulate to Grand River Conservation Authority (GRCA), County and Township staff for discussion and approval.

BACKGROUND

The client requires a Scoped EIS prepared to the satisfaction of the GRCA, and the Township of Puslinch to proceed with a proposed severance of the lands at 164 Hume Road. Most of the property is within the GRCA Regulation Limit, including a portion of the Arkell Corwhin Wetland complex provincially significant wetland, other wetlands within the complex are located within the study area, but outside of the property limits.

According to Wellington County draft NHS mapping and the Wellington County Official Plan (OP), wetlands and significant woodland features, are also present on the subject property. These areas within the subject property are designated as Greenlands and Core Greenlands according to the OP.

In preparing the Terms of Reference, the following sources were reviewed for background information:

- GRCA mapping of natural heritage features (regulation limit, wetlands, ANSI's, and NDMNRF Woodlands);
- Wellington County Official Plan and Schedules;
- Growth Plan for the Greater Golden Horseshoe;
- Township of Puslinch Zoning By-law No. 023-18;
- Natural Heritage Information Center (NHIC), Make-a-map, accessed December 15, 2022;
- Ontario Nature. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. 2019;
- Ontario Breeding Bird Atlas. Bird Studies Canada, 2007;
- Atlas of the Mammals of Ontario. Dobbyn, 1994;
- iNaturalist. Accessed December 15, 2022;
- eBird. Cornell Lab of Ornithology. Accessed December 15, 2022;
- Ontario Butterfly Atlas. Toronto Entomologists' Association. Accessed December 15, 2022.

STUDY AREA

The study area includes the lands proposed for severance, and the lands adjacent to the proposed severance up to 120 m to assist with understanding the features and functions of natural heritage features that may be present or adjacent to the site (Figure 1).

As needed, the lands adjacent to the subject property may require further access to assist with understanding the characteristics and functions of natural heritage features. Where access is restricted, information will be acquired through existing background information and what can be observed from the edge of the accessible lands. Lands outside of the field study area, or where access is not provided, will be reviewed from existing background information (e.g., County of Wellington Official Plan).

PLANNING CONTEXT

Provincial Policy Statement (2020)

The Provincial Policy Statement (2020) indicates that natural heritage features shall be protected for the long term. Under Section 2.1.5, Development and Site Alteration shall not be permitted in significant wetlands, significant woodlands, significant areas of natural and scientific interest (ANSI) and significant wildlife habitat, in Ecoregion 6E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

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

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

Section 2.1.8 states Development and site alteration shall not be permitted on adjacent lands to the natural heritage and area identified in policies 2.1.4, 2.1.5, 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.

Grand River Conservation Authority

Section 2 of the GRCA's Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (Ontario Regulation 150/06, 2013) indicates that no person shall undertake development in or on the areas within the jurisdiction of the Authority that are,

"wetlands; or other areas where development could interfere with the hydrologic function of a wetland, including areas within 120 metres of all provincially significant wetlands and wetlands greater than or equal to 2.0 ha in size, and areas within 30 metres of wetlands less than 2.0 ha in size."

And

"All areas within the jurisdiction of the Authority that are delineated as the "Regulation Limit"

The Authority may grant permission for the development in the areas described above, if, it its opinion, the control flooding or the conservation of land will not be affected by the development.

Township of Puslinch Comprehensive Zoning By-Law No. 023-18

According to the Township's Comprehensive Zoning By-Law Schedule A, portions of the subject property are currently zoned as Natural Environment (NE) and most of the property is identified as Environmental Protection (EP) zone overlay. This is not a separate zone, but an overlay that represents natural heritage features included in the "Greenlands" designation of the County Official Plan, as well as lands to which GRCA's regulation 150-06 applies.

Section 4.31 Setbacks from the Natural Environment Zone states:

"No buildings or structures, including a private sewage treatment systems and associated tile weeping bed, shall be constructed closer than 30 metres from the limit of a Natural Environment (NE) Zone. Notwithstanding the required setback noted above or any other provision in this By-law to the contrary: Where a vacant lot existed on the day of passing of this By-law, a building permit may be issued for permitted buildings or structures, excluding new agricultural buildings and structures, provided that:

1) there is no other suitable location on the lot outside of the 30 metre minimum setback, and

2) a setback of at least three (3) metres from the NE Zone boundary is maintained

Notwithstanding the above, the setback from the Natural Environment (NE) Zone may be reduced to a distance that is supported by the Conservation Authority having jurisdiction pursuant to its authority provided under the Conservation Authorities Act, R.S.O. 1990. Where the Conservation Authority provides written approval for a reduced setback from the NE Zone an amendment to this By-law shall not be required."

Section 13.2 Environmental Protection Zone Overlay states that:

"The EP overlay permits development of the lands within the EP overlay, subject to the following special provisions:

- Development will not be allowed in significant wildlife or plant habitat unless it has been demonstrated to the satisfaction of the Township that there will be no negative impacts on the habitat or its ecological functions.
- Development will not be allowed in significant woodlands unless it has been demonstrated to the satisfaction of the Township that there will be no negative impacts on the woodland or its ecological functions.
- Erection of a building or structure will not be allowed within a GRCA regulated area unless written approval from the GRCA is obtained.

Wellington County Official Plan

The County of Wellington Official Plan indicates that a portion of the property is within the Greenlands system and contains Greenlands and Core Greenlands. Section 5.4 Core Greenlands states that:

"Within the Greenlands System certain areas have greater sensitivity or significance. These areas will be identified in policy and protected. These areas have been included in the "Core Greenlands" designation and include:

- Provincially Significant Wetlands
- All other wetlands;
- Habitat of endangered or threatened species and fish habitat; and
- Hazardous lands."

Section 5.4.1 Wetlands states that:

"All wetlands in the County of Wellington are included in the Core Greenlands. Development and site alteration will not be permitted in wetlands which are considered provincially significant. All other wetlands will be protected in large measure and development that would seriously impair their future ecological functions will not be permitted."

Section 5.4.2 Habitat of Endangered or Threatened Species or Fish Habitat states that:

"Development and site alteration will not be allowed in significant habitat of endangered or threatened species except in accordance with provincial and federal requirements. Development or site alteration adjacent to significant habitat of endangered or threatened species shall require a satisfactory EIS that demonstrates there will be no negative impact on the significant habitat or its ecological function."

Section 5.6.2 states that:

"Where development is proposed in the Greenland system or on adjacent lands, the County or local municipality shall require the developer to:

a) Identify the nature of the features potentially impacted by the development;
b) Prepare, where required, an environmental impact assessment to ensure that the requirements of this Plan will be met and consider enhancement of the natural area where appropriate and reasonable.
c) Address any other relevant requirements set out in Section 4.6.3 Environmental Impact Assessment

Growth Plan for the Greater Golden Horseshoe

Outside settlement areas, hydrological features identified that are a part of the Natural Heritage System for the Growth Plan require a vegetated protection zone identified within the Growth Plan for the Greater Golden Horseshoe (GPGGH). Key hydrologic features are present on the subject property.

Section 4.2.4 states:

“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.”

The Provincial Policy Statement, and the County’s Official Plan indicate that natural heritage features shall be protected for the long term. Development may be permitted within and/or adjacent to the Greenlands System where an EIS demonstrates that there will be no negative impacts on the natural heritage resource. Consequently, an EIS should be prepared to demonstrate that the proposed development will not negatively impact the Greenland or Core Greenland features.

BACKGROUND REVIEW

Additional background natural heritage information related to the subject lands and adjacent lands identified the following information:

1. The Ontario Reptile and Amphibian Atlas shows within the 10 km squares of the subject land, the recent and historical presence of 27 species of reptiles and amphibians. The list includes seven species of Conservation Concern: Blanding’s turtle (*Emydoidea blandingii* (END(SARO) THR(SARA)), Midland Painted Turtle (*Chrysemys picta marginata* (SC(COSEWIC)), Northern Map Turtle (*Graptemys geographica* (SC (SARA&SARO)), Snapping Turtle (*Chelydra sepentina* (SC(SARA&SARO)), Milksnake (*Lampropeltis triangulum* (SC(SARA)) and Western Chorus Frog (*Pseudacris triseriata pop. 2* (THR(SARA)).

2. The Natural Heritage Information Center indicates the presence of seven species of Conservation Concern: Henslow’s Sparrow (*Ammodramus henslowii* END (SARA&SARO), Barn Swallow (*Hirundo rustica* THR(SARA&SARO)), Eastern Meadowlark (*Sturnella magna* (THR (SARO& SARA)), Bobolink (*Dolichonyx oryzivorus* (END(SARO&SARA)), Canada Warbler (*Cardellina canadensis* SC(SARO), THR(SARA)), and Black Ash (*Fraxinus nigra* (THR(COSEWIC)) within 1 km of the subject land. A mixed wader nesting colony was also identified in the 1km NHIC squares that include the study area.

3. The Ontario Breeding Bird Atlas shows within the 10 km squares of the subject lands, the recent and historical presence of 112 species of birds. This list

includes ten species of Conservation Concern; Least Bittern (*Ixobrychus exilis* (THR(SARO&SARA)), Chimney Swift (*Chaetura pelagica* (THR(SARO&SARA)), Red-headed Woodpecker (*Melanerpes erythrocephalus,* END(SARA&SARO)), Eastern Wood-pewee (*Contopus virens* (SC(SARO)), Bank Swallow (*Riparia riparia* (THR(SARO&SARA)), Barn Swallow (*Hirundo rustica*, THR (SARO&SARA)), Wood Thrush (*Hylocichla mustelina* (SC(SARO)), Grasshopper Sparrow (*Ammodramus savannarum* (SC(SARO& SARA)), Bobolink (*Dolichonyx oryzivorus* (THR(SARO&SARA)) and Eastern Meadowlark (*Sturnella magna* (THR(SARO&SARA)).

4. The Ontario Mammal Atlas shows within the 10 km squares containing the subject lands, the historical presence of 37 species of mammals. Two of these species, Little Brown Myotis (*Myotis lucifugus*) and Tri-coloured Bat (*Perimyotis subflavus*) are considered species of Conservation Concern, listed as Endangered under SARA and SARO. However, it is expected that Northern Myotis (*Myotis septentrionalis*) and Eastern Small-footed Myotis (*Myotis leibii*) may also occur in treed landscapes anywhere in the province.

5. eBird records from nearby Guelph-Arkell (Starkey Hill Trail) indicate the recent and historical presence of 141 species, including 10 species of Conservation Concern (Eastern Wood-Pewee, Wood Thrush, Barn Swallow, Bobolink, Grasshopper Sparrow, Canada Warbler (*Cardellina canadensis*), Cerulean Warbler (*Setophaga cerulea*), Red-headed Woodpecker, Golden-winged Warbler (*Vermivora chrysoptera*), and Eastern Meadowlark).

6. iNaturalist research-grade observations within 1.2 km radius of the subject land indicate the recent presence of 292 species, including 44 insect and arachnids, 115 vascular plant species, 41 fungi, 8 bird species, 2 mammal species, 1 fish species, 9 amphibian species and 4 reptile species. Three of the species observed, Wood Thrush, Painted Turtle and Snapping Turtle, are considered species of Conservation Concern.

7. The Ontario Butterfly Atlas indicates the recent and historical presence of 72 butterfly species within the 10 km square of the subject land with two species of Conservation Concern; Monarch (*Danaus plexippus*) (SC(SARA&SARO)) and West Virginia White (*Pieris virginiensis*) (SC (SARO)).

This information indicates that there is a potential presence of additional natural heritage features and constraints that may require investigation and/or comment.

PROPOSED TERMS OF REFERENCE

A. Scoped Environmental Impact Study

To fulfill the requirements of the EIS, we will:

1. Complete a background site screening for Species at Risk, Significant Wildlife Habitat and identification of any other natural heritage features which may be present within or adjacent to the site.
2. Review background information, (e.g., proposed activity, relevant sections of the County OP, investigation of wildlife atlases and NHIC).
3. Complete a MECP Information Request, to determine the potential presence of additional Species at Risk in the study area and any studies required by the MECP under the ESA (2007).
4. Complete an NDMNRF Request for Information to acquire information regarding the provincially significant wetlands.
5. The following field studies are expected to be required based on field conditions and potential presence of Species at Risk and species of conservation concern in the vicinity of the project location.

a. Wetland Delineation
Conduct on-site delineation of the wetland features within the property boundaries to determine wetland boundaries. Confirm boundaries of wetland features with the GRCA. Wetland boundaries to be picked up on site by project surveyor and provided to AA for inclusion in figures and distribution to the GRCA.

b. Amphibian Study
Complete, 3 amphibian (frogs and toads) call surveys as per the Marsh Monitoring Program (2003), by Bird Studies Canada. The surveys will be conducted between 0.5 hour after sunset and before midnight within specific periods: April 15-30, May 15-30, and June 15-30.

c. Breeding Bird Survey
Conduct a breeding bird survey of the study area, following the protocol of the Ontario Breeding Bird Atlas (Bird Studies Canada, 2004), and including both point counts and area searches. The breeding bird survey requires two, focused, early morning site visits during the period between late May and early July.

d. ELC & Two season botanical study (summer & fall)

Conduct two site visits to verify vegetation communities using the ELC system (NDMNRF) and complete a two-season (spring & late summer) botanical inventory of the study area.

6. Investigate the study area for the presence of Significant Wildlife Habitat during the spring site visits.

7. Investigate the study area for presence of Species at Risk and Species at Risk habitat during the spring site visits.

8. Record observations of incidental wildlife during site visits.

9. Analyze findings and prepare a map that shows:

    a. Identified natural heritage features and functions, and landscape level features (e.g., linkages, forest interior habitat).
    b. The proposed site alteration plan.
    c. ELC vegetation communities.
    d. Location of breeding bird survey
    e. Wetland boundary delineation
    f. Proposed buffers to significant features
    g. Other noteworthy features as needed
    h. Locations of other natural heritage features from background literature searches (e.g., mammal atlas, herpetofaunal atlas, County Official Plan and Township Zoning Bylaw).

10. Conduct an impact assessment by reviewing the proposed severance's direct, indirect, induced (i.e., residual, ongoing) and cumulative impacts on the natural features. Provide an opinion about the location of the components of the general concept plan to reduce/avoid impacts to natural heritage features.

11. Show the configuration of the proposed severance limits and the expected components of the residence on the property, in relation to natural heritage features, and assess for minimizing impacts to ecological features and functions. This will involve discussions with the proponent, project surveyors and AA.

12. Provide policy rationale for expected impacts to natural heritage features (e.g., removal of trees, grading and construction to accommodate the site plan).

13. Edge Management Guidelines and Compensation: Provide general recommendations of where and why naturalization treatments may be needed to protect vegetation features (e.g., woodlands, wetlands) adjacent to the development activity. Provide rationale and recommendations for tree compensation (e.g., where why and how much).

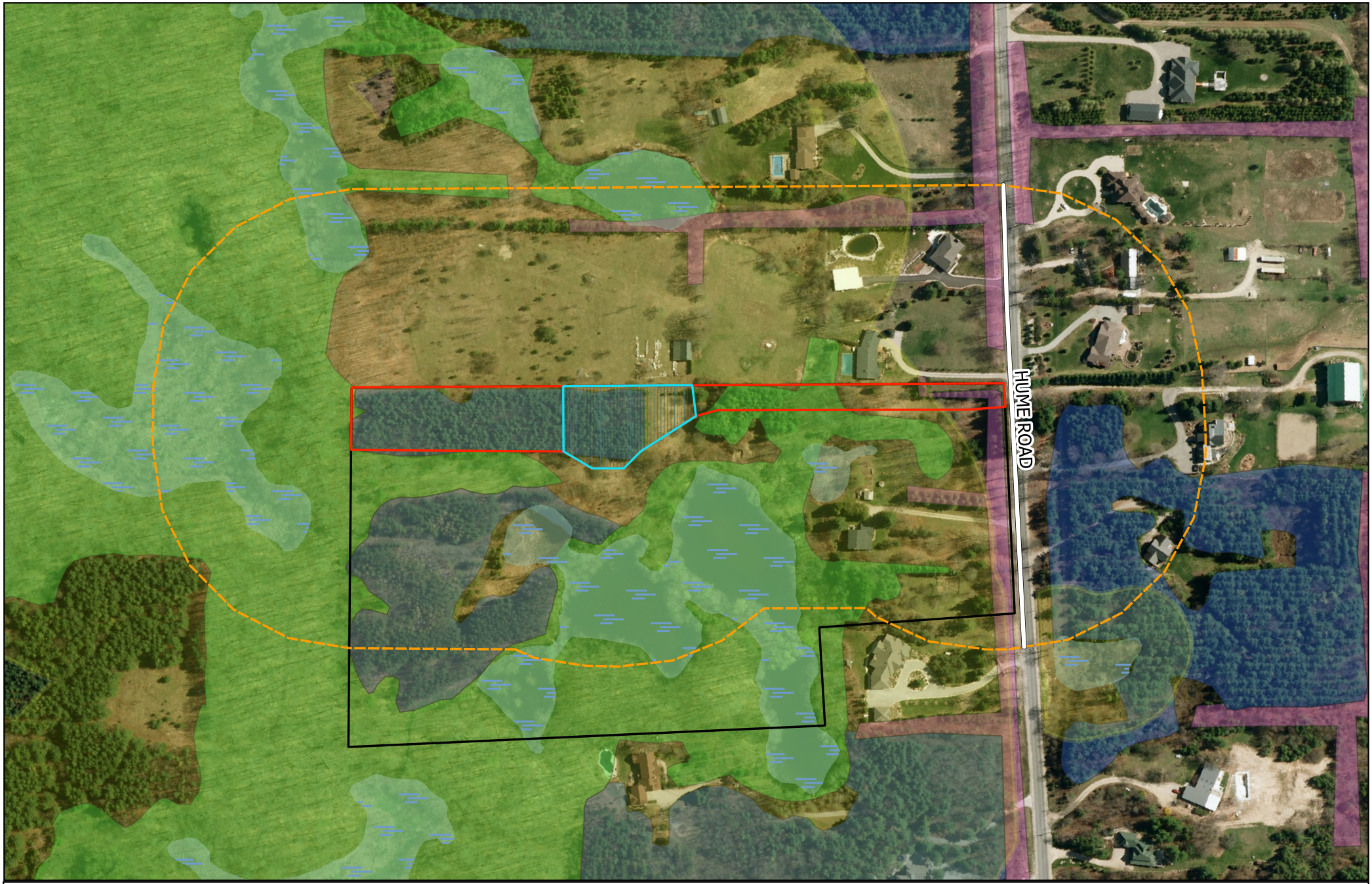
14. Prepare a report of the EIS that includes background information, methods, existing conditions, proposed development, impact assessment and mitigation measures and appendices of field studies (e.g., ELC survey and bird data sheets).
15. Submit EIS to client for distribution to the County and Township.

Yours truly,

ABOUD & ASSOCIATES INC.

Cheryl-Anne Ross, B. Sc.
Ecology Lead & Wildlife Ecologist
MNRF Certified Ecological Land Classification System
MNRF Certified Ontario Wetland Evaluation System Evaluator

CC: Hugh Handy, MCIP, RPP, GSP Group
Jerry Auger, Landowner



LEGEND

- STUDY AREA
- SUBJECT PROPERTY
- PROPOSED SEVERANCE
- PROPOSED BUILDING ENVELOPE
- GRCA REGULATION LIMIT

LIO WOODLAND

- Hedgerow
- Plantation
- Treed

PROVINCIALLY SIGNIFICANT WETLAND (PSW)

Information Sources:

1. Orthophotography provided by First Base Solutions Accessed february 2023.
2. Wetlands provided by LIO Open Data accessed February 2023
3. Study area from proposed severance location by client.

Title:

STUDY AREA

Project:

164 HUME ROAD
PUSLINCH ON

Date: FEBRUARY 2023

Project: AA21-148A

Scale: 1 : 3000

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects
3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8 . 519.822.6839 . www.aboudtng.com

Figure No: 1

From: Chris Lorenz
To: Jerry Auger; planning@puslinch.ca; zacharyp@wellington.ca; Cheryl-Anne Ross
Cc: Hugh Handy; Jeff Buisman; Jenny Andrews; Sue Auger
Subject: RE: Terms of Reference 164 Hume Road
Date: Monday, March 6, 2023 12:11:16 PM

Unverified Sender

Good afternoon,

GRCA has reviewed the submitted TOR and offer the following comments:

- The field study program as proposed is generally appropriate. The finalized TOR should be included in the EIS report appendices.
- It should be specified in the proposed field investigations that the wetland boundary was delineated using the Ontario Wetland evaluation System (OWES) protocols by a certified professional.

Advisory

- The TOR indicates that a two-season botanical survey will be completed, however, point 5d is inconsistent in terms of which seasons will be surveyed. One point indicates a summer and fall survey, and one says spring and late summer. Due to the presence of forested habitat, a spring survey would be more valuable. A three-season survey could be considered to provide a more complete botanical species list.

Thank you. If you have any questions please don't hesitate to contact me.

Chris

Chris Lorenz, M.Sc.
Resource Planner
Grand River Conservation Authority
519-621-2763 ext. 2236

From: Jerry Auge[redacted]
Sent: February 23, 2023 3:11 PM
To: Chris Lorenz <clorenz@grandriver.ca>; planning@puslinch.ca; zacharyp@wellington.ca; Cheryl-Anne Ross <Cheryl@aboudtng.com>
Cc: Hugh Handy <hhandy@gspgroup.ca>; Jeff Buisman <jeff.buisman@vanharten.com>; Jenny Andrews <jenny@aboudtng.com>; Sue Auge[redacted]
Subject: Re: Terms of Reference 164 Hume Road

Please include my wife Sue in all communication (her email is above). She should also be listed as a home owner. Thanks

Regards,

Jerry Auger

[redacted]

On Thursday, February 23, 2023 at 08:40:39 a.m. EST, Cheryl-Anne Ross <cheryl@aboudtng.com> wrote:

Hello Chris, Zach and township planning staff,

Please see the attached Terms of Reference for a proposed severance of the lands identified as 164 Hume Road in Puslinch.

Your prompt review of the attached Terms would be appreciated, as we are intending to submit our application on or before March 29th.

All field work for the scoped EIS has been completed to date and the Wetland limit has already been staked in the field and confirmed with GRCA staff on June 15th, 2022.

