Heathwoods East - Savoy Street Extension

Environmental Impact Study (EIS)

Project Location:
3924 Colonel Talbot Road
Lot 73, East of Talbot Road, Westminster
London, ON

Prepared for:
Colonel Talbot Developments Inc.
560 Wellington Street 2 Floor
London, ON N6A 3R4

Prepared by:
MTE Consultants Inc.
123 St. George Street
London, ON N6A 3A1

April 24, 2023

MTE File No.: 45761-102

Engineers, Scientists, Surveyors.

Contents

Figures

Tables

Appendices

Executive Summary

Colonel Talbot Developments Inc. has initiated the Draft Plan of Subdivision approval process for a low and medium-density residential subdivision on the approximately 6.68 ha “Subject Lands” located north of Savoy Street and west of Bostwick Road in London, ON [Figure 1]. Fieldwork was completed in 2021 to identify and assess natural heritage features within and adjacent to the Subject Lands. No species protected under the *Endangered Species Act, 2007* were observed during field investigations, and no Protected Species or their habitats are anticipated to be found within the Subject Lands based on a habitat assessment [Appendix K]. No contraventions to the *Endangered Species Act, 2007* (*ESAct*) are expected from the proposed development.

Based on as assessment of the Study Area with reference to provincial and municipal policies, environmental considerations for the development include an adjacent Significant Woodland, a Significant Valleyland (>100 m east of the Subject Lands), potential bat habitat trees in the adjacent woodland including candidate habitat for Endangered bat species, and a significant groundwater recharge area (SGRA).

The proposed development will not require the removal of any natural vegetation and is not anticipated to directly impact any significant features or functions of the adjacent natural heritage system. The future Hayward Drive extension is proposed to remove a deciduous hedgerow (FOD5-2) in the north Subject Lands, and this should be addressed by the City of London. A Tree Preservation Report is recommended to address hazard tree removals along the west edge of development and provide protection measures for retained trees. A naturalized buffer (average of 11m), permanent fence along the development limit, and homeowner education are proposed to mitigate encroachment impacts to the adjacent Significant Woodland post-construction [Figure 9]. Provided the recommendations in this EIS are followed; it is MTE Consultant’s opinion that the proposed development can proceed.

1.0 Introduction

Colonel Talbot Developments Inc. (the “Proponent”) has initiated the Draft Plan of Subdivision approval process for a residential subdivision and extension of Savoy Street (the “Project”) north of the existing Savoy Street and west of Bostwick Road [Figure 1]. The lands proposed for development (the “Subject Lands”) within the larger Legal Parcel are approximately 6.68ha and are along the planned realignment of Bostwick Road in London, ON. The re-alignment of Bostwick Road is already shown on London Plan Maps (2022) and Southwest Area Secondary Plan (2019). The property is on Lot 73, East of Talbot Road, Westminster. The extension of Savoy to the south boundary of the Subject Lands has already been approved in prior development applications.

The Study Area for this report includes the Subject Lands and the 120m adjacent lands. The Subject Lands and the west adjacent vegetation patch were the focus of field studies for this Environmental Impact Study (EIS). Life science data collection within the Subject Lands has been completed by MTE between 2021 and 2022. This report compiles the data collection results for this time period.

1.1 Report Objective

An EIS was requested as part of the City’s response to the Initial Proposal Report [Appendix A] in the *Proposal Review Meeting Summary & Record of Consultation* [Appendix B].

The objective of the initial component of the report is to describe the natural heritage features, based on field surveys and background information, and to identify functions to be protected or replicated on the Subject Lands. The final EIS component evaluates the potential for impacts to natural heritage features and functions to result from the Project, and provides recommendations for avoidance or mitigation of impacts, potential restoration and enhancement measures, and a monitoring program to protect significant natural heritage features and functions.

The process and reporting are also designed to provide a support document for additional approvals that may be required, including permit applications that may be submitted to the Upper Thames River Conservation Authority (UTRCA).

1.2 Format

Natural heritage features and functions identified in this EIS are evaluated through a review of the Natural Heritage Reference Manual (NHRM, 2010) for policy 2.1 of the Provincial Policy Statement (MMAH, 2020), and Section 6 (Environmental Policies) of The London Plan (May 2022). This EIS will also reference the City of London Environmental Management Guidelines (EMG, 2021).

This report will be circulated to the City of London and UTRCA for agency review and comment on the findings and recommendations.

This EIS contains the following components, in accordance with the standards noted above:

Section 2.0	Land Use Setting and Policy Overview
Section 3.0	Triggers for EIS
Section 4.0	Description of the Natural Environment
Section 5.0	Natural Heritage Policy Considerations
Section 6.0	Description of the Development
Section 7.0	Impacts and Mitigation
Section 8.0	Summary and Conclusions
Section 9.0	References

1.3 Background Documents

The following additional documents were reviewed to provide context for the Project and conditions within Study Area:

- Proposal Review Meeting Summary & Record on Consultation (2022)
- Upper Thames River Source Protection Area Assessment Report (Thames-Sydenham and Region Source Protection Committee, 2015)

1.4 Pre-Consultation and Site History

A summary of comments in response to the Initial Proposal Report (IPR) was provided by the City of London and UTRCA (*Proposal Review Meeting Summary & Record on Consultation*) on June 10, 2022. These comments indicated an EIS would be required for this Draft Plan of Subdivision application. An EIS Scoping Meeting was then held on October 27, 2022, with Shane Butnari (City Ecologist), Sean Meksula (City Planner), Sandy Levin (ECAC), Susan Hall (ECAC), Allie Leadbetter (MTE), and Dave Hayman (MTE). The Scoping Checklist was drafted but never finalized as there was no agreement on the need for a separate SLSR. It is MTE's understanding that no separate SLRS is required given the area has been studied with updated land use designations guided by the London Plan and Southwest Area Plan (SWAP). This is further discussed in the context of land use designations in Section 2.0, and EIS triggers in Section 3.0 of this report. Furthermore, this EIS provides the appropriate analysis of impacts and mitigations to implement a zone amendment to be consistent with the London Plan and SWAP. The drafted Checklist is provided in Appendix C.

2.0 Land Use Setting and Policy Overview

The Subject Lands are comprised of active agricultural lands extending east to Bostwick Road and west to under the dripline of a large vegetation patch (#10070). A narrow hedgerow extends from this patch that has a different vegetative structure. The overall west vegetation patch includes forest habitat and wetland habitat further west outside the Study Area. The surrounding area also includes a recent subdivision development to the south and a landscaped church property to the north. The lands east of Bostwick Road include a narrow Valleyland containing Thornicroft Drain, as well as commercial lands further east.

Provincial and municipal legislation and policies were reviewed to inform the evaluation of significant natural heritage features within the Subject Lands.

2.1 The London Plan

The London Plan (2022) includes environmental policies that provide direction for the long-term protection and conservation of natural heritage features and areas and the ecological functions, processes, and linkages that they provide in the City of London. The general environmental goals of the London Plan include, but are not limited to, the following:

- Achieve healthy terrestrial and aquatic ecosystems in the city's subwatersheds.
- Provide for the identification, protection, rehabilitation, and management of natural heritage features and areas and their ecological functions.
- Protect, maintain, and improve surface and groundwater quality and quantity by protecting wetlands, groundwater recharge areas and headwater streams.
- Maintain, restore, monitor, and improve the diversity and connectivity of natural heritage features and areas and the long-term ecological function and biodiversity of Natural Heritage Systems.
- Provide opportunities for appropriate recreational activities based on the ecological sensitivities of the area.

Natural Heritage features are identified and mapped on Map 5 of the London Plan (May 2022). Development and site alteration is not permitted within or adjacent to Unevaluated Wetlands, Provincially Significant Wetlands, Significant Valleys and Woodlands, Habitat of Endangered or Threatened Species, Areas of Natural and Scientific Interest, and Environmentally Significant Areas unless evaluated by a professional and proven to have no negative impacts on the features or ecological functions.

2.1.1 Environmental Classifications

The Subject Lands do not contain any natural heritage features on Map 5 of the London Plan (2022) [Figure 2]. There is an Unevaluated Vegetation Patch in the west adjacent lands which was studied under SWAP but left as Unevaluated to allow for boundary delineation at a site-specific level. The Thornicroft Drain lies more than 120m away but the 30m Significant Valleyland corridor intersects the 120m Study Area distance, albeit across Bostwick Road (current and new alignment). No other natural heritage features are shown within the Study Area on Map 5.

2.1.2 Land Use Designations

The Subject Lands are designated as a Neighbourhood on Map 1 of the London Plan (2022) [Figure 3]. The adjacent lands are also Neighbourhoods to the north, east, and south. The vegetation patch to the west is designated Environmental Review to allow for refinement of the Open Space boundary of the vegetation patch as part of site-specific development submissions. The Environmental Review designation was applied after the feature was studied under SWAP to allow for final boundary delineation and was not meant to indicate that the feature has not been studied. The Thornicroft Drain valleyland is designated Green Space in the far east adjacent lands.

2.2 City of London Tree Protection By-Law

The Tree Protection By-Law (C.P.-1555-252) regulates the injury and destruction of trees and encourages preservation and planting of trees throughout the City of London (2021b). Patch 10070 west of the Subject Lands is identified as a Tree Protection Area (TPA) on Schedule B (Key Map B-10). Subject to section 5.1 and Part 8 of the By-Law, and except under authority of a Permit, no person shall injure or destroy a tree or cause/permit the injury or destruction of a tree in a Tree Protection Area.

2.3 City of London Zoning Bylaws

The Subject Lands are zoned Urban Reserve 4 (UR4) [Figure 4]. This zone regulates existing uses in areas which are predominantly undeveloped for urban uses, and the zone is intended to protect land from premature development and allow future comprehensive development (City of London, 2011). This site previously underwent re-zoning after the expansion of the London Urban Growth Boundary from Agricultural to Urban Reserve to allow plans to be put forward for development. The UR4 zoning was applied to prevent inappropriate use of the site. This application intends to bring the zoning into conformity with the intended residential use as decided in the Southwest Area Secondary Plan (SWAP). A zoning amendment is required as part of this application.

The adjacent lands are similarly zoned to the east across Bostwick Road. Patch 10070 to the west and the Thornicroft Drain valleyland are zoned Environmental Review (ER). The south adjacent lands are zoned Residential and the north adjacent lands with the Forest City Community Church are zoned Neighbourhood Facility (NF).

2.4 The Southwest Area Secondary Plan (Updated December 2019)

The Southwest Area Secondary Plan (SWAP) applies to lands (~2,700ha) in the southwest portion of London bounded by Southdale Road West, White Oak Road, Exeter Road, Wellington Road South, Green Valley Road, and the London Urban Growth Boundary. The purpose of the Secondary Plan is to establish policies and principles for the development of the specified planning area that consider a range of residential forms, sustainability practices, preservation of cultural

heritage, and high-quality urban design among other factors. The Southwest Area Secondary Plan provides a greater level of detail than the more general policies in the London Plan.

The Subject Lands are located in the Bostwick Residential Neighbourhood, as shown on Schedule 8 of the Southwest Area Secondary Plan. The Subject Lands are designated Medium and Low Density Residential on this schedule, with the adjacent vegetation patch designated Environmental Review to allow for boundary delineation at a site-specific level. Adjacent lands are designated Medium Density Residential and Institutional. SWAP mapping supersedes the London Plan (2022).

2.5 Upper Thames River Conservation Authority (UTRCA) Regulation

The Upper Thames River Conservation Authority (UTRCA) regulates lands within its watershed under Ontario Regulation 157/06, pursuant to Section 28 of the Conservation Authorities Act. The UTRCA has jurisdiction over natural hazards and requires that landowners obtain written approval from the Authority prior to undertaking any site alteration or development within the regulation limit.

The Subject Lands are not regulated by the UTRCA.

2.6 Planning Act

The Provincial Policy Statement (PPS; MMAH, 2020) was issued under the *Planning Act, 1990* to provide direction to regional and local municipalities regarding planning policy, ensuring that decisions made by planning authorities were consistent with provincial policy. With respect to natural heritage features and resources, the PPS defines seven natural heritage features:

- Significant Wetlands and Significant Coastal Wetlands
- Significant Woodlands
- Significant Valleylands
- Significant Wildlife Habitat (SWH)
- Significant Areas of Natural and Scientific Interest (ANSI's)
- Fish Habitat, and,
- Habitat of Endangered and Threatened Species

The Subject Lands are within Ecoregion 7E where no development or site alteration are permitted in Provincially Significant Wetlands or Coastal Wetlands. Development and site alteration are not permitted in Habitat of Endangered or Threatened Species or Fish Habitat or, except in accordance with provincial and federal legislation. For the remaining features, development and site alteration shall not be permitted unless it has been demonstrated through an EIS that there will be no negative impacts on the features or their ecological functions.

While not all features and functions of provincial interest noted above are provided on provincial maps, a review of the Make a Natural Heritage Map (NHIC, 2019) suggests there are no additional mapped features not already covered by the Official Plan Maps. However, the policies noted above are reviewed later in this report supported by site specific field work and consultation with the municipal review agencies.

2.7 Endangered Species Act

The *Endangered Species Act, 2007* protects species listed as Threatened, Endangered or Extirpated in Ontario (SARO, 2007) from killing, harm, harassment or possession, and also protects their habitats from damage or destruction. Activities that may impact a protected species or its habitat require prior authorization from the Ministry of Environment, Conservation and Parks (MECP), unless the activities are exempt under a Regulation.

This EIS will evaluate the potential for species protected under the ESAct ("Protected Species") to be present within and adjacent to the Subject Lands. This EIS will be submitted to the Ministry of Environment, Conservation and Parks (MECP) to confirm that no Protected Species or their habitats will be impacted and ensure the application does not contravene the *ESAct*.

2.8 Fisheries Act

There are no identified waterbodies within or directly adjacent to the Subject Lands and therefore the *Federal Fisheries Act* will not apply.

2.9 Migratory Birds Convention Act

The federal *Migratory Birds Convention Act, 1994* aims to protect and conserve migratory birds as populations and individual birds in Canada and the United States. No work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young birds), or the wounding or killing of bird species protected under the Migratory Birds Convention Act, 1994 and/or Regulations under that Act. Many bird species not protected by the MBCA (e.g. raptors) are protected under the FWCA.

2.10 Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act, 1997* (FWCA) regulates hunting, trapping, fishing, and related activities in Ontario in order to address the conservation of fish and wildlife resources in the province, including mammals, birds, reptiles, amphibians and fish. Under the Act, a person that hunts or traps wildlife requires a license administered by the Ministry of Natural Resources and Forestry (MNRF). Deliberate capture of wildlife or fish for the purpose of salvage and relocation is regulated under the FWCA.

3.0 Triggers for EIS

When a development proposal requires a Planning Act application (i.e., Draft Plan submission, or amendments to the Official Plan and/or zoning by-law), the City of London requires an EIS to be completed where development or site alteration is proposed within or adjacent to features of the Natural Heritage System, as set out in Table 13 (Areas Requiring Environmental Study) of the London Plan (2022).

In accordance with City of London Policy 1425, the City may require a Subject Lands Status Report (SLSR) “where a secondary plan has not been completed” (City of London, 2022). The Southwest Area Secondary Plan (SWAP, 2019) has been completed to study this feature, with an Environmental Review designation being applied to allow for site-specific boundary delineation. Therefore, no independent SLSR is required, and an EIS the appropriate tool to implement this development application.

The proponent is submitting a Draft Plan of Subdivision for a proposed residential subdivision within the Subject Lands. Based on the London Plan Maps 1, 5, and 6 (2022) and the presence of unmapped natural areas addressed by London Plan policy, the triggers for the Environmental Impact Study (EIS) are as follows:

- Proposed development within 120m of Significant Valleylands
- Proposed development within 30m of Woodlands

In addition, the *Endangered Species Act* (2007) protects species and habitat not specifically identified on London Plan Maps. To be consistent with the Provincial Policy Statement (Ministry of Municipal Affairs and Housing (MMAH), 2020), the requirements for an additional study can be triggered without any adjacent features identified on the London Plan Maps.

The following section (Section 4.0) reviews the natural heritage setting of the Subject Lands.

4.0 Description of the Natural Environment

The following section reviews the abiotic and biotic features on and within 120m of the Subject Lands that contribute to the overall natural heritage features and functions of the Subject Lands

and adjacent lands. This review provides relevant background information for interpreting environmental features and functions for evaluation in Section 5.0. Areas outside the Subject Lands were studied from the edge of the property or using satellite imagery. Adjacent lands to the west were investigated in more detail as they are within the Proponent's property, but this EIS will focus within the scoped Study Area.

4.1 Physical Setting

4.1.1 Physiography

The Subject Lands are underlain by Middle Devonian aged limestone, minor dolostone, and shale of the Dundee Formation (Armstrong & Dodge, 2007). The Subject Lands and adjacent areas are also located in a Till Plain (un-drumlinized) physiographic region (Chapman & Putnam, 2007).

4.1.2 Soils

The Subject Lands and surrounding area are largely underlaid by 5d Till which is clay to silt-textured till derived from glaciolacustrine deposits or shale (OGS, 2010).

4.1.3 Topography

The Subject Lands are flat through the agricultural field, with no major change in elevation at the edge of Patch 10070. The ephemeral wet area in the west adjacent lands is topographically lower than the rest of the field.

4.1.4 Surface Water Features

There are no surface water features within the Subject Lands. Thornicroft Drain is located east across Bostwick Road greater than 120m away. A small topographically low area holds water in the spring in the farmed field in the west adjacent lands (Community 2). No other surface water features (i.e., drains, ponds, wetlands, flowpaths) were observed in the Study Area.

4.1.5 Hydrogeology

The Subject Lands are located in the Upper Thames River Source Protection Area. According to the Thames-Sydenham Source Protection Plan (TSSPP), the Subject Lands are not located in a Significant Groundwater Recharge Area (SGRA) nor a Highly Vulnerable Aquifer (HVA) (TSRSPC, 2015) except for the hedgerow in north which is identified as a SGRA with a vulnerability score of zero (i.e., activities in that area cannot result in water quality threats). Patch 10070 is also part of that low vulnerability SGRA.

4.2 Biological Setting

Life science data was collected within the Subject Lands in 2021. This section summarizes the background review of the Subject Lands and 120 m adjacent lands, data collection methods, and the results of field investigations. The Subject Lands and the east edge of Patch 10070 were the focus of field investigations.

4.2.1 Records Review

4.2.2 Provincially Designated Natural Heritage Features

The Land Information Ontario (LIO) mapping (MNRF, 2021) and Natural Heritage Information Centre (NHIC) online database (2021) were reviewed for natural heritage features on the Subject Lands and 120 m adjacent lands.

No provincially designated natural heritage features are present within the Subject Lands. A review of the LIO mapping did not identify any wetlands nor Areas of Natural and Scientific Interest (ANSI) within 120 m of the Subject Lands (MNRF, 2021).

4.2.3 Species Records

For this EIS, Protected Species are those listed as Endangered or Threatened on the Species at Risk in Ontario (SARO) List of the Endangered Species Act (ESAct, 2007). Only Protected Species and their habitats receive protection under the ESAct.

Species of Conservation Concern (SOCC) are those listed as Special Concern on the SARO list and species with a provincial ranking of S1-S3. Provincial status rankings for plants, vegetation communities, and wildlife are based on the number of occurrences in Ontario and have the following meanings:

S1: critically imperiled; often fewer than 5 occurrences
S2: imperiled; often fewer than 20 occurrences
S3: vulnerable; often fewer than 80 occurrences
S4: apparently secure
S5: secure
S?: unranked, or, if following a ranking, rank uncertain (e.g. S3?)

Provincial status rankings are established by the NHIC and do not provide an indication of regional abundance or rarity (i.e., species uncommon in the province may still be locally abundant in some regions).

A review of the Ontario Natural Heritage Information Centre (NHIC), Ontario Breeding Bird Atlas (OBBA), Ontario Reptile and Amphibian Atlas database, and Citizen Science sources (iNaturalist and eBird) was conducted to identify Protected Species and SOCC that may be present in the area of the Subject Lands. The areas included in the background review vary, including 10km Atlas squares (OBBA and Ontario Reptile/Amphibian Atlas), a 1 km Atlas square (NHIC), and iNaturalist which has obscured locations for Protected Species (within 366km^2 of the actual record). It should be noted that OBBA occurrence data are from 2001-2005, and the dates of NHIC records are unknown. The remainder of the records are from within the past 10 years. The observation dates are provided for each species where possible. These sources display data for a broad area and therefore provide only a general potential for species presence on or near the Subject Lands.

There are a number of other Protected Species that are poorly represented in the background information sources and which may be present within the City of London. These additional species to consider include bats (Little Brown Myotis [END], Northern Myotis [END], Tri-coloured Bat [END], Eastern Small-footed Myotis [END]), American Badger [END], and American Chestnut [END].

Table 1: Protected Species Occurrence Data Review (Potential Within 10km of the Subject Lands)

Common Name	Scientific Name	SARO Status	Date Observed (If known)	Source
American Badger	*Taxidea taxus*	END	-	NHIC, 2022
American Chestnut	*Castanea dentata*	END	-	Under-represented
Butternut	*Juglans cinerea*	END	-	NHIC, 2022
Eastern Flowering Dogwood	*Cornus florida*	END	-	NHIC, 2022
Eastern Small-footed Myotis	*Myotis leibii*	END	-	Under-represented
False Hop Sedge	*Carex lupuliformis*	END	-	NHIC, 2022
Little Brown Myotis	*Myotis lucifugus*	END	-	Under-represented
Northern Myotis	*Myotis septentrionalis*	END	-	Under-represented

Common Name	Scientific Name	SARO Status	Date Observed (If known)	Source
Prothonotary Warbler	*Protonotaria citrea*	END	June 11, 2021	eBird, 2022
Spiny Softshell	*Apalone spinifera*	END	July 2019	iNaturalist, 2022
Tri-colored Bat	*Perimyotis subflavus*	END	-	Under-represented
Bank Swallow	*Riparia riparia*	THR	July 26, 2022	eBird, 2022
Barn Swallow	*Hirundo rustica*	THR	August 23, 2022	NHIC, 2022; OBBA, 2022; eBird, 2022
Bobolink	*Dolichonyx oryzivorus*	THR	June 15, 2021	NHIC, 2022; OBBA, 2022; eBird, 2022
Chimney Swift	*Chaetura pelagica*	THR	2001-2005	NHIC, 2022; OBBA, 2022
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	2017	Ontario Nature, 2019
Eastern Meadowlark	*Sturnella magna*	THR	2001-2005	NHIC, 2022

Several SOCC were also identified through a background review within 10 km of the Subject Lands. These species are provided in Table 2, below. Observations of migrant bird species far outside nesting timing windows have been omitted where known.

Table 2: SOCC Occurrence Records Review (Potential Within 10km of the Subject Lands)

Common Name	Scientific Name	Status	Date Observed (If known)	Source
Bald Eagle	*Haliaeetus leucocephalus*	SC	May 4, 2022	eBird, 2022
Eastern Wood-Pewee	*Contopus virens*	SC	May 25, 2021	eBird, 2022; OBBA, 2005
Grasshopper Sparrow	*Ammodramus savannarum*	SC	2001-2005	OBBA, 2005
Green Dragon	*Arisaema dracontium*	SC	-	NHIC, 2022
Northern Map Turtle	*Graptemys geographica*	SC	2018	Ontario Nature, 2022
Peregrine Falcon	*Falco peregrinus*	SC	March 20, 2018	eBird, 2022
Snapping Turtle	*Chelydra serpentina*	SC	2019	Ontario Nature, 2019
Wood Thrush	*Hylocichla mustelina*	SC	2001-2005	OBBA, 2005

Field investigations have been used to assess the likelihood of the presence of these Protected Species and SOCC in the Subject Lands and the 120m Study Area. Habitat for Protected Species and SOCC will be discussed further in the context of policy protections and appropriate buffers later in this report.

4.2.4 Ecological Land Classification

Vegetation communities within the Subject Lands were assessed by MTE Plant and Wildlife Technician Will Huys, certified to conduct Ecological Land Classification (ELC) in Southern Ontario, on March 30, May 27, and June 29, 2021, following protocols outlined in the ELC System for Southern Ontario (Lee et al., 1998). Vegetation communities are shown on Figure 6, and ELC data collection sheets are provided in Appendix D. Photos of the communities are provided in Appendix E. Provincial significance of vegetation communities is based on the rankings assigned

by the NHIC (2020). All communities listed in Table 3 are secure in Ontario. Area measurements are based on interpretation of aerial photos and are therefore only approximate.

Table 3: Ecological Land Classifications for the Study Area

Polygon	ELC Code	Description	S-rank	Total Area (ha)
AG	-	Active Agriculture	N/A	6.1
1	FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest	N/A	8.3
2	-	Agricultural Field (with seasonally wet depression)	N/A	2.2

The Subject Lands are currently active agricultural lands with row crops. The only area of vegetation present is a narrow hedgerow in the north that extends from Community 1 in Patch 10070. The hedgerow includes the same species composition as the rest of Community 1 but is a narrow extension with a disturbed understory including garbage dumping. This hedgerow is not included as part of the woodland patch on Map 5 or in the SWAP.

Community 1 is a mid-age Dry-Fresh Sugar Maple-Beech Deciduous Forest (FOD5-2) located west of the Subject Lands. This vegetation community is dominated by Sugar Maple with American Basswood, American Beech, and Eastern Hop-hornbeam also prominent in the canopy. The sub-canopy and understorey have the same species composition as the canopy. Browse (ex: from deer) is extensive throughout the community. Several human use areas (e.g., tarps, tree forts) have also been created in the woodland. Community 1 makes up the majority of Patch 10070 within the Study Area.

Community 2 is also located in Patch 10070 west of the Subject Lands. This area has a history of being farmed with a soybean-corn rotation, with Community 2 having been farmed for the last four years continuously (Stephen Stapleton, personal communication, February 8, 2023), but there have been some issues with herbicide effectiveness according to correspondence with the farming company Bolton Farms Ltd. (Edwin Bolton, personal communication, February 2, 2023). Farming is anticipated to continue in spring 2023. When studies were conducted in 2021, Community 2 was very open, with some soybeans as well as low ground-layer forb species such as Small-flowered Willowherb, Upright Yellow Wood-sorrel, Ditch Stonecrop, Bitter Dock, goldenrod species, and Common Dandelion. *Phragmites australis* was also present in this community. A topographic depression in the east of this field was identified and investigated by Will Huys, qualified to complete ELC and OWES assessments. This feature briefly holds water in the spring but is very small (less than 0.1ha), is within the farmed area, and contained both upland and wetland floral species during semi-fallow conditions, so it was not qualified as a wetland based on field investigations. Species present in the wet depression during the 2021 floral surveys include several wet sedges and both wetland and upland forbs (coefficient of wetness varies from 5 to -5).

4.2.5 Significant Wildlife Habitat

MNRF Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 7E (January 2015) uses ELC ecosite codes and habitat criteria (e.g., size of ELC polygon, proximity to other natural features) to define candidate SWH. Additional candidate SWH types for the City of London were obtained from the London Plan (Policy 1354, 2022). An assessment of candidate SWH was completed for the Subject Lands using a combination of desktop analysis and field observations, and is provided in Appendix F.

Candidate Seasonal Concentrations of Animals
Bat Maternity Colonies – Community 1 (FOD5-2)

Candidate Specialized Habitats of Wildlife Considered SWH
Amphibian Breeding Habitat (Woodland) – Seasonally wet depression

Candidate Habitats for Species of Conservation Concern Considered SWH
Special Concern and Rare Wildlife Species – Bald Eagle [SC], Grasshopper Sparrow [SC], Green Dragon [SC], Northern Map Turtle [SC], Peregrine Falcon [SC], Snapping Turtle [SC], and Wood Thrush [SC]

Candidate features were further evaluated using the results of targeted field investigations to determine if SWH was confirmed based on criteria such as species presence, abundance, and diversity. Results of the assessment of significance for SWH are presented in Section 5.1.4.

4.2.6 Floral Inventory

MTE staff Will Huys, Elise Roth, and Victoria Schveinghardt completed a three-season floral inventory within the Subject Lands and the adjacent Patch 10070 on March 30, May 27, June 18, July 29, August 17 and October 13, 2021 [Appendix G]. No Protected Species or SOCC were identified within the Subject Lands or the 120 m adjacent lands.

Several non-native or invasive species were identified within Patch 10070. These include City of London priority species *Phragmites australis* and Common Buckthorn, and species of concern Purple Loosestrife and Tartarian Honeysuckle (City of London, 2017). The presence of these invasive species is likely indicative of site disturbance from agricultural activities and residential land use within and around the patch.

Floristic Quality Analysis

Based on the floral inventories, the woodland west of the Subject Lands was assessed using SOFIA (Southern Ontario Floral Inventory Analysis) (Lebedyk, 2018). SOFIA provides several values based on floral inventories to evaluate the value and natural quality of vegetation communities. These values are provided in Table 4. The Coefficient of Conservatism (CoC) is a value (0 to 10) assigned to each species based on the species' degree of fidelity to certain ecological parameters (Oldham, Bakowsky, & Sutherland, 1995). For a community, the mean Coefficient of Conservatism (CoC) is calculated between all species observed, and this provides a measure of floristic quality (Lebedyk, 2018). A community with a Mean CoC that is >3.5 is of sufficient floristic quality to be of remnant natural quality. A Mean CoC >4.5 would indicate a relatively intact natural area with high floristic quality.

Another measure is the Floristic Quality Index (FQI). FQI is intended to indicate the overall vegetative quality of a community and is calculated by multiplying the mean CoC by the square root of the number of species present (Oldham, Bakowsky & Sutherland, 1995). Based on a study of urban woodlands in the Chicago area, a community with a FQI <20 is considered to have minimal significance from a natural quality perspective, and a community with a FQI >35 has sufficient conservatism and richness to be floristically important from a provincial perspective. The values in Table 4 have been rounded to one decimal place.

Table 4: Southern Ontario Floral Inventory Analysis (SOFIA) Results

Vegetation Community	Mean CoC	FQI	% Native Species	Comments
Community 1 Dry-Fresh Sugar Maple-Beech Forest	3.1	24.1	77%	• Poor floristic quality, no natural quality (CoC <3.5) • Minimal significance from a natural quality perspective (FQI >20)

4.2.7 Faunal Site Investigations

Breeding bird surveys, amphibian breeding surveys, a bat maternity roost survey, and general observations of habitat suitability for Protected Species were completed on the Subject Lands. Table 5, below, summarises the faunal field investigations completed by MTE staff in the Study Area.

Table 5: MTE Field Investigations within the Study Area

Survey Type	Date/Time(s)	MTE Surveyor(s)
Breeding Bird Surveys	May 27, 2021 8:30-10:43 June 29, 2021 7:22	Will Huys
Amphibian Breeding Surveys	April 27, 2021 20:45-21:30 May 17, 2021 21:00-22:00 June 27, 2021 21:30-22:30	Elise Roth, Lindsay McKay, Victoria Schveighardt
Bat Maternity Roost Survey	April 22, 2021	Elise Roth, Lindsay McKay

Avifauna

MTE Plant and Wildlife Technician Will Huys conducted breeding bird surveys on May 27 and June 24, 2021 guided by the protocols outlined in the Ontario Breeding Bird Atlas (OBBA) (Cadman et al., 2007). A combination of point counts and area searches were used in the entirety of Community 1 (including west of the Study Area throughout Patch 10070) and the hedgerow within the Subject Lands. The number of individuals and the highest level of breeding evidence were recorded for all avian species observed [Appendix H].

No avian species of provincial interest were observed within the Subject Lands or Patch 10070. Field Sparrow (one observed first visit) and Rose-breasted Grosbeak (four observed in pairs first visit) are Partners in Flight Regional Concern species (Partner's in Flight, n.d.). The most frequently observed species in 2021 were American Robin, Blue Jay, Song Sparrow, Northern Cardinal, and Red-winged Blackbird.

Amphibians

MTE Ecologists Elise Roth, Lindsay McKay, and Victoria Schveighardt conducted amphibian call surveys in the Study Area on April 27, May 17, and June 27, 2021, guided by the Marsh Monitoring Program (MMP) protocol (BSC, 2009). The surveys targeted the seasonally wet depression in Community 2. A summary of observations is provided in Table 6, below. Call codes are provided with the estimated number of individuals in brackets where applicable. Complete field data are provided in Appendix I and the station location is shown on Figure 7.

Table 6: Amphibian Call Count Code Results

Species	Frog Station - Seasonally Wet Depression		
	April	May	June
Spring Peeper	2(10-12)		1(1)
American Toad	1(4)		

Spring Peepers were heard from the seasonally wet depression in April 2021 at call code 2, with a total estimate of 10-12 individuals calling from the feature. Four American Toads were also heard from the feature in April. No frogs were heard from the wet depression in May and one Spring Peeper was heard in June.

Bats

A bat maternity roost survey was conducted by MTE Ecologists Elise Roth and Lindsay McKay within Patch 10070 on April 22, 2021, guided by MECP protocols ("Treed Habitats – Maternity Roost Surveys", 2021a) and MNRF survey guidelines ("Survey Protocols for Species at Risk Bats within Treed Habitats", 2017). Four candidate maternity trees (i.e., trees with cracked/peeling bark, holes, cavities, woodpecker holes, etc.) were identified in Community 1 within the Study Area that may provide suitable roosting habitat for Little Brown Myotis [END], Northern Myotis [END], or Tri-coloured Bat [END]. These candidate roost trees are greater than 25cm DBH and decay classes varied from 1 (healthy) to 4 (dead snag). The locations of these trees are shown on Figure 8 and field sheets (including the larger patch outside the Study Area) are provided in Appendix J.

Bats were incidentally noted flying overhead during the amphibian survey on June 27, 2021. Species could not be confirmed.

Reptiles

A snake hibernaculum survey was completed within the Study Area by MTE staff Lindsay McKay and Elise Roth on April 27, 2021. No potential hibernaculum features were identified.

Terrestrial Crayfish

No Terrestrial Crayfish or their chimneys were observed within 120m of the Subject Lands (Study Area).

Aquatic

No aquatic habitat is present within the Subject Lands or 120m adjacent lands. A review of the Fisheries and Oceans Canada (DFO) Species at Risk mapping did not identify any aquatic species at risk nor critical habitat for species at risk or SOCC within 1 km of the Subject Lands (DFO, 2020).

Incidental Observations

No mammal burrows were observed in the Subject Lands or adjacent lands during field investigations. Incidental species observations include Eastern Chipmunk, Grey Squirrel, and White-tailed Deer.

5.0 Natural Heritage Policy Considerations

Provincial and municipal natural heritage policies provide guidelines that determine appropriate land uses on and adjacent to natural heritage features and functions. This section reviews the provincial, municipal and Conservation Authority regulatory policies which apply to natural heritage features and functions of the Subject Lands and larger Study Area.

Policies and regulations that may pertain to the Subject Lands include:

- the 2020 Provincial Policy Statement, Section 2.1, issued under the *Planning Act, 1990*
- these have been reviewed in conjunction with the Natural Heritage Reference Manual (NHRM) (OMNR, 2010),
- the London Plan, Section 6 – Environmental Policies (May 25, 2022),
- the City of London Environmental Management Guidelines (2021),
- the UTRCA Regulations (*Conservation Authorities Act*, Section 28 – *Ontario Regulation 157/06*).
- the *Endangered Species Act, 2007*
- the *Migratory Birds Convention Act, 1994*

The policies above are applied to natural features and functions identified in Section 4.0 of this EIS in order to determine which components of the natural heritage system will require additional consideration. Provincial policy is reviewed first, followed by City of London and UTRCA policies.