Thank you,

Cheryl-Anne Ross B.Sc. F.W.T. (she/her/hers)

Ecology Lead. Wildlife Ecologist

MNRF Certified Ecological Land Classification

MNRF Certified Ontario Wetland Evaluation System

ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8

T : 519-822-6839 x 321 C : 226.789.9294 . www.aboudtng.com .cheryl@aboudtng.com

We've moved! Effective May 2, 2022 our office is located at 3-5 Edinburgh Road South, Guelph N1H 5N8. Our team phone numbers and email addresses will remain the same. We look forward to working with our partners and clients from our new location.

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

From: Zachary Prince
To: Cheryl-Anne Ross
Subject: RE: 164 Hume Road, Puslinch (Auger)
Date: Friday, February 24, 2023 11:40:00 AM

Unverified Sender

Hi Cheryl,

Thanks for sending, I don't have any comments on the ToR but the GRCA or the Township's peer reviewer may have comments.

Thanks,

Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph ON N1H 3T9
T (519) 837-2600 x2064
E zacharyp@wellington.ca

From: Cheryl-Anne Ross <Cheryl@aboudtng.com>
Sent: Thursday, February 23, 2023 9:01 AM
To: Zachary Prince <zacharyp@wellington.ca>
Subject: FW: 164 Hume Road, Puslinch (Auger)

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you know the contents to be safe.

Hi Zach,

Looks like our ToR attachment was too large. Reduced copy attached, original email below.

Cheryl-Anne Ross B.Sc. F.W.T. (she/her/hers)
Ecology Lead. Wildlife Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Ontario Wetland Evaluation System
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
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Your prompt review of the attached Terms would be appreciated, as we are intending to submit our application on or before March 29th.
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Thank you,

Cheryl-Anne Ross B.Sc. F.W.T. (she/her/hers)
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AZIMUTH ENVIRONMENTAL CONSULTING, INC.
Environmental Assessments & Approvals

March 23, 2023 AEC 21-130

Township of Puslinch
7404 Wellington Road 34
Puslinch, Ontario
N0B 2J0

Attention: Justine Brotherston, Deputy Clerk

Re: **Peer Review of Environmental Impact Study Terms of Reference - 164 Hume Road, Township of Puslinch (File #L04-AUG)**

Dear Ms. Brotherston:

Azimuth Environmental Consulting, Inc. (Azimuth) is pleased to provide this natural heritage technical peer review letter for the Township of Puslinch (Township) of a Terms of Reference for a Scoped Environmental Impact Study (Scoped EIS) as part of a severance application pertaining to 164 Hume Road in Puslinch, Ontario. The Terms of Reference reviewed were prepared by Aboud & Associates Inc., dated February 22, 2023 (Aboud, 2023). The Terms of Reference document notes that a residential dwelling may be proposed on the severed lot in the future. The scope of Azimuth's peer review was to provide a technical review of the Terms of Reference from natural heritage and forestry/arborist perspectives on behalf of the Township. It is our understanding from email correspondence dated February 23, 2023 that wetland boundaries have been delineated and were reviewed on June 15, 2022 by the Grand River Conservation Authority (GRCA). Azimuth's peer review was completed by Dr. Scott Tarof (Terrestrial Ecologist).

1.0 REVIEW AND RECOMMENDATIONS

The proposed development would involve severing a narrow strip of land from the retained lot along the northern property boundary. The retained lot contains an existing single residential dwelling plus amenities in a clearing. As proposed, the severed lot would extend from Hume Road to the rear property line. The stated objective of the Scoped EIS would be to characterize natural heritage features and functions identified in the study area, and propose recommendations to mitigate potential impact to those natural

heritage features and functions that may occur due to the proposed land severance, including possible impact to Species at Risk (SAR) and/or SAR habitat. The Terms of Reference define the study area as the proposed lands to be severed plus adjacent lands within 120 metres (m) of the severed area. Below we provide general and technical recommendations for Township consideration.

1.1 General Terms of Reference Comments

Consistent with the Terms of Reference reviewed, background mapping indicates the entire property is in the GRCA Regulation Limit except for the northeastern-most corner abutting Hume Road and the Right-of-Way. The northwestern 2/3 of the property contains portions of the Arkell-Corwhin Provincially Significant Wetland (PSW) and woodlands. The entire property is mapped within the Natural Heritage System for the Growth Plan of the Greater Golden Horseshoe (Growth Plan; MMAH, 2020).

Given the potential environmental constraints associated with the property, it would be more appropriate to consider the undertaking as a full EIS rather than a "Scoped EIS." The proposed study area (lands to be severed plus adjacent lands within 120m) is reasonable. The Ministry of the Environment, Conservation and Parks (MECP) no longer accepts SAR Information Requests or issues Letters of Advice to proponents. If there are Restricted Species records to be considered, the Natural Heritage Information Centre (NHIC) may be contacted to determine Restricted Species identity. The Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNRF) has reverted back to the Ministry of Natural Resources and Forestry (MNRF). Barn Swallows were down-listed provincially from Threatened to Special Concern on January 25, 2023.

Significant portions of the central region of the property are mapped as open wetlands. Some of the proposed area for severance (*e.g.* the area where a future driveway may be located) appears to be less than 30m from the PSW. Azimuth recommends pre-consultation between the Township and GRCA to determine whether or not they would consider the proposed development because some activities within 30m of a PSW boundary are restricted under municipal and provincial policy frameworks (*e.g.* Growth Plan). Other designations, such as Significant Woodland (if present), are also restricted from removal plus a 30m setback within the Natural Heritage System under the Growth Plan. The EIS should consider the applicable natural heritage policies (*i.e.* PPS, Growth Plan, GRCA, County and Township Official Plans), and recommended wetland and woodland buffers that demonstrate conformity with such policies.

1.2 Technical Terms of Reference Comments

Based on our review of the proposed Terms of Reference and background mapping, the Township may wish to consider the following additional fieldwork:

- Delineate the woodland dripline edge for woodlands in and proximal to the proposed area of severance;
- Two (2) marsh breeding bird surveys of wetlands on the property;
- Consideration of evidence for Pileated Woodpecker nests in the proposed area for severance. As per recent updates to the *Migratory Birds Convention Act*, nests of this species are now protected for 36 months from the date a letter is submitted to the federal government (even if nests are empty);
- Spring and summer plant inventories (rather than summer and fall) are preferred by agencies for woodlands due to the potential for SAR or rare plant species to be identified earlier in the growing season. As such, the two botanical inventories are recommended to be completed in spring and summer. The plant inventory should include documenting locations of Butternut and Black Ash (if present; both Endangered) in the proposed area for severance and within 50m of the proposed severance area;
- Five (5) visual encounter surveys of wetlands on the property for SAR and/or Special Concern turtles within open wetlands, including a screening of evidence of turtle basking or nesting;
- Observations of Significant Wildlife Habitat and/or SAR habitat should be conducted throughout the field program (instead of only in spring); and,
- Bat snag mapping/habitat review based on the provincial plot methodology to determine whether or not there are areas of bat snag clusters in the proposed severance area. A general site screening for bat snag clusters during the leaf-off season may also satisfy this requirement; however, please note that it is the responsibility of the proponent to comply with provincial ESA requirements. If bat snag habitat is identified, due to the extent of woodland cover regionally, acoustic monitoring is likely not necessary, based on provincial direction detailed in the SAR Bat Survey Standards Note 2022 (MECP, 2022). A rationale should be provided in the EIS report based on this provincial direction, as applicable.

A desktop Significant Woodland Assessment is recommended. Figures in the EIS report should identify natural heritage features and functions in relation to the conceptual building envelope, the locations of all survey stations, and the delineated wetland and woodland dripline boundaries. Wellington County requires a permit prior to cutting down trees in forested areas greater than 1 hectare (ha) (woodlands). The Township may consider that the proponent include an Arborist Report and Tree Preservation Plan

prepared by a Certified Arborist for the proposed severance area. An Arborist Report and Tree Preservation Plan could be appended to the EIS report. Consideration of edge management and possible habitat compensation may be more appropriate once Site and Grading Plans are available for future construction.

2.0 SUMMARY

The Scoped EIS Terms of Reference (Aboud, 2023) have been reviewed from natural heritage and forestry/arborist perspectives. The review comments pertain to general EIS study recommendations, the field program and reporting. We trust that the review is satisfactory.

If you have any questions please feel free to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

[redacted]

Dr. Scott Tarof (PhD, Biology)
Terrestrial Ecologist

3.0 REFERENCES

Aboud & Associates Inc. 2023. 164 Hume Road Proposed Severance. Township of Puslinch, County of Wellington Terms of Reference – Scoped Environmental Impact Study.

County of Wellington. Forest Conservation Webpage. https://www.wellington.ca/en/resident-services/forestconservation.aspx.

Ministry of Municipal Affairs and Housing (MMAH). 2020. Growth Plan for the Greater Golden Horseshoe.

Ministry of the Environment, Conservation and Parks (MECP). 2022. Bat Survey Standards Note.

Shannon Davison

From: Zachary Prince <zacharyp@wellington.ca>
Sent: August 16, 2023 9:53 AM
To: Shannon Davison
Cc: Cheryl-Anne Ross
Subject: RE: AA21-148A 164 Hume Road- Policy Conformity

Hi Shannon,

Your explanation below is correct. We do not have a Natural Heritage System as defined by the Growth Plan and the 30m vegetative buffer setback applies to Key Hydrogeologic Features only.

Thanks,

Zach Prince, RPP MCIP
Senior Planner
Planning and Development Department
County of Wellington
74 Woolwich Street
Guelph ON N1H 3T9
T (519) 837-2600 x2064
E zacharyp@wellington.ca

From: Shannon Davison <sdavison@aboudtng.com>
Sent: Tuesday, August 15, 2023 9:13 AM
To: Zachary Prince <zacharyp@wellington.ca>
Cc: Cheryl-Anne Ross <Cheryl@aboudtng.com>
Subject: AA21-148A 164 Hume Road- Policy Conformity

Good morning Zach,

I have been reviewing the peer review comments provided by Azimuth Environmental (dated: August 3, 2023) for the proposed severance at 164 Hume Road in Puslinch (attached) and wanted to clarify the County policies and how they relate to the Growth Plan for the Greater Golden Horseshoe.

In the revised comment matrix Azimuth provided, a note was included with Comment 21 stating:

"Revisions to the statements regarding Significant Woodland and the wetland are reasonable. In this regard, the comment has been addressed. Consideration and verification of how the proposed development is deemed consistent with Section 4.2.3 of the Growth Plan in Section 5.3 appears outstanding."

Throughout previous severances and communications with yourself and County staff, it was brought to our attention that the County does not have a Natural Heritage System as defined in the Growth Plan and that for Significant

Woodlands the County relies on the County Official Plan (Greenlands). We are looking to make another submission of the revised EIS to address the two outstanding comments from Azimuth; however, before we do so I am hoping you can clarify whether this interpretation still applies to woodlands within Wellington County.

Feel free to give me a call if you'd like to discuss further.

Regards,

Shannon Davison . **B.Env, Eco. Rest. Cert. CERPIT**
Ecologist
MNRF Certified Ecological Land Classification
MNRF Certified Ontario Wetland Evaluation System
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
C: 226.581.0707 www.aboudtng.com . sdavison@aboudtng.com

APPENDIX 3

Background Wildlife List

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]	GRCA[10]	WELLINGTON COUNTY[11]
INSECTS														
NHIC	American Burying Beetle	*Nicrophorus americanus*	EXP	EXP	EXP	EXP	SH	G2G3	NH					
BEES														
iNat	Common Eastern Bumble Bee	*Bombus impatiens*					S5		N5					
BUTTERFLIES & MOTHS														
OBA (2021)	Silver-spotted Skipper	*Epargyreus clarus*					S4	G5	N5					
OBA (1956)	Dreamy Duskywing	*Erynnis icelus*					S5	G5	N5					
OBA (2021)	Juvenal's Duskywing	*Erynnis juvenalis*					S5	G5	N5					
OBA (2021)	Wild Indigo Duskywing	*Erynnis baptisiae*					S4	G5	N4					✓
OBA (2012)	Common Checkered Skipper	*Pyrgus communis*					SNA	G5	N5					
OBA (2021)	Arctic Skipper	*Carterocephalus palaemon*					S5	G5	N5					
OBA (2021)	Least Skipper	*Ancyloxypha numitor*					S5	G5	N5					
OBA (2021)	European Skipper	*Thymelicus lineola*					SNA	G5	NNA					
OBA (2012)	Fiery Skipper	*Hylephila phyleus*					SNA	G5	NNA					
OBA (2021)	Peck's Skipper	*Polites peckius*					S5	G5	N5					
OBA (2020)	Tawny-edged Skipper	*Polites themistocles*					S5	G5	N5					
OBA (2019)	Crossline Skipper	*Polites origenes*					S4	G4G5	N4N5					
OBA (2015)	Long Dash Skipper	*Polites mystic*					S5	G5	N5					
OBA (2018)	Northern Broken-Dash	*Wallengrenia egeremet*					S5	G5	N5					
OBA (1959)	Little Glassywing	*Pompeius verna*					S4	G5	N4					✓
OBA (2021)	Delaware Skipper	*Anatrytone logan*					S4	G5	N4N5					✓
OBA (2021)	Hobomok Skipper	*Poanes hobomok*					S5	G5	N5					
OBA (2012)	Broad-winged Skipper	*Poanes viator*					S4	G5	N4					
OBA (2021)	Dion Skipper	*Euphyes dion*					S4	G4	N4					✓
OBA (2021)	Black Swallowtail	*Papilio polyxenes*					S5	G5	N5					
OBA (2021)	Giant Swallowtail	*Papilio cresphontes*					S4	G5	N4					✓

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OBA (2021)	Eastern Tiger Swallowtail	*Papilio glaucus*					S5	G5	N4					
OBA (1964)	Checkered White	*Pontia protodice*					SNA	G4	N5B,NNRM					
OBA (2020)	Mustard White	*Pieris oleracea*					S4	G4G5	N5					
OBA (1993)	West Virginia White	*Pieris virginiensis*	NL	SC	NL	NL	S3	G3?	N3					✓
OBA (2021)	Cabbage White	*Pieris rapae*					SNA	G5	NNA					
OBA (2021)	Clouded Sulphur	*Colias philodice*					S5	G5	N5					
OBA (2021)	Orange Sulphur	*Colias eurytheme*					S5	G5	N5B,N5M					
OBA (1958)	Pink-edged Sulphur	*Colias interior*					S5	G5	N5					
OBA (2011)	Harvester	*Feniseca tarquinius*					S4	G4	N5					
OBA (1981)	Bronze Copper	*Lycaena hyllus*					S5	G4G5	N5					
OBA (2019)	Coral Hairstreak	*Satyrium titus*					S5	G4G5	N5					
OBA (2021)	Banded Hairstreak	*Satyrium calanus*					S4	G5	N4N5					
OBA (2020)	Striped Hairstreak	*Satyrium liparops*					S5	G5	N5					
OBA (2021)	Eastern Pine Elfin	*Callophrys niphon*					S5	G5	N5					
OBA (2021)	Eastern Tailed Blue	*Cupido (Everes) comyntas*					S5	G5	N5					
OBA (2021)	Summer Azure	*Celastrina neglecta*					S5	G5	N5					
OBA (2021)	Silvery Blue	*Glaucopsyche lygdamus*					S5	G5	N5					
OBA (2021)	American Snout	*Libytheana carinenta*					SNA	G5	NNA					
OBA (2012)	Variegated Fritillary	*Euptoieta claudia*					SNA	G5	N5B.N3N,NNRM					
OBA (2012)	Great Spangled Fritillary	*Speyeria cybele*					S5	G5	N5					
OBA (1990)	Aphrodite Fritillary	*Speyeria aphrodite*					S5	G5	N5					
OBA (2020)	Silver-bordered Fritillary	*Boloria selene*					S5	G5	N5					
OBA (1957)	Meadow Fritillary	*Boloria bellona*					S5	G5	N5					
OBA (2021), iNat	Pearl Crescent	*Phyciodes tharos*					S4	G5	N5					
OBA (2021)	Northern Crescent	*Phyciodes cocyta*					S5	G5	N5					

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OBA (2019)	Baltimore Checkerspot	*Euphydryas phaeton*					S4	G4	N5					
OBA (2021)	Question Mark	*Polygonia interrogationis*					S5	G5	N5B,N4N5M					
OBA (2021)	Eastern Comma	*Polygonia comma*					S5	G5	N5					
OBA (2020)	Gray Comma	*Polygonia progne*					S5	G4G5	N5					
OBA (2021)	Compton Tortoiseshell	*Nymphalis l-album*					S5	G5	N5					
OBA (2021), iNat	Mourning Cloak	*Nymphalis antiopa*					S5	G5	N5					
OBA (2020)	Milbert's Tortoiseshell	*Aglais milberti*					S5	G5	N5					
OBA (2019)	American Lady	*Vanessa virginiensis*					S5	G5	N5B,N5M					
OBA (2019)	Painted Lady	*Vanessa cardui*					S5B	G5	N5B,N5M					
OBA (2021), iNat	Red Admiral	*Vanessa atalanta*					S5B	G5	N5B,N5M					
OBA (2012)	Common Buckeye	*Junonia coenia*					SNA	G5	NNA					
OBA (2021)	White Admiral	*Limenitis arthemis arthemis*					S5	G5T5	N5					
OBA (2021)	Red-spotted Purple	*Limenitis arthemis astyanax*					S5	G5T5	N5					
OBA (2021)	Viceroy	*Limenitis archippus*					S5	G5	N5					
OBA (2021)	Hackberry Emperor	*Asterocampa celtis*					S3	G5	N3					✓
OBA (2020)	Tawny Emperor	*Asterocampa clyton*					S3	G5	N3					✓
OBA (2021)	Northern Pearly-Eye	*Enodia anthedon*					S5	G5	N5					
OBA (2020)	Eyed Brown	*Lethe eurydice*					S5	G4	N5					
iNat	Appalachian Brown	*Lethe appalachia*					S4	G4	N4N5					
OBA (2021)	Little Wood-Satyr	*Megisto cymela*					S5	G5	N5					
OBA (2021)	Common Ringlet	*Coenonympha tullia*					S5	G5	N5					
OBA (2021)	Common Wood-Nymph	*Cercyonis pegala*					S5	G5	N5					
OBA (2021), iNat	Monarch	*Danaus plexippus*	SC	SC	END	SC	S2N,S4B	G5	N3B,NNRM					

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iNat	Hemlock Looper Moth	*Lambdina fiscellaria*					S5?	G5	N5					
iNat	Milkweed Tussock Moth	*Euchaetes egle*					S4	G5	N4					
iNat	Isabella Tiger Moth	*Pyrrharctia isabella*					S5	G5	N5					
iNat	Copper Underwing	*Amphipyra pyramidoides*					S4S6		N6					
iNat	Hickory Tussock Moth	*Lophocampa caryae*					S5		N4N5					
DRAGONFLIES & DAMSELFLIES														
iNat	Southern Spreadwing	*Lestes disjunctus*					SU	G5	NNA					
AMPHIBANS														
MECP	Jefferson Salamander	*Ambystoma jeffersonianum*	END	END	END	END	S2	G4	N2					✓
ORAA (2016), iNat	Blue-spotted Salamander	*Ambystoma laterale*					S4	G5	N5					✓
ORAA (2016)	Spotted Salamander	*Ambystoma maculatum*					S4	G5	N5					✓
MECP	Unisexual Ambystoma, Jefferson dependent population	*Ambystoma laterale - (2) jeffersonianu*	END	END	END	END	S2	G5	N2					✓
ORAA (2018)	Eastern Red-backed Salamander	*Plethodon cinereus*					S5	G5	N5					
ORAA (2013)	Mudpuppy	*Necturus maculosus*		NAR	NAR		S4	G5	N4N5					✓
ORAA (2016), iNat	Red-spotted Newt	*Notophthalmus viridescens viridescens*					S5	G5	N5					✓
ORAA (2019), iNat	American Toad	*Anaxyrus americanus*					S5	G5	N5					
ORAA (2018), iNat	Gray Treefrog	*Hyla versicolor*					S5	G5	N5					
ORAA (2019)	Spring Peeper	*Pseudacris crucifer*					S5	G5	N5					
ORAA (2017)	Western Chorus Frog - Carolinian Population	*Pseudacris triseriata pop. 1*		NAR	NAR		S4	G5	N4					
ORAA (2000), iNat	American Bullfrog	*Lithobates catesbeianus*					S4	G5	N5	✓				✓

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ORAA (2019), iNat	Green Frog	*Lithobates clamitans*					S5	G5	N5					
ORAA (2014)	Pickerel Frog	*Lithobates palustris*		NAR	NAR		S4	G5	N5					✓
ORAA (2018), iNat	Northern Leopard Frog	*Lithobates pipiens*		NAR	NAR		S5	G5	N5					
ORAA (1978)	Mink Frog	*Lithobates septentrionalis*					S5	G5	N5					✓
ORAA (2019)	Wood Frog	*Lithobates sylvaticus*					S5	G5	N5					
SNAKES & LIZARDS														
ORAA (2018)	Milksnake	*Lampropeltis triangulum*	NAR	NAR	SC	SC	S4	G5T5	N3					✓
ORAA (2008)	Northern Watersnake	*Nerodia sipedon sipedon*		NAR	NAR		S5	G5T5	N5					✓
ORAA (2018)	DeKay's Brownsnake	*Storeria dekayi*		NAR	NAR		S5	G5T5	N5					✓
ORAA (2018), iNat	Northern Red-bellied Snake	*Storeria occipitomaculata occipitomaculata*					S5	G5	N5					✓
ORAA (1985)	Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	SC	SC	S4	G5	N4					✓
ORAA (2018), iNat	Eastern Gartersnake	*Thamnophis sirtalis sirtalis*					S5	G5T5	N5					
ORAA (2019)	Smooth Greensnake	*Opheodrys vernalis*					S4	G5	N5					✓
TURTLES														
ORAA (2019), iNat	Snapping Turtle	*Chelydra serpentina*	NL	SC	SC	SC	S4	G5T5	N4					
ORAA (2018), NHIC, iNat	Midland Painted Turtle	*Chrysemys picta marginata*	NAR	NAR	SC	SC	S4	G5T5	N4					
ORAA (2016)	Blanding's Turtle	*Emydoidea blandingii*	THR	THR	END	END	S3	G4	N3					✓
ORAA (1925)	Northern Map Turtle	*Graptemys geographica*	SC	SC	SC	SC	S3	G5	N3	✓				✓
ORAA (2018)	Pond Slider	*Trachemys scripta*					SNA	GNR	NNA					
BIRDS														