5.1 Provincial Policy

5.1.1 Provincially Significant Wetlands

There are no Provincially Significant Wetlands located within or adjacent to the Subject Lands.

5.1.2 Provincially Significant Woodlands

No Significant Woodlands are identified within 120m of the Subject Lands on Map 5 of the London Plan (2022). Patch 10070 adjacent to the Subject Lands will be evaluated under municipal policy in Section 5.2.2.

5.1.3 Provincially Significant Valleylands

A Significant Valleyland associated with Thornicroft Drain to the east across Bostwick Road is just within the 120m adjacent lands.

5.1.4 Significant Wildlife Habitat

Candidate significant wildlife habitat (SWH) is based on ELC communities that were identified in Section 4.2.5. Confirmed significant wildlife habitat is determined through targeted field investigations and evaluation of species use in accordance with specific criterion outlined in the Ecoregion Criteria Schedules 7E (MNRF, 2015). Candidate SWH identified on or adjacent to the Subject Lands is assessed below. A full evaluation of SWH is provided in Appendix D.

Bat Maternity Colonies – Bat Maternity Colonies – Community 1 (FOD5-2)
Targeted bat habitat survey in April 2021 only found five potential bat habitat trees in Community 1, which does not meet the required density (>10/ha) of candidate habitat trees >25 cm DBH for significance.

Not SWH – Confirmed not significant (Community 1)

Amphibian Breeding Habitat (Woodland) – Seasonally wet depression
Insufficient amphibian calls during the 2021 amphibian call count survey confirmed that the wet depression is not significant wildlife habitat for amphibian breeding.

Not SWH – Confirmed not significant (seasonally wet depression)

Special Concern and Rare Wildlife Species
Several species of conservation concern were identified by NHIC as potentially in or adjacent to the Subject Lands. Field investigations (as outlined in Section 4.2) did not identify any SOCC within the Study Area. The habitat assessment for special concern species identified through the wildlife background review in Appendix K did not identify any SOCC likely to be found within the Study Area.

Not SWH – Confirmed not significant (Study Area)

5.1.5 Areas of Natural and Scientific Interest

There are no ANSIs within 120 m of the Subject Lands.

5.1.6 Fish Habitat

Detailed scale fish habitat considers fish habitat directly within or adjacent to the Subject Lands. There is no aquatic habitat to support fish within the Subject Lands or 120m adjacent lands.

Broad scale fish habitat considers the contribution of surface water features on the Subject Lands to downstream fisheries. No surface water features have been identified within or adjacent to the Subject Lands to consider downstream fish habitat. Thornicroft Drain to the east is outside the Study Area.

5.1.7 Habitat of Endangered or Threatened Species

A habitat assessment for endangered and threatened species identified through the background review is provided in Appendix K. No endangered or threatened species (‘Protected Species’) from the review are likely to be present within the Subject Lands. No Protected Species were observed during field investigations in the Study Area.

Endangered bat species (Little Brown Myotis, Northern Myotis, Tri-coloured Bat) may be present in Patch 10070 (Community 1 – FOD5-2) based on the presence of potential bat maternity roost trees [Figure 8]. Four of the potential habitat trees in Patch 10070 are within the Study Area.

5.2 Municipal Policy

The municipal Natural Heritage policy considerations are based on the London Plan, May 25, 2022, Chapter 6 - Environmental Policies. Many natural heritage policies in the London Plan protect features from the PPS (MMAH, 2021) and are discussed in Section 5.1, however the assessment of significance for these features will be repeated here for clarity. The relevant policy sections are included in brackets.

5.2.1 Provincially Significant Wetlands, Wetlands, and Unevaluated Wetlands (1330-1336)

As discussed in Section 5.1.1, there are no Provincially Significant Wetlands located within or adjacent to the Subject Lands. No unevaluated wetlands are present in the Study Area based on Map 5 and as confirmed through field investigations.

5.2.2 Significant Woodlands and Woodlands (1337-1343)

As discussed in Section 5.1.2, there are no Significant Woodlands designated in the Study Area. Patch 10070 is identified as an Unevaluated Vegetation Patch on Map 5. The east edge of this patch was evaluated as part of this EIS in accordance with the Environmental Management Guidelines (City of London, 2021). The complete Patch 10070 was not evaluated as field investigations were focused on the scoped Study Area. The boundary and evaluation of the complete feature will need to be determined in future adjacent applications, if relevant.

Patch 10070 East Boundary Delineation

Prior to evaluation, a vegetation patch should first be delineated according to the City of London Environmental Management Guidelines (2021). The initial patch boundary generally is drawn between natural vegetation and the adjacent lands. Then eight guidelines are then used to further define the feature boundary. The boundary delineation provided in this EIS will be completed to confirm the existing unevaluated vegetation patch boundary shown on Map 5. Boundary delineation will be restricted to the scoped Study Area and therefore only include the east boundary of the patch [Figure 6]. Further study is required to fully delineate and evaluate Patch 10070.

The initial boundary prior to applying the eight guidelines will be the patch boundary shown on Map 5 which includes Community 1 (FOD5-2) except the hedgerow.

Guideline 1: Species at Risk (SAR) habitat and Significant Wildlife Habitat (SWH) must be included within the feature boundary.

> No Significant Wildlife Habitat has been identified within the Study Area as discussed in Section 5.1.4. Potential SAR habitat trees for Little Brown Myotis, Northern Myotis, or Tri-coloured Bat are present in Community 1 in the main body of the east side of the patch, and these should be included in the patch boundary.

Guideline 2: Swamps, Marshes, Thicket Swamps, or other Untreed Wetland communities and their associated Critical Function Zones (CFZs) contiguous with a patch must be included within the feature boundary.

> No wetlands are present in the Study Area.

Guideline 3: Projections of naturalized vegetation less than thirty meters (30m) wide that extend from the main body of the patch:
a) must be included within the boundary if the projection includes a wooded ravine or valley with untreed or successional habitat below the top-of-slope; and
b) must be included within the boundary if the projection provides linkage within the landscape.

> The hedgerow extension in Community 1 (FOD5-2), which is not 30m wide, does not meet these criteria and therefore would not be included in the vegetation patch boundary. This

community does not include a wooded ravine or valley and does not provide a linkage as it terminates at active agricultural lands.

Guideline 4: All Watercourses must be included within the feature boundary.

No watercourses are present within the east patch edge in the Study Area to be considered for inclusion.

Guideline 5: Satellite woodlands that are less than 2ha and are located within 100m of another woodland patch:
a) must be included within the boundary if the satellite contains SAR or SWH; and,
b) must be included within the boundary if they contribute to biological diversity and ecological function of the other patch and/or act as stepping stone linkages within the greater landscape.

There are no satellite woodlands less than 2ha and within 100m of this woodland patch.

Guideline 6: Cultural meadows must be included if they meet one (1) of the following criteria:
a) a portion of meadow habitat surrounds a feature on one or more sides, and provides improved ecological function to the patch by its inclusion;
b) strengthen internal linkages in the patch by filling in "bays";
c) connect a patch to a watercourse; or
d) connect two or more patches (inset d of Figure 4.7); or,
e) are below the top-of-stable-slope in a stream corridor or ravine.

Community 2 is being maintained as agricultural lands, so it does not apply.

Guideline 7: Plantations contiguous with patches of natural vegetation must be included in the feature boundary if they meet one (1) of the following criteria:
a) was originally established for the purposes of forest rehabilitation or has been managed towards a natural forest or is developing/has developed characteristics of a natural forest, such as natural regeneration of native species.
b) strengthens internal linkages or reduces edge to area ratios by filling in bays;
c) connects a patch to a permanent watercourse;
d) connects two or more patches; or,
e) is below the top-of-slope in a stream corridor or ravine.

No plantation is present to be considered for inclusion in the east of Patch 10070.

Guideline 8: Existing land uses within or adjacent to a patch are subject to the following boundary considerations:
a) Existing heavily managed or manicured features that are surrounded on at least three sides by a patch are included in the feature boundary if they are less than one hectare (1ha) in total area. Such features include, but are not limited to agricultural croplands, active pasture, golf courses, lawns, ornamental treed lots, gardens, nurseries, orchards, and Christmas tree plantations. Subsequent abandonment or potential for rehabilitation of patches larger than one hectare (1ha) may qualify such areas for inclusion in the patch; and,
b) Existing residential building envelopes and institutional building envelopes surrounded on at least three sides by a patch are not affected by the protective designation. Building envelopes and access routes of existing structures within the patch must be determined on a site-specific basis.

Community 2 is being maintained as agricultural croplands and is surrounded on all sides by deciduous forest in Patch 10070. However, it is larger than 1ha and therefore does not technically qualify for patch inclusion. Community 2 should be more fully evaluated if any future development is proposed adjacent to this section of Patch 10070

Using boundary guidelines provided in the EMGs, the east edge of Patch 10070 is delineated by the dripline of Community 1 except for the hedgerow [Figure 8]. This delineation essentially follows the same east patch boundary shown on Map 5 of the London Plan (2022).

Significant Woodland Evaluation

Once the boundary is delineated, the patch can be evaluated for different significant natural heritage features. Based on the EMG Woodland Evaluation criteria (City of London, 2021), Community 1 (FOD5-2) in the east edge of Patch 10070 qualifies as a Significant Woodland because it is a mature wooded community and is within a Significant Groundwater Recharge Area (SGRA). Both of these characteristics give the woodland a 'high' score, qualifying the woodland as significant according to the EMGs (2021). Community 1 will be treated as a Significant Woodland in this EIS, but further study is needed to delineate and then evaluate the remainder of Patch 10070.

5.2.3 Significant Valleylands and Valleylands (1344-1351)

As discussed in Section 5.1.3, a Significant Valleyland associated with Thornicroft Drain is located east across Bostwick Road just within the 120 m adjacent lands.

5.2.4 Significant Wildlife Habitat (1352-1355)

An assessment of candidate and confirmed SWH as determined by the provincial Ecoregion 7E Criteria Schedule is provided in Section 5.1.4. No SWH is present within the Study Area. Additional SWH defined in the London Plan are described below.

As per Policy 1354 of the London Plan (2022), under-represented habitat types in the City of London should be considered as candidate SWH and assessed following the processes outlined in the Natural Heritage Reference Manual (MNRF, 2010). The NHRM Section 9.3 (Identification) notes that where other natural heritage features and areas have been identified, a proponent may not have to identify SWH provided the feature is already protected by Official Plan policies that ensure there will be no negative impacts on the feature and its ecological functions (including SWH functions).

Under-represented habitat types listed by the City of London (marshes, shallow aquatic and open water aquatic habitat greater than 2ha, bogs, fens, tall grass prairies, savannahs, and bluffs) were not identified within the Study Area.

5.2.5 Areas of Natural and Scientific Interest (1356-1360)

As discussed in Section 5.1.5, there are no ANSIs within 120m of the Subject Lands.

5.2.6 Fish Habitat (1323-1324)

As discussed in Section 5.1.6, there is no detailed or broad-scale fish habitat in the Study Area.

5.2.7 Habitat of Endangered Species and Threatened Species (1325-1329)

As discussed in Section 5.1.7, no Protected Species were observed during field investigations in the Study Area. Endangered bat species (Little Brown Myotis, Northern Myotis, Tri-coloured Bat) may be present in Patch 10070 (Community 1 – FOD5-2) due to the presence of potential bat maternity roost trees [Figure 8].

5.2.8 Water Resource Systems (1361-1366)

The Thames-Sydenham and Region Source Protection Committee (2015) indicates the north hedgerow and adjacent Patch 10070 are in a Significant Groundwater Recharge Area (SGRA) with a vulnerability score of 4 (moderate). The Subject Lands do not contain any surface water features.

Potential impacts to groundwater recharge will be considered in this EIS.

5.2.9 Environmentally Significant Areas (1367-1371)

No Environmentally Significant Areas are located within 120m of the Subject Lands.

5.2.10 Upland Corridors (1372-1377)

No Upland Corridors are located within 120m of the Subject Lands.

5.2.11 Potential Naturalization Areas (1378-1381)

No Potential Naturalization Areas are located within 120m of the Subject Lands.

5.3 Conservation Authority Regulations

The Subject Lands are not regulated by the Upper Thames River Conservation Authority. Summary of Identified Features and Functions

5.4 Summary of Identified Features and Functions

Table 8 presents a summary of features and functions of the Subject Lands and adjacent lands that have been identified through the policy review, above, as requiring further consideration in the EIS. Features considered under the PPS are not re-stated under the London Plan.

Table 8: Summary of the Environmental Considerations for the Study Area

Policy Category	Environmental Consideration	Natural Heritage Feature
Provincial Policy Statement (MMAH, 2020)	Significant Valleylands	Significant Valleyland approximately 120m to the east across Bostwick Road.
	Habitat of Endangered and Threatened Species	Four potential bat maternity roost trees in Community 1 in the Study Area may support Little Brown Myotis, Northern Myotis, or Tri-coloured Bat. These trees are outside the Subject Lands
The London Plan (2022)	Significant Woodlands	Community 1 (FOD5-2) in Patch 10070 was evaluated as a Significant Woodland according to the EMGs (City of London, 2021).
	Water Resources	The north hedgerow and adjacent Patch 10070 are in a SGRA with a vulnerability score of 4 (moderate).
UTRCA Regulations	Regulated Area	There are no regulation limits associated with the Subject Lands.

6.0 Description of the Development

The Proponent is planning the development of a low and medium-density residential subdivision within the Subject Lands [Figures 9 and 10]. The plan for this subdivision has been guided by the proposed realignment of Bostwick Road as shown on London Plan maps (2022). This realignment of Bostwick Road was approved by City Council in 2019 after completion of an EA (Bostwick Road Environmental Assessment, 2019). The realigned Bostwick Road will be four lanes wide.

The proposed subdivision includes 28 single-family homes (1.3ha total) in the west of the Subject Lands, set along an extension of Savoy Street from the south adjacent residential area. The extension of Savoy Street through the subdivision will connect with the future extension of Hayward Drive to the north. The remaining 2.5ha of the Subject Lands are proposed to be developed with medium-density housing with 84 units along several internal roadways.

6.1 Ecological Buffers and Pre-Development Considerations

Natural heritage features and functions of the Subject Lands and adjacent lands have been identified and will need to be considered as part of the development proposal.

6.1.1 Public Ownership/Acquisition

In policy section 1404-1407 of the London Plan (2021), the City recognizes not all natural heritage areas will be brought into public ownership or shall be open and accessible for public use. Patch 10070 and its buffer in the west adjacent lands will remain under the ownership of the Proponent.

6.1.2 Ecological Buffers

The London Plan (2022) policies 1412-1416 state that ecological buffers are meant to protect natural heritage features and areas, and their ecological functions and processes, to maintain the ecological integrity of the Natural Heritage System. Buffer requirements are determined as part of an EIS and guided by the City of London Environmental Management Guidelines (2021).

Patch 10070 to the west, which includes a Significant Woodland, is the primary natural heritage feature to be considered. The EMGs (2021) suggest a minimum buffer width of 30m between development and Significant Woodlands. With the limitations imposed by the fixed locations of Savoy Street, the future Hayward Drive, and the realignment of Bostwick Road this buffer distance cannot be contemplated. Furthermore, the Future Hayward Drive to the north of the feature is much less than 30m from the dripline of Patch 10070. This development proposal provides a buffer that ranges from 2 to 33m from the rear lot lines of the single-family lots, with an additional 6 metres of rear yard lawn before any hard surfaces.

As permitted in the EMG (2021), instead of minimum buffers, the sensitivity and quality of the features will be considered along with alternate mitigation measures.

6.1.3 Stewardship

Under the stewardship policies 1408-1411 of the London Plan, protection is encouraged for natural heritage systems that remain in private lands. This will be the case for this application and as a result the mitigation efforts will focus on stewardship approaches. These stewardship protection efforts can include stewardship agreements, Conservation easements, education, land trusts, tax incentives, signage, and other suitable techniques. Such efforts will be discussed in conjunction with the post development setting in context of mitigation measures and their contribution to the refinement of setbacks and buffers.

Buffers and alternate approaches will be further discussed in Section 7.0 in the context of impact avoidance and mitigation.

7.0 Impacts and Mitigation

This section reviews the development proposal [Figure 9] and identifies potential direct and indirect impacts to the significant natural heritage features adjacent to the development footprint. Appropriate avoidance, protection and mitigation measures for the impacts are also presented. At the conclusion of the section, a net effects table [Table 9] is provided for the proposed development application summarizing potential impacts as well as proposed mitigation, compensation or enhancement measures.

Based on the analysis in Section 5.0, the significant features identified are summarized in Table 8. Significant natural heritage features identified on or adjacent to the Subject Lands are:

- Significant Woodlands (Community 1 in Patch 10070 – FOD5-2)
- Significant Valleylands (Thornicroft Drain)
- Habitat of Endangered and Threatened Species (Protected bat species)
- Water Resources (SGRA)

The potential direct impacts of the proposed development on these natural heritage features will be discussed in the following Section 7.1. The potential for indirect impacts is discussed in Section 7.2.

7.1 Direct Impacts and Mitigation

7.1.1 Vegetation Removal

Approximately 0.09 ha of the north deciduous hedgerow (FOD5-2) is proposed to be removed, however this is associated with the City-proposed alignment of the future Hayward Drive rather than the proposed residential subdivision. The removal of these trees should ultimately be addressed by the City of London. Nevertheless, street tree plantings that will accompany the final approved site plan will provide more trees than currently exists in the hedgerow area.

A Tree Preservation Plan is recommended to be completed for the Subject Lands to identify hazard trees adjacent to proposed lots and suggest tree protection measures for retained trees (e.g., tree protection fencing).

Recommendation 1:
The limits of site disturbance should be surveyed, staked, and fenced in the field to allow for the protection of off-site natural areas and vegetation.

Recommendation 2:
Have a qualified arborist inventory potential hazard trees along the east edge of Community 1 and complete a Tree Preservation Report. Hazard trees along the dripline of Community 1 should be identified and removed prior to construction, if needed.

Recommendation 3:
The Tree Preservation Report should identify measures (e.g., tree removal protocols if needed, protective fencing, pruning measures) to implement within the Subject Lands during construction. Tree protection fencing should be installed along the limits of grading as instructed in the Tree Preservation Report.

7.1.2 Significant Woodlands

The Significant Woodland in Patch 10070 is outside the limits of development. A 30m buffer, as recommended by the City of London EMGs, will not be provided due to planning constraints (i.e., City road alignments) and is not necessary in this location. A buffer that is reduced from the recommended 30m distance can be supported in this EIS due to a lack of significant functions within this section of Patch 10070 and recommendation of mitigation measures focusing on maintaining or improving the functions of the Significant Woodland.

Based on the woodland evaluation completed (Section 5.2.2), the factors that gave Community 1 a “high” rank include the mature age of the woodland and the presence of an SGRA. Neither of these factors are expected to be impacted by the proposed development. The SGRA will remain, and mitigations are provided in Section 7.1.5 to protect groundwater resources. The age of Community 1 will not change, and no tree removals are proposed in the woodland that would impact the structure or quality of the community. None of the ‘significant’ functions of Patch 10070 are anticipated to be impacted by the proposed subdivision. Although not significant, limited amphibian breeding 75m away in the seasonally wet patch in Patch 10070 will also remain unchanged post-construction.

The proposed development provides a buffer varying from about 2 to 33 metres (11m average) between the dripline of Patch 10070 and the limit of development [Figure 11]. The buffer is recommended to be enhanced through naturalization with native species and should provide approximately 0.18ha of natural lands added to the existing Patch 10070. A Landscape Plan should be provided for the buffer at detailed design. The limits of the buffer are also recommended to be marked by a fence (chain link or higher quality material) to discourage uncontrolled access to Patch 10070.

No negative direct impacts to the Significant Woodland in Patch 10070 are anticipated as a result of the proposed development. Protection of the Significant Woodland should also result in the protection of potential bat maternity roost habitat, including for Endangered bat species.

Invasive species management in the east edge of the retained Patch 10070 is recommended to improve the function of the vegetation patch. Currently Community 1 (FOD5-2) has some areas of human disturbance (ex: tarps, tree forts) that should be removed. Community 1 also includes some invasive species, although they are not dominating the community and the primary invasive of concern is Buckthorn. An Invasive Species Management Plan could be created for this woodland to identify the location of Buckthorn and guide its removal. Restoration of Community 1 would improve the floristic quality of this Significant Woodland and help maintain its quality into the future.

Recommendation 4:
As discussed in Section 7.1.1 above, a Tree Preservation Report is recommended for the Subject Lands to identify hazard trees and recommend tree protection measures to avoid damaging the retained Significant Woodland. Tree protection fencing should be installed along the limits of grading as instructed in the Tree Preservation Report.

Recommendation 5:
The proposed naturalized buffer should be planted with species native to the Ecoregion (7E) that are suitable for the existing conditions. A Landscape Plan should be provided for the buffer at detailed design.

Recommendation 6:
Woody plant selection should consider how the species are adapted to the site conditions, including soil type, moisture, slope and sun exposure, as well as additional wildlife benefits (e.g., berry production). Dominant tree species (Sugar Maple, Basswood, American Beech, Eastern Hop-hornbeam) present in the existing Significant Woodland should be considered for plantings.

Recommendation 7:
Understory and ground layer plant species should be incorporated into the naturalization plan through seeding where the ground is not already naturalized with native species. Seed mixes should consist of species all native to the Ecoregion (7E), adapted to the site conditions, and approved by the City of London. The recommended seed mix for the naturalized buffer is the City of London's Type 2: Upland Woodland Edge from the Supplemental Standards for Parks and Open Spaces (2020).

Recommendation 8:
The limits of the buffer should be marked by a permanent fence (chain link or higher quality material) to discourage encroachment (e.g., mowing, access, waste disposal) into Patch 10070. The fence should extend from the back of the single-family houses to Savoy Street.

Recommendation 9:
Improve the floristic quality of the Significant Woodland by creating an Invasive Species Management Plan to manage Buckthorn within the 10 m edge of Community 1. Inventory of invasive plants within the woodland should be incorporated into the monitoring plan. Removal and control of invasive species should follow published Best Management Practices, such as those published by the Ontario Invasive Plant Council (2020).

7.1.3 Significant Valleylands

The Significant Valleyland associated with Thornicroft Drain is just within the Study Area for this project. The Significant Valleyland is nearly 120m away from the proposed development limit across Bostwick Road to the east, and therefore no impacts are expected.

7.1.4 Habitat of Endangered and Threatened Species

Four potential bat maternity roost trees are present in Patch 10070 within the 120m adjacent lands. These trees may support Little Brown Myotis, Northern Myotis, or Tri-coloured Bat [END]. No candidate habitat trees are proposed for removal and all construction is proposed outside the woodland patch. No impacts are anticipated.

7.1.5 Water Resource Systems

An SGRA is identified in the west adjacent lands (Patch 10070) and includes the north hedgerow in the Subject Lands (TSRSPC, 2015). The hedgerow is proposed for removal, but no land use changes are proposed for the remainder of the SGRA. No direct impacts are anticipated. Mitigation recommendations are provided in Section 7.2 to reduce the potential for indirect impacts to groundwater resources during and post-construction.

7.1.6 Migratory Birds and Wildlife

Nesting migratory birds are protected under the *Migratory Birds Convention Act* (MBCA), 1994. No work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young birds), or the wounding or killing of birds, of species protected under the *Migratory Birds Convention Act*, 1994 and/or Regulations under that Act. Some MBCA-protected species, such as Killdeer, may make use of un-maintained areas as they frequently make nests on the ground in construction sites and other disturbed areas.

Wildlife may also experience disturbance during construction when crossing roads or moving through active construction areas. Timing restrictions on vegetation removal are recommended to avoid disturbance to wildlife that may be using natural areas on the site, including breeding birds and common fauna.

Recommendation 10:
Avoid vegetation clearing and site disturbance during migratory bird breeding season to ensure that no active nests are removed or disturbed in accordance with the *Migratory Birds Convention Act* and/or Regulations under that Act. The active nesting season is defined as April 11 to August 16 for forest or open-habitat nesting birds in zone C2 (ECCC, 2018). If works are proposed within the breeding season, the area should be checked for nesting birds by a qualified person prior to any vegetation removal or ground disturbance. If nesting birds are present, works in the area should not proceed until after August 16 or until the nest has been confirmed inactive (e.g., young have fledged).

Recommendation 11:
Ensure workers are aware of potential incidental encounters with wildlife and the necessary protective measures that can be implemented. If an animal enters the work site, work at that location should stop and the animal should be permitted to leave without being harassed. If there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.

Recommendation 12:
Bank Swallow [THR] have not been identified within the Subject Lands, but the creation of suitable habitat (e.g., soil stockpiles) during construction should be avoided. Best management practices for deterring nesting during construction activities should be implemented (OMNRF, 2017). These measures should include stockpile slope management (i.e., grading stockpiles, eliminating vertical extraction faces, reducing slopes to 70 degrees or less) until at least July 15.

7.2 Indirect Impacts and Mitigation

Natural heritage features may also experience indirect effects during construction, including sedimentation and erosion, or post-construction, such as inadvertent encroachment. Indirect impacts on natural features are proposed to be mitigated through the implementation of standard environmental protection measures, discussed below.

7.2.1 Sediment and Erosion Control Measures

A critical time for the protection of natural heritage features is during the construction phase. For all works and especially those adjacent to natural heritage features, sediment and erosion control measures are required to ensure that indirect impacts to the adjacent lands are avoided or mitigated.

Recommendation 13:
Prior to works on site, sediment and erosion control fencing should be installed along the development limits. The fence should act as a barrier to keep construction equipment and spoil away from the slopes and vegetation to remain, as well as prevent erosion and sedimentation of the adjacent natural heritage features. During construction, the lands between the sediment and erosion control fencing should be maintained.

Recommendation 14:
Sediment and erosion control fencing should be installed according to the City of London Design Specifications and Requirements Manual specifications (2019b) and The Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).

Recommendation 15:
Sediment and erosion control fencing should be inspected prior to construction to ensure it was installed correctly. Any issues identified must be resolved prior to construction.

Recommendation 16:
Sediment and erosion control fencing should be inspected regularly during construction to ensure that the fencing is being maintained and functioning properly. Fencing should also be checked immediately following storm events. Any issues that are identified must be resolved as quickly as possible, ideally the same day.

Recommendation 17:
Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.

Recommendation 18:
An interim stormwater management plan should be prepared to guide the construction phase. Stormwater must be discharged away from the adjacent Patch 10070. The SWM plan should be provided at detailed design.

Recommendation 19:
Soil stockpiles should be established in locations where natural drainage is away from the adjacent Patch 10070. If this is not possible and there is a possibility of any stockpile slumping and moving toward the adjacent natural area, the stockpiles should be protected with robust sediment and erosion control. Access to stockpiles should be confined to the up-gradient side.

Recommendation 20:
All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature.

Recommendation 21:
Roof runoff to bare ground can generate considerable sediment movement beyond the construction limits. Until the grounds have been vegetated and stable for housing and development adjacent to vegetation, roof leaders should be directed to the streets or nearby stabilized vegetated areas.

7.2.2 Construction Site Management

Recommendation 22:
Dust abatement measures (e.g., watering) are recommended if the site grading will occur during extended dry weather periods.

Recommendation 23:
Regular cleanup of the Subject Lands must be completed during construction and at the end of construction to ensure the adjacent natural heritage features are not degraded.

Recommendation 24:
Equipment should be cleaned whenever arriving on site including tires, undercarriage, and any part of the equipment that may transport invasive seeds to the site. Clean equipment protocols are provided by London's Invasive Plant Management Strategy (2017) and should be followed where appropriate.

7.2.3 Protection of Water Resources

Recommendation 25:
A Best Management Practice (BMP) and spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities. Contractors working at the site should ensure that construction equipment is in good working order. Equipment operators should have spill-prevention kits, where appropriate.

7.2.4 Lighting and Noise

Wildlife in Patch 10070 are currently subject to increased lighting and noise disturbance from neighbouring residents to the south and the active church property to the north. Residential noise is managed through existing By-laws which restrict excessive noise. No significant impacts to noise levels are anticipated as a result of the proposed development. Lighting impacts are unlikely to be significant as single-family homes border Patch 10070 and the proposed vegetated buffer should help screen the existing woodland.

Recommendation 26:
Noise disturbance during construction should be limited to allowable hours per City of London By-law.

7.2.5 Landowner(s) Education

Recommendation 27:
Provide future residents with an information package (brochure and/or web-based resources) to educate the future residents on appropriate ways to protect the natural heritage components beyond the property boundaries. This could include a generic brochure such as the "Living with Natural Areas" brochure (UTRCA et al., 2005), or a brochure designed to be site-specific with information on the impact of encroachment on natural features (e.g., pets, tree damage, ad-hoc paths, landscape waste dumping, etc.). Information about interesting species present in the Significant Woodlands (e.g., Spring Peeper, Eastern Hop-hornbeam) could also be included to encourage public interest and stewardship. Education of residents should be implemented with the guidance of a qualified biologist where appropriate. The "Living with Natural Areas" brochure is provided in Appendix L.

Recommendation 28:
The installation of educational signage (e.g., small plaques) along the chain link fence boundary adjacent to Patch 10070 is recommended to inform residents of the significance of the adjacent feature. Signage discussing the ecological value of the Significant Woodlands and wildlife species present may be particularly effective. Some studies show the public are more likely to avoid damaging activities (ex: littering, trampling plants, dumping landscape waste) if they are aware of the link between their actions and the subsequent negative impacts, and if they feel they are responsible for the stewardship of a natural area (Gamman et al., 1995; Johnson and Van de Kamp, 1996). People are also more likely to respect a barrier if they understand the reason for it (Johnson, 1989). Education of residents should be implemented with the guidance of a qualified biologist where appropriate.

7.3 Monitoring Plan

Mitigation and compensation measures recommended in this EIS aim to minimize and compensate for direct and indirect impacts to the adjacent significant natural heritage features and functions. The monitoring plan is recommended to document the implementation of the mitigation and compensation measures during construction and post-construction.

The monitoring plan is recommended to be 2-phase and consist of a construction monitoring plan and a long-term post-construction plan. The construction monitoring plan should monitor for construction-related impacts, document successes or deficiencies of the implemented mitigation measures and provide guidance on remedial actions for circumstances when mitigation is not successful [e.g., Erosion and Sedimentation Control (ESC) measures]. This plan should continue from clearing and grubbing through to home construction until grounds adjacent to natural features are vegetated and stabilized. Reports should be made available to the UTRCA and City design services staff.

Long-term post-construction monitoring shall evaluate the success of the proposed active naturalization efforts and planting, as well as encroachment prevention. Monitoring should be undertaken at Year 1 of buffer planting (e.g., plant warranty) to document survivorship or replacements, and at Year 3 to document plant establishment and growth. Remedial actions are triggered if effects exceed pre-determined thresholds (e.g., supplemental plantings if survival rates are low, additional invasive species management). Monitoring requirements should be confirmed at the detailed design stage in consultation with agency staff. Recommendations for monitoring are:

- Encroachment activities and correction – once the development is at 80% build-out, annual reporting to the City of London should be completed for two years.
- Encroachment into the adjacent Significant Woodland should be monitored for two years post-construction (e.g., litter present in natural features, informal trail creation, creation of fence gates, mowing/gardening in the buffer) and additional strategies should be implemented if required.
- Vegetation monitoring in the naturalized buffer should be completed for two years (Years 1 and 3) after planting to document compliance with the plans (e.g., the correct species and quantities were planted), and establishment of planted material.
- Success of the invasive species management activities (removal of Buckthorn) in Community 1 (FOD5-2) should be monitored for two years (Years 1 and 3) post-management.
- Implement adaptive management strategies such as supplemental plantings, and/or control of non-native invasive species. Adaptive management may be triggered by poor survival of planted material (70% survival is target), insufficient vegetation cover (80% natural groundcover is target), or the presence of unacceptable non-native and invasive species.

7.4 UTRCA Regulation

UTRCA does not regulate the Subject Lands under Ontario Regulation 157/96. No Section 28 Permit Application will be required for this development.

7.5 Net Effects

Table 9, below, summarizes potential impacts to natural heritage features and functions as well as proposed mitigation, compensation, or enhancement measures.

Table 9: Net Effects of the Proposed Development

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Artificial Lighting	Significant Woodlands	Low impacts expected - residential lights	Residential lighting is unlikely to significantly impact common wildlife species in an area already directly adjacent to residential homes; naturalized buffer between Patch 10070 and the development may block some light pollution.	No net effect	None.
Increased noise	Significant Woodlands	Low impacts expected - only common species present	Low level noise from adjacent single-family homes is not expected to impact common species; the surrounding area is residential/church lands; noise disturbance during construction should be limited to allowable hours per City of London By-law; noise from heavy machinery should be avoided where possible during the migratory bird breeding period (April 11-August 16) to avoid disturbance of birds nesting.	No net effect	Residential by-laws restrict excessive noise.
Litter and Garbage	Significant Woodlands	Low impacts expected - garbage/litter from residential area	Garbage bins along sidewalks; public education (e.g., brochure) to educate about the importance about the adjacent natural feature; permanent fence along Significant Woodland buffer to discourage entry and trap blowing garbage.	No net effect	Public garbage bins should be readily available and emptied regularly. On-going education.
Introduced invasive plants	Significant Woodlands	Medium impacts expected - non-native species escape from gardens	Homeowner educational materials (e.g., brochure) to discourage encroachment; permanent fence along outer buffer limit; naturalized buffer.	No net effect	Encroachment monitoring and ongoing education.
Increased access to natural areas	Significant Woodlands	Medium impacts expected - vegetation could get trampled - extension of lawns, gardens, or backyard uses	Homeowner educational materials (e.g., brochure) to discourage encroachment; permanent fence along outer buffer limit.	No net effect	Encroachment monitoring and ongoing education.
Creation of trails	Significant Woodlands	Medium impacts expected - ad-hoc trails may trample ground cover and transport invasive species	Homeowner educational materials (e.g., brochure) to discourage encroachment; permanent fence along outer buffer limit.	No net effect	Encroachment monitoring and ongoing education.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Tree damage	Significant Woodlands	Low impacts expected - limb removal	Tree Preservation Report mitigation measures; educational materials (e.g., brochure, signage) to discourage encroachment.	No net effect	Encroachment monitoring and ongoing education. Monitor for tree damage post-construction.
Disturbance to wildlife during construction	Significant Woodlands	Low impacts expected - disruption to activities of nearby wildlife are expected to be temporary	Restrict timing of habitat and vegetation removal to outside breeding and sensitive periods for forest and ground-breeding birds (April 11 to August 16); make workers aware of potential incidental encounters and necessary protections; if an animal enters the work site, work at that location must stop and the animal should be permitted to leave without being harassed; if there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.	No net effect	Disturbance is temporary and minimal for species within the surrounding lands. Monitoring and reporting protocols for incidental wildlife encounters should be followed.
Increased erosion	Significant Woodlands	Low impacts expected	Sediment and erosion control fencing installed at development limit; fencing should remain until the area is serviced by storm sewers and disturbed areas are seeded; all issues with sediment and erosion control measures should be resolved the same day.	No net effect	Monitor sediment and erosion control fencing during construction.
Increased nutrient, pesticide, chemicals, and sediment	Significant Woodlands	Low impacts expected	Impacts are unlikely to be greater than from the existing active agricultural fields; stormwater management system; sediment and erosion control plan during construction; ban on cosmetic pesticides; limit the use of chemical applications and use heartier grass species where possible.	No net effect	Monitor sediment and erosion control fencing during construction.
Visual intrusion	Significant Woodlands	Low impacts expected - low and medium-density buildings are not visually intrusive	The proposed subdivision is adjacent to a church and a similar residential area, so no significant decrease in visual appeal is anticipated.	No net effect	None.
Domestic animals	Significant Woodlands	Medium impacts expected - off-leash dogs can trample plants - cats can kill small wildlife	Homeowner educational materials (e.g., brochure, signage) to discourage encroachment; permanent fence along outer buffer limit.	No net effect	Ongoing education.
Air pollution	Significant Woodlands	No impacts expected	The subdivision is not expected to generate substantial air pollution.	No net effect	None.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Fire Hazards	Significant Woodlands	Low impacts expected - potential for recreational gatherings	Homeowner educational materials (e.g., brochure, signage) to discourage encroachment; permanent fence along outer buffer limit.	No net effect	Encroachment monitoring and ongoing education.
Use of heavy machinery – tree damage	Significant Woodlands	High impacts expected - machinery too close to retained trees can break off branches or wound trunks	Complete a Tree Preservation Report and implement tree protection measures; install tree protection fencing along the west development limits; any issues with protection fencing should be resolved the same day.	No net effect	Regular monitoring during construction to ensure tree protection fencing and ESC fencing is functioning. Post-construction monitoring to ensure tree protection measures were successful.
Use of heavy machinery – soil compaction	Significant Woodlands	High impacts expected - machinery too close to retained trees can compact soils over vital tree roots	Complete a Tree Preservation Report and implement tree protection measures; install tree protection fencing along the west development limits; any issues with protection fencing should be resolved the same day.	No net effect	Regular monitoring during construction to ensure tree protection and ESC fencing is functioning. Post-construction monitoring to ensure tree protection measures were successful.
Use of heavy machinery – oil, gasoline, grease spill	Significant Woodlands	Low impacts expected - machinery can leak or refueling can generate spills - no surface water features nearby	Establish storage/refueling area away from the woodland edge; BMPs and a spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities; contractors working at the site should ensure that construction equipment is in good working order; equipment operators should have spill-prevention kits, where appropriate.	No net effect	Containment of spills should be included in plan.
Changes in soil grade	Significant Woodlands	Medium impacts expected - raising grade may suffocate roots - lowering grade may remove tree roots	Complete a Tree Preservation Report and implement tree protection measures; install tree protection fencing along the west development limits; any issues with protection fencing should be resolved the same day.	No net effect	Regular monitoring during construction to ensure tree protection and ESC fencing is functioning. Post-construction monitoring to ensure tree protection measures were successful.

8.0 Summary and Conclusions

MTE Consultants was retained by Colonel Talbot Developments Inc. to complete an EIS for a proposed low and medium-density residential subdivision development along Bostwick Road north of Savoy Street in London, ON. The approximately 6.7ha Subject Lands are largely active agriculture with a Significant Woodland (Patch 10070) to the west. This EIS has identified the adjacent natural heritage features and set out recommendations to protect these features from potential direct and indirect impacts.

The proposed development will require the removal of approximately 0.09ha of a deciduous hedgerow in the north Subject Lands, but this is not expected to impact any significant features or functions of the natural heritage system. A Tree Preservation Report is needed to address these tree removals and recommend protection measures for the remaining woodlands.

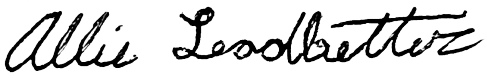
An assessment of Patch 10070 identified Community 1 within the patch as a Significant Woodland. The proposed development should not affect any of the 'significant' aspects of this feature. A naturalized buffer (average 11m), permanent fence along the development limit [Figure 11], invasive species management for Buckthorn in the retained woodland, and homeowner education are proposed to mitigate impacts to this feature post-construction.

Provided the recommendations in this EIS are followed, it is our opinion that the proposed development can proceed.

MTE seeks comments from the City of London and the UTRCA with respect to the contents of the EIS. Formal comments can be submitted in writing to MTE of behalf of the client. Should you wish to clarify any questions or require additional information as part of the review of this EIS, do not hesitate to contact us.

All of which is respectfully submitted,

MTE CONSULTANTS INC.



Allie Leadbetter, B.Sc.
Biologist
519-204-6510 ext. 2243
aleadbetter@mte85.com

Dave Hayman, M.Sc.
Senior Biologist
519-204-6510 ext. 2241
dhayman@mte85.com

AXL:sdm
\\mte85.local\mte\Proj_Mgmt\45761\102\05-Reports\EIS\Text\45761-102_Heathwoods East_EIS_2023-04-24.docx

9.0 References

Armstrong, D.K. and Dodge, J.E.P. 2007. Paleozoic geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 219.

Birds Canada. 2005. Ontario Breeding Bird Atlas (2001-2005). NatureCounts. Retrieved from https://www.birdscanada.org/birdmon/default/searchquery.jsp?

Bird Studies Canada (BSC). 2009. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. Bird Studies Canada in cooperation with Environment Canada and U.S. Environmental Protection Agency. February 2009.

Cadman, M.D., Sutherland, D.A., Beck, G.G., Lepage, D. and Couturier, A.R. (Eds.). 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature. Toronto, Ontario.

Chapman, L.J. and Putnam, D.F. 2007. Physiography of southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 228.

City of London. 2022. The London Plan. Consolidated May 25, 2022.

City of London. 2021a. Environmental Management Guidelines. December 2021. 148 pp.

City of London. 2021b. Consolidated Tree Protection By-Law (C.P.-1555-252). Consolidated September 2021.

City of London. 2020. Supplemental Standards for Parks and Open Spaces (SPO). Retrieved from https://london.ca/sites/default/files/2020-10/Parks%20and%20Open%20Spaces%20Specifications%202020.pdf

City of London. 2019. Design Specification and Requirements Manual. Updated August 2019. 385pp.

City of London. 2017. London's Invasive Plant Management Strategy. 47pp. Retrieved from https://london.ca/sites/default/files/2020-11/Invasive_Plant_Management_Strategy.pdf

City of London. 2011. Zoning By-law No. Z.-1. Retrieved from https://london.ca/by-laws/section-1-administrationenforcement-interpretation

Conservation Authorities Act, R.S.O. 1990, c. C.27

eBird. 2021. Ontario eBird Hotspot Data Map. Retrieved from https://ebird.org/hotspots?env.minX=-95.155986&env.minY=41.708293&env.maxX=-74.345974&env.maxY=56.869721&yr=all&m=

Endangered Species Act, 2007, S.O. 2007, c. 6

Environment and Climate Change Canada (ECCC). 2018. Nesting Periods. Retrieved from https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/general-nesting-periods/nesting-periods.html#_zoneC_calendar

Fish and Wildlife Conservation Act, 1997, S.O. 1997, c. 41

Fisheries Act, R.S.C., 1985, c. F-14

Fisheries and Ocean Canada (DFO). 2019. Aquatic Species at Risk Map. Retrieved from https://www.dfompo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html

Gamman, J.H., Bonifield, R.L., and Kim, Y. 1995. Effect of personality and situational factors on intentions to obey rules in outdoor recreation areas. J Leisure Res, 27(4), 326–343.

Government of Ontario. n.d. Wildlife Values Area [Dataset]. Retrieved from https://open.canada.ca/data/en/dataset/88591622-4001-456a-adfb-cfa34dbc9004

iNaturalist. 2021. Observations Map. Retrieved from https://www.inaturalist.org/observations

Johnson, B.R. 1989. Interpretive signs increase effectiveness of brush-pile barriers. Restoration Management Notes 7:103.

Johnson, D.R. and Van de Kamp, M.E. 1996. Extent and control of resource damage due to non-compliant visitor behaviour: a case study from the US National Parks. *Nat Area J, 16(2),* 134–141.

Lebedyk, D. 2018. Southern Ontario Floral Inventory Analysis (SOFIA). Version 2.51. Essex Region Conservation Authority. Essex, ON.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. Field Guide FG.

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

Ministry of the Environment, Conservation and Parks (MECP). 2021. Treed Habitats – Maternity Roost Surveys.

Ministry of Natural Resources and Forestry (MNRF). 2017. Survey Protocol for Species at Risk Bats in Treed Habitats – Little Brown Myotis, Northern Myotis & Tri-colored Bat. April 2017. 12 pp.

Ministry of Energy, Northern Developments, and Mining. 2017. OGSEarth - Southern Ontario Surficial Geology. Retrieved from https://www.geologyontario.mndm.gov.on.ca/ogsearth.html#surficial-geology

Ministry of Natural Resources and Forestry (MNRF). 2021. Land Information Ontario (LIO) mapping. Ontario GeoHub. Retrieved from https://geohub.lio.gov.on.ca/

Natural Heritage Information Centre (NHIC). 2021. Make a Map: Natural Heritage Areas. Retrieved from https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA

NatureServe. 2021. NatureServe Explorer. Retrieved from https://explorer.natureserve.org/Search

Oldham, M.J. 2017. List of Vascular Plants of Ontario's Carolinian Zone (Ecoregion 7E). Carolinian Canada and Ontario Ministry of Natural Resources and Forestry. Peterborough, ON. 132 pp.

Oldham, M.J., Bakowsky, W.D., and Sutherland, D.A. 1995. Floristic Quality Assessment System for Southern Ontario. Prepared for Ontario Ministry of Natural Resources, Peterborough, Ontario. December 1995. 69 pp.

Ontario Geological Survey (OGS). 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV.

Ontario Invasive Plant Council. 2020. Best Management Practices. Retrieved from https://www.ontarioinvasiveplants.ca/resources/best-management-practices/

Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). 2022. AgMaps. Retrieved from https://www.lioapplications.lrc.gov.on.ca/AgMaps/Index.html?viewer=AgMaps.AgMaps&locale=en-CA

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2020. Provincial Policy Statement. Ontario Ministry of Municipal Affairs, Toronto, Ontario. 50 pp.

Ontario Ministry of Natural Resources (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies the Provincial Policy Statement, 2005. April 2010. Toronto, Ontario.

Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide. October 2000. 151 pp.

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2017. Best Management Practices for the Protection, Creation and Maintenance of Bank Swallow Habitat in Ontario. 38 pp.

Ontario Ministry of Natural Resources and Forestry. (OMNRF). 2015. Significant Wildlife Habitat Criteria Schedule B Ecoregion 7E. 40pp. January 2015.

Ontario Nature. 2019. Ontario Reptile and Amphibian Atlas. Retrieved from https://www.ontarioinsects.org/herp/

Partners in Flight (PIF). n.d. Avian Conservation Assessment Database Scores. *Bird Conservancy of the Rockies*. Retrieved from https://pif.birdconservancy.org/avian-conservation-assessment-database-scores/

Species at Risk in Ontario (SARO) List, Ontario Regulation 230/08. 2007 (Consolidated 2018). Retrieved from https://www.ontario.ca/laws/regulation/080230

Thames-Sydenham & Region Source Protection Committee (TSRSPC). 2015. Upper Thames River Source Protection Area Assessment Report. September 6, 2015.

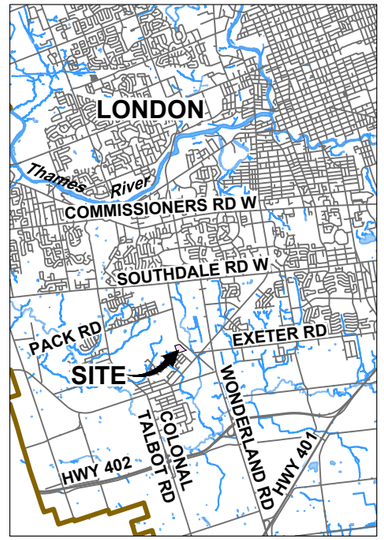
Toronto and Region Conservation Authority (TRCA). 2019. Erosion and Sediment Control Guide for Urban Construction. 236 pp.

UTRCA. 2021. Regulated Area Screening Map. Retrieved from https://maps.thamesriver.on.ca/

UTRCA. 2021. Trees, Shrubs and Plants to Plant. Retrieved from http://thamesriver.on.ca/watershed-health/native-species/recommended-trees-and-shrubs/

UTRCA, EEPAC, and Celebrate the Thames. 2005. Living with Natural Areas. Retrieved from https://thamesriver.on.ca/wp-content/uploads/NaturalAreas/Living_with_natural_areas_generic.pdf

Figures



KEY PLAN (nts)

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Site)

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, CITY OF LONDON ROAD AND WATER NETWORK (key plan), OPEN DATA SET; AND
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

MTE
Engineers, Scientists, Surveyors

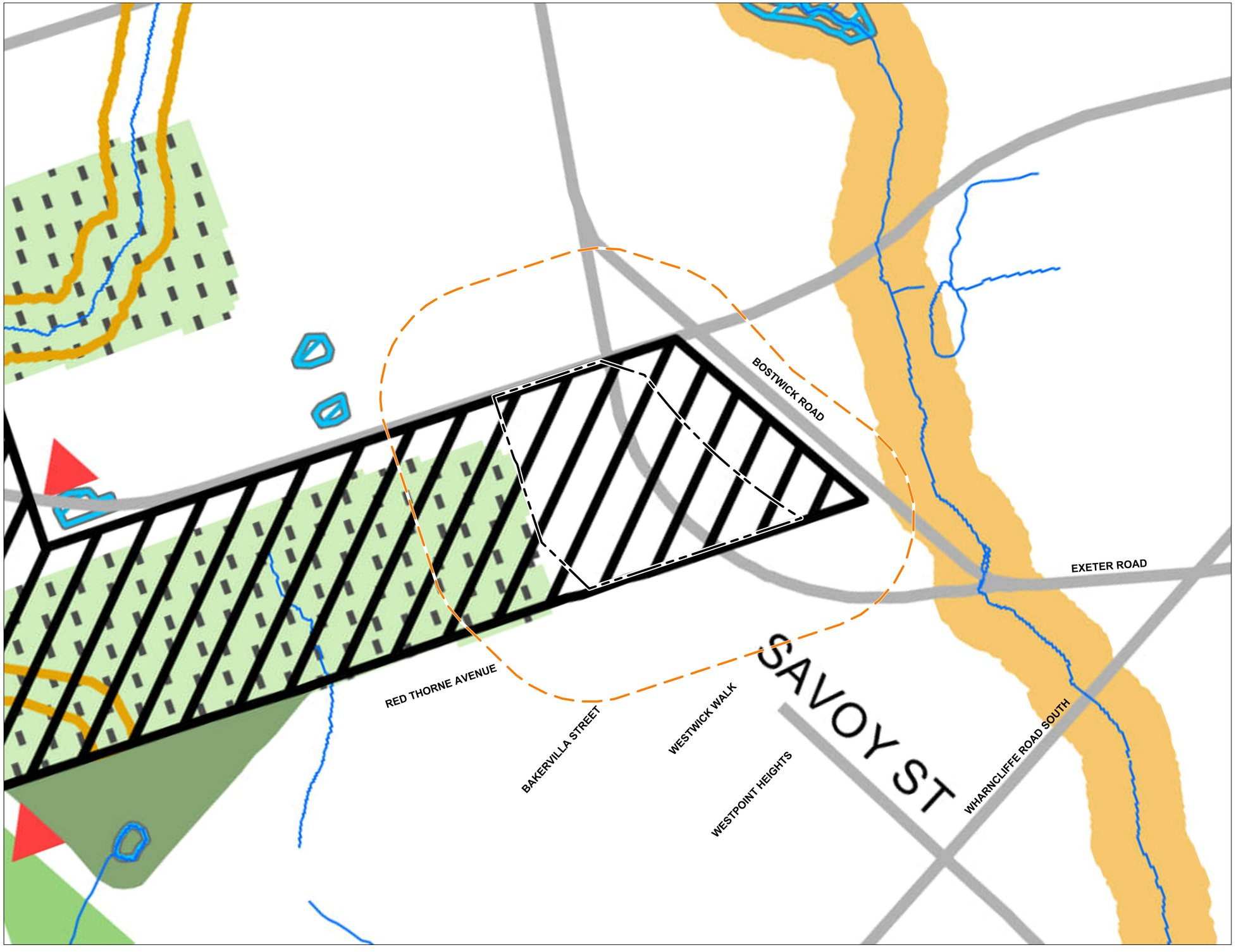
PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
PROJECT LOCATION

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	45761-102
Date	Jan 25/23	Rev No.	0

FIGURE 1

Client: Colonel Talbot Developments Inc.
Plot Date: 25 January 2023 Time:13:16:33
CAD: P:\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02001.DWG
0 25mm Original Format in Tabloid (279mm x 432mm; 11" x 17")



N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Site)
- POTENTIAL NATURALIZATION AREA
- SIGNIFICANT VALLEYLAND
- SIGNIFICANT WOODLAND
- STREET
- SUBJECT TO SITE SPECIFIC APPEALS (LPAT APPEAL PL170100)
- UNEVALUATED VEGETATION PATCH
- UNEVALUATED WETLAND
- URBAN GROWTH BOUNDARY
- WATERCOURSE/POND
- WOODLAND

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, CITY OF LONDON ROAD), OPEN DATA SET;
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022; AND
CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 28 - 2021.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 50 100
1:4,000

MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
NATURAL HERITAGE

Drawn: DCH	Scale: AS SHOWN
Checked:	Project No.: 45761-102
Date: Jan 25/23	Rev No.: 0

FIGURE 2

N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Site)
- ENVIRONMENTAL REVIEW
- FARMLAND
- GREEN SPACE
- NEIGHBOURHOOD
- SHOPPING AREA
- STREET

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, CITY OF LONDON ROAD), OPEN DATA SET;
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022; AND
CITY OF LONDON, MAP 1 - NATURAL HERITAGE, MAY 25 - 2022.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 50 100
1:4,000

MTE
Engineers, Scientists, Surveyors

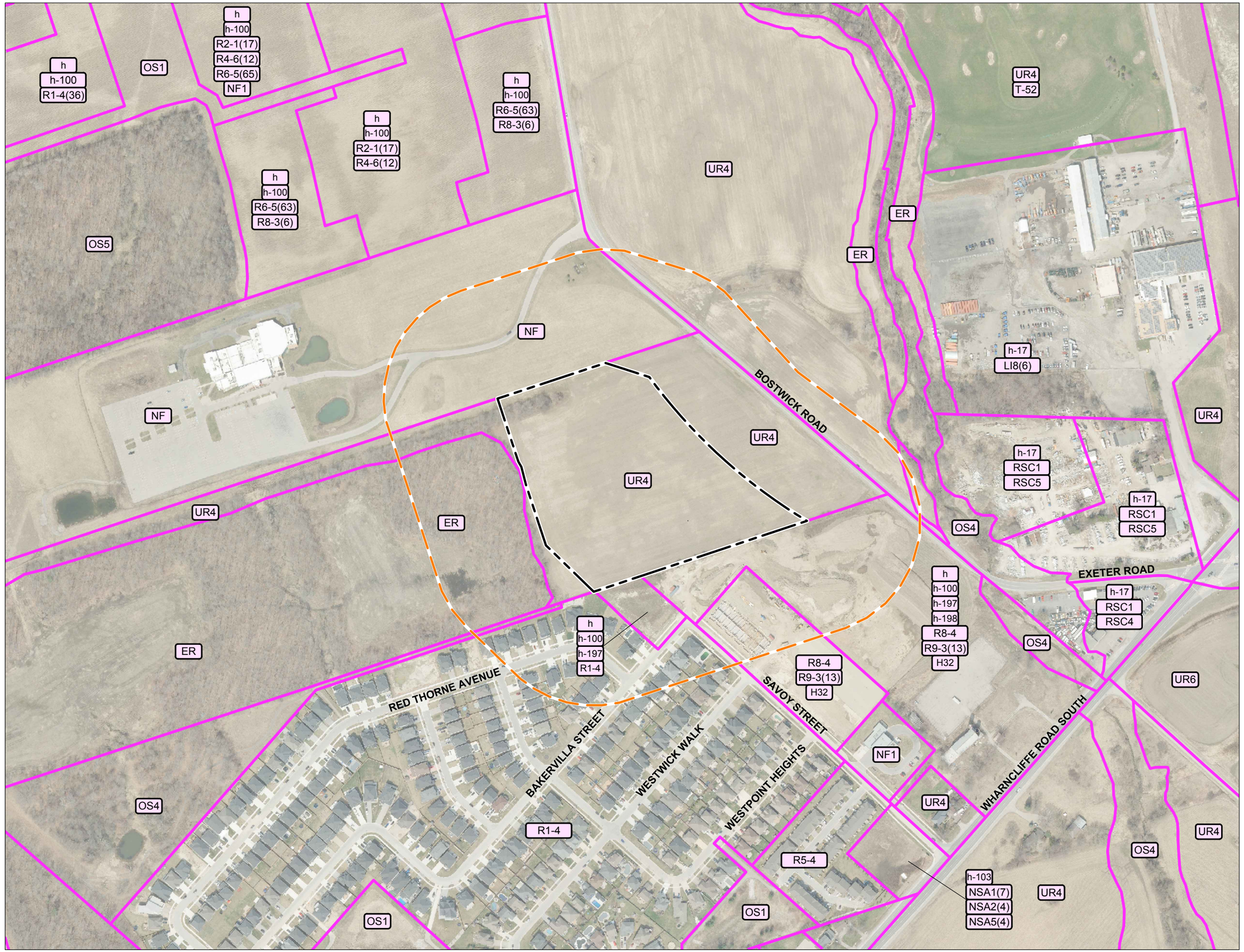
PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
PLACE TYPES

Drawn	DCH	Scale	AS SHOWN
Checked		Project No.	45761-102
Date	Jan 25/23	Rev No.	0

FIGURE 3

Client: Colonel Talbot Developments Inc.
Plot Date: 25 January 2023 Time:13:21:57
CAD: P:\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02003.DWG
0 25mm Original Format in Tabloid (279mm x 432mm; 11" x 17")



N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m Buffer from Subject Site)

- ER — ENVIRONMENTAL REVIEW ZONE
- h — HOLDING ZONE PROVISION
- H — HEIGHT MAXIMUM
- LI — LIGHT INDUSTRIAL ZONE
- NF — NEIGHBOURHOOD FACILITY ZONE
- R — RESIDENTIAL ZONE
- NSA — NEIGHBOURHOOD SHOPPING AREA ZONE
- OS — OPEN SPACE ZONE
- UR — URBAN RESERVE ZONE

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, CITY OF LONDON ROAD), OPEN DATA SET;
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022; AND
CITY OF LONDON INTERACTIVE ZONING MAP.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 50 100
1:4,000

MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
ZONING

Drawn: DCH	Scale: AS SHOWN
Checked	Project No.: 45761-102
Date: Jan 25/23	Rev No.: 0

FIGURE 4

Client: Colonel Talbot Developments Inc.
Plot Date: 25 January 2023 Time:13:24:34
CAD: P:\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02004.DWG
25mm Original Format in Tabloid (279mm x 432mm; 11" x 17")
0

N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m around Subject Site)
- (1) VEGETATION COMMUNITY
- VEGETATION COMMUNITY (Wet Depression Inclusion Area)

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, OPEN DATA SET; AND
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

MTE
Engineers, Scientists, Surveyors

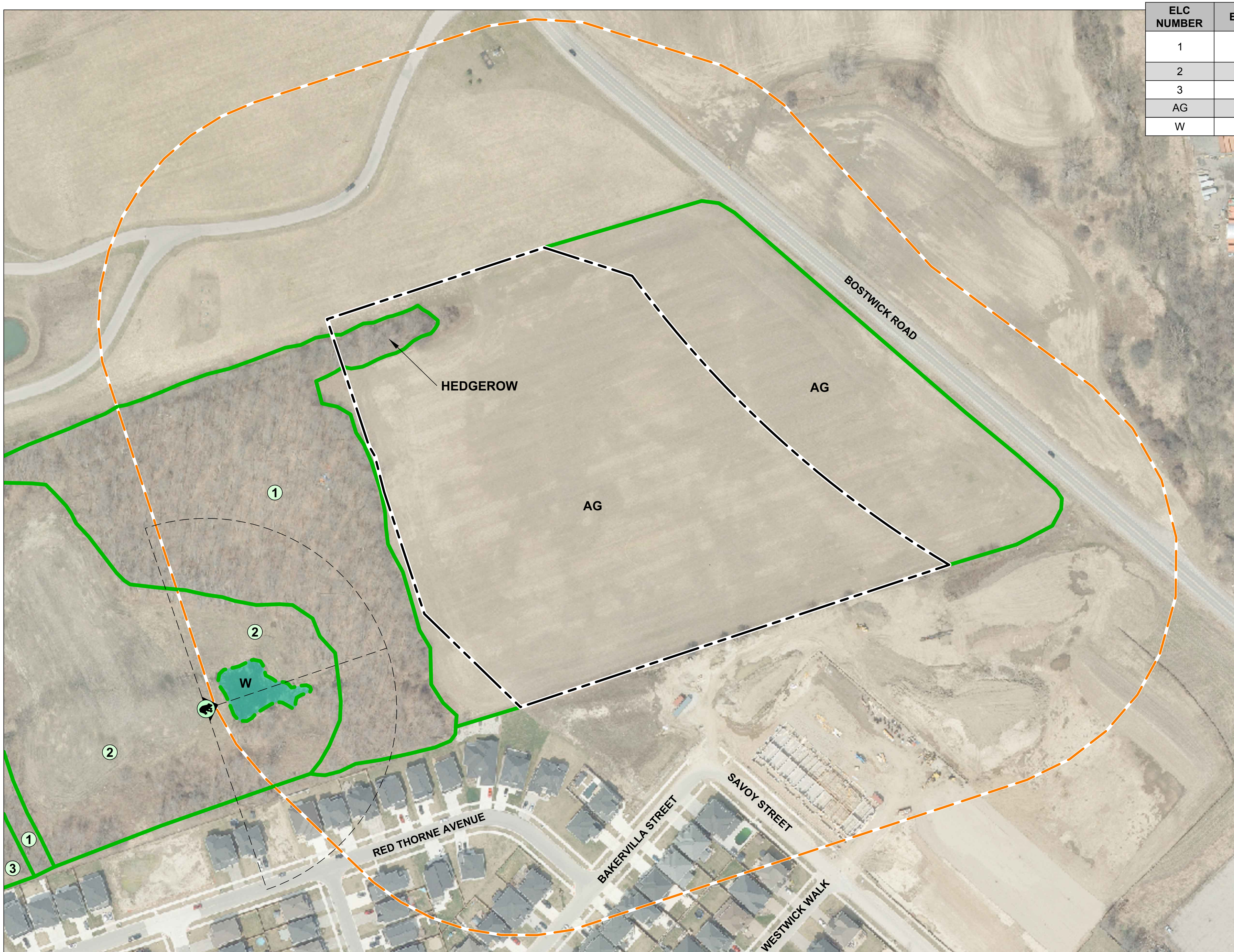
PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
VEGETATION COMMUNITIES

Drawn: DCH	Scale: AS SHOWN	**FIGURE 5**
Checked:	Project No.: 45761-102	
Date: Mar 3/23	Rev No.: 0	

Client: Colonel Talbot Developments Inc.
Plot Date: 2 March 2023 Time:16:24:23
CAD: P:\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02005.DWG
0 25mm Original Format in Tabloid (279mm x 432mm; 11" x 17")

ELC NUMBER	ELC CODE	Description
1	FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest (2.03ha)
2		Agricultural - includes W (0.56ha)
3	SWD4-1	Willow Mineral Deciduous Swamp Type
AG		Agricultural (6.26ha)
W		Wet Depression - seasonal (0.08ha)



N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m around Subject Site)
- VEGETATION COMMUNITY
- VEGETATION COMMUNITY (Wet Depression Inclusion Area)
- AMPHIBIAN CALL COUNT SURVEY STATION (location, viewing direction, and 100m radius shown)

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, OPEN DATA SET; AND STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
AMPHIBIAN CALL COUNT SURVEY LOCATION

Drawn DCH	Scale AS SHOWN
Checked	Project No. 45761-102
Date Mar 3/23	Rev No. 0

FIGURE 6

CAD: P:\P\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02006.DWG Original Format in Tabloid (279mm x 432mm; 11" x 17") Plot Date: 2 March 2023 Time:16:23:41 Client: Colonel Talbot Developments Inc.

ELC NUMBER	ELC CODE	Description
1	FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest (2.03ha)
2		Agricultural - includes W (0.56ha)
3	SWD4-1	Willow Mineral Deciduous Swamp Type
AG		Agricultural (6.26ha)
W		Wet Depression - seasonal (0.08ha)

N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m around Subject Site)
- VEGETATION COMMUNITY
- VEGETATION COMMUNITY (Wet Depression Inclusion Area)
- EAST PATCH 10070 DELINEATED BOUNDARY
- CANDIDATE MATERNITY ROOST TREE
- SIGNIFICANT WOODLAND
- SIGNIFICANT VALLEYLAND

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, OPEN DATA SET;
STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, AUGUST 15 - 2022; AND
CITY OF LONDON, MAP 5 - NATURAL HERITAGE, MAY 22 - 2022.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

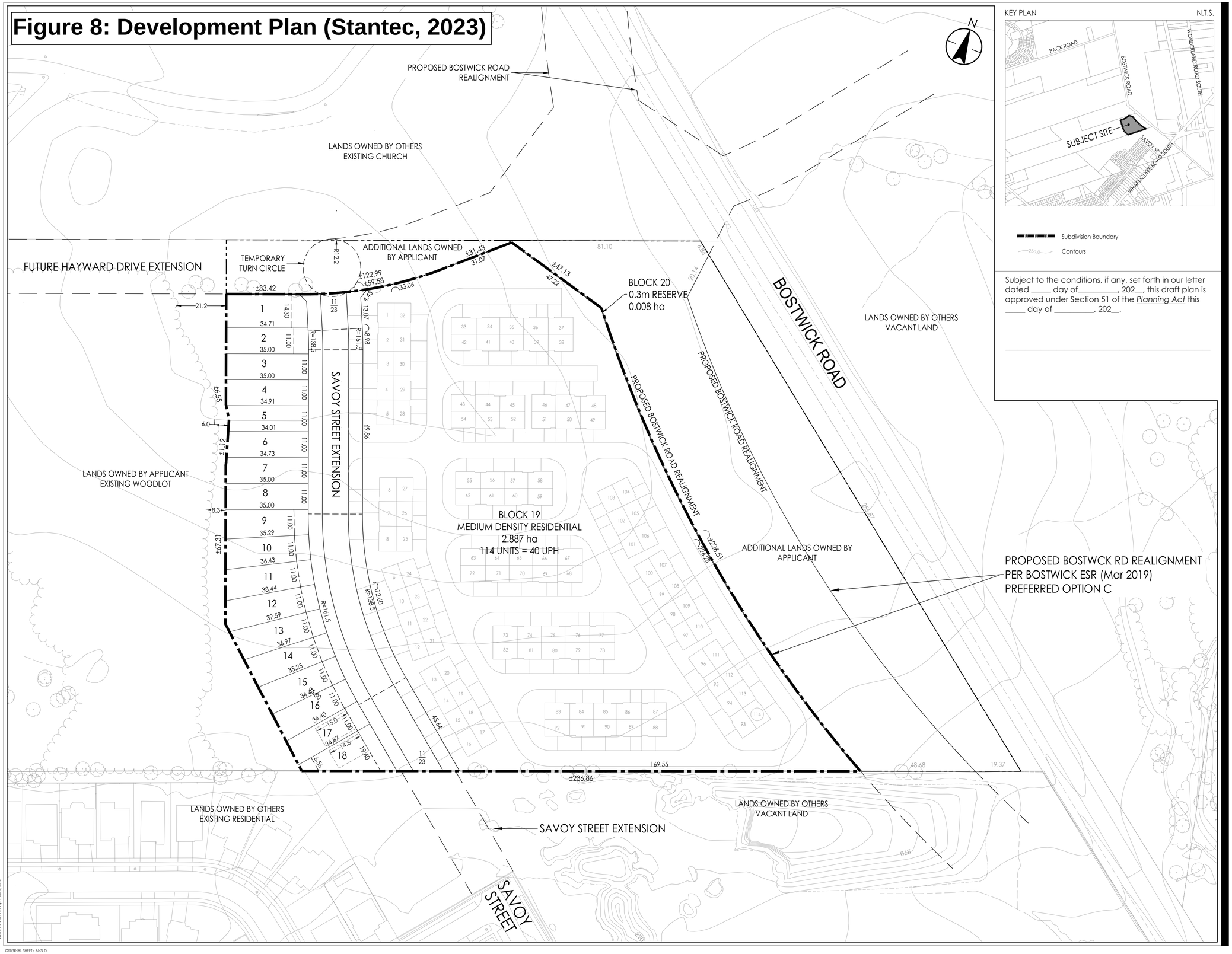
MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
SIGNIFICANT NATURAL HERITAGE FEATURES AND KEY FINDINGS

Drawn DCH	Scale AS SHOWN	**FIGURE 7**
Checked	Project No. 45761-102	
Date Mar 22/23	Rev No. 0	

Figure 8: Development Plan (Stantec, 2023)



KEY PLAN N.T.S.

Subdivision Boundary

Contours

Subject to the conditions, if any, set forth in our letter dated _____ day of_____, 202__, this draft plan is approved under Section 51 of the *Planning Act* this _____ day of _____, 202__.

_____

Stantec

Stantec
600-171 Queens Avenue
London ON N6A 5J7
Tel. 519-645-2007
www.stantec.com

Liability Note

The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

DRAFT PLAN OF SUBDIVISION
THE HEATHWOODS

PART OF
LOTS 72 & 73
EAST of the NORTH BRANCH
of the TALBOT ROAD
(GEOGRAPHIC TOWNSHIP OF WESTMINSTER)
and part of Block 33 Plan M-63
IN THE
CITY OF LONDON
COUNTY OF MIDDLESEX

INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

A: AS SHOWN ON DRAFT PLAN
B: AS SHOWN ON DRAFT AND KEY PLAN
C: AS SHOWN ON DRAFT AND KEY PLAN
D: ACCORDING TO LAND USE SCHEDULE
E: RESIDENTIAL, AGRICULTURAL, COMMERCIAL
F: AS SHOWN ON DRAFT PLAN
G: AS SHOWN ON DRAFT AND KEY PLAN
H: MUNICIPAL PIPED WATER TO BE INSTALLED
I : SILTY CLAY OVERLYING SILTY CLAY TILL
J: AS SHOWN ON DRAFT PLAN
K: MUNICIPAL SANITARY AND STORM SEWERS TO BE INSTALLED
L: AS SHOWN ON PLAN

SCHEDULE OF LAND USE

SINGLE FAMILY RESIDENTIAL	- LOTS 1 TO 18	0.743 ha
MEDIUM DENSITY RESIDENTIAL	- BLOCK 19	2.887 ha
0.3m RESERVE	- BLOCK 20	0.008 ha
ROADS		0.488 ha
	TOTAL	4.126 ha

OWNER'S AUTHORIZATION

THE UNDERSIGNED AUTHORIZES THE PREPARATION AND SUBMISSION OF THIS DRAFT PLAN OF SUBDIVISION.