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OBBA	Common Loon	*Gavia immer*		NAR	NAR		S5	G5	N5B,N5N,N5M	✓			CP	✓
OBBA	Pied-billed Grebe	*Podilymbus podiceps*					S4B,S2N	G5	N5B,N4N5N,N5M				CP	✓
eBird	American Bittern	*Botaurus lentiginosus*					S5B	G5	N5B,N3N,N5M	✓			CP	✓
OBBA	Least Bittern	*Ixobrychus exilis*		THR	THR	THR	S4B	G4G5	N4B,N3M	✓			CP	✓
OBBA, eBird	Great Blue Heron	*Ardea herodias*					S4	G5	N5B,N3N,N5M					✓
OBBA, eBird	Green Heron	*Butorides virescens*					S4B	G5	N4N5B,N3N4N,N4N5M				CP	✓
OBBA, eBird, iNat	Canada Goose	*Branta canadensis*					S5	G5	N5B,N5N,N5M				CP	
OBBA, eBird	Wood Duck	*Aix sponsa*					S5B, S3N	G5	N5B,N4N5N,N5M					
eBird	Mallard	*Anas platyrhynchos*					S5	G5	N5B,N5N,N5M					
eBird	Blue-winged Teal	*Anas discors*					S3B,S4M	G5	N5B,N5M				CP	✓
OBBA, eBird	Common Merganser	*Mergus merganser*					S5	G5	N5B,N5N,N5M	✓				✓
OBBA, eBird	Turkey Vulture	*Cathartes aura*					S5B, S3N	G5	N5B,N5M				CP	✓
OBBA, eBird	Osprey	*Pandion haliaetus*					S5B	G5	N5B,N5N,N5M				CP	✓
eBird	Bald Eagle	*Haliaeetus leucocephalus*	NL	SC	NAR	NL	S4	G5	N5B,N5N,N5M	✓		✓		✓
OBBA, eBird	Northern Harrier	*Circus cyaneus*		NAR	NAR		S5B,S4N	G5	N5B,N4N	✓	>30ha	✓	CP	✓
OBBA, eBird	Sharp-shinned Hawk	*Accipiter striatus*		NAR			S5	G5	N5B,N5N,N5M	✓	>30ha		CP	✓
OBBA, eBird	Cooper's Hawk	*Accipiter cooperii*		NAR	NAR		S4	G5	N5B,N5N,N4N5M	✓	>10ha		CP	✓
OBBA, eBird	Broad-winged Hawk	*Buteo platypterus*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	Red-tailed Hawk	*Buteo jamaicensis*		NAR	NAR		S5	G5	N5B,N5N,N5M					
OBBA, eBird	American Kestrel	*Falco sparverius*					S4	G5	N5B,N1N,N5M			✓	CP	✓
OBBA, eBird	Ruffed Grouse	*Bonasa umbellus*					S5	G5	N5				CP	
OBBA, eBird	Wild Turkey	*Meleagris gallopavo*					S5	G5	N5					
OBBA, eBird	Virginia Rail	*Rallus limicola*					S4S5B	G5	N5B,NUM,N5M				CP	
OBBA, eBird	Sora	*Porzana carolina*					S5B	G5	N5B,N5M				CP	✓
OBBA, eBird	Killdeer	*Charadrius vociferus*					S4B	G5	N5B,N4N5N,N5M					

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eBird	Solitary Sandpiper	*Tringa solitaria*					S4B,S5M	G5	N5B,N5M					
OBBA	Spotted Sandpiper	*Actitis macularius*					S5B	G5	N5B,N3N,N5M				CP	
OBBA	Wilson's Snipe	*Gallinago delicata*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	American Woodcock	*Scolopax minor*					S4B	G5	N5B,N5M				CP	
eBird	Ring-billed Gull	*Larus delawarensis*					S5	G5	N5B,N5N,N5M					✓
eBird	Herring Gull	*Larus argentatus*					S4B,S5N	G5	N5B,N5N,N5M					✓
OBBA, eBird	Rock Pigeon	*Columba livia*					SNA	G5	NNA					
OBBA, eBird	Mourning Dove	*Zenaida macroura*					S5	G5	N5B,N5N,N5M					
OBBA, eBird	Black-billed Cuckoo	*Coccyzus erythropthalmus*					S4S5B	G5	N5B,N5M			✓	CP	✓
eBird	Yellow-billed Cuckoo	*Coccyzus americanus*					S4B	G5	N4B,NUM					✓
OBBA	Eastern Screech-Owl	*Megascops asio*		NAR	NAR		S4	G5	N4N5					
OBBA, eBird	Great Horned Owl	*Bubo virginianus*					S4	G5	N5					
eBird	Barred Owl	*Strix varia*					S5	G5	N5	✓	>100ha		CP	✓
OBBA, eBird	Long-eared Owl	*Asio otus*					S4	G5	N5B,N5N,N5M				CP	✓
eBird	Northern Saw-whet Owl	*Aegolius acadicus*					S5	G5	N5B,N5N,N5M				CP	✓
OBBA	Chimney Swift	*Chaetura pelagica*	THR	THR	THR	THR	S3B	G4G5	N4BN3M			✓		✓
OBBA, eBird	Ruby-throated Hummingbird	*Archilochus colubris*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	Belted Kingfisher	*Megaceryle alcyon*					S5B,S4N	G5	N5B,N4N5N,N5M			✓		✓
OBBA	Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	END	END	END	S3	G5	N4B,N3M			✓		✓
eBird	Red-bellied Woodpecker	*Melanerpes carolinus*					S5	G5	N4B,N4N,N3M				CP	✓
eBird	Yellow-bellied Sapsucker	*Sphyrapicus varius*					S5B,S3N	G5	N5B,N5M	✓	2-5ha		CP	✓
OBBA, eBird	Downy Woodpecker	*Picoides pubescens*					S5	G5	N5					
OBBA, eBird, iNat	Hairy Woodpecker	*Picoides villosus*					S5	G5	N5B,N5N,NUM	✓	4-8ha			✓
OBBA, eBird	Northern Flicker	*Colaptes auratus*					S5	G5	N5B,N5N,N5M			✓		✓
OBBA, eBird	Pileated Woodpecker	*Dryocopus pileatus*					S5	G5	N5	✓	>40ha		CP	✓

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OBBA, eBird	Eastern Wood-Pewee	*Contopus virens*	SC	SC	SC	SC	S4B	G5	N5B,N5M			✓		✓
OBBA, eBird	Alder Flycatcher	*Empidonax alnorum*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	Willow Flycatcher	*Empidonax traillii*					S4B	G5	N5B,N5M			✓		✓
OBBA, eBird	Least Flycatcher	*Empidonax minimus*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	Eastern Phoebe	*Sayornis phoebe*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	Great Crested Flycatcher	*Myiarchus crinitus*					S5B	G5	N5B,N5M					
OBBA, eBird	Eastern Kingbird	*Tyrannus tyrannus*					S4B	G5	N5B,N5M			✓	CP	✓
OBBA, eBird	Horned Lark	*Eremophila alpestris*					S4	G5	N5B,N5N,N5M				CP	
OBBA, eBird	Tree Swallow	*Tachycineta bicolor*					S4S5B	G5	N5B,N5M					
OBBA	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*					S4B	G5	N5B,N5M				CP	
OBBA	Bank Swallow	*Riparia riparia*	THR	THR	THR	THR	S4B	G5	N5B,N5M			✓	CP	✓
OBBA	Cliff Swallow	*Petrochelidon pyrrhonota*					S4S5B	G5	N5B,N5M				CP	✓
OBBA, NHIC, eBird	Barn Swallow	*Hirundo rustica*	SC	SC	THR	THR	S4B	G5	N3N4B,N3N4M				CP	
OBBA, eBird	Blue Jay	*Cyanocitta cristata*					S5	G5	N5B,N5N,NNRM					
OBBA, eBird	American Crow	*Corvus brachyrhynchos*					S5	G5	N5B,N5N,N5M					
OBBA, eBird	Common Raven	*Corvus corax*					S5	G5	N5					✓
OBBA, eBird, iNat	Black-capped Chickadee	*Poecile atricapillus*					S5	G5	N5				CP	
OBBA, eBird, iNat	Red-breasted Nuthatch	*Sitta canadensis*					S5	G5	N5B,N5N,N5M	✓	>10ha		CP	✓
OBBA, eBird	White-breasted Nuthatch	*Sitta carolinensis*					S5	G5	N5	✓	>10ha			
OBBA, eBird, iNat	Brown Creeper	*Certhia americana*					S5	G5	N5B,N5N,N5M	✓	>30ha		CP	✓
OBBA, eBird	Carolina Wren	*Thryothorus ludovicianus*					S4	G5	N4				CP	✓
OBBA, eBird	House Wren	*Troglodytes aedon*					S5B	G5	N5B,N5M					

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OBBA	Winter Wren	*Troglodytes troglodytes*					S5B,S4N	G5	N5B,N5M	✓	>30ha			✓
OBBA, eBird	Marsh Wren	*Cistothorus palustris*					S4B,S3N	G5	N5BN5N,N5M				CP	✓
eBird	Golden-crowned Kinglet	*Regulus satrapa*					S5	G5	N5B,N5N,N5M				CP	✓
eBird	Ruby-crowned Kinglet	*Corthylio calendula*					S5B,S3N	G5	N5B,N5N,N5M				CP	✓
eBird	Blue-gray Gnatcatcher	*Polioptila caerulea*					S4B	G5	N4B,N4M	✓	>30ha		CP	✓
OBBA, eBird	Eastern Bluebird	*Sialia sialis*		NAR	NAR		S5B,S4N	G5	N5B,N5M				CP	
OBBA, eBird	Veery	*Catharus fuscescens*					S5B	G5	N5B,N5M	✓	>10ha		CP	✓
eBird	Swainson's Thrush	*Catharus ustulatus*					S5B	G5	N5B,N5M					✓
eBird	Hermit Thrush	*Catharus guttatus*					S5B,S4N	G5	N5B,NUN,N5M	✓	>100ha		CP	✓
OBBA, eBird	Wood Thrush	*Hylocichla mustelina*	SC	SC	THR	THR	S4B	G4	N4B,NUM			✓		✓
OBBA, eBird	American Robin	*Turdus migratorius*					S5	G5	N5B,N4N5N,N5M					
OBBA, eBird	Gray Catbird	*Dumetella carolinensis*					S5B,S3N	G5	N5B,N5M				CP	
eBird	Northern Mockingbird	*Mimus polyglottos*					S4	G5	N5B,N4N5N,N5M				CP	✓
OBBA, eBird	Brown Thrasher	*Toxostoma rufum*					S4B	G5	N5B,NUN,N5M			✓	CP	✓
OBBA, eBird, iNat	Cedar Waxwing	*Bombycilla cedrorum*					S5	G5	N5B,N5N,N5M					
OBBA, eBird	European Starling	*Sturnus vulgaris*					SNA	G5	NNA					
eBird	Blue-headed Vireo	*Vireo solitarius*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	Warbling Vireo	*Vireo gilvus*					S5B	G5	N5B,N5M					
eBird	Philadelphia Vireo	*Vireo philadelphicus*					S5B	G5	N5B,N5M					
OBBA, eBird	Red-eyed Vireo	*Vireo olivaceus*					S5B	G5	N5B,N5N,N5M					
OBBA, eBird	Blue-winged Warbler	*Vermivora pinus*					S4B	G5	N5B,N5M			✓	CP	✓
eBird	Golden-winged Warbler	*Vermivora chrysoptera*	NL	SC	THR	THR	S3B	G4	N4B,NUM			✓	CP	✓
eBird	Tennessee Warbler	*Vermivora peregrina*					S5B	G5	N5B,N5M					✓
OBBA, eBird	Nashville Warbler	*Vermivora ruficapilla*					S5B	G5	N5B.N5M				CP	
eBird	Northern Parula	*Parula americana*					S5B	G5	N5B,N5M	✓	>100ha			✓

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]	GRCA[10]	WELLINGTON COUNTY[11]
OBBA, eBird	Yellow Warbler	*Dendroica petechia*					S5B	G5	N5B,N5M					
OBBA, eBird	Chestnut-sided Warbler	*Dendroica pensylvanica*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	Magnolia Warbler	*Dendroica magnolia*					S5B	G5	N5B,N5M	✓	>30ha		CP	✓
eBird	Cape May Warbler	*Dendroica tigrina*					S5B	G5	N5B,N5M					
eBird	Black-throated Blue Warbler	*Dendroica caerulescens*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	Yellow-rumped Warbler	*Dendroica coronata*					S5B,S4N	G5	N5B,N4N,N5M				CP	
OBBA, eBird	Black-throated Green Warbler	*Dendroica virens*					S5B	G5	N5B,N5M	✓	>30ha			✓
OBBA, eBird	Blackburnian Warbler	*Dendroica fusca*					S5B	G5	N5B,N5M	✓	>50ha		CP	✓
OBBA, eBird	Pine Warbler	*Dendroica pinus*					S5B,S3N	G5	N5B,N5M	✓	15-30ha		CP	✓
OBBA	Prairie Warbler	*Dendroica discolor*		NAR	NAR		S2B	G5	N3N4B,NNRM			✓	CP	✓
eBird	Yellow Palm Warbler	*Dendroica palmarum hypochrysea*					S1B	G5	N1B					
eBird	Bay-breasted Warbler	*Dendroica castanea*					S5B	G5	N5B,N5M					✓
eBird	Cerulean Warbler	*Dendroica cerulea*	END	THR	END	END	S2B	G4	N3B,NUM	✓	>100ha	✓	CP	✓
OBBA, eBird	Black-and-white Warbler	*Mniotilta varia*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	American Redstart	*Setophaga ruticilla*					S5B	G5	N5B,N5M	✓	>100ha		CP	✓
OBBA, eBird	Ovenbird	*Seiurus aurocapilla*					S5B	G5	N5B,N5M	✓	>70ha		CP	✓
OBBA, eBird	Northern Waterthrush	*Seiurus noveboracensis*					S5B	G5	N5B,N5M					
OBBA, eBird	Mourning Warbler	*Oporornis philadelphia*					S5B	G5	N5B,N5M				CP	
OBBA, eBird	Common Yellowthroat	*Geothlypis trichas*					S5B,S3N	G5	N5B,N5M					
NHIC, eBird	Canada Warbler	*Wilsonia canadensis*	SC	SC	SC	THR	S4B	G5	N4B,N3M	✓	>30ha			✓
OBBA, eBird	Scarlet Tanager	*Piranga olivacea*					S5B	G5	N5B,N4N5M	✓	>20ha		CP	✓
OBBA, eBird	Northern Cardinal	*Cardinalis cardinalis*					S5	G5	N5					
OBBA, eBird	Rose-breasted Grosbeak	*Pheucticus ludovicianus*					S5B	G5	N5B,N5M			✓		✓
OBBA, eBird	Indigo Bunting	*Passerina cyanea*					S5B	G5	N5B,N5M					
OBBA, eBird	Eastern Towhee	*Pipilo erythrophthalmus*					S4B,S3N	G5	N4N5B,N4M			✓	CP	✓
eBird	American Tree Sparrow	*Spizella arborea*					S5	G5	N5B,N5N,N5M					

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]	GRCA[10]	WELLINGTON COUNTY[11]
OBBA, eBird	Chipping Sparrow	*Spizella passerina*					S5B,S3N	G5	N5B,N5M					
OBBA, eBird	Clay-colored Sparrow	*Spizella pallida*					S4B	G5	N5B,N5M				CP	✓
OBBA, eBird	Field Sparrow	*Spizella pusilla*					S4B,S3N	G5	N4B,NUM			✓	CP	✓
OBBA, eBird	Savannah Sparrow	*Passerculus sandwichensis*					S5B,S3N	G5	N5B,N4N,N5M	✓	>50ha	✓	CP	✓
OBBA, eBird	Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	SC	SC	S4B	G5	N4N5B,N4N5M	✓	>10ha	✓	CP	✓
NHIC	Henslow's Sparrow	*Ammodramus henslowii*	END	END	END	END	S1B	G4	N1B,N1M	✓	>100ha	✓	CP	✓
eBird	Fox Sparrow	*Passerella iliaca*					S5B,S3N	G5	N5B,N4N5N,N5M					
OBBA, eBird	Song Sparrow	*Melospiza melodia*					S5	G5	N5B,N5N,N5M					
eBird	Lincoln's Sparrow	*Melospiza lincolnii*					S5B	G5	N5B,N5N,N5M					✓
OBBA, eBird	Swamp Sparrow	*Melospiza georgiana*					S5B,S4N	G5	N5B,NUN,N5M				CP	
OBBA, eBird	White-throated Sparrow	*Zonotrichia albicollis*					S5	G5	N5B,N5N,N5M				CP	
eBird	Dark-eyed Junco	*Junco hyemalis*					S5	G5	N5B,N5N,N5M				CP	✓
OBBA, NHIC, eBird	Bobolink	*Dolichonyx oryzivorus*	THR	THR	THR	THR	S4B	G5	N5B,N4N5M	✓	>10ha	✓	CP	✓
eBird	Red-winged Blackbird	*Agelaius phoeniceus*					S5	G5	N5B,N5N,N5M					
OBBA, NHIC, eBird	Eastern Meadowlark	*Sturnella magna*	THR	THR	THR	THR	S4B,S3N	G5	N4B,NUM	✓	>10ha	✓	CP	✓
OBBA, eBird	Common Grackle	*Quiscalus quiscula*					S5	G5	N5B,NUN,N5M					
OBBA, eBird	Brown-headed Cowbird	*Molothrus ater*					S5	G5	N5B,NUN,N5M					
OBBA, eBird	Baltimore Oriole	*Icterus galbula*					S4B	G5	N5B,N5M			✓		✓
eBird	Pine Grosbeak	*Pinicola enucleator*					S4B,S5N	G5	N5B,N5N,N5M					
OBBA, eBird	Purple Finch	*Carpodacus purpureus*					S5	G5	N5B,N5N,N5M				CP	
OBBA, eBird	House Finch	*Carpodacus mexicanus*					SNA	G5	N5					
eBird	Common Redpoll	*Carduelis flammea*					S5	G5	N5B,N5N,N5M					
OBBA, eBird	Pine Siskin	*Carduelis pinus*					S5	G5	N5B,N5N,N5M					
OBBA, eBird	American Goldfinch	*Carduelis tristis*					S5	G5	N5B,N5N,N5M				CP	

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]	GRCA[10]	WELLINGTON COUNTY[11]
eBird, iNat	Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	SC	SC	S4	G5	N4B,N4N,NUM					
OBBA, eBird	House Sparrow	*Passer domesticus*					SNA	G5	NNA					
MAMMALS														
OMA	Virginia Opossum	*Didelphis virginiana*					S4	G5	N4N5					
OMA	Masked Shrew	*Sorex cinereus*					S5	G5	N5					
OMA	Smoky Shrew	*Sorex fumeus*					S5	G5	N5					✓
OMA	Northern Short-tailed Shrew	*Blarina brevicauda*					S5	G5	N5					
OMA	Hairy-tailed Mole	*Parascalops breweri*					S4	G5	N4N5					✓
OMA	Star-nosed Mole	*Condylura cristata*					S5	G5	N5					✓
OMA	Little Brown Myotis	*Myotis lucifugus*	END	END	END	END	S3	G3G4	N2N4B,NNRN,NNRM					✓
OMA	Silver-haired Bat	*Lasionycteris noctivagans*					S4	G4	N5B,NUN,NUM					✓
OMA	Tri-coloured bat	*Perimyotis subflavus*	END	END	END	END	S3?	G3G4	N1N2					✓
OMA	Big Brown Bat	*Eptesicus fuscus*					S4	G5	N5B,N5N,NNRM					
OMA	Eastern Red Bat	*Lasiurus borealis*					S4	G4	N5B,NUM					✓
OMA	Hoary Bat	*Lasiurus cinereus*					S4	G4	N5B,NUM					✓
OMA	Eastern Cottontail	*Sylvilagus floridanus*					S5	G5	N5					
OMA	European Hare	*Lepus europaeus*					SNA	G5	NNA					
OMA	Eastern Chipmunk	*Tamias striatus*					S5	G5	N5					
OMA	Woodchuck	*Marmota monax*					S5	G5	N5					
OMA	Eastern Gray Squirrel	*Sciurus carolinensis*					S5	G5	N5					
OMA	Red Squirrel	*Tamiasciurus hudsonicus*					S5	G5	N5					
OMA	Northern Flying Squirrel	*Glaucomys sabrinus*					S5	G5	N5	✓				✓
OMA	Beaver	*Castor canadensis*					S5	G5	N5					
OMA	Deer Mouse	*Peromyscus maniculatus*					S5	G5	N5					✓
OMA	White-footed Mouse	*Peromyscus leucopus*					S5	G5	N5					
OMA	Meadow Vole	*Microtus pennsylvanicus*					S5	G5	N5					

SOURCE	COMMON NAME	SCIENTIFIC NAME	COSSARO[1]	SARO[2]	COSEWIC[3]	SARA[4]	S-RANK[5]	G-RANK[6]	N-RANK[7]	AREA SENSITIVE[8]	AREA REQUIRED[8]	PIF SPECIES[9]	GRCA[10]	WELLINGTON COUNTY[11]
OMA	Muskrat	*Ondatra zibethicus*					S5	G5	N5					
OMA	Norway Rat	*Rattus norvegicus*					SNA	G5	NNA					
OMA	House Mouse	*Mus musculus*					SNA	G5	NNA					
OMA	Meadow Jumping Mouse	*Zapus hudsonius*					S5	G5	N5					
OMA	Woodland Jumping Mouse	*Napaeozapus insignis*					S5	G5	N5					✓
OMA, iNat	Porcupine	*Erethizon dorsatum*					S5	G5	N5					
OMA	Red Fox	*Vulpes vulpes*					S5	G5	N5					
OMA	Northern Raccoon	*Procyon lotor*					S5	G5	N5					
OMA	Ermine	*Mustela erminea*					S5	G5	N5					
OMA	Long-tailed Weasel	*Mustela frenata*					S4	G5	N5					✓
OMA	American Mink	*Mustela vison*					S4	G5	N5					
OMA	Striped Skunk	*Mephitis mephitis*					S5	G5	N5					
FISH														
iNat	Northern Redbelly Dace	*Phoxinus eos*					S5	G5	N5					

Legend:

COSSARO: Committee on Species at Risk Ontario
COSEWIC: Committee on the Status of Endangered Wildlife in Canada
SARA: Species at Risk Act
ESA: Endangered Species Act
END: Endangered
THR: Threatened
SC: Special Concern
NAR: Not At Risk
NL: Not listed
DD: Data Deficient

N- and S-Rank:

S1: Critically Imperiled—Critically imperiled in the jurisdiction (often 5 or fewer occurrences)
S2: Imperiled—Imperiled in the jurisdiction, very few populations (often 20 or fewer),
S3: Vulnerable—Vulnerable in the jurisdiction, relatively few populations (often 80 or fewer)
S4: Apparently Secure—Uncommon but not rare
S5: Secure—Common, widespread, and abundant in the jurisdiction
SX: Presumed Extirpated
SH: Possibly Extirpated (Historical)
SNR: Unranked
SU: Unrankable—Currently unrankable due to lack of information
SNA: Not Applicable—The species is not a suitable target for conservation activities
S#S#: Range Rank—Indicates a range of uncertainty about the status of the species
S#B- Breeding Status Rank
S#N- Non Breeding Status Rank
?: Indicates uncertainty in the assigned rank

G-Rank:

G1: Extremely rare globally
G1G2: Extremely rare to very rare globally
G2: Very rare globally
G2G3: Very rare to uncommon globally
G3: Rare to uncommon globally
G3G4: Rare to common globally
G4: Common globally
G4G5: Common to very common globally
G5: Very common globally; demonstrably secure
T: Denotes that the rank applies to a subspecies or variety

Source Codes

OBA: Ontario Butterfly Atlas
ORAA: Ontario Reptile and Amphibian Atlas
OMA: Ontario Mammal Atlas
OBBA: Ontario Breeding Bird Atlas
eBird: eBird
ARA: Aquatic Resource Area Survey Points
DFO: Department of Fisheries and Oceans Species at Risk Mapping
iNat: iNaturalist
NHIC: Natural Heritage Information Centre

References:

1.COSSARO Status Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. January 25, 2023.

2.Species at Risk in Ontario List. Endangered Species Act, 2007 (Ontario Regulation 230/08). January 25, 2023.

3.COSEWIC Status COSEWIC. 2014. Canadian Species at Risk. Committee on the Status of Endangered Wildlife in Canada. January 25, 2023.

4.Endangered Species Act, 2007 (Bill 184). Schedules 1- 5. January 25, 2023.

5.Provincial Rarity Rank. NatureServe. 2023.

6.Global Rarity Rank. NatureServe. 2023.

7.National Rank. NatureServe. 2023.

8.Significant Wildlife Habitat Technical Guide. Ontario Ministry of Natural Resources. 2000. Appendix C: A list of area sensitive species and key references.

9.Ontario Partners in Flight (PIF). 2008. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain (North American Bird Conservation Region 13), Priorities, Objectives and Recommended Actions. Environment Canada (Ontario Region) and Ontario Ministry of Natural Resources. Final Draft, November, 2008.

10.GRCA. 2017. A Checklist of Birds in the Grand River Watershed.

11.Dougan & Associates, with Sneil & Cecile Environmental Research. 2009. List of Significant Wildlife in Wellington County; In City of Guelph Natural Heritage Strategy - Phase 2: Terrestrial Inventory & Natural Heritage System (VOL. 2 – APPENDICES). Final Report March 2009.

APPENDIX 4

Ecological Land Classification Forms

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: A
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
		[ ] VALLEYSLOPE		[ ] FORB	[ ] MARSH
		[■] TABLELAND		[ ] LICHEN	[ ] SWAMP
		[ ] ROLL. UPLAND		[ ] BRYOPHYTE	[ ] FEN
	[ ] ACIDIC BEDRK.	[ ] CLIFF		[x] DECIDUOUS	[ ] BOG
		[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[ ] MEADOW
	[ ] BASIC BEDRK.	[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
	[ ] CARB BEDRK.	[ ] SAND DUNE			[x] WOODLAND
		[ ] BLUFF			[ ] FOREST
					[ ] PLANTATION

SITE	COVER
[ ] OPEN WATER	[ ] OPEN
[ ] SHALLOW WATER	[ ] SHRUB
[ ] SURFICIAL DEP.	[■] TREED
[x] BEDROCK	

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	Juglans nigra=Acer platanoides=Picea abies>Quercus rubra
2	SUBCANOPY	3	1	Abies balsamea=Picea pungens=Robinia pseudoacacia
3	UNDERSTOREY	5	1	Acer platanoides
4	GRD. LAYER	7	4	Grass sp.

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	A	10-24	O	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Constructed		CODE: CV
ECOSITE: Green Lands		CODE: CGL
VEGETATION TYPE: Parkland		CODE: CGL_2
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Juglans nigra	A			
Acer platanoides	O		A	
Picea abies	O			
Abies balsamea		O-R		
Quercus rubra	R			
Picea pungens		O-R		
Robinia pseudoacacia		O-R		

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: B
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[x] FORB	[ ] MARSH
[ ] OPEN WATER		[■] TABLELAND	[■] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[ ] TREED	[ ] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[x] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[ ] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	Acer saccharum=Picea abies
2	SUBCANOPY	3	1	Populus balsamifera=Rhus typha>Robinia pseudoacacia
3	UNDERSTOREY	4	2	Phragmites australis>Cornus sericea>Salix sp.
4	GRD. LAYER	5	4	Solidago canadensis>Dactylis glomerata>Daucus carota=Phalaris arundinacea

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	R	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Meadow		CODE: ME
ECOSITE: Mixed Meadow		CODE: MEM
VEGETATION TYPE: Fresh-Moist Mixed Meadow		CODE: MEMM4
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer saccharum	O			
Picea abies	O			
Populus balsamifera		O		
Rhus typha		O-R		
Robinia psuedoacacia		R		
Cornus sericea			O	
Salix sp.			O-R	O-R
Phragmites australis			A-O	

SPECIES	LAYER			
	C	SC	U	GL
Solidago canadensis				A
Echinacae purpurea				O
Rudbeckia hirta				A-O
Lotus corniculatus				O
Symphyotrichum lateriflorum				O
Symphyotrichum novae-angliae				R
Parthenocissus quinquefolia				O
Dactylis glomerata				A
Erigeron hyssopifolius				O-R
Leucanthemum vulgare				O
Clinopodium vulgare				O
Tussilago farfara				O
Vitis riparia				O
Daucus carota				A-O
Impatiens capensis				A-O
Eupatorium perfoliatum				A-O
Cirsium arvense				O-R
Asclepias syriaca				O-R
Verbascum thapsus				R
Arctium minus				O-R
Phalaris arundinacea				A-O

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: C
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
		[ ] VALLEYSLOPE		[ ] FORB	[ ] MARSH
		[■] TABLELAND		[ ] LICHEN	[ ] SWAMP
		[ ] ROLL. UPLAND		[ ] BRYOPHYTE	[ ] FEN
	[ ] ACIDIC BEDRK.	[ ] CLIFF		[ ] DECIDUOUS	[ ] BOG
		[ ] TALUS		[x] CONIFEROUS	[ ] BARREN
SITE		[ ] CREVICE/CAVE	COVER	[ ] MIXED	[x] MEADOW
[ ] OPEN WATER	[ ] BASIC BEDRK.	[ ] ALVAR	[ ] OPEN		[ ] PRAIRIE
[ ] SHALLOW WATER		[ ] ROCKLAND	[ ] SHRUB		[ ] THICKET
[ ] SURFICIAL DEP.		[ ] BEACH/BAR	[■] TREED		[ ] SAVANNAH
[x] BEDROCK	[ ] CARB BEDRK.	[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[ ] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	Acer saccharum=Picea abies
2	SUBCANOPY	3	1	Populus balsamifera=Rhus typha>Robinia pseudoacacia
3	UNDERSTOREY	4	2	Phragmites australis>Cornus sericea>Salix sp.
4	GRD. LAYER	5	4	Solidago canadensis>Dactylis glomerata>Daucus carota=Phalaris arundinacea

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	R	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Meadow		CODE: ME
ECOSITE: Mixed Meadow		CODE: MEM
VEGETATION TYPE: Fresh-Moist Mixed Meadow		CODE: MEMM4
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer saccharum	O			
Picea abies	O			
Populus balsamifera		O		
Rhus typha		O-R		
Robinia psuedoacacia		R		
Cornus sericea			O	
Salix sp.			O-R	O-R
Phragmites australis			A-O	

SPECIES	LAYER			
	C	SC	U	GL
Solidago canadensis				A
Echinacae purpurea				O
Rudbeckia hirta				A-O
Lotus corniculatus				O
Symphyotrichum lateriflorum				O
Symphyotrichum novae-angliae				R
Parthenocissus quinquefolia				O
Dactylis glomerata				A
Erigeron hyssopifolius				O-R
Leucanthemum vulgare				O
Clinopodium vulgare				O
Tussilago farfara				O
Vitis riparia				O
Daucus carota				A-O
Impatiens capensis				A-O
Eupatorium perfoliatum				A-O
Cirsium arvense				O-R
Asclepias syriaca				O-R
Verbascum thapsus				R
Arctium minus				O-R
Phalaris arundinacea				A-O

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: D
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[ ] FORB	[ ] MARSH
[ ] OPEN WATER		[■] TABLELAND	[ ] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[■] TREED	[ ] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[x] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[x] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	Pinus strobus>>Fraxinus americana=Ulmus americana>Prunus serotina
2	SUBCANOPY	3	3	Pinus strobus>Ulmus americana>Vitis riparia
3	UNDERSTOREY	4	2	Fraxinus americana>Rhamnus cathartica>Lonicera tatarica
4	GRD. LAYER	5	3	Fraxinus americana=Rhamnus cathartica

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	A	<10	A	10-24	R	25-50	N	>50
STANDING SNAGS:	N	<10	R	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Forest		CODE: FO
ECOSITE: Coniferous Forest		CODE: FOC
VEGETATION TYPE: Dry-Fresh White Pine Naturalized Coniferous Plantation		CODE: FOCM6-1
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER C	SC	U	GL
Pinus strobus	D	D		
Ulmus americana	R	O-R		
Fraxinus americana		R	D	A
Rhamnus cathartica			A	A
Vitis riparia		O-R		
Prunus serotina	R			
Lonicera tatarica			R	

SPECIES	LAYER C	SC	U	GL

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: E
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[ ] FORB	[ ] MARSH
[ ] OPEN WATER		[■] TABLELAND	[ ] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[■] TREED	[x] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[x] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	Acer saccharum>Acer saccharinum>Pinus banksiana
2	SUBCANOPY	3	3	Acer saccharum>Fraxinus americana
3	UNDERSTOREY	4	2	Cornus alternifolia>Lonicera tatarica
4	GRD. LAYER	5	3	Acer saccharum>Prunus virginiana>Parthenocissus quinquefolia

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	A	<10	A	10-24	R	25-50	N	>50
STANDING SNAGS:	N	<10	R	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Forest		CODE: FO
ECOSITE: Deciduous Forest		CODE: FOD
VEGETATION TYPE: Dry- Fresh Sugar Maple Deciduous Forest		CODE: FODM5-1
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer saccharum	D	D		A-O
Acer saccharinum	A-O			
Pinus banksiana	O			
Rhamnus cathartica			D-A	
Fraxinus americana		O-R		O
Cornus alternifolia			O-R	
Lonicera tatarica			O-R	
Prunus virginiana				O
Parthenocissus quinquefolia				O-R
Solidago flexicaulis				O

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: F
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[■] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[ ] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[x] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[ ] FORB	[x] MARSH
[ ] OPEN WATER		[■] TABLELAND	[■] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[ ] TREED	[ ] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[ ] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	NA	0	
2	SUBCANOPY	NA	0	
3	UNDERSTOREY	4	3	Typha latifolia>>Eutrochium maculatum
4	GRD. LAYER	NA	0	

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	N	<10	N	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	N	10-24	N	25-50	N	>50
COMM. AGE.								

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Wetland		CODE: WE
COMMUNITY SERIES: Marsh		CODE: MA
ECOSITE: Graminoid Mineral Shallow Marsh		CODE: MASM
VEGETATION TYPE: Cattail Mineral Shallow Marsh		CODE: MASM1-1
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Typha latifolia			D	
Eutrochium maculatum			O	

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: G
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[ ] FORB	[ ] MARSH
[ ] OPEN WATER		[■] TABLELAND	[ ] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[■] TREED	[ ] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[x] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[ ] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[ ] FOREST
					[x] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	Pinus resinosa
2	SUBCANOPY	3	2	Acer saccharum=Acer negundo
3	UNDERSTOREY	4	1	Fraxinus americana>Acer negundo>Rhamnus cathartica>Prunus virginiana
4	GRD. LAYER	6	3	Solidago canadensis>Parthenocissus quinquefolia>Lonicera tatarica

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	A	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	R	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	A	10-24	N	25-50	N	>50
COMM. AGE.	Mid-age							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Agriculture		CODE: AG
ECOSITE: Treed Agriculture		CODE: TAG
VEGETATION TYPE: Coniferous Plantation		CODE: TAGM1
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Pinus resinosa	D			
Rhamnus cathartica			O-R	
Acer saccharum		O-R		O-R
Solidago canadensis				A-O
Parthenocissus quinquefolia				A-O
Acer negundo		O-R		
Fraxinus americana			O	
Prunus virginiana			O-R	
Verbascum thapsus				O

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

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Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: H
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL	☐ RIVERINE	■ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
		☐ TERRACE		☐ GRAMINOID	☐ STREAM
		☐ VALLEYSLOPE		☒ FORB	☐ MARSH
	☐ ACIDIC BEDRK.	■ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
SITE		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
☐ OPEN WATER	☐ BASIC BEDRK.	☐ CREVICE/CAVE	■ OPEN	☐ MIXED	☒ MEADOW
☒ SHALLOW WATER		☐ ALVAR	☐ SHRUB		☐ PRAIRIE
☐ SURFICIAL DEP.		☐ ROCKLAND	☐ TREED		☐ THICKET
☐ BEDROCK	☐ CARB BEDRK.	☐ BEACH/BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY		0	Pinus resinosa
2	SUBCANOPY		0	Thuja occidentalis
3	UNDERSTOREY	4	4	Solidago canadensis>Eutrochium maculatum=Vitis riparia>Phalaris arundinacea
4	GRD. LAYER	6	4	Equisetum pratense>Solidago rugosa>Juncus dudleyi

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	N	<10	N	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	N	<10	A	10-24	N	25-50	N	>50
COMM. AGE.	Mid-age							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Meadow		CODE: ME
ECOSITE: Forb Meadow		CODE: MEF
VEGETATION TYPE: Fresh-Moist Forb Meadow		CODE: MEFM4
INCLUSION	Fresh-Moist White Cedar Coniferous Forest Type	CODE: FOCM4-1
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Solidago canadensis			D	
Eutrochium maculatum			A-O	
Vitis riparia			A-O	
Phalaris arundinacea			O	
Symphyotrichum puniceum			A-O	
Equisetum pratense				A
Solidago rugosa				O
Juncus dudleyi				O-R
Thuja occidentalis		O		
Pinus resinosa	O			

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: I
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
[x] TERRESTRIAL	[ ] ORGANIC	[ ] LACUSTRINE	[ ] NATURAL	[ ] PLANKTON	[ ] LAKE
[ ] WETLAND	[x] MINERAL	[ ] RIVERINE	[■] CULTURAL	[ ] SUBMERGED	[ ] POND
[ ] AQUATIC	[ ] PARENT MIN.	[ ] BOTTOMLAND		[ ] FLOATING-LVD.	[ ] RIVER
		[ ] TERRACE		[ ] GRAMINOID	[ ] STREAM
SITE	[ ] ACIDIC BEDRK.	[ ] VALLEYSLOPE	COVER	[ ] FORB	[ ] MARSH
[ ] OPEN WATER		[■] TABLELAND	[ ] OPEN	[ ] LICHEN	[ ] SWAMP
[ ] SHALLOW WATER	[ ] BASIC BEDRK.	[ ] ROLL. UPLAND	[ ] SHRUB	[ ] BRYOPHYTE	[ ] FEN
[ ] SURFICIAL DEP.		[ ] CLIFF	[■] TREED	[ ] DECIDUOUS	[ ] BOG
[x] BEDROCK	[ ] CARB BEDRK.	[ ] TALUS		[ ] CONIFEROUS	[ ] BARREN
		[ ] CREVICE/CAVE		[x] MIXED	[ ] MEADOW
		[ ] ALVAR			[ ] PRAIRIE
		[ ] ROCKLAND			[ ] THICKET
		[ ] BEACH/BAR			[ ] SAVANNAH
		[ ] SAND DUNE			[ ] WOODLAND
		[ ] BLUFF			[x] FOREST
					[ ] PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	1	4	Acer saccharum>>Pinus resinosa
2	SUBCANOPY	2	3	Acer saccharum>>Ostrya virginiana
3	UNDERSTOREY	4	2	Fraxinus americana>Cornus alternifolia>Ulmus americana>Rhamnus cathartica
4	GRD. LAYER	7	2	Fraxinus americana>>Arisaema triphyllum

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	A	<10	A	10-24	R	25-50	N	>50
STANDING SNAGS:	R	<10	O	10-24	N	25-50	N	>50
DEADFALL/LOGS:	A	<10	O	10-24	N	25-50	N	>50
COMM. AGE.	Mature							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Terrestrial		CODE: TE
COMMUNITY SERIES: Forest		CODE: FO
ECOSITE: Mixed Forest		CODE: FOM
VEGETATION TYPE:		CODE:
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer saccharum	D	D		
Pinus resinosa	A			
Fraxinus americana			A	A
Rhamnus cathartica			O	
Cornus alternifolia			O	
Tilia americana			O-R	
Arisaema triphyllum				O-R
Ulmus americana			O-R	
Ostrya virginiana		O-R		

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

Representative Photographs of Vegetation Community:

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	PROJ. NO./NAME: 21-148A/164 Hume Road	POLYGON: J
	SURVEYOR(S): JA	DATE: July 28,2022
	START: 7:08	END: 9:30	COORDS: 43.5345322, -80.143876

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☐ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	■ NATURAL	☐ PLANKTON	☐ LAKE
☒ WETLAND	☒ MINERAL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☒ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
		☐ TERRACE		☒ GRAMINOID	☐ STREAM
		☐ VALLEYSLOPE		☐ FORB	☐ MARSH
	☐ ACIDIC BEDRK.	■ TABLELAND		☐ LICHEN	☐ SWAMP
		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
SITE		☐ TALUS	COVER	☐ CONIFEROUS	☐ BARREN
☒ OPEN WATER	☐ BASIC BEDRK.	☐ CREVICE/CAVE	■ OPEN	☐ MIXED	☐ MEADOW
☐ SHALLOW WATER		☐ ALVAR	☐ SHRUB		☐ PRAIRIE
☐ SURFICIAL DEP.		☐ ROCKLAND	☐ TREED		☐ THICKET
☐ BEDROCK	☐ CARB BEDRK.	☐ BEACH/BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

STAND DESCRIPTION

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	Acer saccharinum>Salix euxina
2	SUBCANOPY	3	1	Acer saccharinum>Acer rubrum
3	UNDERSTOREY	5	1	Apocynum cannabinum>Rhamnus cathartica=Ostrya virginiana
4	GRD. LAYER	7	2	Bidens cernua>Onoclea sensibilis=Impatiens capensis>Juncus dudleyi

HT CODES: 1= >25m 2= 10<HT≤25m 3= 2<HT≤10m 4= 1<HT≤2m 5= 0.5<HT≤1m 6= 0.2<HT≤0.5m 7= HT≤0.2m
CVR CODES: 0= NONE, 1= 0%<CVR≤10% 2= 10%<CVR≤25% 3= 25%<CVR≤60% 4= CVR>60%

STAND COMPOSITION							BA:	
SIZE CLASS ANALYSIS:	O	<10	O	10-24	N	25-50	N	>50
STANDING SNAGS:	N	<10	N	10-24	N	25-50	N	>50
DEADFALL/LOGS:	O	<10	N	10-24	N	25-50	N	>50
COMM. AGE.	Mid-age							

ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY	g=	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK		(cm)

COMMUNITY CLASSIFICATION

COMMUNITY CLASS: Aquatic		CODE: AQ
COMMUNITY SERIES: Open Water		CODE: OA
ECOSITE: Open Water		CODE: OAQ
VEGETATION TYPE:		CODE:
INCLUSION		CODE:
COMPLEX		CODE:

NOTES:

LAYERS: C = CANOPY SC = SUBCANOPY U = UNDERSTOREY GL = GRD LAYER
ABUNDANCE CODES: N= NONE R= RARE O= OCCASIONAL A= ABUNDANT D= DOMINANT

SPECIES	LAYER			
	C	SC	U	GL
Acer saccharinum	D	A		
Salix euxina	A-O			
Acer rubrum		A-O		
Ostrya virginiana			O	
Rhamnus cathartica			O	
Onoclea sensibilis				A-O
Matteuccia struthiopteris				O
Cornus alternifolia			O	
Vitis riparia			O	
Impatiens capensis				A-O
Typha latifolia			O	
Scirpus atrovirens			O-R	
Lamium sp.			O-R	
Eupatorium perfoliatum			A-O	
Apocynum cannabinum			A-O	
Scutellaria galericulata				O-R
Juncus dudleyi				O
Bidens cernua				A

SPECIES	LAYER			
	C	SC	U	GL

NOTES:

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Representative Photographs of Vegetation Community:

APPENDIX 5
Vascular Plant List

PLANT TYPE[1]	SCIENTIFIC NAME	COMMON NAME	CC[2]	CW[3]	SARO[4]	SARA[5]	GLOBAL RANK[6]	PROV. RANK[7]
TR	*Abies balsamea*	Balsam Fir	5	-3			G5	S5
TR	*Acer negundo*	Manitoba Maple	0	0			G5	S5
TR	*Acer platanoides*	Norway Maple	*	5			GNR	SNA
TR	*Acer rubrum*	Red Maple	4	0			G5	S5
TR	*Acer saccharinum*	Silver Maple	5	-3			G5	S5
TR	*Acer saccharum*	Sugar Maple	4	3			G5	S5
FO	*Alliaria petiolata*	Garlic Mustard	*	0			GNR	SNA
FO	*Apocynum cannabinum*	Hemp Dogbane	3	0			G5	S5
FO	*Arctium minus*	Common Burdock	*	3			GNR	SNA
FO	*Arisaema triphyllum*	Jack-in-the-pulpit	5	-3			G5	S5
FO	*Asclepias syriaca*	Common Milkweed	0	5			G5	S5
FO	*Bidens cernua*	Nodding Beggarticks	2	-5			G5	S5
FO	*Chenopodium album*	White Goosefoot	*	3			G5	SNA
FO	*Cirsium arvense*	Canada Thistle	*	3			G5	SNA
FO	*Clinopodium vulgare*	Field Basil	4	5			G5	S5
SH	*Cornus alternifolia*	Alternate-leaved Dogwood	6	3			G5	S5
SH	*Cornus sericea*	Red-osier Dogwood	2	-3			G5	S5
GR	*Dactylis glomerata*	Orchard Grass	*	3			GNR	SNA
FO	*Daucus carota*	Wild Carrot	*	5			GNR	SNA
FO	*Echinacea purpurea*	Eastern Purple Coneflower		5			G4	SNA
VI	*Echinocystis lobata*	Wild Mock-cucumber	3	-3			G5	S5
FE	*Equisetum pratense*	Meadow Horsetail	8	-3			G5	S5
FO	*Erigeron hyssopifolius*	Daisy Fleabane	10	-3			G5	S5
FO	*Eupatorium perfoliatum*	Common Boneset	2	-3			G5	S5
FO	*Eutrochium maculatum var. maculatum*	Spotted Joe Pye Weed	3	-5			G5T5	S5
TR	*Fraxinus americana*	White Ash	4	3			G5	S4
FO	*Impatiens capensis*	Spotted Jewelweed	4	-3			G5	S5
TR	*Juglans cinera*	Butternut	6	3	END	END	G4	S2?
TR	*Juglans nigra*	Black Walnut	5	3			G5	S4?
FO	*Juncus dudleyi*	Dudley's Rush	1	-3			G5	S5
FO	*Leucanthemum vulgare*	Oxeye Daisy		5			GNR	SNA
SH	*Lonicera tatarica*	Tartarian Honeysuckle	*	3			GNR	SNA