JAMIE CRICH, PRESIDENT
COLONEL TALBOT DEVELOPMENTS INC.
AUTHORIZING AGENT — DATE

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED, AS SHOWN ON THIS PLAN, AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

PATRICK WOOLLEY O.L.S.
STANTEC GEOMATICS — DATE

Notes

1. THIS IS A COMPILED PLAN AND SHOULD NOT BE CONSIDERED A PLAN OF SURVEY.
2. ONTARIO BASE MAPPING USED FOR AREAS AND DIMENSIONS. LEGAL PLAN REQUIRED FOR PRECISE CALCULATIONS.

File Name: 161403241_j-db	RT	BB	RT	23.03.09
	Dwn.	Chkd.	Dsgn.	YY.MM.DD

Client/Project

COLONEL TALBOT DEVELOPMENTS INC.

COLONEL TALBOT SUBDIVISION

London, ON Canada

Title

DRAFT PLAN OF SUBDIVISION

Project No.	Scale	
161403241	HORZ - 1 : 750 (7.5 0 15m)	
Drawing No.	Sheet	Revision
1	1 of 1	

W:\161403241 - Colonel Talbot Road - Auburn Developments Inc\design\drawing\Planning\model_files\figure\Colonel Talbot Estn\161403241_j-db.dwg
2023-5-9 12:08 PM by: Turner, Rich

ORIGINAL SHEET - ANSI D

ELC NUMBER	ELC CODE	Description
1	FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest (2.03ha)
2		Agricultural - includes W (0.56ha)
3	SWD4-1	Willow Mineral Deciduous Swamp Type
AG		Agricultural (6.26ha)
W		Wet Depression - seasonal (0.08ha)

N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m around Subject Site)
- LIMIT OF DEVELOPMENT
- VEGETATION COMMUNITY
- VEGETATION COMMUNITY (Wet Depression Inclusion Area)
- EAST PATCH 10070 DELINEATED BOUNDARY
- SIGNIFICANT WOODLAND

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, OPEN DATA SET; AND STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, MARCH 9 - 2023.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
DEVELOPMENT OVERLAY

Drawn: DCH	Scale: AS SHOWN
Checked:	Project No.: 45761-102
Date: Mar 22/23	Rev No.: 0

FIGURE 9

Client: Colonel Talbot Developments Inc. Plot Date: 22 March 2023 Time:12:57:25

CAD: P:\45761\102\2_PROD\45761-102-R02 ENVIRONMENTAL IMPACT STUDY\45761-102-R02009.DWG
0 25mm Original Format in Tabloid (279mm x 432mm; 11" x 17")

ELC NUMBER	ELC CODE	Description
1	FOD5-2	Dry-Fresh Sugar Maple-Beech Deciduous Forest (2.03ha)
2		Agricultural - includes W (0.56ha)
3	SWD4-1	Willow Mineral Deciduous Swamp Type
AG		Agricultural (6.26ha)
W		Wet Depression - seasonal (0.08ha)

THE HEDGEROW WITHIN THE SUBJECT LANDS IS PROPOSED TO BE REMOVED FOR THE FUTURE HAYWARD DRIVE EXTENSION. REMOVAL OF THESE TREES SHOULD BE ADDRESSED BY THE CITY OF LONDON

SEDIMENT AND EROSION CONTROL FENCING SHOULD BE INSTALLED AROUND THE DEVELOPMENT LIMITS BESIDE PATCH 10070

REMOVE BUCKTHORN WITHIN THE 10m EDGE OF COMMUNITY 1. REMOVAL AND CONTROL OF INVASIVE SPECIES SHOULD FOLLOW PUBLISHED BEST MANAGEMENT PRACTICES, SUCH AS THOSE PUBLISHED BY THE ONTARIO INVASIVE PLANT COUNCIL (2020)

INSTALL A PERMANENT FENCE POST-CONSTRUCTION TO DISCOURAGE ENCROACHMENT INTO THE ADJACENT NATURAL AREA

LANDS OWNED BY OTHERS EXISTING CHURCH
LANDS OWNED BY OTHERS VACANT LAND
TEMPORARY TURN CIRCLE
ADDITIONAL LANDS OWNED BY APPLICANT
FUTURE HAYWARD DRIVE EXTENSION
BLOCK 20 0.3m RESERVE
BOSTWICK ROAD
PROPOSED BOSTWICK RD REALIGNMENT PER BOSTWICK ESR (Mar 2019) PREFERRED OPTION C
PROPOSED BOSTWICK ROAD REALIGNMENT
PROPOSED BOSTWICK ROAD REALIGNMENT
AG
ADDITIONAL LANDS OWNED BY APPLICANT
SAVOY STREET EXTENSION
BLOCK 19 MEDIUM DENSITY RESIDENTIAL
AG
LANDS OWNED BY OTHERS VACANT LAND
PATCH 10070
LANDS OWNED BY APPLICANT EXISTING WOODLOT
W
15.6m
4.1m
1.6m
6.6m
4.1m
10.7m
26.5m
RED THORNE AVENUE
BAKERVILLA STREET
SAVOY STREET
WESTWICK WALK

N

LEGEND

- SUBJECT LANDS
- STUDY AREA (120m around Subject Site)
- LIMIT OF DEVELOPMENT
- PERMANENT FENCE
- VEGETATION COMMUNITY
- VEGETATION COMMUNITY (Wet Depression Inclusion Area)
- EAST PATCH 10070 DELINEATED BOUNDARY
- SIGNIFICANT WOODLAND
- NATURALIZED BUFFER

REFERENCES

CITY OF 2021 LONDON PARCEL AND AERIAL IMAGERY, OPEN DATA SET; AND STANTECT DRAFT PLAN OF SUBDIVISION, PROJECT No. 161403241, DRAWING No. 1, MARCH 9 - 2023.

NOTES

THIS FIGURE IS SCHEMATIC ONLY AND TO BE READ IN CONJUNCTION WITH ACCOMPANYING TEXT.

ALL LOCATIONS ARE APPROXIMATE.

SCALE IN METRES
0 40 80m
1:2,000

MTE
Engineers, Scientists, Surveyors

PROJECT
ENVIRONMENTAL IMPACT STUDY
COLONEL TALBOT SUBDIVISION EAST
(HEALTHWOODS EAST)
LONDON, ONTARIO

TITLE
MITIGATION MEASURES

Drawn DCH	Scale AS SHOWN	**FIGURE 10**
Checked	Project No. 45761-102	
Date Mar 22/23	Rev No. 0	

Appendix A

Initial Proposal Report
(February 23, 2022)

Auburn
DEVELOPMENTS

February 23, 2022

Mr. Bruce Page
Manager, Subdivision Planning
Planning and Development
City of London

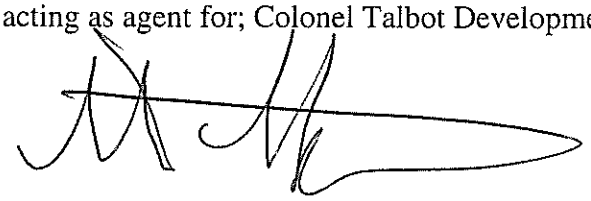
Re: Initial Proposal Report- 3849 Campbell St. Colonel Talbot East

In relation to our discussion last February 16, 2022, we are submitting our Initial Proposal Report for 3849 Campbell St, Colonel Talbot East. Enclosure includes the following:

- Initial Proposal Report
- Preliminary Servicing Brief
- Draft plan of the Subdivision
- Zoning Plan of the Subdivision

Thank you for your consideration and we look forward to working with the City of London in the next steps of the Pre-Consultation process. Should you require any further information, or verification of the submitted materials, please feel free to contact us.

Yours truly,
Auburn Developments Inc.
acting as agent for; Colonel Talbot Developments Inc.



Per, Stephen Stapleton,

Vice President

t 519 434 1808 f 519 434 5084
560 Wellington St. 2nd Floor
London, ON N6A 3R4

AuburnDev.com

Initial Proposal Report

Colonel Talbot East

3849 Campbell St.

Planning Manager Name: Mr. Bruce Page

Date Prepared: February 23, 2022

1.0 Introduction

The proposed plan of subdivision is located within the southwest quadrant of the City of London within the Future roads of Hayward Ave, Bostwick Rd, and extension of Savoy Street.

The subject lands are directly South of the future Hayward Drive and future Bostwick Road intersection. The total lands proposed to be developed for residential use has an area of 6.684 ha. This area of land for the planned residential use, and within the UGB boundary, and is within the Southwest Area Secondary Plan. The subject land is currently vacant and there is no structures present.

SCHEDULE OF LAND USE

SINGLE FAMILY RESIDENTIAL	- LOTS 1 TO 28	1.295 ha
MEDIUM DENSITY RESIDENTIAL	- BLOCKS 29 & 30	3.186 ha
EX. BOSTWICK RD RIGHT-OF-WAY	- BLOCKS 31 & 32	0.734 ha
PRO. BOSTWICK RD REALIGNMENT	- BLOCK 33	0.997 ha
ROADS		0.472 ha
TOTAL		**6.684 ha**

Applicant / Consulting Team

The landowner and applicant is Colonel Talbot Developments Inc. The prime contact is Stephen Stapleton, VP of Auburn Developments. The consulting engineer on file is Stantec Consulting Ltd. The key contacts for Stantec are Tim Stubgen and Dan Vucetic.

2.0 Provincial Policy Statement

The proposed subdivision application conforms with and supports the Provincial Policy Statement. The PPS is divided into 3 main sections (1.0 – Building Strong Communities; 2.0 – Wise Use and Management of Resources; 3.0 – Protecting Public Health and Safety). The proposal is supported by the key policies of the main sections as follows:

Building Strong Communities:

The subdivision as proposed supports the policies and guidelines of this section of the Provincial Policy Statement in the following ways:

- It's an efficient land use and subdivision plan offering a mix of housing alternatives while respecting and maintaining open space and natural areas; (1.1.1 a/b)
- The land use patterns pose no threat to the environment or public health and safety; (1.1.1 c)

- It's a logical extension of the built environment and within the defined settlement boundary of the City of London; (1.1.1 d)
- Infrastructure extension into the subject lands is a logical continuation of the servicing network existing and planned for the greater area; (1.1.1 g)

It also supports the Settlement Area objectives of:

- Settlement areas as the focus of growth; (1.1.3.1)
- New development in designated growth areas and adjacent to existing built up areas; (1.1.3.7)

Additional policies are met in the following ways:

- A range of housing types are proposed as part of this application; (1.4.1)
- There is the potential for affordable housing through the future development of townhouses within the medium density block; (1.4.3 a)
- Infrastructure and transportation systems will be strategically designed in a coordinated, efficient, and cost-effective manner; (1.6)

Wise Use and Management of Resources:

Section 3 of the PPS has been acknowledged but deemed non-applicable to the development application presented as there is no area identified for Environmental Review under the City of London Official Plan. As such, further investigation and boundary confirmation will not be required before this feature can be fully defined and incorporated into the design.

Protecting Public Health and Safety:

Section 3 of the PPS has been acknowledged but deemed non-applicable to the development application presented as there are no areas of natural or man-made hazards within the subject site.

3.0 Official Plan

Schedule A – Land Use of the City of London Official Plan denotes two uses across the subject site. Lots 1-28 have been identified as Low Density Residential. Blocks 29-32 are identified as Medium Density Residential.

The proposed development is in accordance with it's designated land use, thus, no official plan amendment is required.

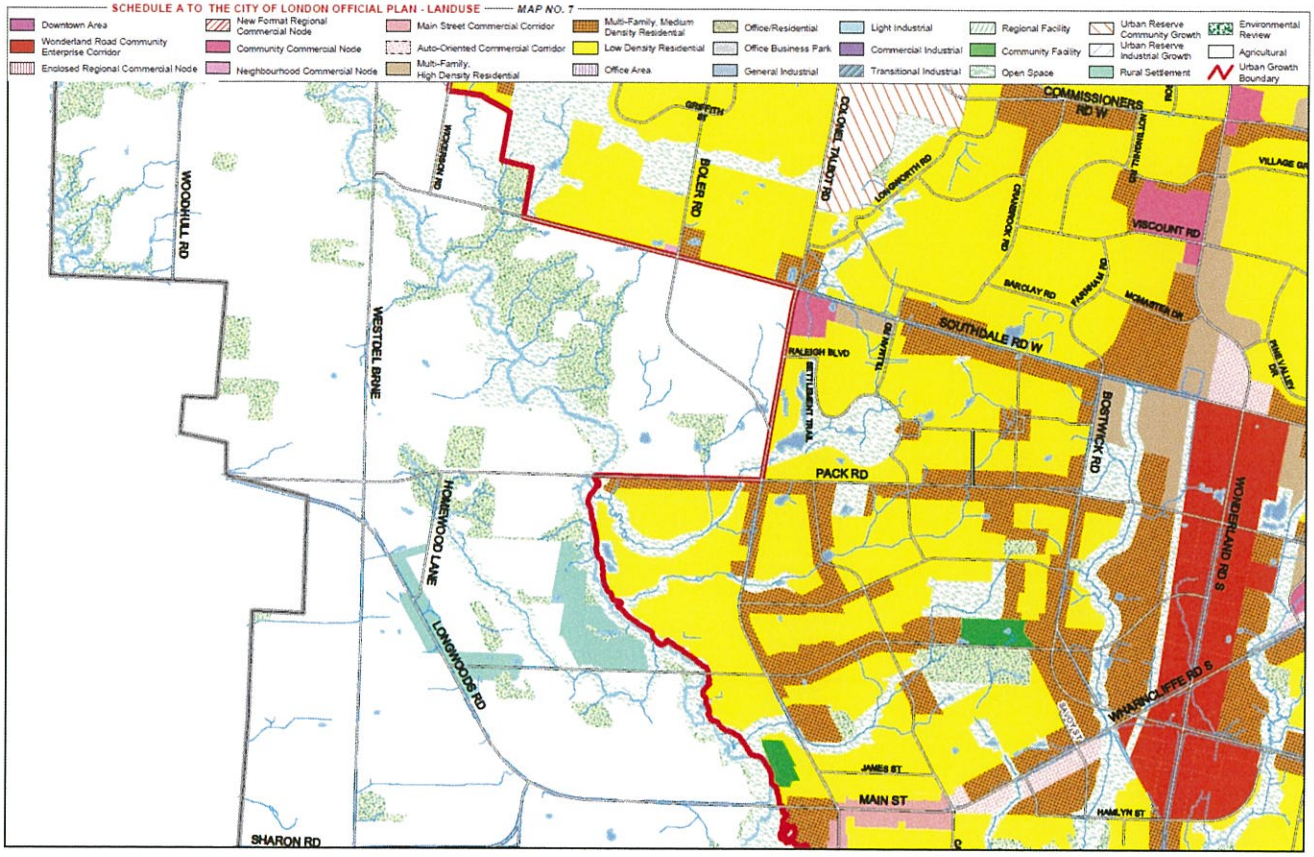


Figure 1: The City of London Official Plan-Land Use Map 7

Schedule 8 of Southwest Area Secondary Plan shows that Bostwick area is part of Residential Neighborhood Land Use Designation. The Bostwick Neighborhood aims to provide for residential development with the highest intensity of all the Residential Neighborhood Areas in the Southwest Planning Area. The focus for new developments within this area is to be on a mix of low to mid-rise housing forms, ranging from single detached dwellings to low rise apartment buildings within individual subdivisions and throughout the neighborhood. This focus is aligned to the proposed development as the proposed development is composed of a mixture of single family residential and medium density residential.

Schedule 8 of Southwest Area Secondary Plan identifies the subject land as low density and medium density residential as well. The Medium Density Residential Designation allows an increased residential density and a high-rise height without an Official Plan Amendment provided that the building allows for a mix of residential and limited retail uses integrated with the development of a public community facility and shall be located at the intersection of two arterial roads.

There is a Neighborhood Central Activity Node proposed on Hayward Ave north of the subject parcel of land. Neighborhood Central Activity Nodes are intended to provide a neighborhood-scale activity and gathering place for residents of the surrounding neighborhood. They are located generally in the center of each neighborhood area, at a significant intersection, and within walking distance of most residents. One of the permitted uses for this is a development with civic and institutional use such as church. There is already an existing church within the vicinity (Forest City Community Church) and we are anticipating that said church will act as the Neighborhood Central Activity Node for this area.

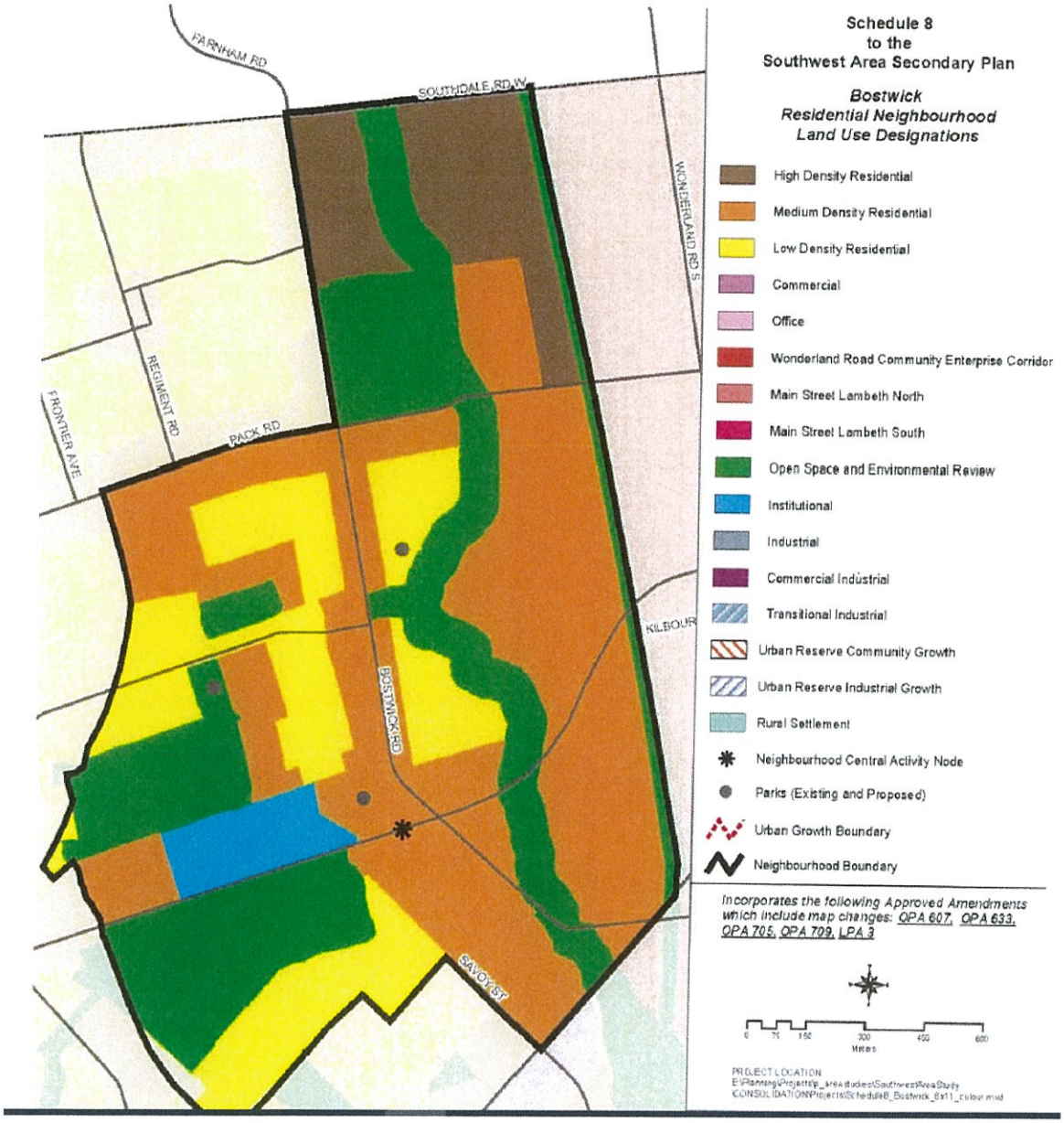


Figure 2: Bostwick Residential Neighborhood Land Use Designation

4.0 Zoning/By-Law

The City of London Zoning Bylaw Z-1 establishes UR4 land use zone across the subject site. The UR4 Zone is applied to areas which have not completed the Community Plan process which are intended for residential development over the long term. The proposed zone change is from the existing UR4 zone to a R1-3, R1-4, R4-6, R5-4, R6-5, R7/H20/D100, R8-4/H20/D100, R8-4(*)/H20/D150 zone. See attached plan for details.

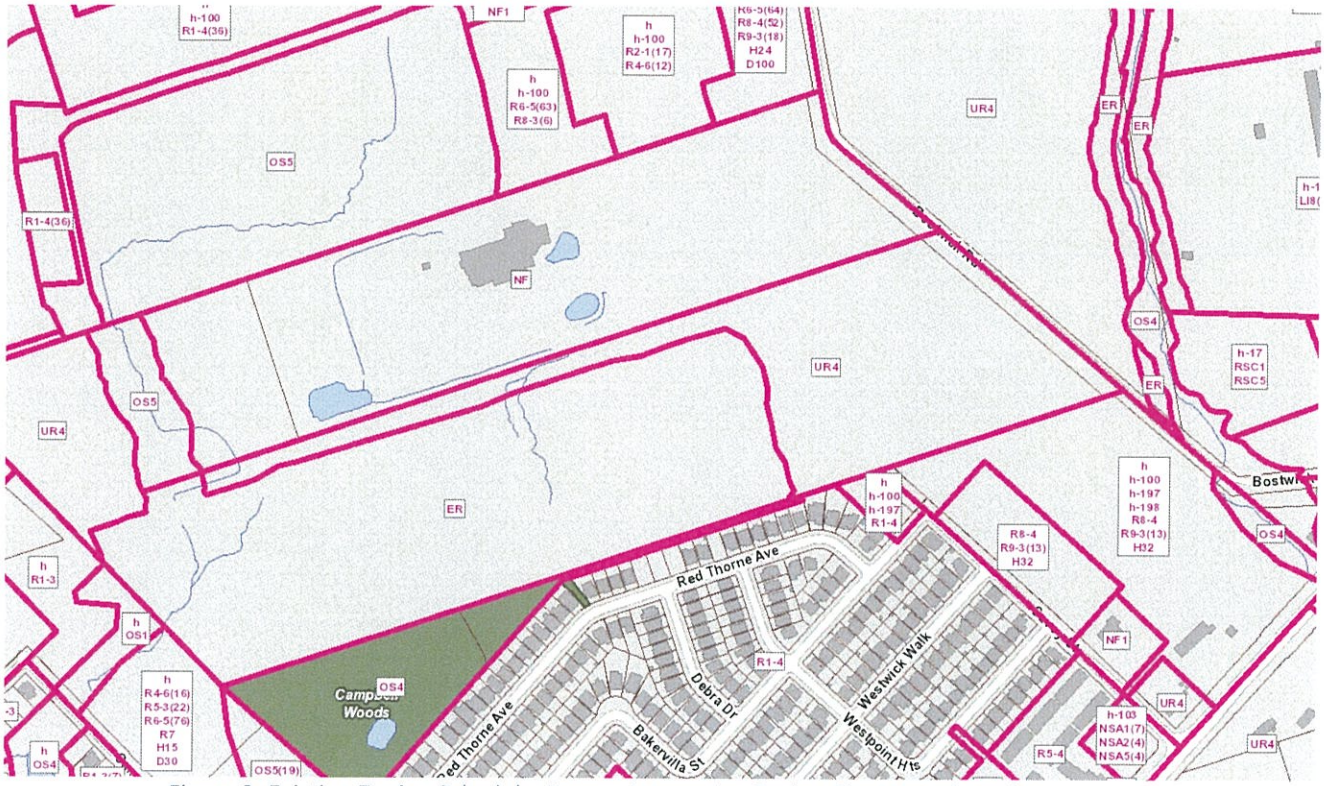


Figure 3: Existing Zoning Schedule; Source: Interactive Zoning City Map of London

5.0 Existing Conditions

The subject site is generally flat and utilized for agricultural purposes (cash crops).

The subject lands are surrounded by the following:

TO THE NORTH: Existing Church

TO THE EAST: Bostwick Road

TO THE SOUTH: Existing Residential/ Proposed TH Development

TO THE WEST: Vacant Lot and Woods

5.1 Environmental Conditions

We acknowledge that environmental review might be needed within the subject land. This area will be fully reviewed and defined with Environmental Impact Study.

5.2 Site Contamination

The historical use of the property has been for agricultural purposes (cash crops). Therefore, there is no reason to suspect that there is site contamination given the fact that no industrial uses, gas stations, landfills, etc. have been housed on the property nor have abutting properties housed uses of this nature.

No Record of Site Condition is required as no industrial or commercial uses have occurred on the subject property.

5.3 Archaeological/ Built Heritage Concerns

We acknowledge that completion of an Archaeological study is a requirement of a Complete Plan of subdivision application. Archaeological assessment will be done for this site prior to submission of Complete Draft Plan Application.

The proposed development is adjacent to these Environmental Review features. Setbacks and buffers will need to be assessed in an EIS.

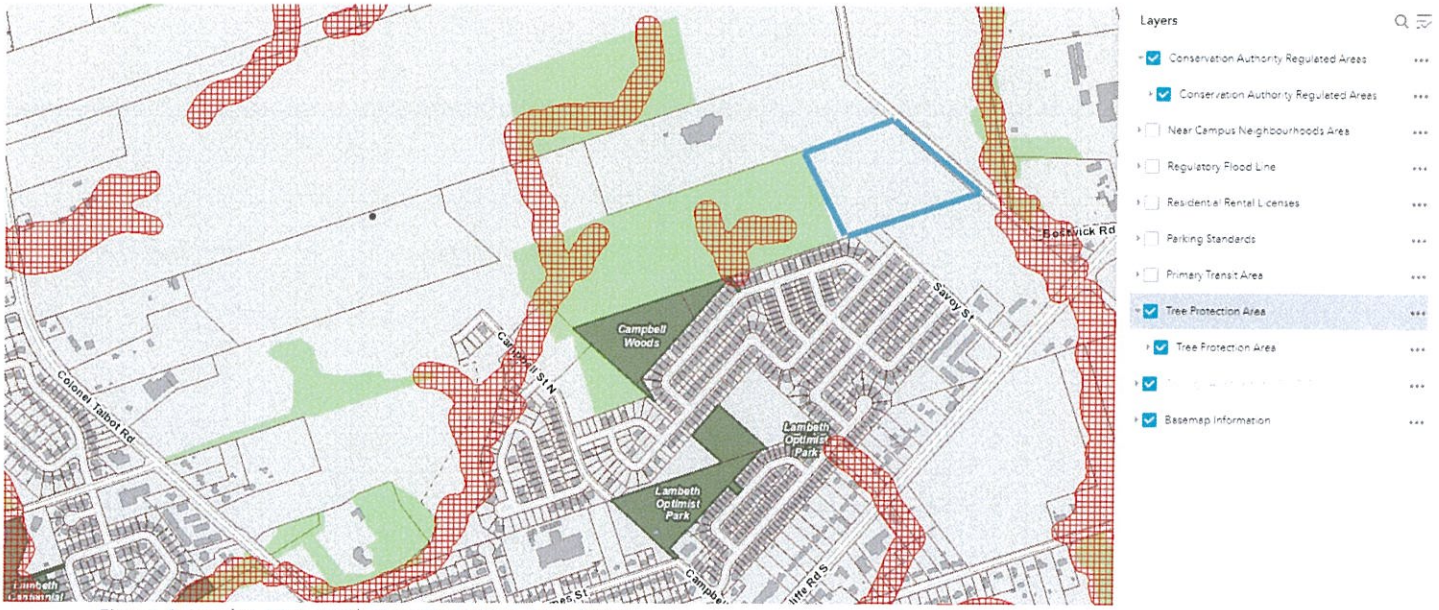


Figure 4: London Maps with Tree Protection Area Layer

6.0 Subdivision Design

The proposed development allows for the extension of Hayward Ave and Savoy Street. The future Bostwick road is shown, however, acquisition for this right of way has yet to be negotiated.

6.1 Existing Services

Sanitary

The sanitary outlet for the property is located south of the property in the Savoy road allowance. Sanitary treatment for this area is anticipated to be connected to the sanitary sewer stub available on Savoy Street, near intersection of Bakervilla Street.

Storm

The storm water outlet is also at the south of the property in the Savoy road allowance. There is an existing municipal 900mm diameter storm sewer which in the interim is fitted with DICB, available on Savoy Street, near intersection of Bakervilla Street. This is the intended minor flow outlet for subject lands.

Water

There is a watermain connection point at Savoy Street which will be used for this development. The proposed development will require approximately 60m watermain extension along potential Savoy Street extension through lands owned by others to service subject site.

Roads

The surrounding roads defining this subdivision include:

- Savoy Street-- An extension of an existing secondary collector will be required to the proposed Hayward Drive. This will provide access to the eastern portion of this subdivision.

- Bostwick Road runs north/south along the east limit of this development. There will be future Bostwick road acquisition required by the City.

7.0 Sanitary Servicing

As per attached Preliminary Servicing Analysis Brief from Stantec, the site is within the Greenway WWTP sanitary sewershed. There are currently no municipal sanitary sewers fronting the subject site.

There is an existing municipal 250mm diameter sanitary sewer stub available on Savoy Street, near intersection of Bakervilla Street. This is the intended outlet for subject lands.

The sanitary capacity of the downstream system is anticipated to be adequate for the proposed development based on City Record Drawing No. 27293. The outlet at Savoy Street has allocated capacity for 90 people/hectare which for the 5.949 ha site amounts to 535 people. However, surplus capacity of up to 959 people is available to be redistributed for lands to the west that may not require allocation.

This existing sewer is at an invert of 260.518 m which will allow gravity servicing of the subject site (average existing surface elevation of 270m).

The proposed development will require approximately 55m sanitary sewer extension along potential Savoy Street extension through lands owned by others to service subject site.

We note that a 450mm SS14B sanitary trunk sewer (DC14-WW00011) is anticipated in 2022 east of subject lands in vicinity of Bostwick Road as per One Water – Growth Servicing DC study.

8.0 Water Servicing

As per attached Preliminary Servicing Analysis Brief from Stantec, water is available via the low-level 300mm watermain on north limit of Savoy Street within Foxwood Crossing Phase 3 (33M-709 as per City of London Record Drawing # 27307). This watermain is part of the London low-level system which has a hydraulic grade line of 301.8m. It is generally accepted that the elevation of 273m is the highest elevation that can be serviced by the low-level system within the City.

The subject site given topography (approximate elevation of 270 m) is serviceable by low-level system, and therefore is anticipated to be serviced by single connection to 300mm watermain on Savoy Street. A secondary connection for looping is not required until such time as the development contain more than 80 units serviced from a single source of supply.

Under ultimate condition looping may be provided via future Hayward Drive to the north, from existing Heathwoods Subdivision.

The proposed development will require approximately 60m watermain extension along potential Savoy Street extension through lands owned by others to service subject site.

9.0 Stormwater management (SWM)

As per attached Preliminary Servicing Analysis Brief from Stantec, there are currently no existing municipal storm sewers fronting the subject site, there is an existing downstream stormwater management facility (SWMF) designed for these lands within Foxwood Crossing Subdivision.

The downstream storm system has been designed for proposed development up to a runoff coefficient of 0.55 as per City of London Record Drawing #272292. Based on the proposed development land use the design capacity of the downstream storm system is not anticipated to be exceeded.

There is an existing municipal 900mm diameter storm sewer which in the interim is fitted with DICB, available on Savoy Street, near intersection of Bakervilla Street. This is the intended minor flow outlet for subject lands. This existing sewer is at an invert of 262.416m which will allow gravity servicing of the subject site. Similar to sanitary sewer, storm sewer will need be extended north along Savoy Street to service proposed development.

Major flows will be conveyed to the existing downstream SWMF via existing and proposed local road network.

10.0 Transportation

10.1 Transportation Impact Study

Presently, no Transportation Impact Study associated with the development of the subject subdivision, and the area has been completed, nor expected to be needed given the proposed roads in the area.

The subdivision is bound on the east by Bostwick Road. All roadways within the subdivision area will be under the jurisdiction of the City of London.

10.2 Internal Roadworks

This portion of the subdivision will be serviced by an extension of the existing Savoy Street from the south to the future Hayward Drive.

10.3 External Roadworks

This portion of the subdivision is bounded by Bostwick Road which runs from north to south along the east limit of this development. There will be future Bostwick road acquisition required by the City.

10.4 Bicycle and Pedestrian Considerations

Bicycle and Pedestrian considerations will need to be discussed in further detail with City staff.

11.0 Natural Heritage/Parks

11.1 Natural Heritage System

There is a vegetational patch identified in the Natural Heritage features in the City of London Official Plan Schedule 'B". The woodland has been historically highly disturbed prior to the property acquisition of the current landowner. Land is farmed up to and under the tree dripline. Edge species need to be further evaluated to determine appropriate setbacks to protect what remains of the woodland feature.

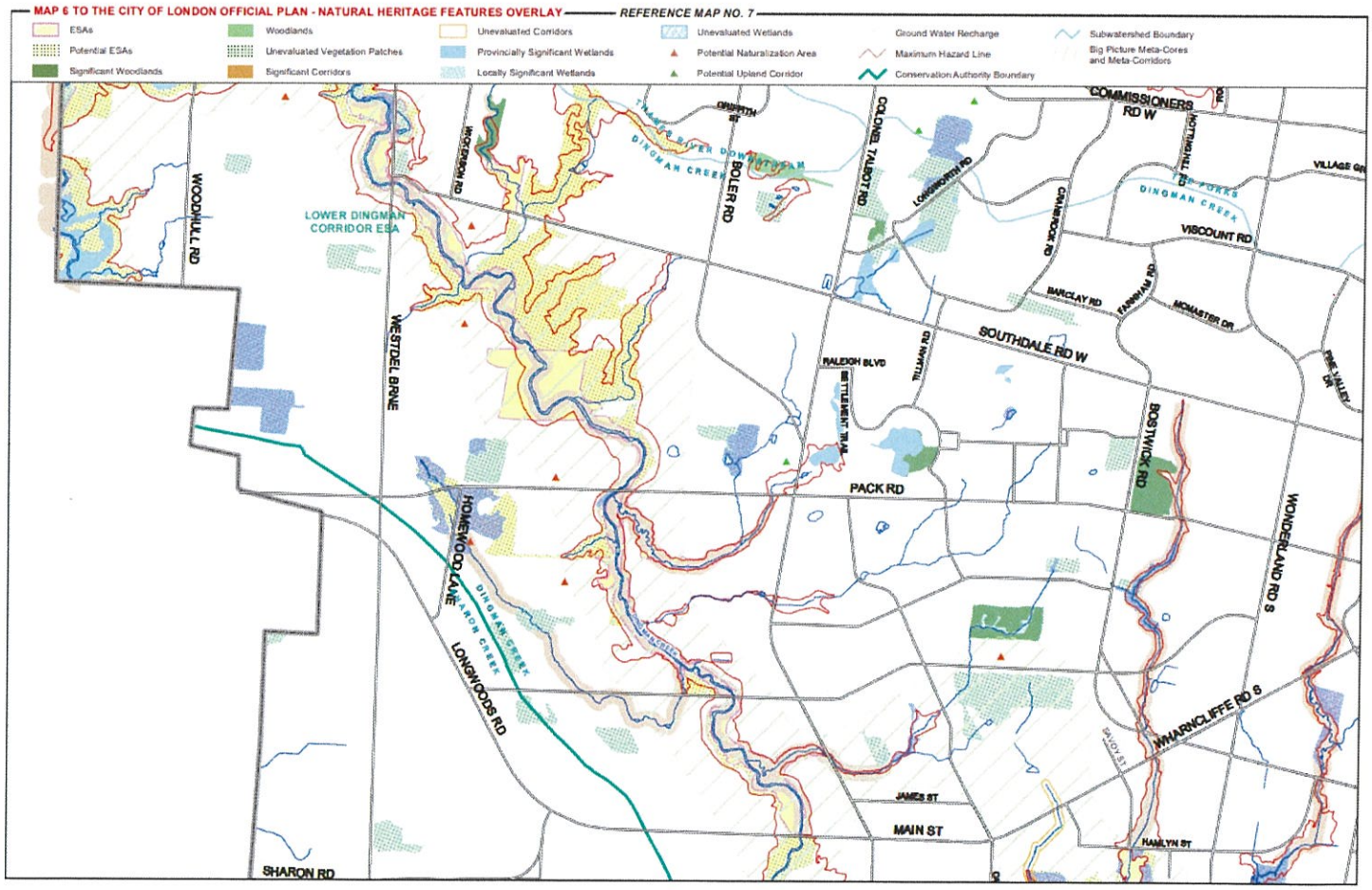


Figure 5: the City of London Official Plan- Natural Heritage Feature Overlay Ref Map 7

11.2 Parks & Open Space

The proposed plan of subdivision does not propose any additional greenspace or parks given the allocation in the Draft Approved Plan 39T-12503 located to the west.