PLANT TYPE[1]	SCIENTIFIC NAME	COMMON NAME	CC[2]	CW[3]	SARO[4]	SARA[5]	GLOBAL RANK[6]	PROV. RANK[7]
FO	*Lotus corniculatus*	Garden Bird's-foot Trefoil	*	3			GNR	SNA
FE	*Matteuccia struthiopteris*	Ostrich Fern	5	0			G5T5	S5
FE	*Onoclea sensibilis*	Sensitive Fern	4	-3			G5	S5
TR	*Ostrya virginiana*	Eastern Hop-hornbeam	4	3			G5	S5
VI	*Parthenocissus quinquefolia*	Virginia Creeper	6	3			G5	S4?
GR	*Phalaris arundinacea*	Reed Canary Grass	0	-3			G5	S5
GR	*Phragmites australis ssp. australis*	European Reed		-3			G5T5	SNA
TR	*Picea abies*	Norway Spruce	*	5			G5	SNA
TR	*Picea pungens*	Blue Spruce		3			G5	SNA
TR	*Pinus resinosa*	Red Pine	8	3			G5	S5
TR	*Pinus strobus*	Eastern White Pine	4	3			G5	S5
TR	*Populus balsamifera*	Balsam Poplar	4	-3			G5	S5
TR	*Prunus serotina*	Black Cherry	3	3			G5	S5
SH	*Prunus virginiana*	Choke Cherry	2	3			G5	S5
TR	*Quercus rubra*	Northern Red Oak	6	3			G5	S5
SH	*Rhamnus cathartica*	Common Buckthorn	*	0			GNR	SNA
SH	*Rhus typhina*	Staghorn Sumac	1	3			G5	S5
TR	*Robinia pseudoacacia*	Black Locust	*	3			G5	SNA
FO	*Rudbeckia hirta var. hirta*	Black-eyed Susan	0	3			G5	S5
TR	*Salix euxina*	Crack Willow		0			GNR	SNA
SH	*Sambucus racemosa*	Red Elderberry	5	3			G5	S5
SE	*Scirpus atrovirens*	Dark-green Bulrush	3	-5			G5	S5
FO	*Scutellaria galericulata*	Hooded Skullcap	6	-5			G5	S5
FO	*Solidago canadensis var. canadensis*	Canada Goldenrod	1	3			G5T5	S5
FO	*Solidago flexicaulis*	Zigzag Goldenrod	6	3			G5	S5
FO	*Solidago rugosa var. rugosa*	Northern Rough-leaved Goldenrod	4	0			G5T5	S5
FO	*Sonchus arvensis ssp. arvensis*	Glandular Field Sow-thistle		3			GNRTNR	SNA
FO	*Symphyotrichum lateriflorum*	Calico Aster	3	0			G5	S5
FO	*Symphyotrichum novae-angliae*	New England Aster	2	-3			G5	S5
FO	*Symphyotrichum puniceum*	Swamp Aster	6	-5			G5	S5
TR	*Thuja occidentalis*	Eastern White Cedar	4	-3			G5	S5
TR	*Tilia americana*	American Basswood	4	3			G5	S5

PLANT TYPE[1]	SCIENTIFIC NAME	COMMON NAME	CC[2]	CW[3]	SARO[4]	SARA[5]	GLOBAL RANK[6]	PROV. RANK[7]
FO	*Tussilago farfara*	Colt's-foot	*	3			GNR	SNA
FO	*Typha latifolia*	Broad-leaved Cattail	1	-5			G5	S5
TR	*Ulmus americana*	American Elm	3	-3			G5	S5
FO	*Verbascum thapsus*	Common Mullein	*	5			GNR	SNA
VI	*Vitis riparia*	Riverbank Grape	0	0			G5	S5

1. Plant Types: AL = Algae; FE = Fern; FO = Forb; GR = Grass; LC = Lichen; LV = Liverwort; MO = Moss; RU = Rush; SE = Sedge; SH = Shrub; TR = Tree; VI = Herbaceous vine; VW = Woody Vine
2. CC: Coefficient of Conservatism reflects a species' fidelity to a specific habitat. Range from 0 to 10; 10 = very conservative, not likely in disturbed habitats, 1 = least conservative, likely found in a broad range of habitat. * = value not assigned because they are non-native
3. CW: Coefficient of Wetness reflects a species' affinity for wet soil conditions. Range from -5 to 5; -5 = obligate wetland species, 5 = obligate upland species.
4. SARO: Status under the Provincial Endangered Species Act, listed on the Species at Risk in Ontario (SARO) list. In order of severity, statuses include: EXP = Extirpated; END = Endangered; THR = Threatened; SC = Specieal Concern; NAR = Not at Risk; DD = Data Deficient
5. SARA: Status under the National Species at Risk Act (SARA), assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). In order of severity, statuses include: EXP = Extirpated; END = Endangered; THR = Threatened; SC = Specieal Concern; NAR = Not at Risk; DD = Data
6. Global rarity rank. Range from G1 to G5; G1 = Extremely rare, G5 = Very Common. NR = Unranked; U = Unrankable.
7. Provincial rarity rank. Range from S1 to S5; S1 = Extremely rare, S5 = Very Common. NR = Unranked; U = Unrankable.

APPENDIX 6
Significant Wildlife Habitat Assessment

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
SEASONAL CONCENTRATION AREAS OF ANIMALS								
1	Waterfowl stopover and Staging Areas (terrestrial)	- Fields with Sheet water in spring (incl. agricultural)	- Mixed species aggregations of 100 or more individuals confirms SWH	Flooded field ecosite and 100-300m radius is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
2	Waterfowl Stopover and Staging (Aquatic)	- Ponds, marshes, lakes, bays, coastal inlets and watercourses and reservoirs - SWTP & SWMP are not SWH	- Aggregations of 100 or more listed species for 7 days (ie. >700 waterfowl use days) confirms SWH	Aquatic ecosite and 100m radius is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
3	Shorebird Migratory stopover	- Shorelines of Lakes, rivers, wetlands, beaches, bars; seasonally flooded, muddy and un-vegetated shoreline habitat	- 3 or more listed species and >1000 shorebird use days, or >100 whimbrel, confirms SWH	Shoreline ecosite and 100m radius is the SWH	No Habitat matching Criteria identified in Study Area, >5km from any Lake Ontario	No	None required	No
4	Raptor Wintering Area	- Combination of upland field and woodland habitat >20ha total (includes,>15ha upland field) - least disturbed sites, idle, fallow or lightly grazed field/meadow best	- 1 or more Short-eared Owl, or, at least 10 individuals and 2 listed species for a minimum of 20 days, and 3 of 5 years, confirms SWH	Ecosite communities (field and woodland) is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
5	Bat Hibernacula	- Caves, mine shafts, underground foundations, karsts - buildings are not SWH	- All sites with confirmed hibernating bats, confirms SWH	Ecosite and 200m radius is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
6	Bat Maternity Colony	- All forested ecosites, FOD, FOC, FOM, SWD, SWM, SWC with >10/ha trees (>25cm DBH) in early stages of decay (class 1-3) - buildings are not SWH	- >10 Big Brown Bats, >20 Little Brown Myotis, >5 adult female Silver-haired Bats confirms SWH	Entire woodland or forest stand ELC ecosite containing colony is the SWH	Forested ecosites present in Study area with trees >25cm DBH.	Yes	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	Unknown

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
7	Turtle Wintering Area	- Areas with permanent water deep enough not to freeze, with mud/soft substrates	- 5 over-wintering Midland Painted Turtles, 1 or more Northern Map Turtle or Snapping Turtle confirms SWH	Mapped ELC ecosite, or deep pool element where turtles overwinter is the SWH	Open Aquatic community on subject property may provide turtle overwintering habitat.	Yes	No turtles identified incidentally or observed in community during spring and summer surveys. No anticipated affects-outside study area	No
8	Reptile Hibernaculum	- Sites below the frost line; rock barren, crevice and cave, talus, alvar, rock piles, slopes, stone fences and crumbling foundations	- Presence of hibernacula with minimum 5 individuals of 1 snake species/ individuals of 2 or more species confirms SWH - Congregations of a minimum of 5 snakes of 1 species/ individuals of 2 or more snake species, near potential hibernacula on sunny warm days in spring and fall confirms SWH	Feature hibernacula is located in, and 30m radius is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
9	Colonially-nesting Bird Habitat (cliff/bank)	- Eroding banks, sandy hills, borrow pits, steep slopes, sand piles, cliff faces, bridge abutments, silos, barns	- 1 or more nest sites with 8 or more Cliff Swallow or, 50 Bank Swallow and Rough-winged Swallow pairs during the breeding season.	Colony and 50m radius around peripheral nest is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
10	Colonially-nesting Bird Habitat (Tree/shrub)	- Live or dead standing trees in wetlands, lakes, islands and peninsulas, occasionally shrubby and emergent vegetation	- 5 or more active Great-blue Heron or other listed species nests	Edge of the colony plus minimum 300m radius, or extent of the forest ecosite, or entire island <15ha is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
11	Colonially-nesting Bird Habitat (Ground)	- Rocky islands or peninsulas within a lake or large river(natural or artificial)	- >25 active nests of Herring Gull, Ring-billed Gull, >5 active nests of Common Tern, or >2 active nests of Caspian Tern. 5 or more pairs of Brewer's Blackbird. Any active nesting colony of Little Gull, Great Black-backed Gull.	Edge of colony plus min 150m radius or extent of ELC ecosite, or island <3ha is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
12	Migratory Butterfly Stopover Area	- At least 10ha, with undisturbed field/meadow and forest or woodland edge habitat present, within 5km of Lake Ontario.	- Presence of Monarch use days >5000 or >3000 where there is a mix of Monarch with Painted Ladies or White Admirals	Field/meadow and forest/woodland is the SWH	No Habitat matching Criteria identified in Study Area, >5km from Lake Ontario	No	None required.	No
13	Land bird Migratory Stopover Area	- Woodlots >5ha in size - within 5km of lake Ontario	- Use by >200 birds/day, with >35species, with at least 10sp recorded on 5 different survey dates.	Woodlot is the SWH	No Habitat matching Criteria identified in Study Area, >5km from Lake Ontario	No	None required.	No
14	Deer Yarding Areas	- ELC communities providing Thermal cover (FOM,FOC,SWM,SWC, CUP2, CUP3, FOD3, CUT)	- Deer yards are managed by MNRF, available through district offices and LIO.	LIO mapping	No Deer yarding areas identified on LIO Mapping	No	None required.	No
15	Deer Winter Congregation Areas	- All forested ecosites >100ha - Conifer Plantations <50ha may be used	- Deer management is the responsibility of the MNRF - Contact MNRF or LIO for known deer winter areas.	LIO mapping	No Deer Winter Congregation areas identified on LIO Mapping	No	None required.	No
RARE VEGETATION COMMUNITIES								
16	Cliffs & Talus Slopes	- Cliff: vertical to near vertical bedrock >3m in height - Talus slope: rock rubble at the base of a cliff made up of coarse rocky debris	- Confirm any ELC Vegetation Type for Cliffs or Talus Slopes	Area of ELC sites: TAO, TAS, TAT, CLO, CLS, CLT	No habitat matching Criteria identified in Study Area	No	None required	No
17	Sand Barren	- Exposed, sparsely vegetated & caused by lack of moisture, fires and erosion.	- area >0.5ha in size - Confirm any ELC vegetation Type for Sand Barren - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
18	Alvar	- Level, mostly un-fractured calcareous bedrock feature, overlain by a thin veneer or soil	- area >0.5ha in size - Field Studies that identify four of the five Alvar Indicator Species - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
19	Old Growth Forest	- >30ha forests with at least 10ha interior habitat and multi-layered canopy	- Dominant Tree Species >140 years old - No recognizable signs forestry practices (old stumps)	Area of ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
20	Savannah	- Tall Grass Prairie Habitat with 25%-60% Tree cover - Remnant sites such as Railway Right of ways are not SWH	- No minimum size, and must be restored to a natural state. - Confirm one or more savannah indicator species - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
21	Tallgrass Prairie	- Ground cover dominated by prairie grasses with <25% tree cover - Remnant sites such as Railway Right of ways are not SWH	- No minimum size, and must be restored to a natural state. - Confirm one or more prairie indicator species - Not dominated by exotic or introduced species	Area of ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
22	Other Rare Vegetation Communities	- All Provincially Rare S1, S2, S3 Vegetation Communities (Appendix M of SWHTG)	- Field Studies Confirming ELC vegetation type is a rare vegetation community	Area of ELC ecosite is the SWH	No communities identified on site are S1-S3 communities	No	None required	No
SPECIALIZED HABITAT FOR WILDLIFE								
23	Waterfowl Nesting Areas	- Upland Habitat, adjacent to Wetland ELC ecosites (except SWC, SWM) - Extends 120m from a wetland (>0.5ha) and any small wetlands (<0.5ha) within a cluster of at least 3 - Upland area at least 120m wide	- Presence of 3 or more nesting pairs of listed species excluding Mallards - Presence of 10 or more nesting pairs including mallards - Any active Black Duck nesting site	SWH may be greater than or less than 120m from the wetland edge and must provide enough habitat for waterfowl to successfully nest	Treed communities adjacent all wetlands/ponds, may provide nesting habitat	No	None required	No
24	Bald Eagle or Osprey Nesting, Foraging and Perching Habitat	- Forest communities, adjacent to riparian areas - Osprey nests usually at top of tree - Bald Eagle nest usually in super canopy tree in a notch within canopy	- Studies confirm one or more active Bald Eagle or Osprey nest - Alternate nests included in SWH - Nests must be used annually, if found inactive, must be known inactive at least 3 years, or suspected unused for 5 years if unknown	Active nest plus 300m for Osprey Active nest plus 400-800m for Bald Eagle	No habitat matching Criteria identified in Study Area	No	None required	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
25	Woodland Raptor Nesting Habitat	- Forested communities, forested swamp communities and cultural Plantations - Natural Forested/conifer plantations >30ha with >10ha interior habitat (200m buffer)	- One or more active nest of listed species	Nest protection radius: - Red-Shouldered Hawk, Northern Goshawk 400m - Barred Owl 200m - Broad-winged Hawk, Coopers Hawk 100m - Sharp-shinned Hawk 50	No habitat matching Criteria identified in Study Area	No	None required	No
26	Turtle Nesting Areas	- Exposed Mineral soil (sand or gravel) adjacent (<100m) or within shallow marsh, shallow submerged, shallow floating, bog or fen communities - Located in open sunny areas, away from roads and less prone to predation - Municipal and provincial road shoulders are not SWH.	- Confirm 5 or more nesting Midland Painted Turtles, 1 or more nesting Northern Map Turtle or Snapping Turtle	Area or sites with exposed mineral soils, plus a radius of 30-100m around the nesting area is the SWH.	No habitat matching Criteria identified in Study Area	No	None required	No
27	Seeps and Springs	- Areas where ground water comes to the surface - Any forested area within the headwaters of a stream or river system	- Confirm site with 2 or more seeps/springs. -	Area of ELC forest ecosite containing seep/spring is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
28	Amphibian Breeding Habitat (Woodland)	- Breeding pools within woodlands - Wetland, pond or pool >500m^2 within or adjacent (<120m) to a woodland. - Woodlands with permanent ponds, or those with water until mid-July more likely to be used.	- Confirm Breeding population of 1 or more listed newt/salamander species, 2 or more of the listed frog species with at least 20 individuals (adults or egg masses), 2 or more of the listed frog species with call code levels of 3. - Wetland adjacent to woodlands includes travel corridor connecting features as SWH.	Wetland area, plus 230m radius of woodland is the SWH.	Candidate habitat throughout study area, large ponds	Yes	Amphibian Surveys complete, no candidate SWH are significant	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
29	Amphibian Breeding Habitat (Wetland)	- Swamp, marsh, fen, bog, open aquatic and shallow aquatic ELC communities. - Typically isolated from woodlands (>120m), but includes larger wetlands with primarily aquatic species (bull frogs) that are adjacent to woodlands. - Wetlands >500m2 - Presence of shrubs & logs - Bullfrogs require permanent water bodies and abundant emergent vegetation.	- Confirm Breeding populations of 1 or more listed newt/salamander species, or 2 or more listed frog/toad species with at least 20 individuals (adults or egg masses), or 2 or more listed frog/toad species with a call code level of 3 - Or any wetland with confirmed breeding Bullfrog.	ELC ecosite and shoreline is the SWH Movement corridors (SWH) must be considered if this habitat is significant	No habitat matching Criteria identified in Study Area	No	None required	No
30	Area-sensitive Breeding Bird Habitat	- Habitats where interior breeding birds are breeding - Large mature(>60 years) forest stands or woodlots >30ha - Forest and swamp ELC communities - Interior habitat at least 200m from edge	- Presence of nesting or breeding pairs of 3 or more of the listed species - Any site with Cerulean Warbler or Canada Warbler is SWH	ELC ecosite is the SWH	Large forested area with >200 m interior habitat at north side of property.	Yes	None required	No
HABITATS OF SPECIES OF CONSERVATION CONCERN CONSIDERED SWH								

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
31	Marsh Bird Breeding Habitat	- Some meadow marsh, shallows submerged, shallow floating, mixed shallow floating, fen and bog communities (see SWH Ecoregion guide for specifics) - Nesting occurs in wetlands, all wetland habitat is considered with presence of shallow water with emergent aquatic vegetation - Green heron at edge of water sheltered by shrubs and trees.	- 5 or more nesting pairs of Sedge Wren or Marsh Wren, 1 pair of Sandhill Crane, or breeding by any combination of 5 or more of the listed species - Any Wetland with 1 or more breeding pair Black Tern, Trumpeter Swan, Green Heron or Yellow Rail	ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
32	Open Country Bird Breeding Habitat	- Grassland area >30ha (natural & cultural fields and meadows) - Grasslands not class 1 or 2 agriculture (no row crops or intensive hay or livestock pasturing) - Mature hayfields or pasture at least 5 years old	- Nesting or breeding of 2 or more of the listed species - Field with 1 or more Short-eared Owls	Contiguous ELC ecosite is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
33	Shrub/Early Successional Bird Breeding Habitat	- Cultural thickets, savannah and woodland habitat - Large field area succeeding to shrub and thicket habitat >10ha in size - Patches of shrub ecosite may be complexed into larger old field ecosites for some species	- Confirm nesting or breeding of 1 of the listed indicator species and at least 2 of the common species - Habitat with Yellow-breasted Chat Or Golden-winged Warbler is SWH	SWH is contiguous ELC ecosite field/thicket area	No habitat matching Criteria identified in Study Area	No	None required	No

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
34	Terrestrial Crayfish	- Meadow marsh, shallow marsh, swamp thicket, deciduous swamp and mixed swamp communities - Cultural meadow with inclusions of meadow marsh may be used - Wet edges of marshes and wet meadows should be surveyed for crayfish	- Presence of 1 or more individuals of listed species or their chimneys in suitable habitat	Area of ELC ecosite or Eco element area of meadow marsh or swamp within the larger ecosite area is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No

35	Special Concern & Rare Wildlife Species	- All Special concern and Provincially Rare plant and animal species - Where an element occurrence is identified within a 1 or 10km grid for a species listed, linking candidate habitat on the site must be completed to ELC ecosites	- Assessment/inventory of site for identified special concern or rare species completed during time of year when species is present or easily identifiable - Habitat must be easily mapped and cover an important life stage component (specific nesting habitat, foraging)	SWH is the finest ELC scale that protects the form and function of the habitat	No element occurrences for Special Concern or rare Wildlife Species identified within 1km of the study area. Background Atlas review identified 23 Special Concern species within 10km of the Study Area - Eastern Ribbonsnake (ORAA) - Snapping Turtle (ORAA) - Milksnake (ORAA) - Midland Painted Turtle (ORAA) - Blanding's Turtle (ORAA) - Northern Map Turtle (ORAA) - Least Bittern (OBBA) - Bald Eagle (eBird) - Chimney Swift (OBBA) - Bank Swallow (OBBA) - Barn Swallow (OBBA) - Red-headed Woodpecker (OBBA) - Eastern Wood-Pewee (OBBA) - Wood Thrush (OBBA) - Canada Warbler (OBBA) - Grasshopper Sparrow (OBBA) - Henslow's Sparrow (OBBA) - Bobolink (OBBA) - Eastern Meadowlark (OBBA) - Monarch (OBA)	Yes- Woodlands on site and within 120m may provide habitat for Eastern-Wood-Pewee and Wood Thrush. Marsh and open aquatic habitat on site, and within 120m may provide habitat for Common Snapping Turtle and Midland Painted Turtle.	Three season Botanical Survey, Breeding Bird Survey and Amphibian Survey. Incidental Wildlife noted.	Yes Eastern Wood-Pewee and Wood Thrush identified during breeding bird surveys by Aboud & Associates