12.0 Financial Implications

The Colonel Talbot Subdivision East provides a range of housing types and densities to provide variety and choice. Financial Implications for this proposed development will be provided subsequent to the Proposal Review Meeting to address proposed roads and sewers and how they are to be funded. It is anticipated that both Hayward and Bostwick are Dc eligible roads and acquisition of the Bostwick Road is required.

13.0 Appendices

Please see attached enclosures for the Colonel Talbot East Subdivision- Preliminary Servicing analysis Brief. This also includes the Draft Plan of the Subdivision as well as the Zoning Plan of the Subdivision.

Stantec Consulting Ltd.
600-171 Queens Avenue, London ON N6A 5J7

October 25, 2021
File: 161403241

Attention: Steve Stapleton
Colonel Talbot Developments
560 Wellington Street, 2nd floor
London ON N6A 3R4

Dear Steve,

Reference: Colonel Talbot East Subdivision – Preliminary Servicing Analysis Brief

This preliminary servicing overview has been prepared for Colonel Talbot Developments for the proposed development of the 6.684 ha parcel at Colonel Talbot East lands north of Savoy Street and west of Bostwick Road. The proposed development consists of 28 single family lots and 4.184 ha of additional residential lands, herein referred to as the site.

The purpose of this memo is to provide inventory of the existing storm, water and sanitary servicing infrastructure for the feasibility of developing this site as proposed.

Based on the available as-constructed drawings attached herein, the site has servicing infrastructure available in vicinity at Savoy Street.

SANITARY

The site is within the Greenway WWTP sanitary sewershed. There are currently no municipal sanitary sewers fronting the subject site.

There is an existing municipal 250mm diameter sanitary sewer stub available on Savoy Street, near intersection of Bakervilla Street. This is the intended outlet for subject lands.

The sanitary capacity of the downstream system is anticipated to be adequate for the proposed development based on City Record Drawing No. 27293. The outlet at Savoy Street has allocated capacity for 90 people/hectare which for the 5.949 ha site amounts to 535 people. However, an additional capacity of up to 959 people may be available to be redistributed if not utilized by woodlot to the west.

This existing sewer is at an invert of 260.518 m which will allow gravity servicing of the subject site (average existing surface elevation of 270m).

The proposed development will require approximately 55m sanitary sewer extension along potential Savoy Street extension through lands owned by others to service subject site.

Reference: **Colonel Talbot East Subdivision – Preliminary Servicing Analysis Brief**

We note that a 450mm SS14B sanitary trunk sewer(DC14-WW00011) is anticipated in 2022 east of subject lands in vicinity of Bostwick Road as per One Water – Growth Servicing DC study.

WATER

Water is available via the low-level 300mm watermain on north limit of Savoy Street within Foxwood Crossing Phase 3 (33M-709 as per City of London Record Drawing # 27307). This watermain is part of the London low-level system which has a hydraulic grade line of 301.8m. It is generally accepted that the elevation of 273m is the highest elevation that can be serviced by the low-level system within the City.

The subject site given topography (approximate elevation of 270 m) is serviceable by low-level system, and therefore is anticipated to be serviced by single connection to 300mm watermain on Savoy Street. A secondary connection for looping is not required until such time as the development contain more than 80 units serviced from a single source of supply.

Under ultimate condition looping may be provided via future Hayward Drive to the north, from existing Heathwoods Subdivision.

The proposed development will require approximately 60m watermain extension along potential Savoy Street extension through lands owned by others to service subject site.

STORM

There are currently no existing municipal storm sewers fronting the subject site, there is an existing downstream stormwater management facility (SWMF) designed for these lands within Foxwood Crossing Subdivision.

The downstream storm system has been designed for proposed development up to a runoff coefficient of 0.55 as per City of London Record Drawing #272292. Based on the proposed development land use the design capacity of the downstream storm system is not anticipated to be exceeded.

There is an existing municipal 900mm diameter storm sewer which in the interim is fitted with DICB, available on Savoy Street, near intersection of Bakervilla Street. This is the intended minor flow outlet for subject lands. This existing sewer is at an invert of 262.416m which will allow gravity servicing of the subject site. Similar to sanitary sewer, storm sewer will need be extended north along Savoy Street to service proposed development.

Major flows will be conveyed to the existing downstream SWMF via existing and proposed local road network.

Reference: **Colonel Talbot East Subdivision – Preliminary Servicing Analysis Brief**

CONCLUSION

We trust this meets with your requirements at this time for the inventory of the existing storm, water and sanitary servicing infrastructure for the feasibility of developing this site.

Based on the proposed draft pan of subdivision prepared by Stantec, we note that there may be challenges to service lands east of proposed Bostwick Road realignment due to their location in relation to Savoy Street infrastructure. Consideration should be given to servicing easements within proposed development to utilize intended outlet at Savoy Street. Alternatively, proposed Bostwick Road will need servicing infrastructure to consider Block 29 lands.

Should you have any question, or require further information, please contact the undersigned.

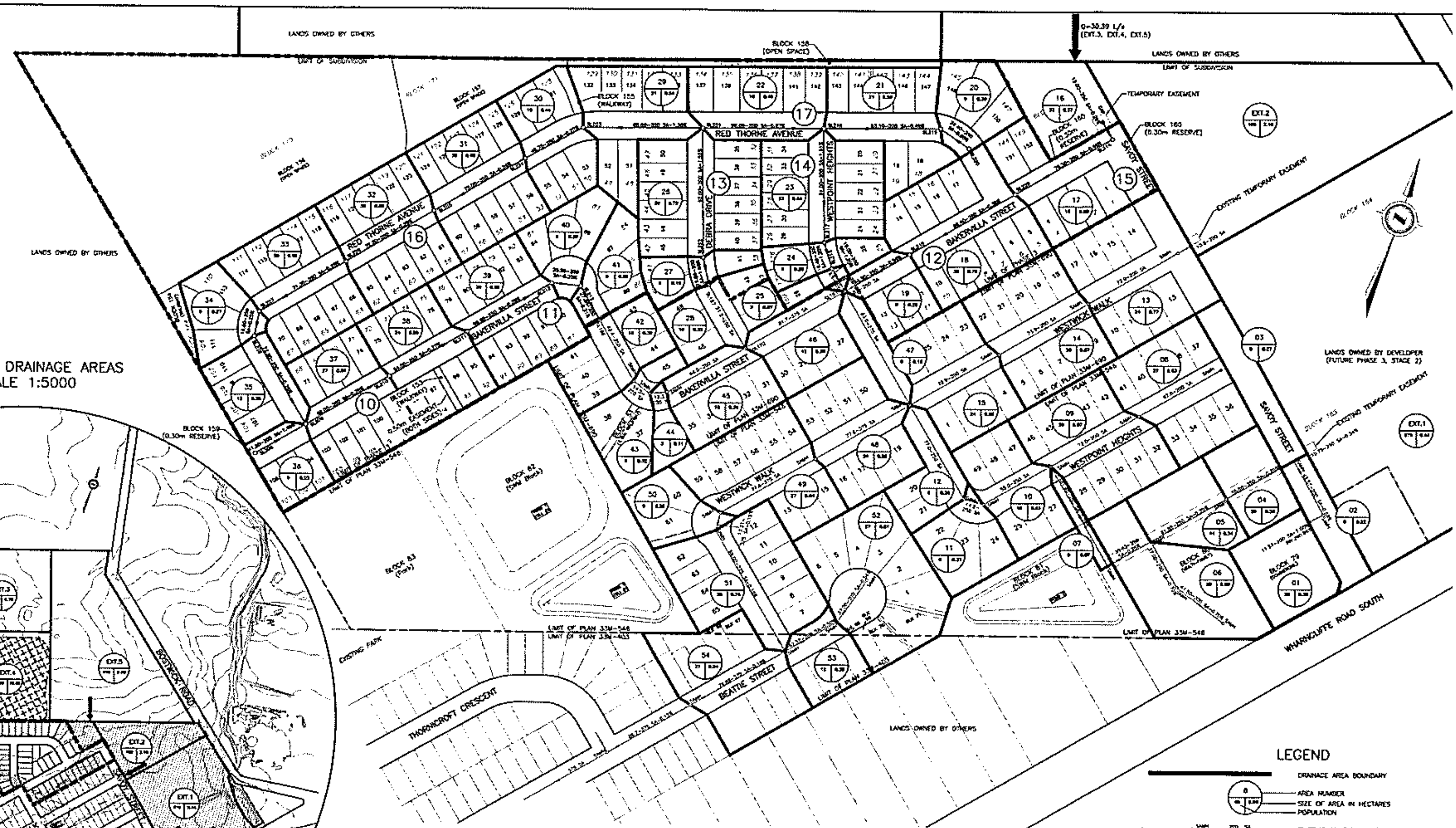
Sincerely,

Dan Vucetic MESc., P.Eng.
Project Manager
Phone: 519-675-6655
Dan.Vucetic@stantec.com

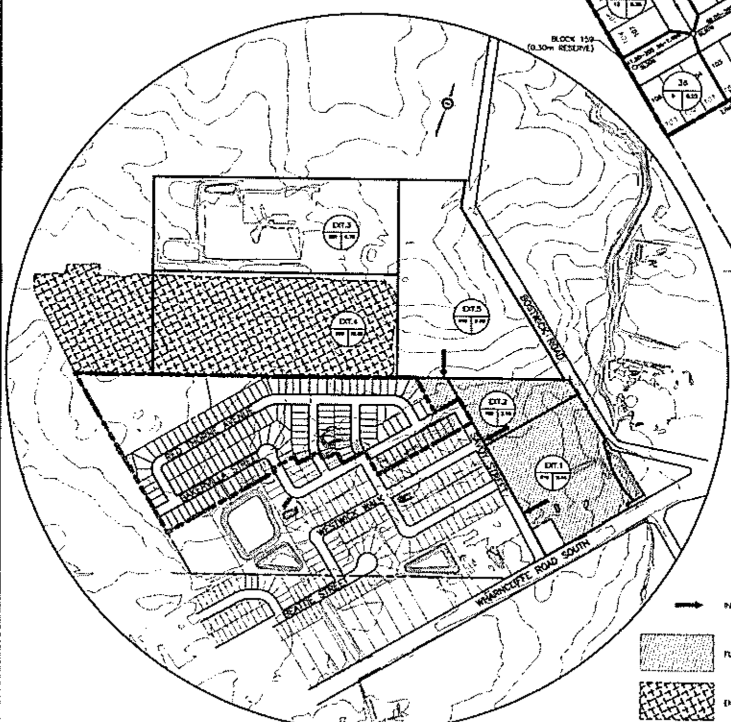
Attachment: City of London Record Drawings
Draft Plan of Subdivision

c. Colonel Talbot Developments

vd c:\users\dvucetic\desktop\colonel talbot east lands - bostwick\let_161403241_20211025_servicing.docx



EXTERNAL DRAINAGE AREAS
SCALE 1:5000



INLET LOCATION

FUTURE PHASE 3, STAGE 2

ENVIRONMENTAL REVIEW ZONE

UTM

DRAWING LAYOUT IS SET TO UTM COORDINATES

BENCHMARKS

VERTICAL CONTROL MONUMENT V010955005; BRONZE CAP IN CONCRETE CURB IN THE POLICE VILLAGE OF LAMBETH, ON COLONEL TALBOT ROAD, 4.5 METRES NORTH OF THE CENTRELINE OF SUNRAY AVENUE, 15.5 METRES EAST OF THE CENTRELINE OF COLONEL TALBOT ROAD, SET IN THE CONCRETE CURB. GEODETIC ELEVATION 250.122 METRES

VERTICAL CONTROL MONUMENT V010955008; BRONZE CAP IN CONCRETE CURB IN THE POLICE VILLAGE OF LAMBETH, ON SUNRAY AVENUE, 100 METRES NORTH OF ASPEN PLACE, 27.7 METRES NORTH OF THE CENTRELINE OF A GRAVEL DRIVE TO A 2-STOREY WHITE BRICK HOUSE (MUNICIPAL #103), 4.3 METRES WEST OF THE CENTRELINE OF SUNRAY AVENUE, SET IN THE CONCRETE CURB. GEODETIC ELEVATION 258.140 METRES

LEGEND

- DRAINAGE AREA BOUNDARY
- AREA NUMBER / SIZE OF AREA IN HECTARES / POPULATION
- EXISTING SANITARY SEWER AND MANHOLE
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING PLUG OR CAP
- PROPOSED PLUG OR CAP
- 74 — LOT NUMBER
- 77 — DRAFT PLAN LOT NUMBER
- LIMIT OF PHASE 3, STAGE 1
- LIMIT OF SUBDIVISIONS
- (10) — PLAN / PROFILE DRAWING NUMBER

EXISTING SERVICES	DRAWING # / SHEETS	DATE	AS CONSTRUCTED SERVICES	COMPLETION	DETAILS	No.	REVISIONS	DATE
					DESIGN	1.	REVISED PER CITY COMMENTS	APRIL 2015
					DRAWN	2.	REVISED TO AS CONSTRUCTED	JUNE 2017
					CHECKED			
					APPROVED			
					DATE FEBRUARY 2015			
					FILENAME.DWG			

AGM — PLAN • SURVEY • ENGINEER
ARCHIBALD, GRAY & McKAY ENGINEERING LTD.

S. P. BROWN — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

London CANADA
CORPORATION OF THE CITY OF LONDON

SCALE 1:1500

FOXWOOD CROSSING PHASE 3, STAGE 1
1640209 ONTARIO LIMITED
33M-709

SANITARY DRAINAGE PLAN

PROJECT No. 1106-17
SHEET No. 04
PLAN FILE No. 27293

TEMPORARY DRAINAGE

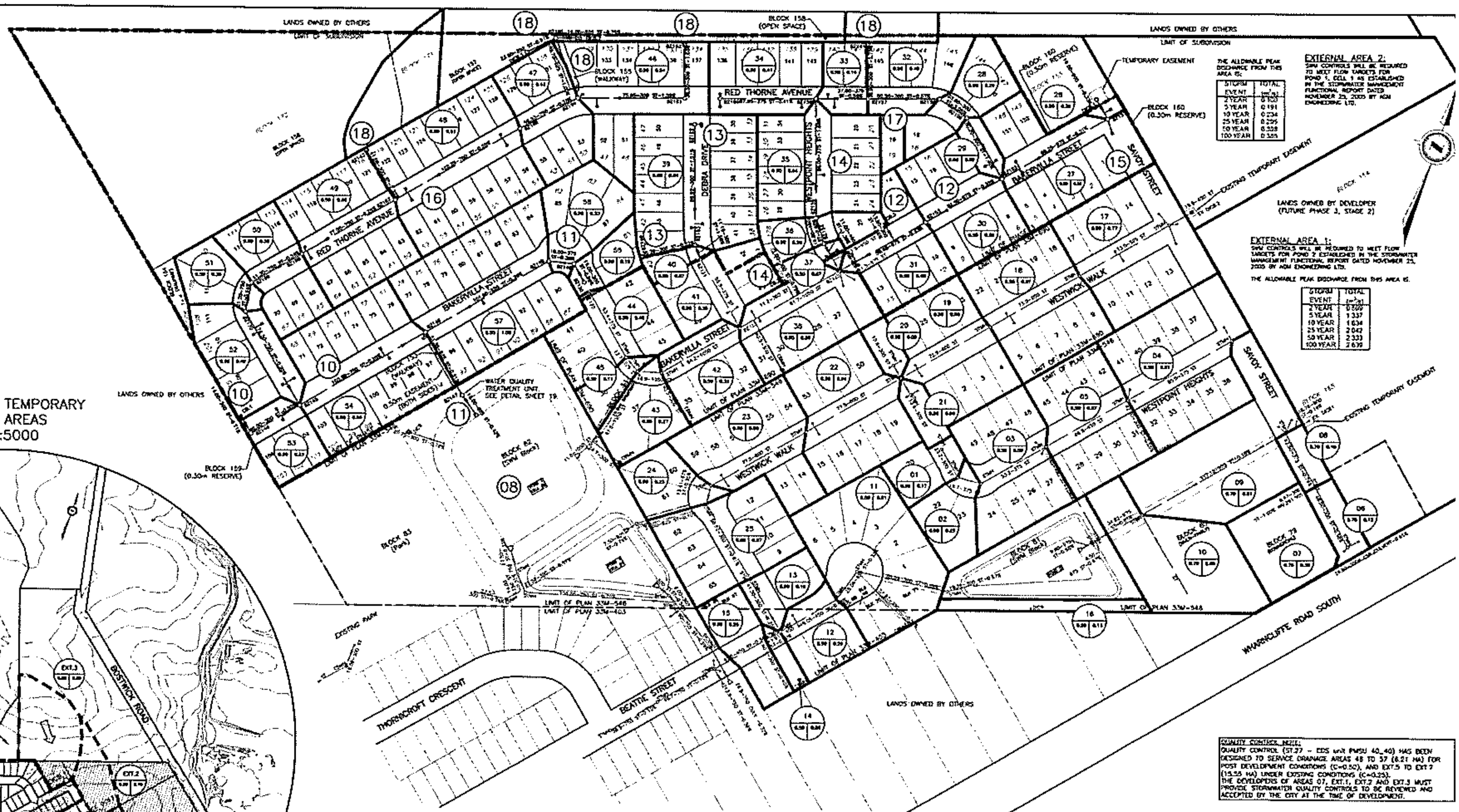
	EX.DICB.1	EX.DICB.2	DICB.1
Area (A)	1.22 ha	1.37 ha	2.50 ha
Runoff Coefficient C	0.20	0.20	0.20
Slope Length (L)	212 m	271 m	270 m
Grade (Sw)	0.92%	2.82%	2.03%
Time of Concentration (Tc)	29.4 min	32.1 min	35.2 min
Rainfall Intensity (i)	46.9 mm/hr	53.8 mm/hr	50.6 mm/hr
Flow (Q)	31.8 l/s	41.0 l/s	81.6 l/s
Pipe Capacity	774.9 l/s	551.3 l/s	1250.5 l/s

Airport Method Tc = 3.26(1.1-C)L^0.5 / Sw^0.33

FLOW Q=2.78CiA

LEGEND FOR EXTERNAL AND TEMPORARY DRAINAGE AREAS

- TEMPORARY DRAINAGE AREA BOUNDARY
- EXTERNAL DRAINAGE AREA BOUNDARY
- EXISTING OVERLAND FLOW ROUTE



EXTERNAL AREA 2:
SWM CONTROLS WILL BE REQUIRED TO MEET FLOW TARGETS FOR POND 1, CELL 1 AS ESTABLISHED IN THE STORMWATER MANAGEMENT FUNCTIONAL REPORT DATED NOVEMBER 25, 2005 BY AGM ENGINEERING LTD.

THE ALLOWABLE PEAK DISCHARGE FROM THIS AREA IS:

STORM EVENT	TOTAL (m³/s)
2 YEAR	0.103
5 YEAR	0.191
10 YEAR	0.234
25 YEAR	0.295
50 YEAR	0.328
100 YEAR	0.365

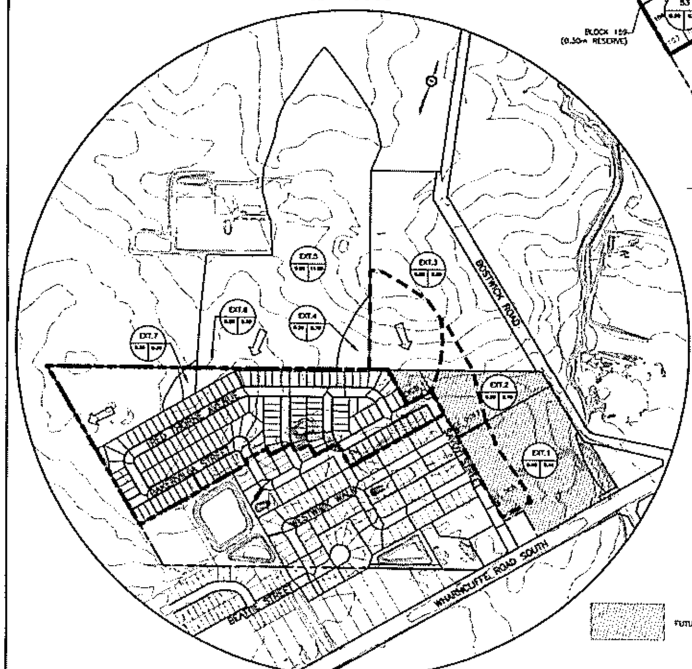
EXTERNAL AREA 1:
SWM CONTROLS WILL BE REQUIRED TO MEET FLOW TARGETS FOR POND 2 ESTABLISHED IN THE STORMWATER MANAGEMENT FUNCTIONAL REPORT DATED NOVEMBER 25, 2005 BY AGM ENGINEERING LTD.

THE ALLOWABLE PEAK DISCHARGE FROM THIS AREA IS:

STORM EVENT	TOTAL (m³/s)
2 YEAR	0.509
5 YEAR	1.337
10 YEAR	1.634
25 YEAR	2.042
50 YEAR	2.333
100 YEAR	2.639

QUALITY CONTROL NOTE:
QUALITY CONTROL (ST.27 – EDS unit PMSU 40_40) HAS BEEN DESIGNED TO SERVICE DRAINAGE AREAS 48 TO 57 (6.21 HA) FOR POST DEVELOPMENT CONDITIONS (C=0.50), AND EXT.5 TO EXT.7 (15.55 HA) UNDER EXISTING CONDITIONS (C=0.25).
THE DEVELOPERS OF AREAS 07, EXT.1, EXT.2 AND EXT.3 MUST PROVIDE STORMWATER QUALITY CONTROLS TO BE REVIEWED AND ACCEPTED BY THE CITY AT THE TIME OF DEVELOPMENT.

EXTERNAL AND TEMPORARY DRAINAGE AREAS SCALE 1:5000



FUTURE PHASE 3, STAGE 2

UTM

DRAWING LAYOUT IS SET TO UTM COORDINATES

BENCHMARKS

VERTICAL CONTROL MONUMENT V01095500X: BRONZE CAP IN CONCRETE CURB IN THE POLICE VILLAGE OF LAMBETH, ON COLONEL TALBOT ROAD, 4.5 METRES NORTH OF THE CENTRELINE OF SUNRAY AVENUE, 13.5 METRES EAST OF THE CENTRELINE OF COLONEL TALBOT ROAD, SET IN THE CONCRETE CURB. GEODETIC ELEVATION 260.122 METRES

VERTICAL CONTROL MONUMENT V01095500B: BRONZE CAP IN CONCRETE CURB IN THE POLICE VILLAGE OF LAMBETH, ON SUNRAY AVENUE, 100 METRES NORTH OF ASPEN PLACE, 27.7 METRES NORTH OF THE CENTRELINE OF A GRAVEL DRIVE TO A 2-STOREY WHITE BRICK HOUSE (MUNICIPAL #103), 4.5 METRES WEST OF THE CENTRELINE OF SUNRAY AVENUE, SET IN THE CONCRETE CURB. GEODETIC ELEVATION 258.140 METRES

LEGEND

- 74 — LOT NUMBER
- 71 — DRAFT PLAN LOT NUMBER
- LIMIT OF PHASE 3, STAGE 1
- LIMIT OF SUBDIVISION
- (10) — PLAN / PROFILE DRAWING NUMBER
- DRAINAGE AREA BOUNDARY
- AREA NUMBER / SIZE OF AREA IN HECTARES / RUN-OFF COEFFICIENT (C)
- EXISTING DITCH-INLET CATCHBASIN
- EXISTING CATCHBASIN/CURB INLET CATCHBASIN
- EXISTING STORM SEWER AND MANHOLE
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN/CURB INLET CATCHBASIN
- PROPOSED DITCH INLET CATCHBASIN

DESIGN	SPB	1	REVISED PER CITY COMMENTS	APRIL 2016	AGM
DRAWN	MJ	2	REVISED TO AS CONSTRUCTED	JUNE 2017	AGM
CHECKED	SPB				
APPROVED	SPB				
DATE	FEBRUARY 2016				

FILENAME.DWG

AGM PLAN • SURVEY • ENGINEER
ARCHIBALD, GRAY & McKAY ENGINEERING LTD.

S. P. BROWN — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

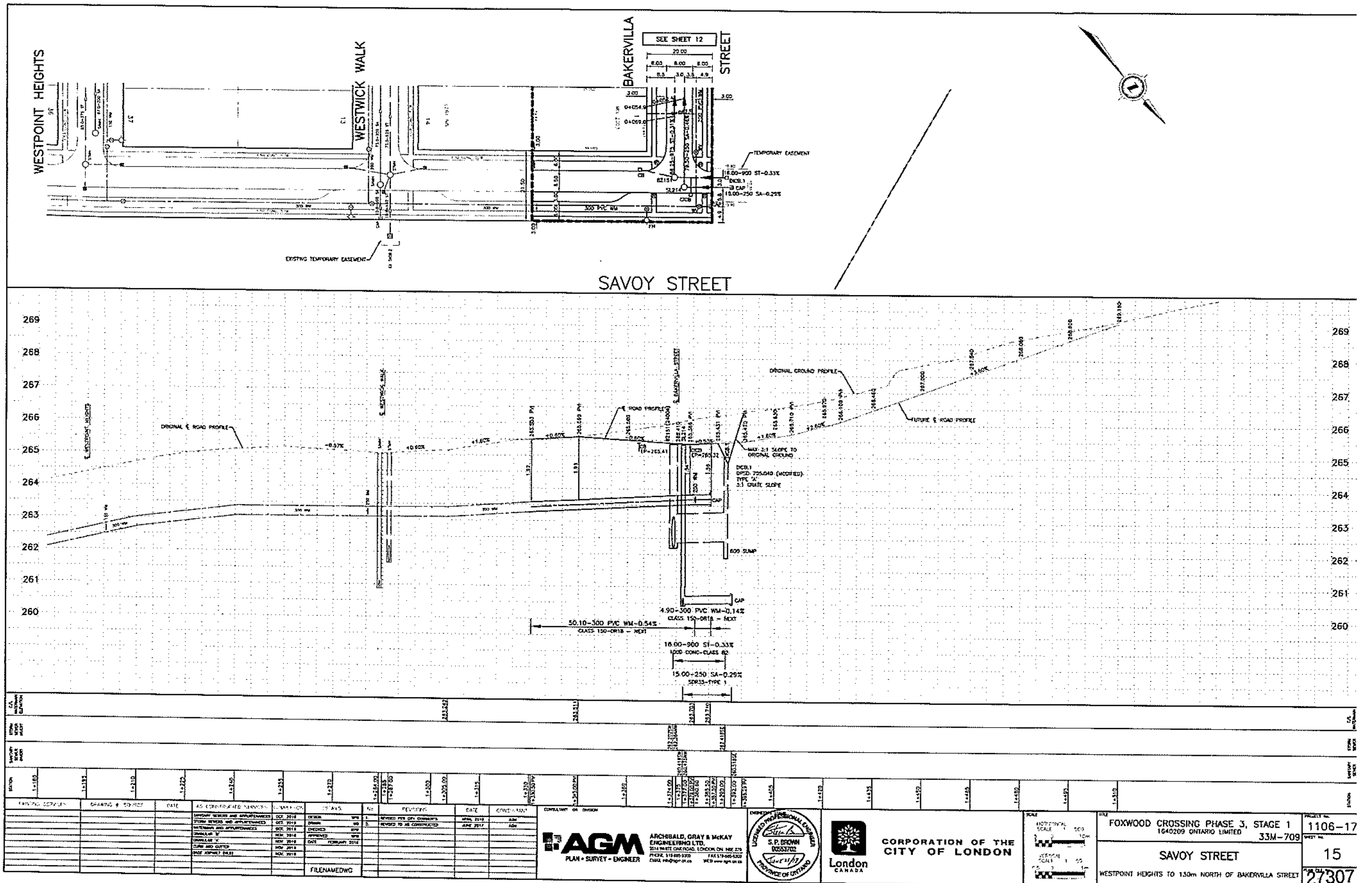
London CANADA — CORPORATION OF THE CITY OF LONDON

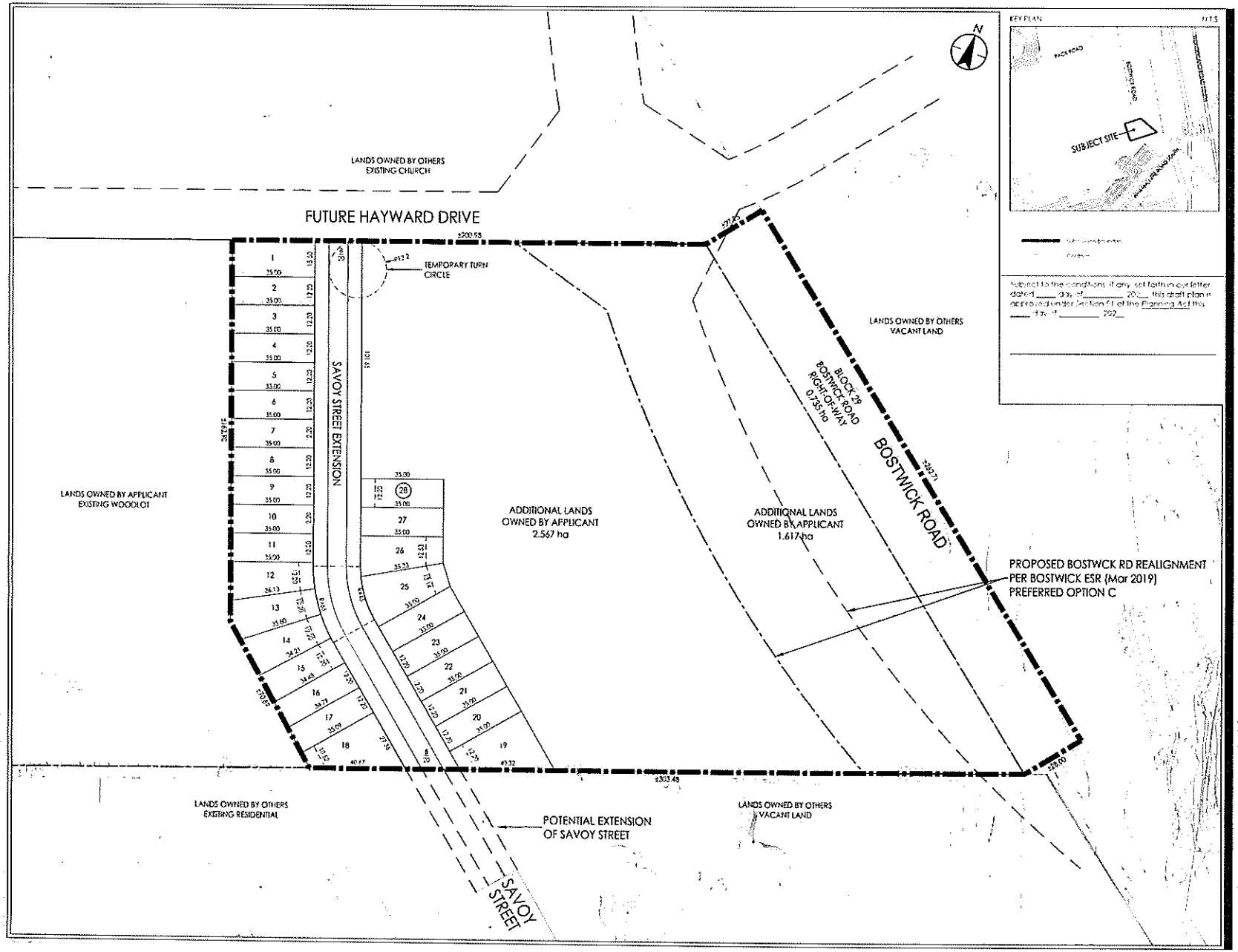
SCALE 1:1500

FOXWOOD CROSSING PHASE 3, STAGE 1
1640209 ONTARIO LIMITED
33M-709

STORM DRAINAGE PLAN

PROJECT No. 1106-17
SHEET No. 03
27292


WESTPOINT HEIGHTS
WESTWICK WALK
BAKERVILLA STREET
SEE SHEET 12
TEMPORARY EASEMENT
EXISTING TEMPORARY EASEMENT
SAVOY STREET
ORIGINAL GROUND PROFILE
FUTURE ℄ ROAD PROFILE
ORIGINAL ℄ ROAD PROFILE
℄ ROAD PROFILE
℄ WESTPOINT HEIGHTS
℄ WESTWICK WALK
℄ BAKERVILLA STREET
MAX. 2:1 SLOPE TO ORIGINAL GROUND
600 SUMP
CAP
4.90-300 PVC WM-0.14%
CLASS 150-DR18 - NEXT
50.10-300 PVC WM-0.54%
CLASS 150-DR18 - NEXT
18.00-900 ST-0.33%
1000 CONC-CLASS 65
15.00-250 SA-0.29%
SDR35-TYPE 1
AGM
PLAN • SURVEY • ENGINEER
ARCHIBALD, GRAY & McKAY ENGINEERING LTD.
FILENAME.DWG
S.P. BROWN
PROVINCE OF ONTARIO
London CANADA
CORPORATION OF THE CITY OF LONDON
FOXWOOD CROSSING PHASE 3, STAGE 1
1640209 ONTARIO LIMITED
33M-709
SAVOY STREET
WESTPOINT HEIGHTS TO 130m NORTH OF BAKERVILLA STREET
1106-17
15
27307



Stantec

Stantec
[illegible]

Liability Note

DRAFT PLAN OF SUBDIVISION
THE HEATHWOODS

INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

SCHEDULE OF LAND USE

Owner's Authorization

Surveyor's Certificate

Notes

Client/Project
COLONEL TALBOT DEVELOPMENTS INC

COLONEL TALBOT SUBDIVISION

London, ON, Canada

Title
DRAFT PLAN OF SUBDIVISION

Project No.	Scale
161403241	
Drawing No.	Sheet / Revision
1	1 of 1

Appendix B

Proposal Review Meeting Summary and Record of Consultation (June 10, 2022)

PROPOSAL REVIEW MEETING SUMMARY &
RECORD OF CONSULTATION

Date: June 10, 2022

Subject: Proposal Review Meeting
Savoy Street Extension (3924 Colonel Talbot Road)
Meeting Date: April 13, 2022 (Online Zoom meeting)

Meeting Participants:

R. Carnegie (Coordinator)	Planning and Development
B. Page	Planning and Development – Subdivision
M. Feldberg	Planning and Development – Subdivision
A. Curtis	Planning and Development
S. Meksula	Planning and Development
M. Davenport	Planning and Development – Engineering
T. Hitchon	Planning and Development – Engineering
B. Williams	Planning and Development – Engineering
J. Rawson	Planning and Development – Engineering
S. Butnari	Planning and Development – Ecologist
C. Smith	Parks & Recreation Services
G. LaForge	Development Finance
J. Chamorro	E.E.S. – Transportation
J. Chaves	E.E.S. – Stormwater Management
M. Schaum	E.E.S. – Wastewater & Drainage Engineering
K. Graham	E.E.S. – Wastewater & Drainage Engineering
C. Toner	E.E.S. – Wastewater & Drainage Engineering
J. Robinson	E.E.S. – Water Engineering
Y. Langlois	Urban Design
M. Greguol	Heritage Planning
S. Pratt	Upper Thames River Conservation Authority

Proposed Draft Plan of Subdivision

Applicant/Authorized Agent: Auburn Developments Inc. c/o Stephen Stapleton
File Reference: File #TS2022-002
Type of Application: Proposed Draft Plan of Subdivision
Location: Savoy Street Extension (3924 Colonel Talbot Road)
File Manager: Bruce Page
Planner: Sean Meksula & Alison Curtis

DEPARTMENT & AGENCY COMMENTS

The following is a summary of the comments as reported by the respective service areas/agencies in response to the proposal. It is noted that these comments do not necessarily reflect the final planning recommendation on the proposal.