#	SIGNIFICANT WILDLIFE HABITAT (SWH)	CANDIDATE SWH CRITERIA	CRITERIA FOR SWH CONFIRMATION	SWH PROTECTED AREA	SITE ASSESSMENT DETAILS	CANDIDATE SWH	FIELD STUDIES REQUIRED/ COMPLETED	CONFIRMED SWH
					- West Virginia White (OBA) - Little Brown Myotis (OMA) - Tri-coloured Bat (OMA)			
ANIMAL MOVEMENT CORRIDORS								
36	Amphibian Movement Corridor	- Corridors may occur in all ecosites associated with water - Presence of significant amphibian breeding indicates the requirement for identifying corridors - Movement corridors between breeding habitat and summer habitat	- Corridors typically include areas with native vegetation, with several layers of vegetation, unbroken by roads, waterways or waterbodies are most significant - At least 15 of vegetation on both sides of the waterway or up to 200m wide of woodland habitat with gaps of <20m - Shorter corridors are more significant than longer, but amphibians must be able to get to and from their summer breeding habitat	Corridor is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No
37	Deer Movement Corridor	- May occur in all forested ecosites - Determined when deer wintering habitat is confirmed as SWH	- Corridors at least 200m wide with gaps <20m leading to wintering habitat - Unbroken by roads and residential areas - Shorter corridors are more significant	Corridor is the SWH	No habitat matching Criteria identified in Study Area	No	None required	No

APPENDIX 7
Species at Risk Habitat Assessment

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	SUITABLE HABITAT IN STUDY AREA	FIELD STUDIES COMPLETED/ REQUIRED	OBSERVED BY A & A	REFERENCE
AMPHIBIANS										
Jefferson Salamander	*Ambystoma jeffersonianum*	END	END	S2	MNDMNRF Species Occurrence Mapping	Adults are found within upland deciduous or mixed forest habitat with suitable breeding ponds, such as kettle ponds, natural basins and limestone sink holes, which can be permanent or ephemeral, and include appropriate egg attachment sites and lack of predatory fish (COSEWIC 2010).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Jefferson Salamander (*Ambystoma jeffersonianum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 38 pp.
Unisexual Ambystoma, Jefferson dependent population	*Ambystoma laterale - (2) jeffersonianum*	END	END	S2	MNDMNRF Species Occurrence Mapping	Unisexual ambystoma share the same habitat requirements as Jefferson salamander, as they rely on Jefferson salamander for sperm donation in order to breed (COSEWIC 2016).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2016. COSEWIC assessment and status report on the unisexual Ambystoma, (*Ambystoma laterale*), Small-mouthed Salamander–dependent population, Jefferson Salamander–dependent population and the Blue-spotted Salamander– dependent population, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxii + 61 pp.
Western Chorus Frog – Great Lakes / St. Lawrence - Canadian Shield Population	*Pseudacris triseriata pop. 2*	NAR	THR	S4	MNDMNRF Species Occurrence Mapping	Generally found in lowland communities, such as swamps, inhabiting lowland shrubs and grasses in the community, near breeding habitat. Breeding occurs in lowland, ephemeral ponds, devoid of predatory fish species (COSEWIC 2008a)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2008. COSEWIC assessment and update status report on the Western Chorus Frog (*Pseudacris triseriata)* Carolinian population and Great Lakes/St. Lawrence – Canadian Shield population in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
INSECTS										
Monarch	*Danaus plexippus*	SC	SC	S2N, S4B	OBA (2021), iNaturalist	Requires milkweed for larval feeding, other wildflower species are also important for adult feeding when milkweed is not in flower; often found in abandoned farmland, along roadsides, and other open spaces (COSEWIC 2010b)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Monarch (*Danaus plexippus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 43 pp.
Rusty-patched Bumble Bee	*Bombus affinis*	END	END	S1	MNDMNRF Species Occurrence Mapping	Uses a variety of open or semi-open habitat, including meadows, agricultural land and savannah habitat for foraging. Nests are often found underground, in old rodent burrows (COSEWIC 2010c).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Rusty-patched Bumble Bee (*Bombus affinis*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 34 pp.
West Virginia White	*Pieris virginenisis*	SC	NAR	S3	OBA (1993)	Found in rich deciduous and mixed forests and swamps with a poorly vegetated shrub layer. The larvae feed only on the leaves of a few host plants, including the Two-leaved Toothwort (*Cardamine diphylla*) and cut-leaved toothwort (Burke 2013).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Peter S. Burke. 2013. Management Plan for the West Virginia White (*Pieris virginiensis*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. v + 44 pp.
Yellow-banded Bumble Bee	*Bombus terricola*	SC	SC	S3S5	MNDMNRF Species Occurrence Mapping	Occur in a diverse range of habitat, including mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands and boreal habitats. Queens overwinter underground and in decomposing organic material such as rotting lots (COSEWIC 2015).	Mixed woodlands and meadows in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2015. COSEWIC assessment and status report on the Yellow-banded Bumble Bee (*Bombus terricola)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 60 pp. *rank considered out of date
BIRDS										
Bald Eagle	*Haliaeetus leucocephalus*	SC	NAR	S2N, S4B	eBird	Prefers deciduous and mixed-deciduous mature forest habitat close to water bodies including lakes and rivers; nests in super canopy trees including Pine (Armstrong 2014).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Armstrong, Ted (E.R.). 2014. Management Plan for the Bald Eagle (*Haliaeetus leucocephalus*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 53 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	SUITABLE HABITAT IN STUDY AREA	FIELD STUDIES COMPLETED/ REQUIRED	OBSERVED BY A & A	REFERENCE
Bank Swallow	*Riparia riparia*	THR	THR	S4B	OBBA	Breeds in a variety of natural and artificial bank type habitat, such as bluffs, stream and river banks, sand and gravel pits, piles of sand, topsoil and other material. Nests are typically in vertical or near-vertical surfaces (COSEWIC 2013b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Bank Swallow (*Riparia riparia*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 48 pp.
Barn Swallow	*Hirundo rustica*	THR	THR	S5B	OBBA	Occurs in farmland, along lake/river shorelines, in wooded clearings and in urban populated areas. Nesting may occur inside or outside buildings; under bridges and in road culverts (COSEWIC 2011a).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	One individual was observed flying over during Breeding Bird Surveys.	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.
Barn Owl	*Tyto alba*	END	END	S1	MNDMNRF Species Occurrence Mapping	Requires open habitat for foraging, such as old fields and pastures, that provide habitat for rodents, and uses a variety of natural and man-made structures for nesting (COSEWIC 2010e)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Barn Owl (*Tyto alba)* (Eastern population and Western population) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiv + 34 pp.
Black Tern	*Chlidonias niger*	SC	NAR	S3B	MNDMNRF Species Occurrence Mapping	Breeds in large, freshwater marshes, with emergent vegetation, and large areas of open water. Nests are typically within 6 meters of the water, on low emergent vegetation (Burke 2012).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Peter S. Burke. 2012. Management Plan for the Black Tern (*Chlidonias niger*) in Ontario. Ontario Management Plan Series. Prepared for the Ontario Ministry of Natural Resources (OMNR), Peterborough, Ontario. vi + 47 pp.
Bobolink	*Dolichonyx oryzivorus*	THR	THR	S4B	OBBA	Nest in grassland habitats, including hayfields and meadows with a mixture of grasses and broad-leaved forbs with a high litter cover. Area Sensitive, with increased density in grasslands greater than 10ha (Renfrew et. al. 2015)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Renfrew, R., A.M. Strong, N.G. Perlut, S.G. Martin and T.A. Gavin. 2015. Bobolink (*Dolichonyx oryzivorus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Birds of North America Online: http://bna.birds.cornell.edu/bna/species/176
Canada Warbler	*Wilsonia canadensis*	SC	THR	S4B	OBBA	Prefers wet coniferous, deciduous and mixed forest types, with a dense shrub layer (COSEWIC 2008b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2008. COSEWIC assessment and status report on the Canada Warbler (*Wilsonia Canadensis)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 35 pp.
Cerulean Warbler	*Setophaga cerulea*	THR	END	S3B	MNDMNRF Species Occurrence Mapping	Occur in older, mature, deciduous forests, preferentially oak-maple composition, with a full, to partially open canopy, and little to no understory cover. Often in bottomland forests, or adjacent to treed swamplands (COSEWIC 2010f).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Cerulean Warbler (*Dendroica cerulea)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp.
Chimney Swift	*Chaetura pelagica*	THR	THR	S4B, S4N	OBBA	Typically nests in traditional chimneys of older buildings, which also provide roosting sites for many individuals during spring and fall migration (MNRF 2013).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	MNRF, 2013. General Habitat Description for the Chimney Swift *(Chaeture pelagica)*. Ontario Ministry of Natural Resources and Forestry. July 2, 2013.
Common Nighthawk	*Chordeiles minor*	SC	THR	S4B	MNDMNRF Species Occurrence Mapping	Breeds in open habitat, on the ground, in areas with no vegetation, including sand dunes, burned areas, open forests, railways, and gravel rooftops. Eggs are laid directly on the ground (COSEWIC 2007b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2007. COSEWIC assessment and status report on the Common Nighthawk (*Chordeiles minor)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 25 pp.
Eastern Meadowlark	*Sturnella magna*	THR	THR	S4B	OBBA	Nest in grassland habitats, including hayfields, pasture, savannahs, and other open areas. Preferential habitat includes areas with good grass and thatch (litter) cover (Jaster et. al. 2012).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Jaster, Levi A., William E. Jensen and Wesley E. Lanyon. (2012). Eastern Meadowlark (*Sturnella magna*), The Birds of North America (P. G. Rodewald, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America: https://birdsna.org/Species-Account/bna/species/easmea

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	SUITABLE HABITAT IN STUDY AREA	FIELD STUDIES COMPLETED/ REQUIRED	OBSERVED BY A & A	REFERENCE
Eastern Whip-poor-will	*Caprimulgus vociferus*	THR	THR	S4B	MNDMNRF Species Occurrence Mapping	Often found breeding in semi-open habitats, with little ground cover, and canopy openings allowing light to penetrate the forest floor, often associated with pine or oak, savannahs and barrens, early-successional poplar stands and open conifer plantations (COSEWIC 2009a)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2009. COSEWIC assessment and status report on the Whip-poor-will (*Caprimulgus vociferus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 28 pp.
Eastern Wood-Pewee	*Contopus virens*	SC	SC	S4B	OBBA	Associated with mid-age mixed and deciduous forest stands, often dominated by Maple (Acer), Elm (Ulmus) or Oak (Quercus), and include areas with clear-cuts, openings or forest edges. Also prefers forest stands with little to no understory vegetation (COSEWIC 2012a).	Habitat identified in FODM5-1 and FOM communities.	Breeding Bird Surveys completed.	Two singing males observed during breeding Birds Surveys in FODM5-1 community.	COSEWIC. 2012. COSEWIC assessment and status report on the Eastern Wood-Pewee (*Contopus virens*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 39 pp.
Evening Grosbeak	*Coccothraustes vespertinus*	SC	SC	S4B	eBird	Breeding habitat includes open, mature mixedwood forests, where fir species and/or White Spruce are dominant, and Spruce Budworm is abundant (COSEWIC 2016)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2016. COSEWIC assessment and status report on the Evening Grosbeak (*Coccothraustes vespertinus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.
Golden-winged Warbler	*Vermivora chrysoptera*	SC	THR	S4B	MNDMNRF Species Occurrence Mapping	Nests in early successional shrub habitat, with adjacent forest edges for singing perches, often in hydro cut-overs, recently logged areas and beaver marshes (COSEWIC 2006a).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2006. COSEWIC assessment and status report on the Golden-winged Warbler (*Vermivora chrysoptera)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 30 pp.
Grasshopper Sparrow	*Ammodramus savannarum*	SC	SC	S4B	OBBA	Prefers moderately open grasslands and prairies with patchy bare ground; avoids grasslands with extensive shrub cover (Vickery 1996).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Vickery, Peter D. 1996. Grasshopper Sparrow (*Ammodramus savannarum*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/239\
Henslow's Sparrow	*Ammodramus henslowii*	END	END	SHB	OBBA	Breeds in grassland habitat, and is area sensitive. Grasslands with tall, dense cover a thick thatch layer, and are greater than 30ha, but preferentially larger than 100ha are preferred (COSEWIC 2011b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2011. COSEWIC assessment and status report on the Henslow's Sparrow (*Ammodramus henslowii)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 37 pp.
Least Bittern	*Ixobrychus exilis*	THR	THR	S4B	OBBA	Breeds in large marshes (>5ha) with emergent vegetation, typically cattails, with at least 50% open water, and relatively stable water levels (COSEWIC 2009b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2009. COSEWIC assessment and update status report on the Least Bittern (*Ixobrychus exilis)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 36 pp.
Loggerhead Shrike	*Lanius ludovicianus*	END	END	S2B	MNDMNRF Species Occurrence Mapping	Nests in open, low, grassy habitat with scattered shrubs. Presence of thorny shrubs, such as hawthorn, or barbwire fencing required for impaling prey. Only two recent areas of breeding in the province (Carden Plain and Napanee Plain) (Environment Canada 2015).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Environment Canada. 2015. Recovery Strategy for the Loggerhead Shrike, *migrans* subspecies (*Lanius ludovicianus migrans*), in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vii + 35 pp.
Louisiana Waterthrush	*Seirus motacilla*	SC	THR	S3B	MNDMNRF Species Occurrence Mapping	Nests along headwater streams and associated wetlands which occur within large tracts of mature forest especially mixed wood forests with a component of hemlock. Nests are located in stream bank niches, under mossy logs, and within the roots of fallen trees (COSEWIC 2006b)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2006. COSEWIC assessment and update status report on the Louisiana Waterthrush (*Seiurus motacilla*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 26 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	SUITABLE HABITAT IN STUDY AREA	FIELD STUDIES COMPLETED/ REQUIRED	OBSERVED BY A & A	REFERENCE
Northern Bobwhite	*Colinus virginianus*	END	END	S1	MNDMNRF Species Occurrence Mapping	Requires early successional habitat with a mix of croplands, dense brush cover and grassland in close proximity for feeding, dusting, roosting, escaping predators and nesting. Only known self-sustaining population found on Walpole Island (COEWSIC 2003).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2003. COSEWIC assessment and update status report on the Northern Bobwhite (*Colinus virginianus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 20 pp.
Olive-sided Flycatcher	*Contupus cooperi*	SC	THR	S4B	MNDMNRF Species Occurrence Mapping	Associated with natural forest openings (usually conifer or mixed), and edges of forests adjacent wetlands or watercourses, will also use open and semi-open forests and clear-cuts. Presence of tall snags and residual live trees required for nesting and foraging (COSEWIC 2007c).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2007. COSEWIC assessment and status report on the Olive-sided Flycatcher (*Contopus cooperi)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 25 pp.
Peregrine Falcon	*Falco peregrinus*	SC	SC	S3B	MNDMNRF Species Occurrence Mapping	Nests on cliff-ledges (50-200m preferred) near foraging areas. Also nests on anthropomorphic structures, such as tall building ledges, bridges, quarries, mines and cuts for road beds (COSEWIC, 2007a).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Peregrine Falcon (*Falco peregrinus)* (*pealei* subspecies - *Falco peregrinus* and *pealei anatum/tundrius* - *Falco peregrinus anatum/tundrius*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 45 pp.
Prothonotary Warbler	*Protonotaria citrea*	END	END	S1B	MNDMNRF Species Occurrence Mapping	Occupies large, mature and semi-mature, deciduous swamp forest and riparian floodplains. Permanent and semi-permanent pools of open water are characteristics, and nests are typically situated over standing or slow-moving water (COSEWIC 2007)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2007. COSEWIC assessment and update status report on the Prothonotary Warbler (*Prothonotaria citrea)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 31 pp.
Red-headed Woodpecker	*Melanerpes erythrocephalus*	END	THR	S4B	OBBA	Found in a variety of open areas, with a high density of dead or dying trees, particularly forests dominated by oak or beech (COSEWIC 2007d).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Red-headed Woodpecker (*Melanerpes erythrocephalus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
Short-eared Owl	*Asio flammeus*	SC	SC	S2N, S4B	MNDMNRF Species Occurrence Mapping	Breeds in open habitats, including grasslands, old pasture marshes, bogs, and sand-sage. Nests are scrapes, located on the ground (COSEWIC 2008c).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2008. COSEWIC assessment and update status report on the Short-eared Owl (*Asio flammeus*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
Wood Thrush	*Hylocichla mustelina*	SC	THR	S4B	OBBA	Prefers second growth moist deciduous forests, with tall trees, and a dense understory of low saplings and an open forest floor with decaying leaf litter. Often nests in saplings, shrubs or occasionally dead stumps (COSEWIC 2012b).	Habitat identified in FODM5-1 and FOM communities.	Breeding Bird Surveys completed.	One singing male observed during breeding Birds Surveys in FODM5-1 community.	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.
Yellow-breasted Chat	*Icteria virens*	END	END	S1B	MNDMNRF Species Occurrence Mapping	Shrub specialist, nesting in early successional, dense, low-shrub habitat, including old fields, hydro-cutovers and forest edges experiencing regeneration (COSEWIC 2011c).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2011. COSEWIC assessment and status report on the Yellow-breasted Chat (*auricollis* subspecies) (*Icteria virens auricollis*) and the Yellow-breasted Chat (*virens* subspecies) (*Icteria virens virens*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvi + 51 pp.
FISH										
Black Redhorse	*Moxostoma duquesnei*	THR	THR	S2	MNDMNRF Species Occurrence Mapping	Associated with cool, clear streams of moderate size with substrates of rocky, cobble, sand or silt. Found in the Lake Erie and Grand River Watersheds (COSEWIC, 2005a).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2005. COSEWIC assessment and update status report on the Black Redhorse (*Moxostoma duquesnei*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 21 pp.

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Northern Sunfish (Great Lakes- Upper St. Lawrence Population)	*Lepomis peltastes*	SC	SC	S3	MNDMNRF Species Occurrence Mapping	Prefers shallow, vegetated areas of warm lakes, ponds, and slowly flowing watercourses. Usually occurs in clear waters and is considered intolerant of siltation. Substrate usually consists of sand and gravel, as in the Thames River (COSEWIC 2016)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2016. COSEWIC assessment and status report on the Northern Sunfish (*Lepomis peltastes)*, Saskatchewan-Nelson River populations and the Great Lakes- Upper St. Lawrence populations, in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xv + 51 pp.
Redside Dace	*Clinostomus elongatus*	END	END	S1	MNDMNRF Species Occurrence Mapping	Associated with small, clear, head water streams and creeks with abundant overhanging vegetation and both pool and riffle habitat, often with gravel substrates and cool water temperature regimes (COSEWIC, 2007e).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2007. COSEWIC assessment and update status report on the Redside Dace (*Clinostomus elongatus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. Vii + 59pp.
MOLLUSCS										
Rainbow	*Villosa iris*	SC	SC	S2S3	MNDMNRF Species Occurrence Mapping	Most abundant in small to medium-sized rivers, but can also be found in inland lakes. Usually found in or near riffles and along the edges of emergent vegetation in moderate to strong current. Occupies substrate mixtures of cobble, gravel, sandy and occasionally mud or boulder (COSEWIC 2015)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2015. COSEWIC assessment and status report on the Rainbow (*Villosa iris)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 82 pp.
MAMMALS										
Eastern Small-footed Myotis	*Myotis leibii*	END	NA	S2S3	MNDMNRF Species Occurrence Mapping	Associated with hilly or mountainous terrain, in or near coniferous or deciduous forest habitat. Maternity roosts located in cracks and crevices of talus slopes and rocky outcrops, or, occasionally in bridges, old buildings, hollow trees (or loose bark) and caves and mines during the maternity season. Hibernate singly or in small clusters in mines and caves (NatureServe, 2015).	Habitat identified in FODM5-1 and FOM communities.	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	None Observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus)*, Northern Myotis (*Myotis septentrionalis)* and Tri-colored Bat (*Perimyotis subflavus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Little Brown Myotis	*Myotis lucifugus*	END	END	S3	OMA	Hibernate in caves; maternity colonies located in warm sites, often associated with human habitation; including attics, old buildings, under bridges, rock crevices and cavities in canopy trees in wooded areas (COSEWIC, 2013c).	Habitat identified in FODM5-1 and FOM communities.	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	None Observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus)*, Northern Myotis (*Myotis septentrionalis)* and Tri-colored Bat (*Perimyotis subflavus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Northern Myotis	*Myotis septentrionalis*	END	END	S3	MNDMNRF Species Occurrence Mapping	Hibernate in caves; maternity colonies usually located in trees, and are closely associated with specific tree characteristics and density of suitable trees. Characterized by tall, large diameter trees in early stages of decay, located in openings in mature forest canopies (COSEWIC, 2013c).	Habitat identified in FODM5-1 and FOM communities.	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	None Observed.	COSEWIC. 2013. COSEWIC assessment and status report on the Little Brown Myotis (*Myotis lucifugus)*, Northern Myotis (*Myotis septentrionalis)* and Tri-colored Bat (*Perimyotis subflavus)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp.
Tri-colored Bat	*Perimyotis subflavus*	END	END	S3?	OMA	Hibernate in caves, abandoned mines, wells and tunnels. Summer roosts include clumps of dead foliage and lichens, typically found in forested habitat close to water sources. May also use anthropogenic structures such as barns for maternity roosts. Foraging habitat includes forested riparian areas over water in relatively open areas (Environment Canada 2015).	Habitat identified in FODM5-1 and FOM communities.	Studies recommended pre-construction in areas where tree removal/damage to occur in candidate habitat.	None Observed.	Environment Canada. 2015. Recovery Strategy for Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and Tri-colored Bat (*Perimyotis subflavus*) in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. ix + 110 pp

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REPTILES										
Blanding's Turtle	*Emydoidea blandingii*	THR	THR	S3	ORAA (2016)	Use a variety of eutrophic wetland habitat types, including lakes, ponds, watercourses, marshes, man-made channels, farm fields, coastal areas and bays. Seasonal overland terrestrial movements up to 2.5 km occur to reach nesting and overwintering areas, generally through wooded coniferous or mixed forest habitat. Nests are usually laid in loose sand or organic soil (COSEWIC 2005b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2005. COSEWIC assessment and update status report on the Blanding's Turtle (*Emydoidea blandingii)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. viii + 40 pp.
Midland Painted Turtle	*Chrysemys picta marginata*	NL	SC	S4	ORAA (2018), iNaturalist, NHIC	Occupy slow moving, relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. Found in association with submergent aquatic plants, which are used for cover and feeding. Semi -tolerant of human-altered landscapes, occasionally found occupying urban ponds and lands subject to anthropogenic disturbance. Suitable nesting habitat includes open, often south-facing, and sloped areas with sandy-loamy and/or gravel substrate usually within 1200 m of aquatic active season habitats. Overwinter in shallow water with deep sediment (COSEWIC 2018).	Habitat identified in OAQ community.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2018. COSEWIC assessment and status report on the Midland Painted Turtle (*Chrysemys picta marginata)* and the Eastern Painted Turtle (*Chrysemys picta picta)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xvi + 107 pp.
Northern Map Turtle	*Graptemys geographica*	SC	SC	S3	ORAA (1925)	Highly aquatic species, found in deep, large waterbodies, including Lakes and large rivers, with abundant basking sites. Emerge onto land only during nesting, which occurs in soft sand or soil. Waterbodies with slow currents, soft mud bottoms and abundant aquatic vegetation are preferred (COSEWIC, 2002b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2002. COSEWIC assessment and status report on the Northern Map Turtle (*Graptemys geographica)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 34 pp.
Snapping Turtle	*Chelydra serpentina*	SC	SC	S4	ORAA (2019), iNaturalist	Inhabit slow-moving waters with soft, muck bottom and dense aquatic vegetation. Ponds, sloughs and shallow bays are all often used as summering and overwintering habitat (COSEWIC 2008d).	Habitat identified in OAQ community.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2008. COSEWIC assessment and status report on the Snapping Turtle (*Chelydra serpentina)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 47 pp.
Spotted Turtle	*Clemmys guttata*	END	END	S2	MNDMNRF Species Occurrence Mapping	Found in wetlands with high organic content, including bogs, fens, marshes, woodland streams, sedge meadows, and shallow bays. Only one population is known from Wellington County, in Luther Marsh. Preferential to unpolluted shallow water with aquatic vegetation and soft substrates. Presence of Sphagnum moss, sedge tussocks, cattails and water lilies, may be important to Canadian populations (COSEWIC, 2002b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2004. COSEWIC assessment and update status report on the Spotted Turtle (*Clemmys guttata)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 27 pp.
Butler's Gartersnake	*Thamnophis butleri*	END	END	S2	MNDMNRF Species Occurrence Mapping	Occupies open areas with dense grass and thatch cover, including tall grass prairie, old fields, abandoned sites in urban areas, drainage swales and seasonally dry marshes. only one population is known from Wellington County, in Luther Marsh. Artificial cover features such as plywood, concrete, shingles, metal sheets etc., increases probability of encounters, but is not essential (COSEWIC, 2010h).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Butler's Gartersnake (*Thamnophis butler)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 51 pp.

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Eastern Ribbonsnake	*Thamnophis sauritus*	SC	SC	S4	ORAA (1985)	A semi-aquatic species that inhabits dense, low-vegetation, edges of ponds, streams, marshes, fens and bogs, with open sunlit areas for basking (COSEWIC 2002c).	Habitat identified in OAQ community.	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2002. COSEWIC assessment and status report on the Eastern Ribbonsnake (*Thamnophis sauritus).* Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 24 pp.
Milksnake	*Lampropeltis triangulum*	SC	SC	S4	ORAA (2018)	Habitat generalists often associated with edge habitat, meadows, prairies, pastures, rocky outcrops and human disturbances such as hydro corridors and railway embankments. Habitat is usually close to a water source. Hibernation occurs in a variety of natural and man-made features, including rotting logs, old foundations, basements and burrows (COSEWIC 2014).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2014. COSEWIC assessment and status report on the Eastern Milksnake (*Lampropeltis Triangulum)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 61 pp.
VASCUALR PLANTS										
Blue Ash	*Fraxinus quadrangulata*	THR	THR	S2?	MNDMNRF Species Occurrence Mapping	Found in 3 habitat types; floodplains and river valleys where Blue Ash grows in rich soils in association with other tree species; shallow soils on alvar and limestone on the Lake Erie islands; and stabilized beaches at Point Pelee National Park, and Fish Point on Pelee Island (COSEWIC 2014)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2014. COSEWIC assessment and status report on the Blue Ash (*Fraxinus quadrangulate)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 58 pp.
Butternut	*Juglans cinerea*	END	END	S2?	MNDMNRF Species Occurrence Mapping	Occur in rich moist sites, that are well-drained, often found along stream banks or gravelly sites. Butternut is shade intolerant (COSEWIC, 2003b).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	Two individuals were observed south of the Open Aquatic Community	COSEWIC 2003. COSEWIC assessment and status report on the Butternut (*Juglans cinerea)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 32 pp.
Common Hoptree	*Ptelea trifoliata*	THR	SC	S3	MNDMNRF Species Occurrence Mapping	Occurs nearly entirely along or near the Lake Erie shoreline. Often found in areas of natural disturbance where it forms part of the outer edge of shoreline woody vegetation (COSEWIC 2015)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2015. COSEWIC assessment and status report on the Common Hoptree (*Ptelea trifoliata)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 33 pp.
Dense Blazing Star	*Liatris spicata*	THR	THR	S2	MNDMNRF Species Occurrence Mapping	Occurs in open tallgrass prairies. It can grow in a range of moisture regimes from dry to very moist (COSEWIC 2010)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2010. COSEWIC assessment and status report on the Dense Blazing Star (*Liatris spicata)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. ix + 23 pp.
Hill's Pondweed	*Potamogeton hillii*	SC	SC	S2S3	MNDMNRF Species Occurrence Mapping	Occur in cold clear calcareous streams, ponds and ditches, which are alkaline in nature (COSEWIC 2005c).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2005c COSEWIC assessment and update status report on the Hill's pondweed (*Potamogeton hillii*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 19 pp.
Kentucky Coffee-tree	*Gymnocladus dioicus*	THR	THR	S2	MNDMNRF Species Occurrence Mapping	Grows best on fertile loam soil with ample moisture, and tolerates alkaline soils and dry sandy soils. Typically found in rich floodplain woodlands and woodland edges of marshes where open canopy conditions exist (Environment Canada 2014)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	Environment Canada. 2014. Recovery Strategy for the Kentucky Coffee-tree (*Gymnocladus dioicus*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. vi + 36 pp.
Smooth Yellow False Foxglove	*Aureolaria flava*	THR	THR	S2?	MNDMNRF Species Occurrence Mapping	Inhabits a variety of dry upland woods including escarpment slopes, oak hummocks, oak woodlands and oak savannas. Primarily associated with Oak species. (COSEWIC 2018)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2018. COSEWIC assessment and status report on the Yellow False Foxglove Bundle, Smooth Yellow False Foxglove (*Aureolaria flava)*, Fern-leaved Yellow False Foxglove (*Aureolaria pedicularia)* and the Downy Yellow False Foxglove (*Aureolaria virginica)* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xx + 100 pp.

COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	S-RANK	BACKGROUND SOURCES	HABITAT REQUIREMENTS	SUITABLE HABITAT IN STUDY AREA	FIELD STUDIES COMPLETED/ REQUIRED	OBSERVED BY A & A	REFERENCE
Tuberous Indian Plantain	*Arnoglossum plantagineum*	SC	SC	S2	MNDMNRF Species Occurrence Mapping	Habitat includes open, sunny areas in wet calcareous soils, including wet meadows and shoreline fens (COSEWIC 2002).	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC 2002. COSEWIC assessment and update status report on the tuberous Indian-plantain (*Arnoglossum plantagineum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 11 pp.
Wood-poppy	*Stylophorum diphyllum*	END	END	S1	MNDMNRF Species Occurrence Mapping	Typically found in species-rich woods in forested ravines and slopes, ravine bottoms, along woodland streams, and at the base of bluffs. Ontario is the species northern limit of its global range (COSEWIC 2007)	No Habitat matching Criteria identified in Study Area	The Study Area was investigated for habitat during ELC and Vegetation Surveys. No further studies required.	None Observed.	COSEWIC. 2007. COSEWIC assessment and update status report on the wood-poppy (*Stylophorum diphyllum*) in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 23 pp.

References:

Cadman, M.D.,D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. 2007. The Atlas of the Breeding Birds Ontario 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto,xxii + 706pp. (Available online here: http://www.birdsontario.org/atlas/datasummaries.jsp)

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Dobbyn, J. 1994. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists, Altona Manitoba, Canada. (available online here: http://www.ontarionature.org/discover/resources/publications.php)

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NHIC, 2015. MNRF Make a map: Natural Heritage Areas. (Available online: http://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map)

Ontario Nature. 2015. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. (Available online here: http://www.ontarionature.org/atlas)

APPENDIX 8
Amphibian Survey Call Codes & Results

STATION	VISIT (DATE)	SPECIES										ANALYSIS/ SIGNIFICANCE
		AMERICAN TOAD	GRAY TREEFROG	SPRING PEEPER	WESTERN CHORUS FROG	AMERICAN BULLFROG	PICKEREL FROG	MINK FROG	GREEN FROG	NORTHERN LEOPARD FROG	WOOD FROG	
A	30/04/22			1-3								
	25/05/22			2-4					1-2			
	28/06/22					1-2			1-2			
	Summary			2-7		1-2			1-4			No

Legend:

Amphibian Call Level codes:

1 - # Calls not simultaneous, number of individuals can be accurately counted

2 - # Some calls simultaneous, number of individuals can be reliably estimated

3 (A, B or C) Full chorus, calls continuous and overlapping, number of individuals cannot reliably be estimated; A, B or C, indicates intensity of chorus

Significance:

Y-Indicates Amphibian Habitat meets the criteria listed under the Ecoregion 6E SWH Criteria guide (MNRF 2015).

N- Indicates Amphibian Habitat did not meet the criteria listed under the Ecoregion 6E SWH Criteria guide (MNRF 2015)

***** Denotes species heard calling outside 100m

APPENDIX 9

Breeding Bird Survey Codes & Results

													PC 1	Habitat: Yard														PC 2	Habitat: Forest													
													r1	date: June 17, 2022					r2	date: June 30, 2022					Max Summaries			r1	date: June 17, 2022					r2	date: June 30, 2022					Max Summaries		SITE SUMMARY	
COMMON NAME	SCIENTIFIC NAME	SARO	COSEWIC	SARA	SCHEDULE	S-RANK	G-RANK	AREA SENSITIVE	AREA REQUIRED	PIF SPECIES	GRCA(date unk.)	WELLINGTON COUNTY (2009)	>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE	TOTAL	HBE	>50	50-100	>100	FO	total	HBE	>50	50-100	>100	FO	total	HBE	TOTAL	HBE	TOTAL	HBE
Eastern Wood-Pewee	Contopus virens	SC	SC		No Schedule	S4B	G5			✓							0	NA					0	NA	0	NA		1			1	S	1	1			2	T	2	T	2	T
Eastern Kingbird	Tyrannus tyrannus					S4B	G5			✓	CP		1				1	H					0	NA	1	H					0	NA					0	NA	0	NA	1	H
Barn Swallow	Hirundo rustica	THR	THR		No Schedule	S4B	G5				CP						0	NA				1	0	X	0	X					0	NA					0	NA	0	NA	0	X
Blue Jay	Cyanocitta cristata					S5	G5										0	NA	1	1			2	H	2	H					0	NA		1			1	H	1	H	3	H
Red-breasted Nuthatch	Sitta canadensis					S5	G5	✓	>10ha		CP			1			1	H					0	NA	1	H		1			1	H					0	NA	1	H	2	H
House Wren	Troglodytes aedon					S5B	G5										0	NA		1			1	S	1	S					0	NA					0	NA	0	NA	1	S
Wood Thrush	Hylocichla mustelina	SC	THR		No Schedule	S4B	G5			✓							0	NA					0	NA	0	NA					0	NA	1				1	S	1	S	1	S
American Robin	Turdus migratorius					S5	G5						1				1	H		1			1	H	1	H					0	NA		1			1	S	1	S	2	S
Cedar Waxwing	Bombycilla cedrorum					S5	G5							1			1	H					0	NA	1	H					0	NA					0	NA	0	NA	1	H
Red-eyed Vireo	Vireo olivaceus					S5B	G5							1			1	S		1			1	T	1	T	1	1			2	S		1			1	T	2	T	3	T
Pine Warbler	Dendroica pinus					S5B,S3N	G5	✓	15-30ha		CP			1			1	S					0	NA	1	S					0	NA					0	NA	0	NA	1	S
Ovenbird	Seiurus aurocapilla					S5B	G5	✓	>70ha		CP						0	NA					0	NA	0	NA	1				1	S					0	NA	1	S	1	NA
Common Yellowthroat	Geothlypis trichas					S5B,S3N	G5										0	NA					0	NA	0	NA					0	NA		1			1	S	1	S	1	S
Northern Cardinal	Cardinalis cardinalis					S5	G5							1			1	S	1				1	S	1	S					0	NA					0	NA	0	NA	1	S
Rose-breasted Grosbeak	Pheucticus ludovicianus					S5B	G5			✓							0	NA					0	NA	0	NA	1				1	S					0	NA	1	S	1	NA
Indigo Bunting	Passerina cyanea					S5B	G5							1			1	S		1			1	T	1	T					0	NA					0	NA	0	NA	1	T
Chipping Sparrow	Spizella passerina					S5B,S3N	G5							1			1	S		1			1	S	1	S	1				1	S					0	NA	1	S	2	S
Song Sparrow	Melospiza melodia					S5	G5						2				2	H					0	NA	2	H					0	NA		2			2	S	2	S	4	S
Common Grackle	Quiscalus quiscula					S5	G5									1	0	X		2			2	H	2	H					0	NA					0	NA	0	NA	2	H
Brown-headed Cowbird	Molothrus ater					S5	G5										0	NA		1			1	H	1	H					0	NA					0	NA	0	NA	1	H
Baltimore Oriole	Icterus galbula					S4B	G5			✓			1				1	H					0	NA	1	H					0	NA					0	NA	0	NA	1	H
American Goldfinch	Carduelis tristis					S5	G5				CP					1	0	X	3				3	H	3	H				1	0	X					0	NA	0	X	3	H

Breeding Evidence:

Observed	Probable	Confirmed
FO-flyover	M-multiple singing individuals	NB-nest building
X- species observed in breeding season	P-pair observed in suitable habitat	AE-adult entering, occupying or leaving nest
	T-presumed territory based on presence of singing bird at least one week apart	NU-empty nest used in the same season
Possible	D-courtship or display	FY-recently fledged young
H-suitable habitat	V-visiting probabale nest site	DD-distraction display
S-singing male	A-agitated behaviour	FS-adult carrying fecal sac
	B-brood patch or cloacal protuberance	CF-adult carrying food
	N-nest building by wrens or woodpeckers	NE-nest with eggs NY-nest with young

APPENDIX 10

Site Investigation Details

SURVEY	TIME	DATE	STAFF	TEMP.	WIND (beaufort)	CLOUD COVER (%)	PRECIP.	PAST PRECIP.
Amphibian Survey	20:50-21:00	30-Apr-22	C.A. Ross & J. Andrews	8	1	20	N	N
Amphibian Survey	22:38-22:45	25-May-22	C.A. Ross & J. Andrews	12	3	100	N	Y
Breeding Bird Survey	6:00-6:45	17-Jun-22	J. Andrews	21	3	30	N	N
Amphibian Survey	10:30-10:40	28-Jun-22	C.A.Ross & H. Dixon	21	2	10	N	N
Breeding Bird Survey	7:45-8:30	30-Jun-22	J. Andrews	16	1	100	N	N
ELC Survey and Summer Botanical	7:08-9:30	28-Jul-22	J. Andrews	20	0	100	Y - drizzle	Y
Fall Botanical Inventory	7:50-8:30	9-Sep-22	J. Andrews	15	0	0	N	N

APPENDIX 11

MNRF Request for Information

Shannon Davison

From: Denyes, David (MNRF) <David.Denyes@ontario.ca>
Sent: January 13, 2023 4:05 PM
To: Jenny Andrews
Cc: Cheryl-Anne Ross
Subject: RE: 164 Hume Road, County of Wellington MNRF Request for Information
Attachments: Arkell_Corwhin_Wetland_Complex_3rd.pdf

Hello Jenny,

Thank you for your request for information on natural heritage features.

Absence or lack of information for a given geographic area does not necessarily mean the absence of natural heritage features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. In addition, new species may be listed and new natural heritage features may be defined over time. For these reasons, the Ministry cannot provide a definitive statement on the presence, absence or condition of natural heritage features in all parts of Ontario.

At this time, the Ministry has the following information for your project location.

1. Arkell Corwhin Provincially Significant Wetland Complex (evaluation attached)

Species at Risk information is available through the Ministry of Environment, Conservation & Parks (MECP) – Please contact MECP at SAROntario@ontario.ca.

Thank you.

David

David Denyes
Management Biologist
Ministry of Natural Resources and Forestry
Vineland Field Office
4890 Victoria Avenue North
Vineland Station ON, L0R 2E0
Tel: (289) 241-6872
david.denyes@ontario.ca

From: Jenny Andrews <Jenny@aboudtng.com>
Sent: January 12, 2023 3:53 PM
To: ESA Guelph (MNRF) <ESAGUELPH@ontario.ca>
Cc: Cheryl-Anne Ross <Cheryl@aboudtng.com>
Subject: 164 Hume Road, County of Wellington MNRF Request for Information

Hello,

Please see the attached request for review for consideration of wetland concerns or any additional site constraints for the proposed Environmental Impact Study on behalf of the County of Wellington, Ontario.

Your prompt review of the information is greatly appreciated.

Thank you!

Jenny Andrews . B.Sc. M.L.Arch.
Terrestrial Ecologist
ABOUD & ASSOCIATES INC. 3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8
T: 519.822.6839 x322 . www.aboudtng.com . jenny@aboudtng.com

Aboud & Associates Inc. is located within the Between the Lakes Purchase (Treaty 3); the treaty lands and territory of the Mississaugas of the Credit.

APPENDIX 12

MECP Request for Information

APPENDIX 13

Site Plan of Proposed Severance

- Urban Forestry
- Ecological Restoration
- Landscape Architecture
- Environmental Studies
- Expert Opinion

ABOUD & ASSOCIATES INC.
Consulting Arborists • Ecologists • Landscape Architects
3-5 Edinburgh Road South . Guelph . Ontario . N1H 5N8 . 519.822.6839 . www.aboudtng.com



AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

August 28, 2023 AEC 21-130

Township of Puslinch
7404 Wellington Road 34
Puslinch, Ontario N0B 2J0

Attention: Justine Brotherston, Deputy Clerk

Re: **Peer Review of Revised Scoped Environmental Impact Study (Version 2) for 164 Hume Road, Township of Puslinch, County of Wellington (File #L04-AUG) – Reply to Applicant Response**

Dear Ms. Brotherston:

Azimuth Environmental Consulting, Inc. (Azimuth) is pleased to provide this letter reply regarding the revised EIS report (Version 2, dated August 23, 2023) for a proposed lot severance and future single residential dwelling (plus driveway and amenities) at 164 Hume Road in the Township of Puslinch (Township). Azimuth's original peer review letter was finalized on June 27, 2023. Azimuth's peer review of the revised EIS report (Version 1, dated July 24, 2023) was completed on August 3, 2023. Here we provide a reply to the applicant's latest response pertaining to remaining natural heritage comments.

As per the attached updated Comment Matrix, the review comments are considered to have been addressed.

If you have any questions please feel free to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

[redacted]

Dr. Scott Tarof (Ph.D. Biology)
Terrestrial Ecologist

642 Welham Road, Barrie, Ontario L4N 9A1
telephone: (705) 721-8451 • fax: (705) 721-8926 • info@azimuthenvironmental.com • www.azimuthenvironmental.com

164 HUME ROAD COMMENT MATRIX				
COMMENT #	AZIMUTH COMMENT	APPLICANT RESPONSE	AZIMUTH REPLY (August 3, 2023)	AZIMUTH REPLY - REMAINING COMMENTS (August 28, 2023)
1.0 POLICY FRAMEWORK				
1	Section 4.2.4 of the Growth Plan indicates a 30m minimum buffer/vegetation Protection Zone (VPZ) is required adjacent to Key Hydrologic Features and Significant Woodlands. It is recommended that the applicant's project team consult with Township planning staff in regard to PSW and Significant Woodland buffers to confirm that the proposed development is in accordance with agency requirements in the context of the Growth Plan.	Revised Site Plan includes full 30m Setback. See Section 5.0 for policy compliance.	Addressed.	
2.0 METHODOLOGY				
2	Background information/mapping was used to inform the field program and help characterize existing conditions in the study area. The background information is considered adequate.	Acknowledged	Noted.	
3	The EIS presents a rationale that, since the majority of forested habitat was off-property (and thus inaccessible), a spring plant inventory was not completed. Given the prevalence of tree canopy cover that does occur on the property (e.g. FODM5-1, FOM_, a spring and summer plant inventory would have been more appropriate than a summer and fall inventory and would have captured early spring and summer season woodland plants. A spring and summer inventory may have provided a more coprehensive species composition characterization of treed vegetation communities. The TOR review (Appendix 2) by agencies recommended a two-season (spring, summer) vascular plant inventory. The authors should clarify the basis for confidence in not missing ephemeral vascular plants in the inventory by not complting a spring season inventory	See Section 2.3.1	Assuming the report authors mean Section 2.4.1. Addressed.	
4	Marsh breeding bird surveys were not completed. A methodological rationale is provided in Section 3.4.2 in the EIS: the wetland communities did not meet the size threshold and/or vegetation characteristics defined by OBBA. The rational is reasonable, but should be moved to Section 2.0.	The Section has been moved to 2.4.6	Assuming the report authors mean Section 2.5.6. Addressed.	
5	The EIS references incidental surveys for turtles were not completed (e.g. Appendix 5), but please confirm whether or not turtle visual encounter surveys were completed for SAR turtles in accordance with provincial protocols, as recommended during review of the TOR. For example, ponds/open wetlands on the property likely meet MECP's "suitable habitat" criteria described in the General Habitat Description for Blanding's Turtles. If the surveys were not ccompleted, the habitat should be treated as present and assessed in the EIS. Alternatively, please provide further description clarifying why suitable habitat is not present. This comment would also apply to Snapping turtle (Special Concern) (see comment 12).	See Section 2.4.7	Assuming the report authors mean Section 2.5.7. The authors indicate that the closest Blanding's observation is over 5km away. The authors have provided further habitat description and consideration, particularly in regards to potential Category 1 habitat for Blanding's on-property. The rationale is reasonable in regards to impact not being anticipated to the species or to its possible Category 1 habitat (if the species was present). Addressed.	
6	As noted in the TOR peer review, delineation of the woodland dripline by collecting GPS coordinates is recommended to refine woodland edges and subsequent woodland buffer location. The delineated woodland dripline should also be shown on the existing conditions figure.	Dripline collected July 19, 2023, and included on updated mapping. Section 2.3	Section 2.3 noted. Woodland dripline delineation is shown on Figure 2 but not in Figure legend. Considered to be addressed.	
3.0 EXISTING CONDITIONS				
7	In Section 3.1.1 (Table 1), Black Ash should be noted as Endangered provincially. Please clarify that, although Black Ash was identified in background review, the species was not found during plant surveys.	Section 3.1.1 Table 1- Black Ash has been updated to END under SARO. Its absence during plant surveys is also noted.	Addressed.	
8	The information request to MECP indicated that Jefferson Salamander is known to occur in the local area. Please provide additional description regarding whether or not ponds/open wetlands in the study area were screened for Salamander egg masses. Although the SAR table indicates suitable habita was not present, additional detail is warranted. Aerial imagery suggests woodland ponds occur in the study area, including on the property. Provincial regulations stipulate a 300m buffer from Jefferson Salamander habitat; this point should be elaborated to confirm presence/absence of suitable habitat for the species.	Section 3.4.3	Authors note that habitat for Jefferson Salamander is not present on the property, but it is not clear whether this statement is in reference to overwintering habitat in woodland areas or wetland breeding habitat. Please clarify whether or not the ponds/open wetlands in the study area were screened for Salamander egg masses in early spring (i.e. the salamander breeding period). If egg mass screening was not conducted, please provide justification based on the habitat features of the OAO wetland feature.	Addressed.
9	All existing conditions field data should be shown on Figure 1, as well as the proposed area for severance. As present in the EIS, existing conditions are divided between two figures. Figure 2 would then be dedicated to showing recommended feature buffers relative to the proposed area for severance. On the existing Figure 2, the two parallel yellow lines in the front half of the proposed area for severance (i.e. fronting onto Hume Road) appear to denote the proposed driveway location. Please label on the figures. Consideration of policies regaring placement of a well or septic (depending on type) in relation to distance from a property boundary is recommended for the detailed Site Plan.	Figures 1 & 2 have been revised as requested	Addressed.	
10	As a general comment pretaining to Section 3.1 in the EIS, as part of the background review of existing conditions information please clarify in the text whether or not the noted species were found in the study area (and if so, where).	See Section 3.1.10	Addressed.	
11	Please clarify the observed species with a Conservation Coefficient of 9 and 10, and the species with a Conservation Coefficient of 7 or 8 |(Section 3.3.1.1 in EIS).	Section 3.3.1.1 lists the species with Conservation Coefficients of 9 or 10 and 7 or 8.	Addressed.	