DEVELOPMENT PLANNING:

Bruce Page *Manager, Planning and Development*
Alison Curtis *Senior Planner*

- The subject lands are within the Bostwick Residential Neighbourhood of the Southwest Area Secondary Plan (SWAP) and are designated Low Density Residential and Medium Density Residential. These designations permit a range of residential forms allowed under the Multi-Family, Medium Density Residential Designation in 1989 Official Plan. This includes: single-detached, semi-detached, duplex/triplexes/fourplexes, row houses, cluster homes, and low-rise apartment buildings.
- The proposed Draft Plan of Subdivision is in keeping with what is permitted under SWAP. No amendments are required.
- The subject lands are designated with the Neighbourhoods Place Type in The London Plan on Map 1 and are located along a Civic Boulevard (Bostwick Road) and the proposed extension of a Neighbourhood Connector (Savoy Street). This Place Type and location based on street classifications permit a range of residential uses, including: single-detached, semi-detached, townhouses, triplexes, stacked townhouses, and low-rise apartments. Heights permitted along Neighbourhood Connectors are a minimum of 1 and a maximum of

2.5, while the permitted heights along a Civic Boulevard are a minimum of 2-storeys and a maximum or 4-storeys.

- The requested Height Provision of 20 meters in the zoning for Blocks 29, 30 and 31 may exceed what is currently permitted under The London Plan, and an amendment may be required.
- The subject lands are designated Low Density Residential and Multi-Family, Medium Density Residential under the 1989 Official Plan. The Low-Density Residential designation permits low-rise and low-density housing in the form of single-detached, semi-detached and duplex dwellings not exceeding 30 units per hectares. Under the Multi-Family, Medium Density Residential designation, the following multiple-attached dwellings are permitted: row houses or cluster houses; low-rise apartment buildings; rooming and boarding houses; emergency care facilities; converted dwellings; and small-scale nursing homes, rest homes and homes for the aged. Development under this designation will not exceed 75 units per hectares.
- The lands are currently zoned Urban Reserve (UR4). This zone variation is applied to lands which have not completed the Community Plan process but are intended for residential development over the long term. The permitted uses include: existing dwellings, agricultural uses, conservation lands, managed woodlots, wayside pits, passive recreation uses, Farm Gate Sales, kennels, private outdoor recreation clubs, and riding stables.
- The proposed Draft Plan of Subdivision is not in keeping with what is permitted under the current Zoning By-law, and an amendment will be required to permit the proposed residential uses.
- For the most part, the proposed zoning would align with that of the lands to the north and south. However, the requested density of 150 units per hectares for Blocks 30 and 31 is too dense. This density exceeds the upper limit permitted in the Multi-Family, Medium Density Residential Designation and is not consistent with the zoning on adjacent lands. A density of 100 units per hectare may be more appropriate.
- The requested zoning for Block 29 includes a number of zones that would provide for a transition between the single-detached lots and the higher density proposed for the Blocks adjacent to the Bostwick Road Realignment. Dividing Block 29 into medium and high-density blocks, or providing a concept plan, may better demonstrate the transition.
- A more fulsome analysis of the applicable Municipal policies, in particular those contained within The London Plan, and Provincial policies should be included in any future submissions.
- A Noise Impact Study is required to consider neighbourhood design and noise impacts consistent with Policy 1768 of The London Plan for residential development adjacent to Civic Boulevards (Bostwick Road).

<u>Southwest Area Plan (SWAP)</u>

20.5.9 Bostwick Residential Neighbourhood

The land use designations for the neighbourhood are shows on Schedule 8.

i) Function and Purpose

The Bostwick Neighbourhood will provide for residential development with the highest intensity of all of the Residential Neighbourhood Areas in the Southwest Planning Area, to support activities in the Wonderland Boulevard Neighbourhood. The focus for new development is to be on a mix of low to mid-rise housing forms, ranging from single detached dwellings to low rise apartment buildings within individual subdivisions and throughout the neighbourhood. It is intended that the collector and local road network will provide access across the Open Space corridor and the Hydro corridor to create safe and convenient linkages to the Wonderland Corridor for a variety of transportation modes.

ii) Character

The residential areas will develop as traditional suburban neighbourhoods, with characteristics similar to those found in the older areas of the city, reflecting a compact development, a diversity of building types, and walkable amenities to enhance the day to day living experience. Access to Medium Density Residential areas between the Open Space and Hydro corridors and the Wonderland Boulevard Neighbourhood area will be via local road connections to Wonderland Road South, or from new collector and local roads to be developed within the Bostwick Neighbourhood.

The London Plan

<u>Our Strategy:</u>

Key Direction's

55_ Direction #1 Plan strategically for a prosperous city

- Revitalize our urban neighbourhoods and business areas.
- Plan for cost-efficient growth patterns that use our financial resources wisely.
- Invest in, and promote, affordable housing to revitalize neighbourhoods and ensure housing for all Londoners

58_ Direction #4 Become one of the greenest cities in Canada

- Manage growth in ways that support green and active forms of mobility.
- Continually expand, improve, and connect our parks resources.

- Implement green infrastructure and low impact development strategies.
- Promote linkages between the environment and health, such as the role of active mobility in improving health, supporting healthy lifestyles and reducing greenhouse gases.

59_ Direction #5 Build a mixed-use compact city

- Plan to achieve a compact, contiguous pattern of growth – looking “inward and upward”
- Ensure a mix of housing types within our neighbourhoods so that they are complete and support aging in place
- Utilize a grid, or modified grid, system of streets in neighbourhoods to maximize connectivity and ease of mobility.

60_ Direction #6 Place a new emphasis on creating attractive mobility choices

- Create active mobility choices such as walking, cycling, and transit to support safe, affordable, and healthy communities.
- Ensure that our mobility infrastructure is accessible and accommodates people of all abilities.

61_ Direction #7 Build strong, healthy and attractive neighbourhoods for everyone

- Design complete neighbourhoods by meeting the needs of people of all ages, incomes and abilities, allowing for aging in place and accessibility to amenities, facilities and services
- Implement “placemaking” by promoting neighbourhood design that creates safe, diverse, walkable, healthy, and connected communities, creating a sense of place and character.
- Integrate well-designed public spaces and recreational facilities into all of our neighbourhoods.
- Integrate affordable forms of housing in all neighbourhoods and explore creative opportunities for rehabilitating our public housing resources.

62_ Direction #8 Make wise planning decisions

- Ensure that all planning decisions and municipal projects conform with The London Plan and are consistent with the Provincial Policy Statement.
- Think “big picture” and long-term when making planning decisions – consider the implications of a short-term and/ or site-specific planning decision within the context of this broader view.

City Building Policies

Design

191_ City design also helps us to create pedestrian and transit-oriented environments that support our plans for integrating mobility and land use. It helps us to offer a high quality of life in London and it also allows us to develop neighbourhoods, places and spaces that function more effectively and safely for everyone.

What Are We Trying to Achieve?

- A well-designed built form throughout the city.
- Development that is designed to be a good fit and compatible within its context.
- Development that supports a positive pedestrian environment.
- A built form that is supportive of all types of active mobility and universal accessibility.
- High-quality public spaces that are safe, accessible, attractive and vibrant.
- A mix of housing types to support ageing in place and affordability.
- Healthy, diverse and vibrant neighbourhoods that promote a sense of place and character.

How Are We Going to Achieve This?

Street Network

- 211_ The City’s street network will be designed to ensure high-quality pedestrian environments, maximized convenience for mobility, access to focal points and to support the planned vision for the place type.
- 212_ The configuration of streets planned for new neighbourhoods will be of a grid, or modified grid, pattern. Cul-de-sacs, deadends, and other street patterns which inhibit such street networks will be minimized. New neighbourhood street networks will be designed to have multiple direct connections to existing and future neighbourhoods.
- 213_ Street patterns will be easy and safe to navigate by walking and cycling and will be supportive of transit services.

Homelessness Prevention and Housing

495_ Providing accessible and affordable housing options for all Londoners is an important element of building a prosperous city. Quality housing is a necessary component of a city that people want to live and invest in. Housing choice is influenced by location, type, size, tenure, and accessibility. Affordability and housing options are provided by establishing variety in these factors.

What Are We Trying to Achieve?

- Provide an integrated mixture of affordable and adequate housing options for the greatest number of people in need.
- Facilitate an adequate and appropriate supply of housing to meet the economic, social, health, and well-being requirements of Londoners.
- Promote a choice of housing types so that a broad range of housing requirements is satisfied in a wide range of locations.

How Are We Going to Achieve This?

Creating Housing Opportunities

507_ New neighbourhoods will be planned to provide a mix of housing types and integrated mixed-use developments, accessible housing and integrated services, and housing forms and densities.

509_ New neighbourhoods will be planned to include a variety of different housing types such that it is possible for people to remain in a neighbourhood as their housing needs change over time.

City of London Zoning By-Law Z.-1
Holding Provisions

Complete Application Requirements:
- Noise Impact Study (Bostwick Road)
- Subdivision Application
- Zoning By-Law Amendment Application
- London Plan Amendment Application
- Final Proposal Report

PLANNING AND DEVELOPMENT - URBAN DESIGN:
Yuri Langlois *Urban Designer*
- These lands are located within the Council approved Bostwick Residential Neighbourhoods of the South West Area Secondary Plan (SWAP) and Neighbourhoods and Green space Place Type in The London Plan[TLP] area. In accordance with the policies in SWAP, the following built form and site layout policies apply:

General comments:
- Provide a wide pedestrian mid-block connection that should include a minimum 50% built edge and active uses are oriented towards them, such as windows and wrap around building features such as porches, as opposed to privacy fencing and blank side facades [SWASP 20.5.3.9 i]
    - Provide access through or along the medium density block (29) east-west.
- Ensure development is street oriented fronting on to the future Bostwick Road Realignment, the Savoy Street Extension and the Future Hayward Drive.
- Consider moving the Savoy Street Extension west to have a window street along the wood lot while creating a greater distance between the Bostick traffic circle and the savoy/hayward intersection. Have this portion of savoy to be single loaded on the east side of the Savoy Street extension to minimize rear lotting along the natural feature.
- Provide street-oriented mid-rise forms as opposed to cluster condo blocks to ensure full permeability and connectivity among the surrounding roads and to avoid backing onto public streets and open spaces.
- Direct higher intensity-mid-rise transit oriented uses adjacent to and oriented towards arterial roads with lower intensity uses located internal to the neighbourhood to provide transition [SWASP 20.5.9 i].
    - Ensure more dense forms along the Proposed Bostwick Road Realignment and Future Hayward Drive.

Zoning comments:
- Garages shall not project beyond the front face of dwelling or the façade of any porch, and not occupy more than 50% of the lot frontage [SWASP 20.5.3.9 iii, e]. Ensure the lots are large enough to accommodate this policy.
- Ensure that the proposed building/built form is oriented to street frontages and establishes a pedestrian-oriented built edge with street oriented units [SWASP 20.5.3.9 i a].
- Include either a holding provision or special provision in the zoning for the medium-density block ‘29’ to ensure orientation to the street, park, or open-space frontages.

Required for a complete application:
- Provide a conceptual site plan with a massing model for the proposed medium density block ‘29’. Further comments may follow upon receipt of the concepts and massing model;
    - Ensure any proposed building are oriented to their respective street frontage with any surface parking located behind the building [SWASP 20.5.3.9 i a].
    - Ensure that the proposed building(s) have regard for its corner location. The massing/ articulation or other architectural features should emphasize the intersection(s) and oriented to the higher order street [SWASP 20.5.3.9 iii c].
        - Buildings located at the intersection of the Proposed Bostwick Road Realignment and Future Hayward Drive should be located and massed toward the respective intersection.
    - Submit an urban design brief with a component that established the vision and character of the proposed subdivision, as required in Policy 198 of The London Plan.
- If any blocks are proposing zoning for buildings taller than 4-storeys, they are required to attend the Urban Design Peer Review Panel (UDPRP):
    - UDPRP meetings take place on the third Wednesday of every month. Once an Urban Design Brief is submitted as part of a complete application the application will be scheduled for an upcoming meeting and the assigned planner as well as the applicant’s agent will be notified. If you have any questions relating to the UDPRP or the Urban Design Briefs, please contact Ryan Nemis at 519.661.2489 x7901 or by email at rnemis@london.ca

PLANNING AND DEVELOPMENT - HERITAGE PLANNING:
Michael Greguol *Heritage Planner*
- 3924 Colonel Talbot Road is adjacent to a property listed on the City’s Register of Cultural Heritage Resources. The adjacent property, 3836 Colonel Talbot Road (c.1875 vernacular

farmhouse). Given that the adjacent property is separated by a subdivision or reference plan that was previously registered (observed by the dashed lines on CityMap) this proposal does not require the submission of a Heritage Impact Assessment (HIA) to assess the potential impacts to the property at 3836 Colonel Talbot Road.
- Archaeological concerns once associated with the property at 3924 Colonel Talbot Road can be considered addressed, as Archaeological Assessments were completed during previous applications, and the area included within this proposed draft plan of subdivision has been cleared of archaeological potential. Please note, human remains were retained in situ at this address on a previous application as a part of the "Hunt Subdivision". The remains are located well over 300m from the area that is the subject of the Savoy Street Extension.

PLANNING AND DEVELOPMENT - NATURAL HERITAGE:

Shane Butnari *Ecologist*

Major issues identified

- Natural Heritage Features on, or adjacent to the site have been identified on Map 5 of the London Plan or based on current aerial photo interpretation, including, but not limited to, an Unevaluated Vegetation Patch.

Ecology – complete application requirements

SLSR/EIS

- The proponent shall retain a consultant ecologist to carry out an assessment of the subject lands proposed for the Savoy Street extension and adjacent natural heritage features to the west. The proponent shall follow through on recommendations to mitigate adverse impacts to any significant environmental features and functions that are found.
- The EIS must be completed in accordance with provincial guidelines and standards, including the Provincial Policy Statement, Natural Heritage Reference Manual, the London Plan and the Environmental Management Guidelines, (EMG's) (2021).

Notes

- A scoping meeting shall be held between the proponent and a City Ecologist to review and confirm the study scope. A site visit may be requested in support of application review.
- The proponent and/or their consultant is required to complete the Environmental Impact Study Issues Scoping Checklist as a draft for submission to the City in advance of the scoping meeting. Once all comments regarding the draft Checklist have been received and finalized the City of London will send written approval (e-mail or letter).
- No disturbance arising from demolition, construction, or any other activity shall take place on the property prior to Development Services receiving and approving the EIS to ensure that all technical requirements have been satisfied.
- It is an offence under Section 10(1) of the Endangered Species Act to damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an Endangered or Threatened species.
- An Environmental Management Plan should be developed prior to issuance of contract drawings where the mitigation measures are tailored to site
- The Clean Equipment Protocol for Industry, a Spill Response Plan, an Invasive Species Management Plan and a Species at Risk and Wildlife Handling Protocol should be included as part of the Environmental Management Plan.
- An Erosion and Sediment Control Plan shall be included as part of the complete package.
- The adjacent lands may not be used as construction staging areas throughout the duration of the project.
- Avoid tree removal within the active bat roosting period (April 30 – September 1) to reduce potential interactions with Endangered bat species, to avoid contravention of the Endangered Species Act.
- Avoid vegetation removal within the active breeding bird period (April 1 – August 30) to avoid disturbing nesting birds and contravening the Migratory Bird Convention Act.

PARKS AND RECREATION:

Craig Smith *Senior Planner*

- The City has no need for parkland within this development, so cash in lieu as per By-law CP-9 will be required for the proposed single detached lots and medium density blocks.

WASTEWATER & DRAINAGE ENGINEERING:

Marcus Schaum *Senior Technologist*
Cailean Toner *Technologist*

- The subject lands are located north of existing Savoy Street, south of the future Hayward Dr/Kilbourne Rd extension and to the west of Bostwick Road. The lands as proposed is as a residential development with an area of roughly 6.68 Ha.
- The subject lands are within the southwest area and the municipal sanitary sewer available is the proposed extension of the 250mm diameter sanitary sewer located at Savoy Road near

the intersection of Bakervilla Street. These lands are ultimately tributary to the Campbell/Hamlyn trunk sanitary sewer and the Wonderland PS.

- The Bostwick Road EA realignment is tentatively scheduled for 2026. As indicated in the IPR the subject lands will be bisected by the future Bostwick Road realignment creating remnant parcels east of the proposed Bostwick Rd realignment (blocks 30, 31). Further detail is required on how the lands impacted by the Bostwick realignment can be serviced including roads for access. Land acquisitions and negotiations with respect to the Bostwick ROW will need to be addressed in more detail.
- Include all tributary lands and all external lands and populations as allocated including the existing church lands (Ext 3, sanitary area plan). The revised IPR/FPR is to reflect and include all external land including maximum population and areas consistent with accepted sanitary drainage area plans.
- This IPR identifies possible redistribution of population from the adjacent woodlot in order to find more available capacity. This can be looked at in more detail but it is also noted there is limited available surplus capacity in sections of the downstream sanitary sewers on Beatie Street.
- As part of a future resubmission or revised proposal report the applicant will need have their consulting engineer demonstrate their maximum population and flows including all tributary external lands and provide added detail on the land negotiations and realignment of Bowstick Road including servicing, sewer routing and access assumptions of the remnant parcels.

WATER ENGINEERING:

Josh Robinson *Technologist II*

- Water is available for the subject site via the municipal 300mm watermain on Savoy Street. This watermain is part of the low-level system which has a hydraulic grade line of 301.8m.
- The Owner will be required to extend the watermain from the intersection of Savoy Street and Bakervilla Street to the north and shall be terminated immediately after the water service to lot 1.
- Medium density - Block 30 (east of future Bostwick Road) currently has no water available to connect into. Once the future Bostwick Road is constructed, a municipal watermain will be available for Block 30 to be serviced.
- The subject lands will be held to 80 units until water looping can be provided.

STORMWATER MANAGEMENT:

Jaime Chaves *Environmental Services*

General Comments/Information – Stormwater Management (SWM)

- The site is located within the Dingman Creek Subwatershed. Stormwater management works for the site are anticipated to follow the requirements of the Dingman Creek Stage 1 EA. The final Dingman Creek EA is available on the City's Get Involved website https://getinvolved.london.ca/dingmancreek. As per the Dingman EA, runoff volume control hierarchy of 25 mm is to be applied utilizing mechanisms of infiltration, evapotranspiration and/or re-use to achieve water balance and erosion control requirements for this subdivision as included in the Section 6 of the City's Stormwater Management of the Design Specifications & Requirements manual.
- This site is not currently serviced for water quality controls. The quantity/major flow outlet for this site and lands to the north is the City owned Lambeth Meadows - Pond 1 Cell 2 SWM dry Facility via the 975mm storm sewer on Bakervilla Street and overland flow routes. The existing OGS system upstream of Lambeth Meadows - Pond 1 Cell 2 is not sized to account for water quality from the proposed site in post development conditions as per the Foxwood Crossing Subdivision Ph. 3 Functional Stormwater Systems Report (AGM, 2015).
- A Stormwater Servicing Report in support of the proposed storm drainage and SWM design for the entire site shall be provided as part of the complete application and will address design details of the proposed SWM strategy, objectives, and targets. Design details shall include, but not be limited to:
    - A water quality system is required to support the proposed draft plan (e.g., LIDs such as bioswales, EES, etc.) in accordance with the Dingman EA runoff volume control hierarchy and compatible with the existing system.
    - This design will consider the existing Oil and Grit Separator (OGS STC6000) providing water quality treatment for the Foxwood Crossing Phase 3 catchment area (plan 33M-709) and verify any flows contributing to the OGS does not impact its function.
    - The applicant is to review the design of the existing stormwater infrastructure with consideration for future servicing of external lands. The review may consider reasonable opportunities to redirect external land outlets where appropriate.
    - With the realignment of Bostwick in 2026 the report is to indicate how blocks 30 and 31 will be serviced by storm.
    - Demonstrate how the proposed development meets SWM quality and quantity targets utilizing the existing SWM ponds and/or in combination with additional controls to

meet any targets of the Dingman EA and/or any feature-based water balance needs identified in an EIS or hydrogeological study.

- How the water balance strategy will achieve targets during each phase of development/buildout.
- Identify how interim and ultimate, major (100 & 250 year) flows (including external flows to the site) can be contained within the municipal right-of-way throughout the subdivision and be safely conveyed to the ultimate outlet. Impacts of traffic calming, if any, shall be evaluated as part of the major flow evaluation. The City's updated Stormwater Management Design Specifications and Requirements Manual should be followed in the development and evaluation of the major conveyance system.
- Include a representative lot level runoff coefficient value including all anticipated impervious surfaces such as buildings and hardscaping to verify the proposed development meets approved "C" runoff coefficients.
- Identify SWM control targets and requirements for any Medium Density block where PPS stormwater controls will be subject to a future site plan application. If freehold lots are proposed within a Medium Density block, a municipal stormwater strategy shall accommodate the future freehold lots and be included in the Stormwater Servicing Report.
- Identify all erosion and sediment control measures for these lands in accordance with the City of London requirements, all to the specification and satisfaction of the City. This plan is to identify adaptive measures to be used during all phases of construction and is to include all applicable mitigation measures and recommendations to protect environmentally significant areas if applicable (e.g., natural heritage features, watercourses, wetlands, valleylands etc.).
- Consideration and integration of other related supporting studies including:
    - Hydrogeological, ecological, and other supporting studies as required (i.e., headwater drainage feature assessment, geomorphology, etc.) and requirements of a SLSR and EIS. The findings of the any supporting studies should be incorporated into the SWM Report.
    - A water balance for the proposed development, including incorporation of LIDs to manage stormwater flows, and an evaluation of the potential impacts of the Site's water balance on potential nearby features.
    - Geotechnical report.
- Identify whether and how any environmental features and/or water balance are to be maintained or enhanced via drainage designs during development/buildout and post-construction. Conveyance of stormwater to natural features if any, shall consider the hydrological impacts such as, but not limited to peak flows; total runoff volumes and annual water balance conditions and requitements supported by the findings and requirements of applicable EIS and hydrogeological investigations. The hydrogeological report for this site as scoped by the City shall be provided as part of the complete application. The hydrological impacts and mitigations measures shall be clearly detailed in the Stormwater Management Report. A monitoring program may be required during and post construction to verify water balance targets or other targets determined through the background studies.
- Once the final Draft Plan is established further evaluation will be required, likely at the detailed design stage, which may include but may not necessarily be limited to the following:
    - Details and discussion regarding LID considerations proposed for the development.
    - Discussions related to the water taking requirements to facilitate construction (i.e., PTTW or EASR be required to facilitate construction), including sediment and erosion control measure and dewatering discharge locations.
    - Evaluation of construction related impacts, and their potential effects on the shallow groundwater system.
    - Discussion regarding mitigation measures associated with construction activities specific to the development (e.g., specific construction activities related to dewatering).
    - Development of appropriate short-term and long-term monitoring plans (if applicable) to address:
        - Assumption requirements for SWM control features (as per Chapter 19).
        - Demonstration that surface and groundwater requirements and/or targets are met during construction and build out phases, as noted in an associated or supplemental report such as EIS or hydrogeological study and as per the City's Environmental Management Guidelines (EMGs).
        - Confirmation that impacts to adjacent natural heritage feature(s) following completion of new development works is within a range of acceptable impacts.

- Development of appropriate contingency plans (if applicable), in the event of groundwater interference related to construction.

TRANSPORTATION PLANNING & DESIGN:

Juan Chamorro *Transportation Technologist*

- The applicant is to have regard for and implement this plan of subdivision as per City standards including the Complete Streets Design Manual (Complete Streets), Design Specifications and Requirements Manual (DSRM); Access Management Guidelines (AMG), Z1 Bylaw, The London Plan and any Area Plans.
- The applicant shall also have regard for the Ontario Traffic Manuals (OTM) and Transportation Association of Canada Geometric Design Guide for Canadian Roads (TACGDG).
- The applicant is to have regard for the Council approved Bostwick Rd Environmental Assessment (EA).
- The owner shall install curb in the subdivision to be 600.040 barrier curb as per the City of London DSRM.
- The owner shall provide 1.5m sidewalk connectivity to all City Streets, on both sides of all streets, as per Complete Streets. A 2.50m boulevard width (back of curb to sidewalk) shall be provided.
- Temporary Illumination may be required at the intersection of Hayward Drive and Savoy St, as per City standards.
- Ensure 3.0 m x 3.0 m "daylighting triangles" at Savoy Street and Hayward Drive.
- Savoy St Neighborhood Connector (Collector) shall be designed and built to Municipal standard, as per the DSRM and City of London Complete Streets Design Manual, with 23.0m wide Right-of-ways (ROW) and asphalt widths of 6.0m. Proposed Neighbourhood connectors radii and bends, min 110m as per DSRM Fig 2.1, to meet current City standards. Savoy street will be restricted to RIRO- Rights in Rights out at the future intersection with future Kilbourn Rd (Hayward Drive). Note that an Official Plan Amendment will be required for the Neighborhood Connector (Savoy Street).
- Parking lay-bys are to be proposed along Savoy Street (Neighbourhood Connector) for review as part of the Draft Plan of Subdivision. Parking lay-bys shall be 2.5m wide with roll-over curb in between the through lanes and parking lay-by. Parking lay-bys shall be maximum 100m in length from the start of one lay-by to the start of the next, with tapers and radii to City standards and as per Complete Streets. Parking lay-bys shall have a 10.0m tangent section between the end of radius curve from an intersection to the beginning of the layby radius curve.
- Temporary turning circle required at the north limit of Savoy St in accordance with the DSRM.
- Traffic Calming shall be implemented in the form of speed cushions as per City standards, spaced at 100m along Savoy Street, avoiding maintenance covers and intersections. Coordination with Traffic Calming staff required trafficcalming@london.ca.
- As part of a complete application provide a road layout and concept plan showing all bends tapers and centre line radii comply with City standards, ensure all through streets align opposite each other and streets intersect perpendicular to each other if minimum City standards are not met changes to the draft plan will be required.
- The owner shall establish and maintain a Traffic Management Plan (TMP) in conformance with City guidelines and to the satisfaction of the City Engineer for any construction activity that will occur on existing arterial roadways needed to provide services for this plan of subdivision. The owner's contractor(s) shall undertake the work within the prescribed operational constraints of the TMP. The TMP will be submitted and become a requirement of the subdivision servicing drawings process for this plan of subdivision.
- The development shall be limited to 80 units until a second public access can be provided as per City standards.

DEVELOPMENT FINANCE:

Greg LaForge *Specialist, Development Finance*

These comments are based on the 2021 DC Background Study and By-law. Development Finance has reviewed the IPR documents provided and based on this information provide the following:

Water

- Watermains identified through the design process that are 300mm in diameter or greater and service external areas, would be eligible for oversizing subsidy. Local, temporary, or private watermains and connections are to be constructed at the Owner's cost.

Wastewater

- There are no anticipated claims for subsidy on oversized sanitary sewers (300mm diameter or greater) which service external areas. Local, temporary or private sanitary sewer works and connections are to be constructed at the Owner's cost.

Stormwater Management

- The proposed development would outlet to the existing Lambeth Meadows Pond 1.

- There are no anticipated claims for subsidy on oversized storm sewers (1200mm diameter or greater) which service external areas. Local, temporary, or private sewers and connections will be installed at the Owner's cost.
- If LID infiltration systems are accepted through the subdivision design process that improve water quality or water balance in conjunction with local stormwater servicing on City-owned lands or within a dedicated Municipal easement, these would be eligible for subsidy. LIDs constructed within private lands are not eligible for subsidy.

Transportation

- A City led DC project for a 4-lane upgrade and realignment of Bostwick Road from Pack to Wharncliffe (DC19RS0016) will cross the proposed development and is currently scheduled for 2026.
- There are no anticipated claims for transportation related infrastructure. All roadworks up to and including Neighbourhood Connectors and connections to the adjacent development to the south are to be constructed at the Owner's cost.

Parks

- There are no anticipated claims for parkland infrastructure.

DEVELOPMENT ENGINEERING:

Matt Davenport	*Manager, Development Engineering*
Trevor Hitchon	*Senior Engineering Technologist*
Bryn Williams	*Technologist II*

The following Planning & Development (Engineering) comments are to be included in the meeting minutes for the Proposal Review Meeting to be held on April 13, 2022 with respect to the Initial Proposal Report for the proposed Draft Plan of Subdivision by Martin Quarcoopome on behalf of Weston Consulting regarding the subject lands located at 1944 Bradley Avenue.

STANDARD COMMENTS:

- All the usual standard conditions of draft plan will be imposed;
- Cost sharing for any eligible services or facilities will be based on the most financially economical solution for the claim, unless agreed to otherwise by the City; and
- External land needs are to be addressed as necessary (e.g. utility corridors, public roads, construction roads, emergency access etc.).

DRAFT PLAN OF SUBDIVISION DRAWING COMMENTS:

The draft plan of subdivision drawing is to comply with all City standards with regard to the above comments and the following:

- Draft plan of subdivision is to include various existing features;
    - Scale;
    - Lot frontages;
    - Vegetation Areas;
    - Water Courses;
    - Wells;
    - Sidewalks;
    - Elevations & Contours;
    - Right-of-way Dimensions;
    - 0.3m Reserves & Road Dedications (Bradley Avenue Extension);
    - All intersections are to intersect at 90 degrees with 10m straight tangents in all directions;
    - Legal info of this plan and adjoined lands (e.g. easements, lot and plan numbers, addresses, and adjacent streets)
    - Proposed road curvature and radii to comply with City standards;
    - Tapers/transitions;
    - Daylighting triangles where applicable.

REQUIREMENTS FOR A COMPLETE DRAFT PLAN OF SUBDIVISION SUBMISSION:

For a complete Draft Plan of Subdivision Application, the Owner is to provide the following:

1. The Final Proposal Report addressing all Planning & Development comments with respect to the IPR;
2. Revised proposed Draft Plan of Subdivision drawing as per Development Services comments;
3. Provide a Geotechnical Report;
4. Provide a Hydrogeological Report;
5. EA Opinion Letter.

These notes highlight the Planning and Development (Engineering) comments at the Internal Proposal Review Meeting based on the circulated plan accompanying the Initial Proposal Report, and are to be used to aid in preparing the minutes. The comments themselves are preliminary in nature and do not preclude the possibility that further issues may be identified as the review

proceeds. Planning and Development formal comments on the draft plan of subdivision application will be provided when the application is circulated for review under the standard File Manager review process.

EXTERNAL COMMENTING AGENCIES

Ministry of Natural Resources and Forestry (MNRF)
Karina Černiavskaja *District Planner – Aylmer District*
(No comments Rec'd)

UNION GAS LTD.
Justin Cook *Senior Pipeline Engineer*
(No comments Rec'd)

LONDON TRANSIT COMMISSION (L.T.C.)
Transportation Planning Technician
(No comments Rec'd)

THAMES VALLEY DISTRICT SCHOOL BOARD
Eric Miles *Planner*
(No comments Rec'd)

LONDON DISTRICT CATHOLIC SCHOOL BOARD
Rebecca McLean *Planning Specialist*
(No comments Rec'd)

LONDON-MIDDLESEX HEALTH UNIT
Bernadette McCall *Public Health Nurse*
(No comments Rec'd)

UPPER THAMES RIVER CONSERVATION AUTHORITY (U.T.R.C.A.)
Stefanie Pratt *Land Use Planner*
Comments outstanding – UTRCA complete application requirements will be submitted under separate cover

REQUIREMENTS TO PROCEED WITH CURRENT APPLICATION

New City of London Complete Application Requirements for Planning Act Applications
All new applications submitted on or after January 22, 2018 will be required to meet the new requirements for the relevant application type. These applications must be submitted using the updated application forms dated January 2018 which will appear on the City's website in early January.

The new requirements are in addition to any technical submission requirements you are currently required to meet, and are as follows:

Draft Plan of Subdivision
A simplified draft plan of subdivision is required for the production of the on-site sign. The graphic must be sized to the dimensions of 46"(W) x 46(H), provided in PDF and JPEG format at a DPI of 300.

The subdivision must be centred and scaled within the 46" bounding box to allow for maximum readability. The area outside of the draft plan of subdivision must be populated with Ontario Base Map data to provide context for the surrounding land. This additional contextual information should be displayed at a lighter transparency and contain information such as, but not limited to: streets, parcel fabric, building outlines, and watercourses. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

The simplified image of the proposed subdivision must include the following elements:
- Outline the extent of the subdivision boundary
- Road, lot, and block fabric and descriptions
- Proposed street name labels
- Proposed block numbers & area calculations
- Colour application to all lots and blocks per The London Plan colours (see Map I for relevant place types and colour standards)

- Light grey colour application to all street and walkway blocks
- Basic map elements: (north arrow, scale, etc.)

Official Plan and/or Zoning By-Law Amendment (applicable only where Renderings are required as part of a complete application)
Proposed Development best represented using a landscape image format Graphic renderings are required which represent the conceptual design of the proposal for the production of the on-site sign.

A minimum of 2 renderings must be provided, oriented in landscape format and sized to the dimensions of 48”(W) x 26”(H), provided in PDF and JPEG format at a DPI of 300.

These renderings should be an accurate visual representation of the proposal and highlight features of the conceptual design. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

OR
Proposed Development best represented using a portrait image format
Graphic renderings are required which represent the conceptual design of the proposal for the production of the on-site sign.

A minimum of 2 renderings must be provided, oriented in portrait format and sized to the dimensions of 14”(W) x 26”(H), provided in PDF and JPEG format at a DPI of 300.
AND

A minimum of 3 renderings must be provided, oriented in landscape format and sized to the dimensions of 34”(W) x I 3”(H), provided in PDF and JPEG format at a DPI of 300.
The landscape images are typically, but not always, of the pedestrian level of a tall building.

These renderings should be an accurate visual representation of the proposal and highlight features of the conceptual design. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

The following documentation is required for a Complete Application Submission:

- **Draft Plan of Subdivision Application:**
  - 2 copies of the City of London Subdivision Application Form.
  - 24 rolled copies of the Draft Plan, completed as required under Section 51(17) of the Planning Act (the Draft Plan must include the Approval Authority signature block)
  - A digital file of the Draft Plan tied to the City’s geographic horizontal control network (NAD 1983 UTM Zone 17N) must be submitted as well (refer to the City’s Plans Submission Standards available on-line).
  - 1 legal sized copy of the Draft Plan.
  - Associated application fees
  - Updated as per comments from various groups detailed above i.e. Transportation, Parks, Development Engineering, etc.

  Draft plan of Subdivision is to include various features listed on the Draft Plan of Subdivision Application Form

- **London Plan and Zoning By-law Amendment Application:**
  - 2 copies of completed City of London London Plan and Zoning By-law Amendment application form and supporting documentation
  - Hard copy and digital file of proposed zoning map
  - Associated application fees

- **Final Proposal Report (FPR):**
  - Updated to reflect the comments that have been identified in this Record of Consultation, in accordance with the requirements prescribed in the File Manager Reference Manual;
  - FPR is to include updated information on water, sanitary, stormwater, transportation and development finance components, parks and open space, natural heritage, urban design, heritage planning, and development planning and addressing all comments identified in the Record of Consultation (*Note: applicant/consultant should undertake off-line discussions with contacts prior to completing the FPR, to ensure all servicing requirements are suitably addressed*);
  - Final Proposal Report which fully addresses the polices of the Provincial Policy Statement, the Planning Act, the 1989 Official Plan, and The London Plan.

- **Reports/Studies and Plans Required:**
  - As part of a complete application provide a road layout and concept plan showing all bends tapers and centre line radii comply with City standards, ensure all through streets align opposite each other and streets intersect perpendicular to each other if minimum City standards are not met changes to the draft plan will be required.
  - Noise Impact Study
  - Submit an urban design brief with a component that established the vision and character of the proposed subdivision, as required in Policy 198 of The London Plan.
  - Provide a conceptual site plan with a massing model for the proposed medium density block ‘29’Environmental Impact Study (EIS) and Subject Land Status Report (SLRS) (scoped with City of London and other relevant stakeholders)
  - Stormwater Servicing (SWM) Report (scoped with City of London and other relevant stakeholders)
  - Hydrogeological Investigation Report (scoped with City of London and other relevant stakeholders)
  - Geotechnical Report (scoped with City of London and other relevant stakeholders)
  - Water Balance Analysis
  - EA Opinion letter
  - UTRCA complete application requirements will be submitted under separate cover

_____
Prepared By:
Rob Carnegie *Proposal Review Meeting Coordinator*, *Development Planning*
(519) 661-CITY (2489) ext. 2787 RCarnegie@london.ca

_____
Reviewed By:
Alison Curtis *Planner, Development Planning*
(519) 661- CITY (2489) ext. 4586 ACurtis@london.ca

_____
Approved By:
Bruce Page *Manager, Planning and Development*
(519) 661- CITY (2489) ext. 5355 BPage@London.ca

Appendix C

Draft EIS Scoping Checklist

APPENDIX B - Environmental Study Scoping Checklist

Application/Project Name: (45761-102) Heathwoods East

Proponent: Colonel Talbot Developments Inc. **Date:** October 27, 2022

Proposed Project Works: Low/Med Residential + Bostwick Rd Realignment

Study Type: SLSR/EIS - To review re-zoning from UR4 to conform to London Plan

Lead Consultant: Stantec Consulting Ltd.

Key Contact: Tim Stubgen, Dan Vucetic

Subconsultants: MTE Consultants (Ecology)

*SLSR requirement to be discussed further

Technical Review Team:

☑ Ecologist Planner: Shane Butnari ☐ Province – Species at Risk: _____

☑ Planner for the File: Sean M. ☐ Province - Other: _____

☐ Conservation Authority: UTRCA Contact: _____

☑ EEPAC: Sandy Levin, Susan Hall ☐ Other: _____

☐ Project Manager, Environmental Assessment: _____

☐ First Nation(s): _____

*UTRCA declined the invitation, but a copy of the Scoping Checklist will be provided to them for future comment.

Subject Lands and Study Area:

Location/Address and Size (ha) of Subject Lands:
42°55'17.2"N 81°17'17.5"W along Bostwick Road, London, ON - ~6.7 ha

Study Area Size (approximate ha): ~19.2 ha ■ Map (attached): _____

Position of Site in Subwatershed: West part of Dingman Creek Subwatershed

Tributary Fact Sheet: Dingman Creek Subwatershed Report Card (2017)

Is the proposed location within the vicinity of the Thames River (<120 m)? ☐ Yes ☑ No

If Yes, initiate engagement with local First Nation communities. Consultation activity to be provided at Application Review stage.

Policy:

☑ Study must demonstrate how it conforms to the Provincial Policy Statement

☑ Study must demonstrate how it conforms to *The London Plan*

Map 1 Place Types:

☑ Green Space
East valleyland

☑ Environmental Review
Unevaluated Vegetation Patch to the west within the Study Area.

Other Place Types: Neighbourhoods

Map 4 Active Mobility Network:

☐ Pathway placement and future trail accesses shall be considered as part of this study.

Map 5 Natural Heritage System:

(Subject Lands and Study Area delineated on current aerial photographs)

☐ Provincially Significant Wetland — Name: _____

☐ Wetlands — ☑ Unevaluated Wetlands* Further investigation

☐ Area of Natural & Scientific Interest — Name: _____

☐ Environmentally Significant Area — Name: _____

☐ Potential ESAs — ☐ Upland Corridors

☐ Significant Woodlands — ☐ Woodlands

☑ Significant Valleylands Adjacent — ☐ Valleylands

☑ Unevaluated Vegetation Patches — ☐ Potential Naturalization Areas

Patch No. 10070 Adjacent

** ELC (air photo interpretation and / or previous studies) may identify potential wetlands or other potential features not captured on Map 5.*

Map 6 Hazards and Natural Resources:

☐ Maximum Hazard Line ☑ Conservation Authority Regulation Limit (and text based regulatory limit) – Project falls under *Conservation Authority Act* Section 28

Adjacent wet areas to the west are regulated. Drain to the east across Bostwick Rd is also regulated.

Required Field Investigations:

Aquatic:

☐ Aquatic Habitat Assessment: _____

☐ Fish Community (Collection): _____

☐ Spawning Surveys: _____

☐ Benthic Invertebrate Survey: _____

☐ Mussels: _____

☐ Other: _____

Wetlands:

☑ Wetland Delineation: If identified within Study Area, delineation with City/UTRCA

☐ Wetland Evaluation (OWES): _____

☐ Other: _____

Completed 2021

Terrestrial (Wetland, Upland and Lowland):

- ☑ Vegetation Communities (ELC): Lee et al, 1998
- ☑ Botanical Inventories ☐ Winter ☑ Spring ☑ Summer ☑ Fall
- ☑ Breeding Bird Surveys (type & frequency): 2 visits, point count/area seach
- ☐ Raptor Surveys: _____ ☐ Shoreline Birds: _____
- ☐ Crepuscular Surveys: _____ ☐ Grassland Surveys: _____
- ☑ Amphibian Surveys (type & frequency): April, May, June call count surveys
- ☐ Reptile Surveys:
  - ☐ Turtle (type & frequency): _____
  - ☐ Snake (type & frequency): Incidental
  - ☐ Other (type & frequency): _____
- ☑ Bat Habitat, Cavity & Acoustic Surveys: Bat maternity roost survey
- ☐ Mammal Surveys: Incidental
  - ☐ Winter Wildlife Surveys: _____
- ☐ Butterflies (Lepidoptera): Incidental
- ☐ Dragonflies / Damselflies (Odonata): Incidental
- ☐ Species at Risk Specific Surveys: Badger burrows included in field surveys
- ☐ Species of Conservation Concern Surveys: _____
- ☑ Significant Wildlife Habitat Surveys: Included in surveys above; Terrestrial Crayfish
- ☐ Other field investigations: _____

Supporting Concurrent Studies/Investigations:

- ☑ Hydrogeological/Groundwater: _____
- ☐ Surface Water/Hydrology: _____
- ☑ Water Balance: _____
- ☐ Fluvial Geomorphological: _____
- ☑ Geotechnical: _____
- ☐ Tree Inventory: To be completed at a later stage
- ☐ Other: _____

Evaluation of Significance:

Federal:

- ☐ Fish Habitat ☐ Other Federal: _____
- ☐ Species at Risk (*SARA*)

MBCA Applies

Provincial:

- ☐ Provincially Significant Wetlands
- ☐ Significant Woodlands
- ☑ Significant Valleylands
- ☑ Significant Wildlife Habitat Ecoregion 7E
- ☐ Areas of Natural & Scientific Interest
- ☐ Fish Habitat
- ☑ Water Resource Systems Adjacent SGRA to the west
- ☑ Species at Risk (*ESA*): _____

Municipal/London:

- ☐ Environmentally Significant Areas (ESAs), Potential ESAs
- ☐ Significant Woodlands, Woodlands
- ☑ Significant Valleylands, Valleylands
- ☑ Wetlands, Unevaluated Wetlands Not on Map 5, not confirmed wetland
- ☑ Significant Wildlife Habitat
- ☑ Unevaluated Vegetation Patches
- ☐ Other Vegetation Patches >0.5 ha
- ☐ Potential Naturalization Area
- ☐ Other: _____

Impact Assessment:

- ☑ Impact Assessment Required
- ☑ Net Effects Table Required

Environmental Management Recommendations:

- ☑ Environmental Management Plan: To be included as an Appendix
- ☐ Specifications & Conditions of Approval: _____
- ☐ Other: _____

Shane to look into including it at a later stage to avoid repetition

Environmental Monitoring:

- ☑ Baseline Monitoring: _____
- ☑ Construction Monitoring: _____
- ☑ Post-Construction Monitoring: _____

Additional Requirements and Notes:

- Subject Lands are within the Bostwick Neighbourhood of the Southwest Area Secondary Plan (SWAP)
- Request for appropriate rezoning of features/buffers (note: only lands within the development limits can be rezoned)
- City requested that EMG boundary delineation guidelines to be used in the EIS (go through criteria)

Appendix D

Ecological Land Classification

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 45761-10		POLYGON:	
SURVEYOR(S): WH ER	DATE: Mar 30 May 27	TIME: start / finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☒ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
SITE	☐ BASIC BEDRK.	☐ VALLEY SLOPE	**COVER**	☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☒ TABLELAND		☐ LICHEN	☐ SWAMP
☐ OPEN WATER		☐ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
☐ SHALLOW WATER		☐ CLIFF	☐ OPEN	☒ DECIDUOUS	☐ BOG
☒ SURFICIAL DEP.		☐ TALUS	☐ SHRUB	☐ CONIFEROUS	☐ BARREN
☐ BEDROCK		☐ CREVICE / CAVE	☒ TREED	☐ 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 (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	4	ACERsah >> TILIamr = FAGUgra > OSTRvir
2	SUB-CANOPY	2	4	ACERsah >> TILIame = FAGUgra > OSTRvir
3	UNDERSTOREY	3	3	ACERsah >> TILIamr = FAGUgra > OSTRvir
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT 25 m 3 = 2<HT 10 m 4 = 1<HT 2 m 5 = 0.5<HT 1 m 6 = 0.2<HT 0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR 10% 2= 10 < CVR 25% 3= 25 < CVR 60% 4= CVR > 60%

STAND COMPOSITION:	BA:
ACERSAC(48), TILIAME(24), FAGUGRA(17), OSTRVIR(7)	

SIZE CLASS ANALYSIS:	A	< 10	O	10 - 24	O	25 - 50	R	> 50
STANDING SNAGS:	O	< 10	O	10 - 24	O	25 - 50	R	> 50
DEADFALL / LOGS:	A	< 10	A	10 - 24	A	25 - 50	R	> 50

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

COMM. AGE :		PIONEER		YOUNG		MID-AGE	✓	MATURE		OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	DECIDUOUS	FOD
ECOSITE:	~~DRY-FRESH~~ SUGAR MAPLE	FOD5-
VEGETATION TYPE:	DRY-FRESH SUGAR MAPLE - BEECH DECIDUOUS FOREST	FOD5-2
INCLUSION		
COMPLEX		

Notes:

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

DISTURBANCE EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	1
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	1
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	1
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	0
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	0
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	1
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	1
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	2
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	6
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	2
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	9
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	2
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC

SOILS ONTARIO

SITE: 45761-100
POLYGON:
DATE:
SURVEYOR(S):

	P/A	PP	Dr	Position	Slope Aspect	Slope %	Slope Type	Slope Class	Z	UTM EASTING	UTM NORTHING
1											
2											
3											
4											
5											

SOIL	1	2	3	4	5
TEXTURE x HORIZON					
A TEXTURE					
COURSE FRAGMENTS					
B TEXTURE					
COURSE FRAGMENTS					
C TEXTURE					
COURSE FRAGMENTS					
EFFECTIVE TEXTURE					
SURFACE STONINESS					
SURFACE ROCKINESS					
DEPTH TO / OF					
MOTTLES					
GLEY					
BEDROCK					
WATER TABLE					
CARBONATES					
DEPTH OF ORGANICS					
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME					
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

STAND CHARACTERISTICS

SITE: 45761-100
POLYGON: 1
DATE: March 30 / 2021
SURVEYOR(S): WH, ER

TREE TALLY BY SPECIES:

PRISM FACTOR 2M

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
ACERSAC	8	2	9.5	4.5		10	48%
TILIAME	1	4	0.0	4.0		5	24%
CARYCOR	1	0	0.0	1.0		1	5%
FAGUGRA	2	1.5	1.0	0.0		3.5	17%
OSTRVIR	0.0	1.5	0.0	0.5		1.5	7%
QUERUB	0.0	0.0	1.5	0.5			
TOTAL	12	9	13	10.5		21	100
BASAL AREA (BA)	24	18	26	21		42	
DEAD		2	0	1.5		2	9%

STAND COMPOSITION:

ACERSAC(48), TILIAME(24), FAGUGRA(17), OSTRVIR(7)

COMMUNITY PROFILE DIAGRAM

Notes:

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: 45761-10		POLYGON: 2	
SURVEYOR(S):	DATE:	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY			
2	SUB-CANOPY			
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT 25 m 3 = 2<HT 10 m 4 = 1<HT 2 m 5 = 0.5<HT 1 m 6 = 0.2<HT 0.5 m 7 = HT<0.2 m

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:	☐	< 10	☐	10 - 24	☐	25 - 50	☐	> 50
STANDING SNAGS:	☐	< 10	☐	10 - 24	☐	25 - 50	☐	> 50
DEADFALL / LOGS:	☐	< 10	☐	10 - 24	☐	25 - 50	☐	> 50

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

COMM. AGE :	☐	PIONEER	☐	YOUNG	☐	MID-AGE	☐	MATURE	☐	OLD GROWTH

SOIL ANALYSIS:

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

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:		SW
COMMUNITY SERIES:		SWD
ECOSITE:		SWD4
VEGETATION TYPE:	WILLOW MINERAL DECID. SWAMP TYPE	SWD4-1
INCLUSION		
COMPLEX		

Notes:

ELC
MANAGEMENT / DISTURBANCE

SITE:
POLYGON:
DATE:
SURVEYOR(S):

DISTURBANCE EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC

SOILS ONTARIO

SITE: Ingersoll Golf 43613-100
POLYGON:
DATE: Apr. 9, 2021
SURVEYOR(S): LH

	P/A	PP	Dr	Position	Aspect	Slope %	Type	Class	UTM Z	EASTING	NORTHING
1	A			5	130	1			17	509854	4763632
2	A			3	240	5			17	509937	4763588
3					240	5			17	509938	4763584
4											
5											

SOIL TEXTURE x HORIZON	1	2	3	4	5
	Oh 28	SiL 30	Om 35		
	SiC 59	SiC 50	C		
	fSC 60	SifSC 60	30		
A TEXTURE	SiC	SiL	C		
COURSE FRAGMENTS	999	999	999		
B TEXTURE	fSC	SiC	999		
COURSE FRAGMENTS	999	999	999		
C TEXTURE	999	B2 SiLfSC	999		
COURSE FRAGMENTS	999	999	999		
EFFECTIVE TEXTURE		SiC	C		
SURFACE STONINESS	no	no	no		
SURFACE ROCKINESS	no	no	no		
DEPTH TO / OF					
MOTTLES	58	53	0		
GLEY	0	30	0		
BEDROCK	999	999	999		
WATER TABLE	0	999	0		
CARBONATES	999	999			
DEPTH OF ORGANICS	28	0	35		
PORE SIZE DISC #1					
PORE SIZE DISC #2					
MOISTURE REGIME	6	5	6		
SOIL SURVEY MAP					
LEGEND CLASS					

ELC

STAND CHARACTERISTICS

SITE:
POLYGON:
DATE:
SURVEYOR(S):

TREE TALLY BY SPECIES:

PRISM FACTOR

SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG
TOTAL							100
BASAL AREA (BA)							
DEAD							

STAND COMPOSITION:

COMMUNITY PROFILE DIAGRAM

Notes:

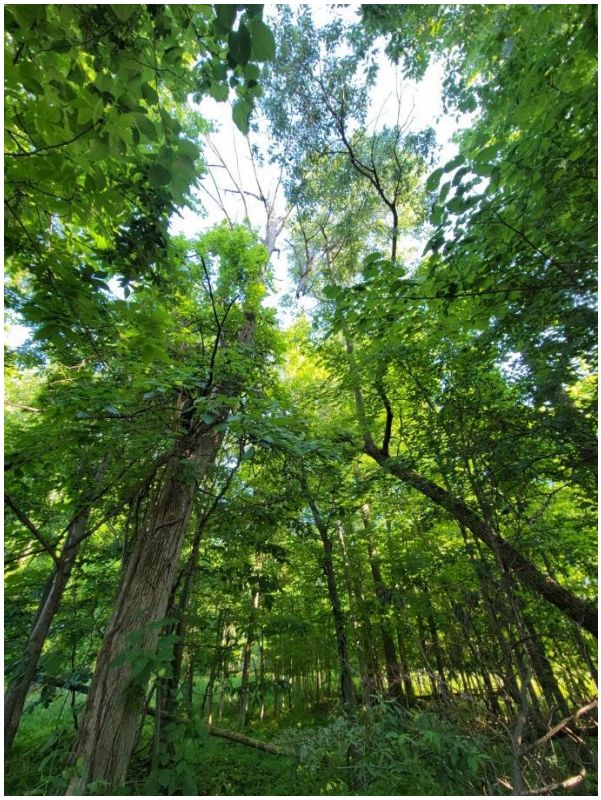
Appendix E

Site Photographic Log

Photograph No. 1 – Community 2 (Fallow Agriculture) on May 27, 2021

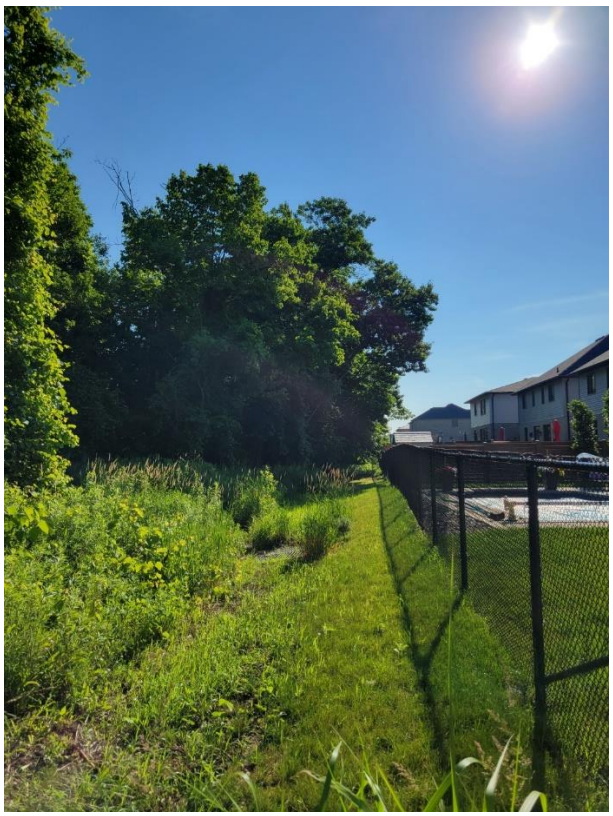
Photograph No. 2 –Community 2 (Fallow Agriculture) on June 29, 2021

Photograph No. 3 – Seasonally Wet Depression in Community 2 on June 29, 2021



Photograph No. 4 – Community 1 (FOD5-2) on June 29, 2021

Photograph No. 5 – Boundary between Patch 10070 and the south adjacent subdivision



Photograph No. 6 – Boundary between Patch 10070 and the south adjacent subdivision

Appendix F

Significant Wildlife Habitat Table

ELCs: FOD5-2, agriculture

Seasonal Concentration of Animals

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Waterfowl Stopover and Staging Areas (Terrestrial)	-	- Large fields with abundant sheet water in spring not available.	No	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects". • Any mixed species aggregations of 100 or more individuals required. • The flooded field ecosite habitat plus a 100-300m radius, dependent on local site conditions and adjacent land use is the significant wildlife habitat. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).	No
Waterfowl Stopover and Staging Areas (Aquatic)	-	- No aquatic features (ponds, marshes, lakes, bays, watercourses) present within 120 m of the Subject Lands.	No	Studies carried out and verified presence of: • Aggregations of 100 or more of listed species for 7 days, results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH • The combined area of the ELC ecosites and a 100m radius area is SWH • Wetland area and shorelines associated with sites identified within the SWHTG are significant wildlife habitat. • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).	No
Shorebird Migratory Stopover Area	-	- No beach areas, bars, seasonally flooded, muddy and un-vegetated shoreline habitat available within or adjacent to the Subject Lands.	No	Studies confirming: • Presence of 3 or more of listed species and >1000 shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".	No

Raptor Wintering Area	FOD5-2	- No combination of forest and fields >20 ha present. Patch 10070 is too small.	No	Studies confirm the use of these habitats by: • One or more Short-eared Owls or; One of more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species. • To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No
Bat Hibernacula	-	- No suitable features (caves, mine shafts, karsts, etc.) present.	No	• All sites with confirmed hibernating bats are SWH. • The area includes 200m radius around the entrance of the hibernaculum for most development types and 1000m for wind farms • Studies are to be conducted during the peak swarming period (Aug–Sept). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”	No
Bat Maternity Colonies	FOD5-2	- Small hedgerow located within the Subject Lands. - Community 1 (FOD5-2) is a large deciduous forest stand.	Yes – Community 1 (FOD5-2)	Maternity Colonies with confirmed use by; • >10 Big Brown Bats • >5 Adult Female Silver-haired Bats • The area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies. • Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”	No Targeted bat habitat survey in April 2021 did not find a sufficient density (>10/ha) of candidate habitat trees >25 cm DBH in Community 1 (FOD5-2).
Turtle Wintering Areas	SW (Adjacent)	- No suitable over-wintering sites (permanent water bodies, large wetlands, bogs, fens, etc.) within or adjacent to the Subject Lands.	No	Presence of 5 over-wintering Midland Painted Turtles is significant. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant. • The mapped ELC Ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deepwater pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept-Oct) or spring (Mar-May). • Congregation of turtles is more common where wintering areas are limited and therefore significant.	No

Reptile Hibernaculum	All other than really wet	- No features indicative of hibernation sites (bedrock fissures, rock piles, burrows) present within or adjacent to the Subject Lands.	No	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. Near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct). • Note: If there are Special Concern Species present, then site is SWH. • The feature in which the hibernacula is located plus a 30 m radius area is SWH.	No
Colonially-Nesting Bird Breeding Habitat (Bank/Cliff)	-	- No exposed soil banks, cliff faces, sandy hills, borrow pits, steep slopes, or other suitable habitat present.	No	Studies confirming: • Presence of 1 or more nesting sites with 8cxlix or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No
Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs)	-	- No suitable wetland habitat is present within 120 m of the Subject Lands. - No heron nesting sites/colonies present based on LIO mapping (wildlife values area map).	No	Studies confirming: • Presence of 2 or more active nests of Great Blue Heron or other listed species. • The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH. • Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April-August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.	No

Colonially-Nesting Bird Breeding Habitat (Ground)	-	- No islands, peninsulas, or low bushes close to streams/ditches are present. - No nesting sites for Ring-billed Gull or Herring Gull identified in the area by LIO wildlife values area mapping.	No	Studies confirming: • Presence of >25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern. • Presence of 5 or more pairs for Brewer's Blackbird. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant. • The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects".	No
Migratory Butterfly Stopover Areas	FOD5-2	- No area >10 ha in size with a combination of forest (FOD) and field (CUM/CUT) located within 5 km of Lake Erie or Lake Ontario. Criteria not met.	No	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD. • MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral's is to be considered significant.	No
Land Bird Migratory Stopover Areas	FOD5-2	- No woodlots >5 ha in size that are within 5 km of Lake Ontario and Lake Erie. Criteria not met.	No	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (Mar to May) and fall (Aug-Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"	No
Deer Winter Congregation Areas	FOD5-2	- No woodlots >100 ha or >50 ha in size. - No White-tailed Deer wintering areas identified in the area by LIO wildlife values area mapping.	No	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF. • Use of the woodlot by whitetailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.	No

Rare Vegetation Communities

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Cliffs and Talus Slopes	-	Not present.	No	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes.	No
Sand Barren	-	Not present.	No	• Confirm any ELC Vegetation Type for Sand Barrens. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.).	No
Alvar	-	Not present.	No	• Field studies that identify 4 of the 5 Alvar Indicator Species at a Candidate Alvar site is significant. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.	No
Old Growth Forest	FOD5-2	Not present. Community 1 (FOD5-2) is only mid-aged.	No	Field Studies will determine: • If dominant trees species are >140 years old, then the area containing these trees is SWH. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present) • The area of forest ecosites combined or an eco-element within an ecosite that contain the old growth characteristics is the SWH. • Determine ELC vegetation types for the forest area containing the old growth characteristics.	No
Savannah	-	Not present.	No	• Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 7E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.).	No
Tallgrass Prairie	-	Not present.	No	• Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 7E should be used. • Area of the ELC Ecosite is the SWH. • Site must not be dominated by exotic/introduced species (<50% vegetative cover exotic sp.).	No
Other Rare Vegetation	-	Not present.	No	•Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. • Area of the ELC Vegetation Type polygon is the SWH.	No

Specialized Habitats of Wildlife considered SWH

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Waterfowl Nesting Area	-	- Wetland habitat is not available within 120 m of the Subject Lands.	No	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards, or; • Presence of 10 or more nesting pairs for listed species including Mallards. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April-June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”. • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest.	No
Bald Eagle and Osprey Nesting, Foraging, Perching	FOD5-2	- No Osprey feeding or resting areas identified in the Study Area on LIO wildlife values mapping. - Subject Lands and adjacent lands do not include forest habitat adjacent to a riparian area. Patch 10070 includes only a small SWD4-1 wetland further west, not a suitable river, lake, pond, or wetland with open water. - Forest habitat adjacent to Thornicroft Drain to the east is very limited.	No	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important. • For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for >3 years or suspected of not being used for >5 years before being considered not significant. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from early March to mid-August. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No
Woodland Raptor Nesting Habitat	FOD5-2	- No natural or conifer plantation woodlands/forest stands >30ha with >4ha of interior habitat. Criteria not	No	Studies confirm: • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius	No

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
		met.		around the nest or 28 ha area of habitat is the SWH. (the 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) • Barred Owl – A 200m radius around the nest is the SWH. • Broad-winged Hawk and Coopers Hawk,– A 100m radius around the nest is SWH. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.	
Turtle Nesting Areas	-	- No suitable wetlands in the Subject Lands or adjacent lands.	No	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles. • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH. • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method.	No
Springs and Seeps	FOD5-2	- Based on UTRCA mapping, there may be some streams that begin in or near Community 1 (FOD5-2). - No seeps or springs observed within the Subject Lands.	No	Field Studies confirm: • Presence of a site with 2 or more seeps/springs should be considered SWH. • The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation of the habitat.	No
Amphibian Breeding Habitat (Woodland)	FOD5-2	- The seasonally wet depression in Community 2 is slightly >500m^2 and is located next to a woodland (Community 1 – FOD5-2).	Yes – Seasonally wet depression	Studies confirm; • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Code 3. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the	No – Confirmed not present in the wet depression. Insufficient calls during the 2021

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
				woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat	amphibian call count survey.
Amphibian Breeding Habitat (Wetlands)	-	- No wetlands located >120m from woodland ecosites are present within or directly adjacent to the Subject Lands.	No	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.	No
Woodland Area-Sensitive Bird Breeding Habitat	FOD5-2	- No large mature (>60yrs old) forest stands or woodlots >30 ha are present within or adjacent to the Subject Lands.	No	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species. • Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH. • Conduct field investigations in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No

Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Marsh Breeding Bird Habitat	-	- No wetland communities present to support marsh breeding birds.	No	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species. • Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH.	No

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
				• Area of the ELC ecosite is the SWH. • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	
Open Country Bird Breeding Habitat	-	- Natural and cultural fields >30 ha are not present.	No	Field studies confirm: • Presence of nesting or breeding of 2 or more of the listed species. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No
Shrub/Early Successional Bird Breeding Habitat	-	- No large fields succeeding to shrub and thicket habitats >10 ha in size are present.	No	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species. • A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered SWH. • The area of the SWH is the contiguous ELC Ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.	No
Terrestrial Crayfish	-	- No suitable habitat present. - No chimneys or individuals observed within the Subject Lands or 120 m adjacent lands.	No	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites. • Area of ELC ecosite or an eco-element area of meadow marsh or swamp within the larger ecosite area is the SWH. • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.	No
Special	-	- NHIC and other sources	Yes -	Studies Confirm:	No – Confirmed

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Concern and Rare Wildlife Species (NHIC and MNRF pre-consultation)		identified several Special Concern or rare species as potentially present within the area of the Subject Lands. These include Bald Eagle [SC], Grasshopper Sparrow [SC], Green Dragon [SC], Northern Map Turtle [SC], Peregrine Falcon [SC], Snapping Turtle [SC], and Wood Thrush [SC].	Study Area	• Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.	not present within the Study Area with field investigations (breeding bird survey, floral inventory, general habitat assessment)

Animal Movement Corridors

Wildlife Habitat	ELC Codes Triggers*	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Amphibian Movement Corridors	-	- Movement corridors are determined when there is confirmed amphibian breeding habitat in wetlands. Criteria not met.	No	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant. • Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m. • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.	No

SWH exceptions

Wildlife Habitat	Ecosites	Habitat Criteria and Information	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Bat Migratory Stopover Area	No triggers	- The site is not near Long Point.	No	• The confirmation criteria and habitat areas for this SWH are still being determined.	No

Appendix G

Floral Inventory Data

			Floral Inventory (2021 03 30, 2021 05 27, 2021 06 29, 2021 08 17, 2021 10 13)								
				Common Name	CW	COSEWIC	SARO	SRank		Type	Invasive
X			*Acer negundo*	Manitoba Maple	0.0			S5	C	TR	
X			*Acer nigrum*	Black Maple				S4?	C	TR	
X			*Acer saccharum*	Sugar Maple				S5	C	TR	
X			*Allium tricoccum*	Wild Leek				S4		FO	
X			*Apios americana*	American Groundnut	-3.0			S5	C	VI	
X			*Arisaema triphyllum*	Jack-in-the-pulpit	-3.0			S5	C	FO	
X			*Asclepias syriaca*	Common Milkweed	5.0			S5	C	FO	
X			*Barbarea vulgaris*	Bitter Wintercress	0.0			SE5	IC	FO	
X			*Berberis thunbergii*	Japanese Barberry				SE5	IX	SH	
X	X		*Boehmeria cylindrica*	False Nettle	-5.0			S5	X	FO	
	X		*Carex bebbii*	Bebb's Sedge	-5.0			S5	C	SE	
X			*Carex blanda*	Woodland Sedge				S5	C	SE	
X			*Carex gracilescens*	Slender Loose-flowered Sedge	5.0			S4	U	SE	
	X		*Carex lupulina*	Hop Sedge	-5.0			S5	C	SE	
X			*Carex pensylvanica*	Pennsylvania Sedge	5.0			S5	C	SE	
	X		*Carex plantaginea*	Plantain-leaved Sedge	5.0			S5	C	SE	
X			*Carex radiata*	Eastern Star Sedge				S5	C	SE	
X			*Carex rosea*	Rosy Sedge	5.0			S5	C	SE	
X			*Carex sparganioides*	Burreed Sedge				S4S5	U	SE	
	X		*Carex vulpinoidea*	Fox Sedge	-5.0			S5	C	SE	
X			*Carpinus caroliniana*	Blue-beech	0.0			S5	C	TR	
X			*Circaea canadensis*	Broad-leaved Enchanter's Nightshade				S5	X	FO	
X			*Cirsium arvense*	Canada Thistle				SE5	IC	FO	
X			*Claytonia virginica*	Narrow-leaved Spring Beauty				S5	C	FO	
X			*Crataegus punctata*	Dotted Hawthorn	5.0			S5	C	SH	
X			*Dactylis glomerata*	Orchard Grass				SE5	IC	GR	
X			*Daucus carota*	Wild Carrot	5.0			SE5	IC	FO	
X			*Epifagus virginiana*	Beechdrops	5.0			S5	C	FO	
		X	*Epilobium parviflorum*	Small-flowered Willowherb				SE4	IX	FO	
	X		*Epipactis helleborine*	Eastern Helleborine				SE5	IX	FO	
X			*Erigeron hyssopifolius*	Daisy Fleabane	-3.0			S5		FO	
	X		*Euonymus obovatus*	Running Strawberry Bush	3.0			S4	C	SH	
X			*Euthamia graminifolia*	Grass-leaved Goldenrod	0.0			S5	C	FO	
X			*Fagus grandifolia*	American Beech				S4	C	TR	
X			*Geranium maculatum*	Spotted Geranium				S5	X	FO	
X	X		*Geranium robertianum*	Herb-Robert				S5	C	FO	
	X		*Glyceria striata*	Fowl Mannagrass	-5.0			S5	X	GR	
X			*Hackelia virginiana*	Virginia Stickseed	3.0			S5	U	FO	
X			*Hydrophyllum virginianum*	Virginia Waterleaf				S5	C	FO	
X			*Leersia virginica*	Virginia Cutgrass	-3.0			S4	X	GR	
X			*Lonicera tatarica*	Tartarian Honeysuckle				SE5	IX	SH	
	X		*Lysimachia nummularia*	Creeping Jennie	-3.0			SE5	IX	FO	
X	X		*Lythrum salicaria*	Purple Loosestrife	-5.0			SE5	IC	FO	
X			*Matteuccia struthiopteris*	Ostrich Fern				S5	X	FE	
	X		*Mimulus ringens*	Square-stemmed Monkeyflower	-5.0			S5	X	FO	
	X		*Onoclea sensibilis*	Sensitive Fern	-3.0			S5	X	FE	
X			*Ostrya virginiana*	Eastern Hop-hornbeam				S5	C	TR	
X		X	*Oxalis stricta*	Upright Yellow Wood-sorrel				S5	X	FO	
X			*Parthenocissus vitacea*	Thicket Creeper				S5	X	VW	
	X	X	*Penthorum sedoides*	Ditch-stonecrop	-5.0			S5	X	FO	
X			*Persicaria pensylvanica*	Pennsylvania Smartweed	-3.0			S5	X	FO	
X			*Persicaria virginiana*	Virginia Smartweed	0.0			S4	X	FO	
	X		*Phalaris arundinacea*	Reed Canary Grass				S5	X	GR	
X		X	*Phragmites australis*	Common Reed				S4?		GR	

			Floral Inventory (2021 03 30, 2021 05 27, 2021 06 29, 2021 08 17, 2021 10 13)								
1 (FOD5-2)	Seasonal Wet	2 (Farmed)	**Scientific Name**	**Common Name**	**CW**	**COSEWIC**	**SARO**	**SRank**	**MD**	**Type**	**Invasive**
X			*Pinus strobus*	Eastern White Pine	3.0			S5	X	TR	
X			*Poa nemoralis*	Woods Bluegrass	3.0			SE4	IR	GR	
X			*Podophyllum peltatum*	May-apple	3.0			S5	X	FO	
X		X	*Polystichum acrostichoides*	Christmas Fern	3.0			S5	X	FE	
X			*Populus balsamifera*	Balsam Poplar	-3.0			S5	X	TR	
X			*Prunus avium*	Sweet Cherry	5.0			SE4	IR	TR	
X			*Prunus glandulosa*	Flowering Almond				SE1		SH	
X			*Quercus rubra*	Northern Red Oak	3.0			S5	C	TR	
	X		*Ranunculus abortivus*	Kidney-leaved Buttercup	0.0			S5	C	FO	
X			*Rhamnus cathartica*	Common Buckthorn	0.0			SE5	IC	SH	Y
X			*Rosa multiflora*	Multiflora Rose	3.0			SE5	IX	SH	Y
X			*Rubus idaeus*	Common Red Raspberry	3.0			S5		SH	
X		X	*Rubus occidentalis*	Black Raspberry	5.0			S5	C	SH	
		X	*Rumex obtusifolius*	Bitter Dock	-3.0			SE5	IX	FO	
		X	*Solanum dulcamara*	Bittersweet Nightshade	0.0			SE5	IC	VW	Y
X		X	*Solidago canadensis*	Canada Goldenrod	3.0			S5		FO	
X			*Solidago nemoralis ssp. nemoralis*	Gray-stemmed Goldenrod	5.0			S5	X	FO	
		X	*Solidago patula*	Round-leaved Goldenrod	-5.0			S4	X	FO	
	X		*Symphyotrichum lateriflorum var. lateriflorum*	Calico Aster	0.0			S5		FO	
X		X	*Taraxacum officinale*	Common Dandelion	3.0			SE5	IC	FO	
X			*Tilia americana*	American Basswood	3.0			S5	C	TR	
X			*Toxicodendron radicans*	Poison Ivy	0.0			S5		VW	
X			*Tussilago farfara*	Colt's-foot	3.0			SE5	IC	FO	Y
X			*Viola sororia*	Woolly Blue Violet	0.0			S5	X	FO	
X			*Vitis riparia*	Riverbank Grape	0.0			S5	C	VW	
X			*Bidens sp.*	Beggarsticks sp.							
X			*Erythronium sp.*	Trout-lily sp.							
X			*Fraxinus sp.*	Ash sp.							
X			*Galium sp.*	Bedstraw sp.							
X			*Malus sp.*	Crabapple sp.							
X			*Oenothera sp*	Evening-primrose sp.							
X			*Rosa sp.*	Rose sp.							