12	In Section 3.4.2 the EIS states "Due to the contiguity with natural lands surrounding the study area, it is inportant to note that, despite high levels of breeding evidence, a given species may not have been breeding specifically in the area in which it was observed. This is particularly true where species were only detected during one of the Breeding Bird Surveys. These species may have been foraging in these areas or wandering during post-breeding dispersal." Please note that juvenile disperal of birds from their natal territory post-fledging occurs much later in the season (i.e. August-September for most Passerines) in association with pre-fall migration behaviour. Given when the dawn breeding bird surveys were completed (mid-late June 2022), it would be more correct to interpret birds detected proximal to a given point count station as breeding in that area of the property. Please revise.	See section 3.4.2	Addressed.	
13	No Threatened or Endangered bird or wildlife species were detected during field surveys. No evidence of Pileated Woodpecker or nesting cavities for the species was found. Eastern Wood-pewee, Wood Thrush and Barn Swallow, Special Concern bird species (i.e. not Threatened or Endangered SAR with species or habitat protections under the ESA), were detected on the property. Designation of Barn Swallow should be adjusted as Special Concern and considered as Significant Wildlife Habitat throughout the EIS report, including on Figure 1 and in Tables.	Sections 3.1.1 (Table 1), 3.1.4 & 3.4.2 (Table 4)- Designation for Barn Swallow has been updated to SC under SARO	Addressed.	
14	The only Significant Wildlife Habitat determined to be present on-property was for Special Concern and Rare Wildlife Species (Eastern Wood-pewee, Wood Thrush; Section 3.4.4 in the EIS). Barn Swallow was also detected (presumably foraging/fly-over)- a Special Concern species. Neither Candidate Bat Maternity Colony habitat not potential SAR bat habitat were present in the proposed severance area. Due to the habitat observed on the property (e.g. as shown in photographs in the EIS), additional Significant Wildlife Habitat considerations are warranted. For example, turtle basking surveys (e.g. wintering/nesting areas, Special Concern turtles) that are consistent with provincial protocols were not completed as part of the field program, although five visual encounter turtle surveys were recommended during TOR review. Open water wetland areas photographed on the property with some perimeter emergent aquiatic vegetation are likely suitable for use by turtles, including as possibly Significant Wildlife Habitat and/or SAR turtle habitat (e.g. Blanding's). Since dedicated turtle surveys were not completed, the habitat should be treated as present and assessed in the EIS. In regards to Woodland Raptor Nesting Habitat, please confirm that suitable screenings were completed and include the results in the EIS (e.g. presence/absence of candidate versus confirmed habitat). Further consideration and assessment is recommended. Woodland Area-Sensitive Bird Breeding Habitat should also be considered in the EIS.	See Section 2.4.7	Also reviewed updated Appendix 6 regarding other SWH type assessments recommended for consideration. Addressed.	
15	The SAR Table (Appendix 7) states that Butternut were not observed which is inconsistent with the EIS text.	Appendix 7 has been updated	Appendix 7 indicates "None Observed." for Butternut, but it is understood that two Category 1 Butternut trees were identified and are shown on Figure 1. Considered to be addressed.	
4.0 IMPACT ASSESSMENT AND MITIGATION				
16	Regarding Table 6 in Section 4.0, codes used should be defined in the Table footer. Tree clearing windows and timing for avoidance of wildlife disturbance should be defined in Table 6. Monthly (rather than weekly) Erosion and Sediment Control monitoring may be sufficient. Page 5 of the Table makes reference to mitigation regarding fish spawning. This is the first time fisheries concerns are mentioned in the EIS. It is our understanding that watercourses/fish habitat are not a potential contraint associated with the property, since fish habitat surveys were not part of the field program and not discussed as part of existing conditions. It is not clear why fish spawning is mentioned in this Table. The EIS identified sensitive species; however, it would be more appropriate here to recommend how to minimize/avoid impacts to the sensitive species and what the timing windows are. Please also clarify what is meant by "Control water contamination through good housekeeping practices."	Table 6- Codes have been added to footer. Timing windows for birds and bats have been included in vegetation removal.	Addressed.	
17	Section 4.2.1 in the EIS describes the approach adopted for the recommended PSW buffer. The EIS recommended a 30m "variable buffer from the surveyed wetland limits." As per Figure 2, a 30m buffer is shown along the mapped extent of the wetland boundary except for the southwest corner of the proposed dwelling area where the buffer appears to be approximately 15m in width. As noted above in Comment #1, usually a 30m buffer would be respected by the proposed dwelling area and associated site grading. Based on the additional reference documents used by the authors, a PSW buffer less than 30m has been considered appropriate in the EIS- which may be valid, depending on the characteristics of the wetland and the impact assessment. The EIS argues that the risk of flooding of lands adjaccent to the wetland (floodplain) is negligable in this part of the property, and, as such, a buffer less than 30m is considered acceptable. Please provide additional justification for why a PSW buffer less than 30m in association with the southwest corner of the proposed dwelling area would result in an indirect impact to the PSW. As also described in Comment #1 above, policy 4.2.4(1c) of the Growth Plan requires a 30m setback from wetland within the Natural Heritage System; the above rationale would be inconsistent with Growth Plan policies. It is therefore also recommended that the applicant's project team consult with Township planning staff regarding wetland buffers and related policies.	See full 30m setback on revised Site Plan and Section 5.0 for policy compliance	Addressed.	

18	Section 4.2.2 in the EIS contains a Significant Woodlands assessment. This section would benefit from some re-structuring and clarification. The rationale for the Significant Woodland assessment in the EIS is based on: - Paragraph 1 in Section 4.2.2 refers to significant criteria for woodlands and plantations from the County OP based on size. The EIS attempts to link the criteria to features on the property by stating that the conifer plantation portion of the treed cover is smaller than the 10 hectare (ha) threshold in the OP for plantations in a rural system. - Paragraph 2 refers to tree cutting permit information, which is typically outside the scope of an EIS and is better described in an arborist assessment; and, - Paragraph 3 revisits the link between County OP criteria to the tree cover features on the property. The argument used is that the woodland ELC polygon (not specified in the paragraph but presumably FODM5-1 and FOM) abutting the conifer plantation ELC polygon (presumably FOCM6-1) is Significant Woodland because it meets County size criteria for significance in a Rural system (over 4ha), but the plantation portion is not significant Woodland because it is smaller than the 10ha criteria for platnations being deemed Significant Woodland by the County. The EIS further notes a lack of ecological value in regard to the plantation community. The assessment agrument is recommended for revision in consideration of the following points: 1. The "woodland" and "plantation" ELC polygons are part of the same continuous canopy cover; 2. in regards to Significant Woodlands criteria, the Natural Heritage Reference Manual (NHRM, 2010; pg. 68) states "Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20m or less in width between crown edges". The NHRM also states (Pg. 72) that "A bisecting opening 20m or less in width between crown edges is not considered to divide a woodland into two seperate woodlands." Based on this logic, since there is no apparent gap of at least 20m between the FODM5-1 and FOCM6-1 ELC polygons, the two polygons are considered part of the same woodland feature; 3. Since the canopy cover is continuous, the plantation would be considered part of the Significant Woodland deciduous forest feature (FOD and FOM) that extends off-property. It follows the the plantation portion would also be considered a component of the Significant Woodland; 4. It may be that removal of a small portion of the FOCM6-1 plantation that is reported in the EIS to be of limited ecological value (please specify the area of canopy cover loss, in ha) to accommodate the proposed dwelling area and driveway/amenities would not result in an overall impact or loss of ecological function of the overall Significant Woodland, but the development, as proposed, would encroach into a Significant Woodland. Consequently, there would bea direct impact to Significant Woodlands in the form of loss of some of the feature. 5. It is recommended that the authors use the Significant Woodlands criteria in the NHRM to support their impact assessment argument that removal of a small portion of the plantation would not imapct the ecological function of the Significant Woodland feature. It may be the case that the conifer plantation is of limited ecological value, and that a small amount of plantation removal will not alter ecological function or result in loss of unique ecological function associatedwith the feature; however, justification should be clear. This additional impact assessment amy assist the Township in their review of the file from a planning policy perspective. 6. In addition to the Significant Woodland encroachment proposed (i.e. Section 4.2.3 of the Growth Plan- development in Key Natural	See Section 4.2.2/Table 7 for Significance evaluation and Section 5.0 for policy compliance	Addressed. Once a detailed Site Plan is available showing the development footprint within the severed lot, the Township may wish to verify that there is no encroachment of feature buffers (including the 30m SWH buffer) - also as per Comment #19 below.	
19	The Township may wish for their peer reviewer to review a detailed Site Plan and Grading Plan once available.	Acknowledged	Noted.	
20	Native plantings to compensate for tree/vegetation removal to accommodate the driveway and proposed dwelling area are supported. Platnings should be consistent with the inventoried vegetation community and will help buffer the adjacent PSW.	Acknowledged	Noted.	
5.0 LEGISLATION AND POLICY COMPLIANCE				
21	Statements regarding woodland/plantation communities and Significant Woodlands should be revised throughout this section in the EIS, as per comments above regarding the assessment of Signficant Woodlands/ Section 5.3 in the EIS discusses Section 4.2.4 of the Growth Plan but not Section 4.2.3 of the Growth Plan. Statements regarding the variable 30m PSW buffer may need revising, depending on the additional rationale information.	See Section 5.0	Revisions to statements regarding Significant Woodland and the wetland are reasonable. In this regard, the comment has been addressed. Consideration and verification of how the proposed development is deemed consistent with Section 4.2.3 of the Growth Plan in Section 5.3 appears outstanding.	Considered addressed.
22	vegetation within the vicinity of them will be removed." in Section 5.2 should be clarified regarding whether or not the Root Harm Prevention Zone surroudning Butternut trees will be removed, and whether an authorization under the ESA will be required. As per correspondence between MECP's SAR branch and Azimuth (dated November 28, 2022) pertaining to Butternut Root Harm Prevention Zones, "the size (Diameter at Breast Height, DBH) of (a Butternut tree) Root Harm Prevention Zone is based on the diameter of the tree. If (it has been determined) based on DBH of the Butternut tree that there is unlikely to be any impacts from the work, then ... authorization under the Endangered Species Act, 2007 would not be required in relation to the work in proximity to tree." (parenthetical content added for clarification). A butternut tree Root Harm Prevention Zone varies with the individual tree's DBH and is up to 25m (see Ontario Regulaton 830/21, Section 31(2)- Root Harm Prevention, Table).	See Sections 3.4.5.1 & 5.2	Addressed.	
23	Page 28 in the EIS states the plantation is approximately 0.7ha in size; page 34 states the plantation is approximately 0.9ha. Please clarify.	Section 4.2.2 includes updated area measurement	Addressed.	
24	Depending on additional justification for considering a buffer to the PSW less than 30m to not result in potential indirect impact to the wetland, the policy assessment in Section 5.3 in the EIS may need to be revisited. We recognize the opinion presented by the authors regarding PSW impacts; however, this approach would not be consistent with the policies cited in Section 5.3 of the EIS.	See Section 5.0. Site plan has been revised to include a full 30m setback.	Addressed.	
6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS				
25	As general comments, report conclusions pertaining to SAR habitat and Significant Wildlife Habitat are reasonable, notwithstanding policy considerations with regard to Significant Woodland and PSW setbacks as described above. Conclusions regarding potential for indirect impacts to Butternut may need to be revised, depending on the size of the Root Harm Prevention Zone. Other conlusions in the EIS may require some re-wording, based on the comments above (e.g. conclusions regarding impacts to the PSW and Significant Woodlands, species designated as Special Concern and considered Significant Wildlife Habitat). A two-season plant inventory, including one inventory in the spring, would provide a more comprehensive representation of the plant species present and allow for a more fulsome impact assessment. Woodland edge dripline delineation is recommended.	Acknowledged. See Section 5.0 for revised Policy Compliance	Addressed.	

26	Given the proximity of a PSW (less than 30m) to the southwest corner of the proposed dwelling area and presence of Significant Woodlands within the proposed severance area, the Township may wish to consider requiring submission of an Edge Management Plan during the detailed Site Plan stage prior to commencement of construction activities. An Edge Management Plan involving installation of native plantings pertnaing to the PSW would help mitigate against possible indirect impacts to the wetland during and post-construction. An Edge Management Plan would also help provide a transition between open and retained matural trees in areas of Significant Woodland tree removals (i.e. proposed dwelling area, driveway and amenities areas) to help mitigate against	Acknowledged	Noted.	
27	The Township may wish to consider requiring submission of a Tree Preservation Plan prepared by a Certified Arborist that details how trees (including the Butternut tree) adjacent to areas for tree/vegetation clearing will be protected during construction. The EIS does not propose a buffer to the Significant Woodlands. As such, a Tree Preservation Plan may be particularly relevant since the retained plantation area sin the area proposed for severance might be considered to act asa buffer for the balance of the deciduous Significant Woodlands in the study area.	Acknowledged	The recommendation to prepare a Tree Preservation/Enhancement Plan at the Site Plan/Building Plan stage of the development (Section 7.0(2) and (7) in revised EIS) is supported. Addressed.	
28	In regards to additional mitigation recommendations, an Erosion and Sediment Control Plan should detail protection of NHFs as per best management practices. Erosion and Sediment control fencing locations should be indicated on all Site and Grading Plans and engineering drawings. Erosion and Sediment Control fencing should be installed prior to construction acitivites and monitored regularly throughout construction. the Township may wish to consider installation and maintenance of orange construction fencing along the agency-approved PSW buffer to help mitigate against accidental encroachment into the PSW during construction. It may be advised to also install and maintain construction fencing around the proposed driveway and dwelling areas. It is assumed that the entire footprint of the proposed driveway and dwelling area would be cleared of trees/vegetation outside of the active season for migratory breeding birds (i.e. outside April 1 to August 31) to avoid possible disturbance of migratory breeding	Acknowledged	The recommendation to implement an Erosion and Sediment Control Plan prior to construction activities (Section 7.0(1), (3-4), (6) in revised EIS) is supported. Addressed.	
29	potentia for SAR bat and bat maternity Significant Wildlife Habitat is assumed in the reamning woodlands on property. Since tree removals would be limited to the driveway and dwelling area (are would not occur within the remaining woodlands), further studies to confirm presence or bat maternity habitat are likely not necessary- unless otherwise directed by agencies.	Acknowledged	Noted.	

Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

September 15, 2023
via email

GRCA File: B28-23 – 164 Hume Road

Jana Poechman, Development and Administration Coordinator
County of Wellington, Planning and Development Department
74 Woolwich Street
Guelph, ON N1H 3T9

Dear Ms. Poechman,

Re: Application for Consent B28-23 – Second Submission
164 Hume Road, Township of Puslinch
Applicant: Susan and Jerry Auger
Agent: GSP Group Inc. c/o Valerie Schmidt

Grand River Conservation Authority (GRCA) staff has reviewed the above-noted second submission of Consent Application B28-23 to create a new lot on rural lands.

Recommendation
The GRCA has no objection to the proposed Consent Application.

Documents Reviewed by Staff
GRCA staff have reviewed the following documents in support of the Consent Application:

- Scoped Environmental Impact Study R2, prepared by Aboud & Associates Inc., dated August 23, 2023.

GRCA Comments
GRCA has reviewed this application under the Mandatory Programs and Services Regulation (Ontario Regulation 686/21), including acting on behalf of the Province regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement (PPS, 2020), as a regulatory authority under Ontario Regulation 150/06, and as a public body under the *Planning Act* as per our CA Board approved policies.

Information currently available at this office indicates that the retained parcel contains portions of the Arkell Corwhin Provincially Significant Wetland (PSW) Complex, unevaluated wetland, and the regulated allowance adjacent to these features. The lands to be severed contain the regulated allowance to a wetland. A copy of our resource mapping is attached.

Due to the presence of the features noted above, a portion of the retained and severed parcel is regulated by the GRCA under Ontario Regulation 150/06 - Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation. Any future development or other alteration within this regulated area will require prior written approval from GRCA in the form of a permit pursuant to Ontario Regulation 150/06.

The GRCA has reviewed the revised Scoped Environmental Impact Study (EIS) submitted by Aboud & Associates and find it acceptable. As such, the GRCA has no objection to the approval of this application. It is requested that mitigation measures proposed in the EIS to minimize impact to natural hazards be included as part of a permit application.

For Municipal Consideration

Please be advised that on January 1, 2023, a new Minister's regulation (Ontario Regulation 596/22: Prescribed Acts – Subsections 21.1.1 (1.1) and 21.1.2 (1.1) of the Conservation Authorities Act) came into effect. As a result, non-mandatory technical review services that the GRCA formerly provided under agreement with some municipalities (e.g., technical reviews related to natural heritage and select aspects of stormwater management) will no longer be provided.

Should you have any questions, please contact me at 519-621-2763 ext. 2236 or clorenz@grandriver.ca.

Sincerely,

Chris Lorenz, M.Sc.
Resource Planner
Grand River Conservation Authority

Copy: Susan and Jerry Auger (via email)
GSP Group Inc. c/o Valerie Schmidt (via email)
Township of Puslinch (via email)

From:	Brent Smith
To:	Lynne Banks
Cc:	Tom Mulvey
Subject:	RE: Revised Consent Application B28-23 (Auger)
Date:	Tuesday, September 12, 2023 10:49:54 AM
Attachments:	image001.jpg image002.jpg
Sensitivity:	Confidential

Hi Lynne,
Puslinch Fire and Rescue Services reviewed the revised consent application referenced above on September 12, 2023. The only concern that the fire department has is emergency vehicle access down the driveway. To ensure that a quick response can be achieved, any tree limbs that overhang the driveway should be trimmed back to 5 meters above the road surface. This should be done on an ongoing basis.
Thanks
Brent Smith
CFPO
Puslinch Fire and Rescue Services

From: Lynne Banks <lbanks@puslinch.ca>
Sent: Monday, September 11, 2023 1:59 PM
To: Mike Fowler <mfowler@puslinch.ca>; Andrew Hartholt <ahartholt@puslinch.ca>; Jacob Normore <jnormore@puslinch.ca>; Brent Smith <bsmith@puslinch.ca>
Subject: Revised Consent Application B28-23 (Auger)
Sensitivity: Confidential

Good Afternoon –

The Township has received a revised application for the above consent. The application and all supporting documents can be accessed at the following link: https://we.tl/t-fbTJ0Hrqrs

Please review and provide comments no later than September 28th.

Thanks –

Lynne

Lynne Banks
Development and Legislative Coordinator
Township of Puslinch
7404 Wellington Rd 34, Puslinch ON N0B 2J0
519-763-1226 ext. 226 Fax 519-736-5846 www.puslinch.ca

From:	Andrew Hartholt
To:	Lynne Banks
Subject:	RE: Revised Consent Application B28-23 (Auger)
Date:	Monday, September 18, 2023 9:20:53 AM
Attachments:	image002.jpg image004.jpg image003.jpg
Sensitivity:	Confidential

Lynne,

The size and location of a future house and septic will be limited by site constraints (zoning setbacks, conservation approvals & Building Code setbacks and spatial separation).

I have no further comments or concerns from a building code perspective.

Andrew Email Signature

My work hours may not match yours, and I do not expect you to respond outside your working hours

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From: Lynne Banks <lbanks@puslinch.ca>
Sent: Monday, September 11, 2023 1:59 PM
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Lynne

Lynne Banks
Development and Legislative Coordinator

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COMMITTEE MEMO

TO:	PLANNING AND DEVELOPMENT ADVISORY COMMITTEE
FROM:	Lynne Banks
MEETING DATE:	October 10, 2023
SUBJECT:	Training Opportunity

RECOMMENDATIONS

Purpose

The purpose of this memo is to provide an update on a workshop for Property Standards Appeals training that some Committee members and staff attended at Guelph Eramosa.

Background

The 2023 Midwestern Chapter of the Ontario Association of Property Standards Officers Workshop was held on September 14th and presented by Paul Dray of Paul Dray Professional Corporation.

The topics covered by this training session included:

- Best Practices
- Information about the Building Code Act
- Property Standards and the Investigative Process
- Powers and responsibilities of an Officer and the Committee
- Appeal format
- Communicating committee decisions.

The workshop was well attended by representatives of the various local municipalities and the information provided will assist the Committee when any future Property Standards appeals that are heard by the Committee.