Appendix H

Breeding Bird Survey Data

AVIFAUNAL SURVEY INFORMATION SUMMARY SHEET

Project Name: Colonel Talbot Rd **MTE File No.:** 45761-101
Collector(s): WH

	Date	Start	Finish	Weather
Visit 1	27-May-21	8:30	10:43	1-14C, Wind 3 (N), CC 0%, No rain
Visit 2	29-Jun-21	7:22		23C, Wind 1, CC 0%, No rain

Species Abbr.	Species Name	Comm. 1				S Rank	ESA Status	Notes
		Visit 1		Visit 2				
		Code	No.	Code	No.			
BWHA	Broad-winged Hawk			OB	1	S5		Juvenile
RTHA	Red-tailed Hawk	OB	1			S5	-	
RBWO	Red-bellied Woodpecker	P	2	VO,SH	2	S4	-	
DOWO	Downy Woodpecker		1	VO,SH	5	S5		
GCFL	Great Crested Flycatcher	T	2			S4	-	
REVI	Red-eyed Vireo			SM	2	S5		
BLJA	Blue Jay	T	4	FE,T	8	S5		
AMCR	American Crow	T	5	VO,SH	1	S5		
BCCH	Black-capped Chickadee			P,FY	4	S5	-	
WBNU	White-breasted Nuthatch			SH	1	S5	-	
AMRO	American Robin		3		9	S5		
CHSP	Chipping Sparrow		2			S5		
FISP	Field Sparrow		1			S4		
VESP	Vesper Sparrow		1			S4		
SOSP	Song Sparrow	P	4	A,P,T	4	S5		
NOCA	Northern Cardinal	P	3	T	4	S5		
RBGR	Rose-breasted Grosbeak	SM,P	4			S4		
INBU	Indigo Bunting		2	SH	4	S4		
RWBL	Red-winged Blackbird		7	FY	3	S4		
COGR	Common Grackle		2			S5		
BHCO	Brown-headed Cowbird	VO	2	P	1	S4		
BAOR	Baltimore Oriole	NE	2			S4		
HAWO	Hairy Woodpecker	T	1					
AMGO	American Goldfinch	SH	1	SH	5	S5		

Evidence Codes:
Breeding Bird - Possible
SH=Suitable Habitat SM=Singing Male
Breeding Bird - Probable
T=Territory A=Anxiety Behaviour D=Display N=Nest Building P=Pair V=Visiting Nest
Breeding Bird - Confirmed
DD=Distraction NE=Eggs AE=Nest Entry NU=Nest Used NY=Nest Young FY=Fledged Young FS=Food/Faecal Sack
Other Wildlife Evidence
OB=Observed DP=Distinctive Parts TK=Tracks VO=Vocalization HO=House/Den FE=Feeding Evidence CA=Carcass
Fy=Eggs or Young SC=Scat SI=Other Signs (specify)

Appendix I

Amphibian Call Count Survey Data

GENERAL SITE INFORMATION FIELD SHEET

Project: 47561-101 col talbot
Date: Apr. 27 2021 Project Manager: DH
Collector(s): ER LMM Visit #:
Time started: 20:45 Time finished: 21:30 Combined collectors' hours: 1.5
☐ NHIC List ☐ MNR EO's ☐ none ☐ not provided to collector

WEATHER CONDITIONS				
Temp.	Wind:		Cloud Cover (%)	Precipitation
20	Direction: S		40	Today: N Yesterday: Y

WIND SCALE	
0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper
5	Small trees sway
6	Large branches sway
7	Lots of resistance when walking into
8	Limbs breaking off trees

DATA FOCUS

☐	Birds 1__ 2__ Mig__	☐	ELC's	☐	Dripline/Tree Survey
☐	Mammals	☐	Floral V__ S__ A_	☐	Aquatic - Physical
☐	Amphibians 1✓ 2_ 3_	☐	Wetland	☐	Aquatic - Biological
✓	Reptiles	☐	Butternut (BHA)	✓	Faunal Habitat
☐	Inverterbrates	☐	other SAR	☐	Other - see notes

FEATURES (with GPS co-ordinates where applicable)	Mapped	Follow-up Req'd		
	UTM	Yes	No	Who
Man-made Structures: ☐ None observed				
Yes No				
☐ ☐ Barns/Footings/Wells/other(list)				
☐ ☐ Rock Piles				
☐ ☐ Garbage				
Natural Vegetation: ☐ None observed				
☐ ☐ Fallen Logs outside woods (#'s)				
☐ ☐ Brush Piles				
☐ ☐ Snags (raptor perch)				
☐ ☐ Tree Cavities (nesting)				
☐ ☐ Sentinel Trees				
☐ ☐ Butternut Identified				
☐ ☐ Mast Trees (6E) ☐ Berry Shrubs (6E)				
Wildlife Features: ☐ None observed				
☐ ☐ Waterfowl nesting (large #'s, # of species)				
☐ ☐ Exposed Banks (nesting swallows)				
☐ ☐ Stick Nests				
☐ ☐ Animal Burrows (>10cm)				
☐ ☐ Heronry				
☐ ☐ Crayfish mounds				
☐ ☐ Sand/gravel on site				
☐ ☐ Marsh/open country/shrub				
☐ ☐ Winter Deer yards				
☐ ☐ Corridor from pond to woods (ampibian movement)				
☐ ☐ Bat corridor (shorelines, escarpments)				
☐ ☐ Bat hibernacula (caves, mines, crevices, etc.)				
Aquatic Features:				
☐ ☐ Perm. pond in woodland ☐ emergents/submergents/logs ☐ temp.				
☐ ☐ Perm. pond in open ☐ emergents/submergents/logs ☐ temp.				
☐ ☐ Water in woodland ☐ pools ☐ flowing ☐ dry				
☐ ☐ Waterways flowing dry pools				
☐ natural stream ☐ ☐ ☐				
☐ swale ☐ ☐ ☐ ☐ None observed				
☐ open drain ☐ ☐ ☐				
☐ Seeps/Springs ☐ ☐ ☐				
Incidental Observations/Notes:				
Snake under sheet				

AMPHIBIAN MONITORING FIELD SHEET

Project: 47561 Col talbot
Date: Apr. 27 Project Manager: PH
Collector(s): WM ER Visit #:

WEATHER CONDITIONS					
Temp.	Wind:		Cloud Cover (%)	Precipitation	
20	Direction:	S	40	☐ None/Dry ☐ Drizzle ☐ Damp/Fog ☐ Rain	

	WIND SCALE
0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper

CALL LEVEL CODES

Code 1: Calls not simultaneous, number of individuals can be accurately counted
Code 2: Some calls simultaneous, number of individuals can be reliably estimated
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated

Reference Site: ☐ No ☐ Yes UTM

Station: A

Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		✓
WOFR		

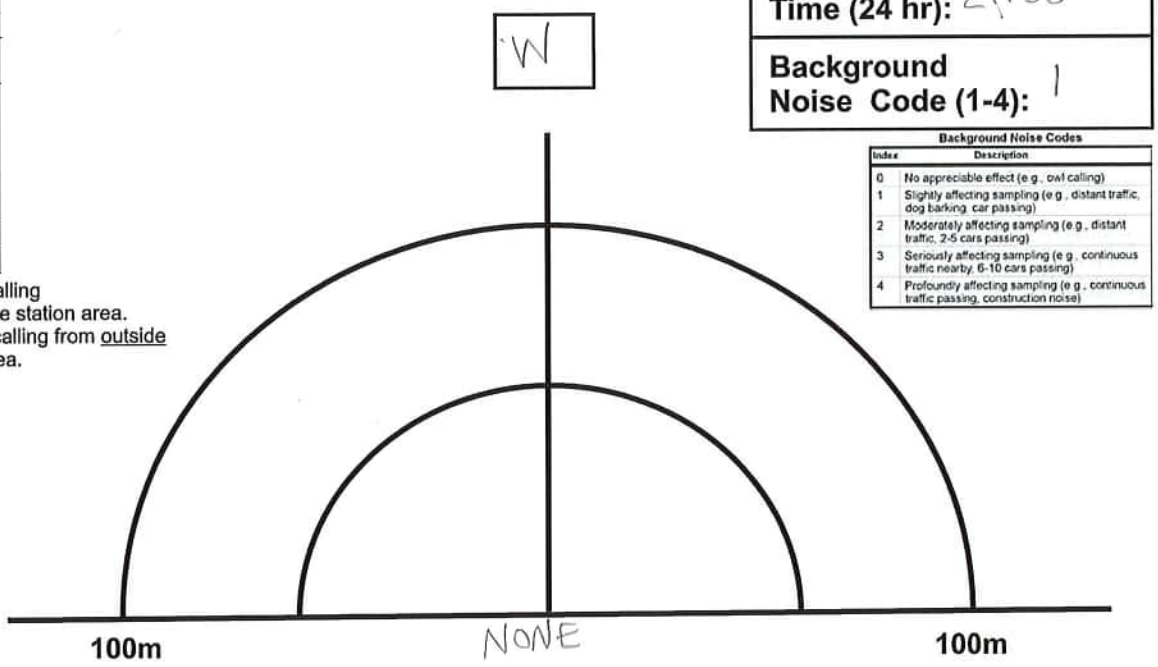
* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr): 21:00

Background Noise Code (1-4): 1

Background Noise Codes

Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g., continuous traffic passing, construction noise)



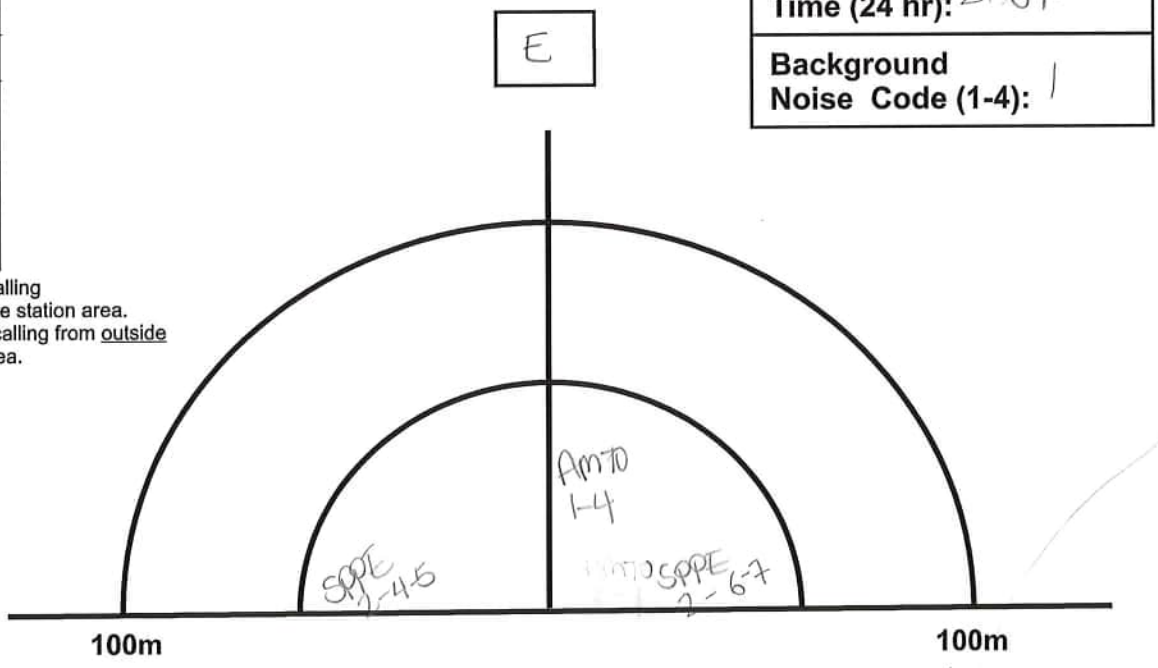
Station:

Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr): 21:04

Background Noise Code (1-4): 1



AMPHIBIAN MONITORING FIELD SHEET

Project: 47561-101 Col Talbot
Date: Apr. 27 2021 Project Manager: —
Collector(s): ER LMM Visit #: —

WEATHER CONDITIONS					
Temp.	Wind:		Cloud Cover (%)	Precipitation	
20	Direction:	S	40	☐ None/Dry ☐ Drizzle ☐ Damp/Fog ☐ Rain	

	WIND SCALE
0	Calm
(1)	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper

CALL LEVEL CODES

Code 1: Calls not simultaneous, number of individuals can be accurately counted
Code 2: Some calls simultaneous, number of individuals can be reliably estimated
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated

Reference Site: ☐ No ☐ Yes UTM

Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		✓
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

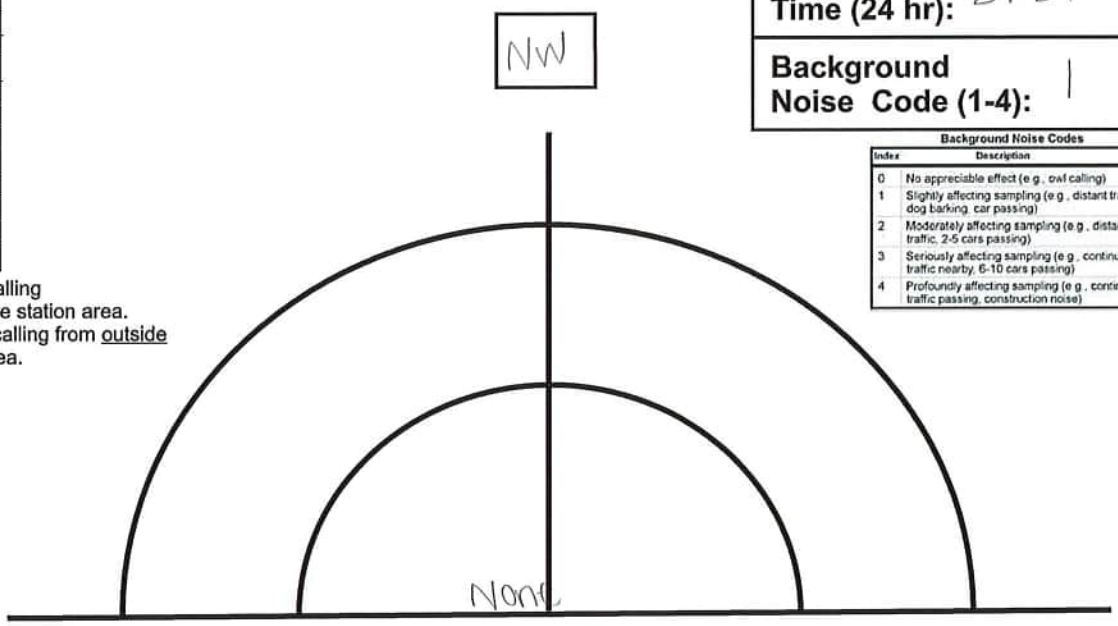
Station: C

Station Start Time (24 hr): 21:24

Background Noise Code (1-4): 1

Background Noise Codes

Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g., continuous traffic passing, construction noise)



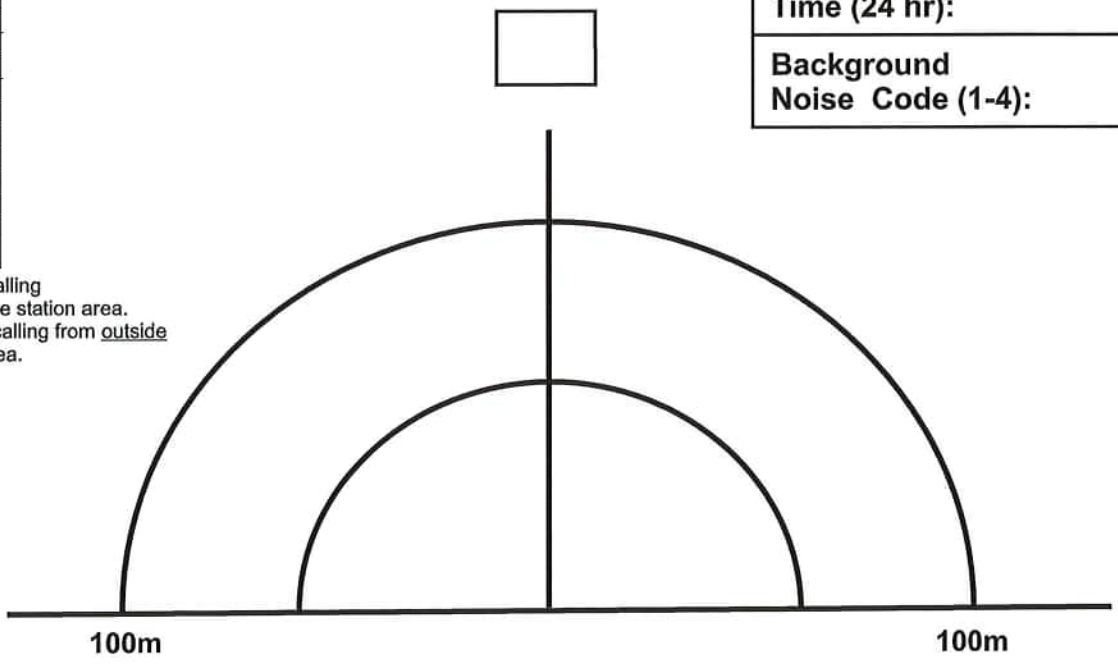
Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station:

Station Start Time (24 hr):

Background Noise Code (1-4):



GENERAL SITE INFORMATION FIELD SHEET

Project: 47561-106 Col talbot
Date: MAY 17 2021 Project Manager: DH
Collector(s): ER LMM Visit #:
Time started: 21:00 Time finished: 22:00 Combined collectors' hours: 2
☐ NHIC List ☐ MNR EO's ☐ none ☐ not provided to collector

WEATHER CONDITIONS				
Temp.	Wind:	~5km	Cloud Cover (%)	Precipitation
20	Direction:	S	0	Today: N Yesterday: N

WIND SCALE	
0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper
5	Small trees sway
6	Large branches sway
7	Lots of resistance when walking into
8	Limbs breaking off trees

DATA FOCUS

☐	Birds 1__ 2__ Mig__	☐	ELC's	☐	Dripline/Tree Survey
☐	Mammals	☐	Floral V__ S__ A_	☐	Aquatic - Physical
☑	Amphibians 1_ 2✓ 3_	☐	Wetland	☐	Aquatic - Biological
☐	Reptiles	☐	Butternut (BHA)	☐	Faunal Habitat
☐	Inverterbrates	☐	other SAR	☐	Other - see notes

FEATURES (with GPS co-ordinates where applicable)	Mapped	Follow-up Req'd		
	UTM	Yes	No	Who
Man-made Structures: ☐ None observed				
Yes No				
☐ ☐ Barns/Footings/Wells/other(list)				
☐ ☐ Rock Piles				
☐ ☐ Garbage				
Natural Vegetation: ☐ None observed				
☐ ☐ Fallen Logs outside woods (#'s)				
☐ ☐ Brush Piles				
☐ ☐ Snags (raptor perch)				
☐ ☐ Tree Cavities (nesting)				
☐ ☐ Sentinel Trees				
☐ ☐ Butternut Identified				
☐ ☐ Mast Trees (6E) ☐ Berry Shrubs (6E)				
Wildlife Features: ☐ None observed				
☐ ☐ Waterfowl nesting (large #'s, # of species)				
☐ ☐ Exposed Banks (nesting swallows)				
☐ ☐ Stick Nests				
☐ ☐ Animal Burrows (>10cm)				
☐ ☐ Heronry				
☑ ☐ Crayfish mounds				
☐ ☐ Sand/gravel on site				
☐ ☐ Marsh/open country/shrub				
☐ ☐ Winter Deer yards				
☐ ☐ Corridor from pond to woods (ampibian movement)				
☐ ☐ Bat corridor (shorelines, escarpments)				
☐ ☐ Bat hibernacula (caves, mines, crevices, etc.)				
Aquatic Features:				
☐ ☐ Perm. pond in woodland ☐ emergents/submergents/logs ☐ temp.				
☐ ☐ Perm. pond in open ☐ emergents/submergents/logs ☐ temp.				
☐ ☐ Water in woodland ☐ pools ☐ flowing ☐ dry				
☐ ☐ Waterways flowing dry pools				
☐ natural stream ☐ ☐ ☐				
☐ swale ☐ ☐ ☐ ☐ None observed				
☐ open drain ☐ ☐ ☐				
☐ Seeps/Springs ☐ ☐ ☐				
Incidental Observations/Notes:				

Graphic ☐ Attached or Name L:\ENV\Biological Services\Templates\MTE NEW_General Field Sheet Checked by Project Manager ☐ Date:

AMPHIBIAN MONITORING FIELD SHEET

Project: 47561-100 col talbot
Date: May 17 2021 Project Manager: DH
Collector(s): ER UMM Visit #:

WEATHER CONDITIONS						WIND SCALE	
Temp.	Wind:	NS	Cloud Cover (%)	Precipitation		0	Calm
20	Direction:	S	0	☑ None/Dry ☐ Drizzle ☐ Damp/Fog ☐ Rain		1	Smoke Drifts
						2	Wind Felt on Face
CALL LEVEL CODES						3	Leaves in constant motion
Code 1: Calls not simultaneous, number of individuals can be accurately counted						4	Wind raises dust and paper
Code 2: Some calls simultaneous, number of individuals can be reliably estimated							
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated							

Reference Site: ☐ No ☐ Yes UTM

Station: B

Species	In*	Out**
AMTO		✓+
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

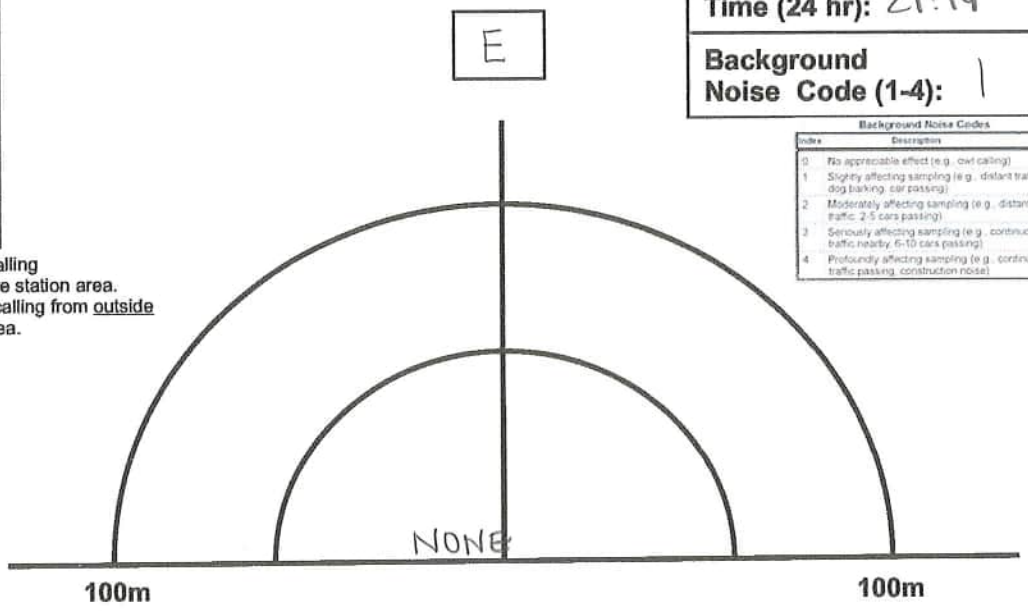
+✓ AMTO very distant

Station Start Time (24 hr): 21:19

Background Noise Code (1-4): 1

Background Noise Codes

Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g., continuous traffic passing, construction noise)



Station: A

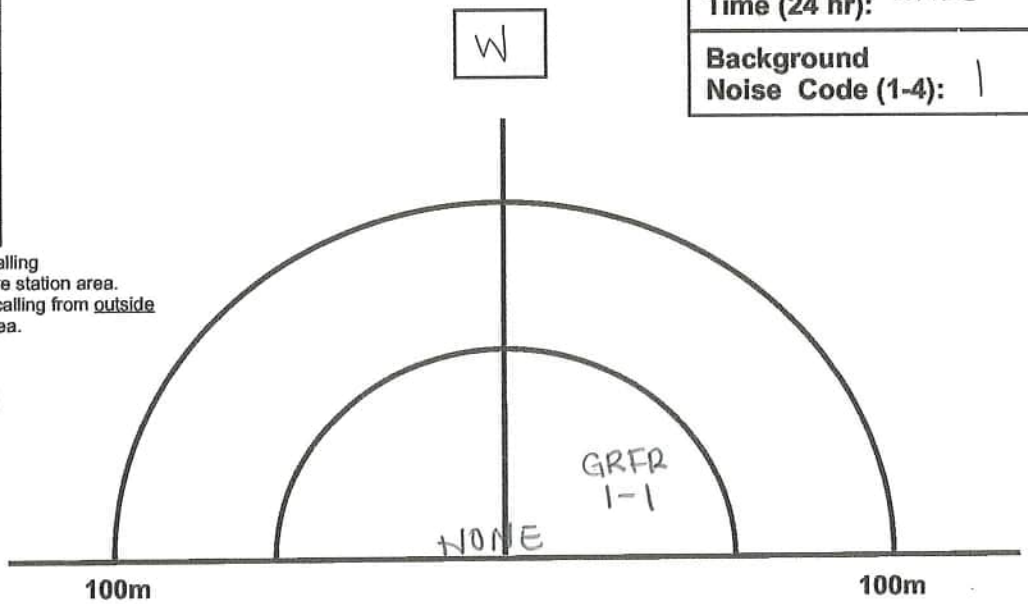
Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

✓+ AMTO very distant, behind

Station Start Time (24 hr): 21:25

Background Noise Code (1-4): 1



AMPHIBIAN MONITORING FIELD SHEET

Project: 47561-100 COI talbot
Date: May 17 2021
Collector(s): ER UMM
Project Manager: DH
Visit #:

WEATHER CONDITIONS					
Temp.	Wind:	N5	Cloud Cover (%)	Precipitation	
20	Direction:	S	0	☑ None/Dry ☐ Drizzle ☐ Damp/Fog ☐ Rain	

	WIND SCALE
0	Calm
1	Smoke Drifts
2	Wind Felt on Face
3	Leaves in constant motion
4	Wind raises dust and paper

CALL LEVEL CODES

Code 1: Calls not simultaneous, number of individuals can be accurately counted
Code 2: Some calls simultaneous, number of individuals can be reliably estimated
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated

Reference Site: ☐ No ☐ Yes UTM

Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

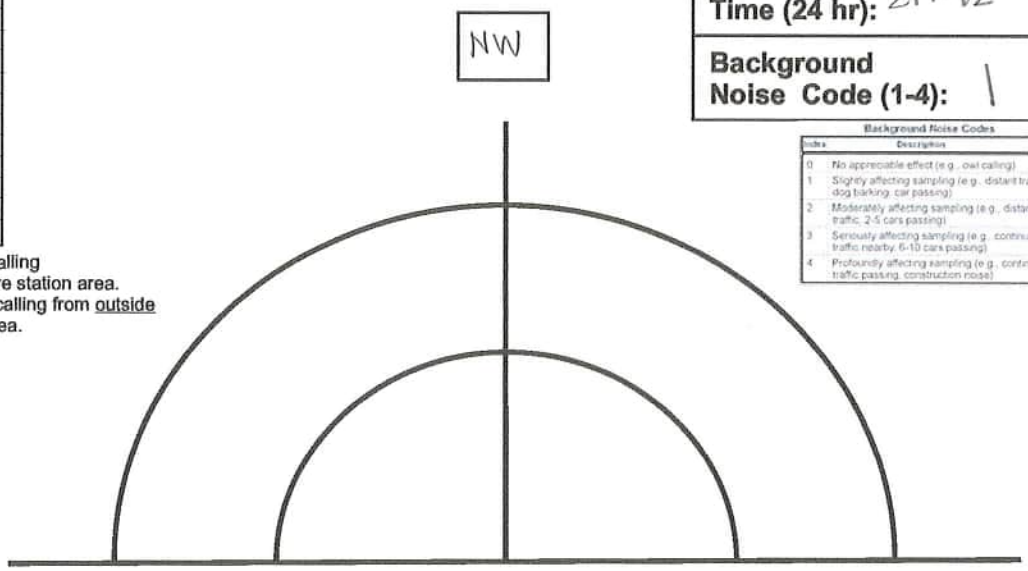
Station: C

Station Start Time (24 hr): 21:42

Background Noise Code (1-4): 1

Background Noise Codes

Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g., continuous traffic passing, construction noise)



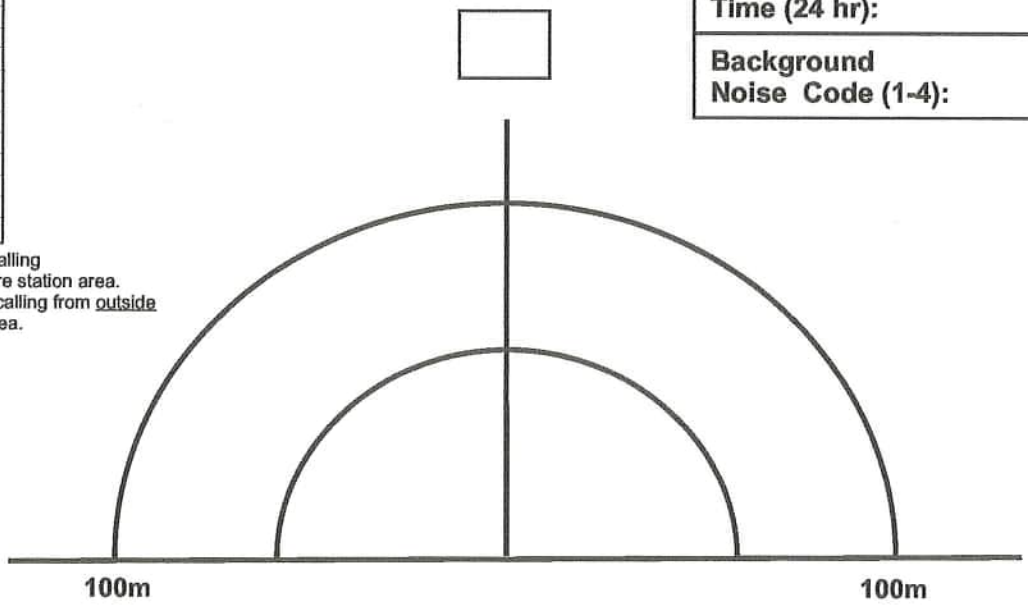
Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station:

Station Start Time (24 hr):

Background Noise Code (1-4):



AMPHIBIAN MONITORING FIELD SHEET

Project: 45761-101
Date: June 27, 2021
Collector(s): ER, VS
Project Manager: DH
Visit #:

WEATHER CONDITIONS						WIND SCALE	
Temp.	Wind: 10 km/hr		Cloud Cover (%)	Precipitation		0	Calm
25°C	Direction: S		30	☑ None/Dry ☐ Drizzle ☐ Damp/Fog ☐ Rain		1	Smoke Drifts
						2	Wind Felt on Face
CALL LEVEL CODES						3	Leaves in constant motion
Code 1: Calls not simultaneous, number of individuals can be accurately counted						4	Wind raises dust and paper
Code 2: Some calls simultaneous, number of individuals can be reliably estimated							
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated							

Reference Site: ☐ No ☐ Yes UTM

Station: Frog 1

Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR	✓	✓
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

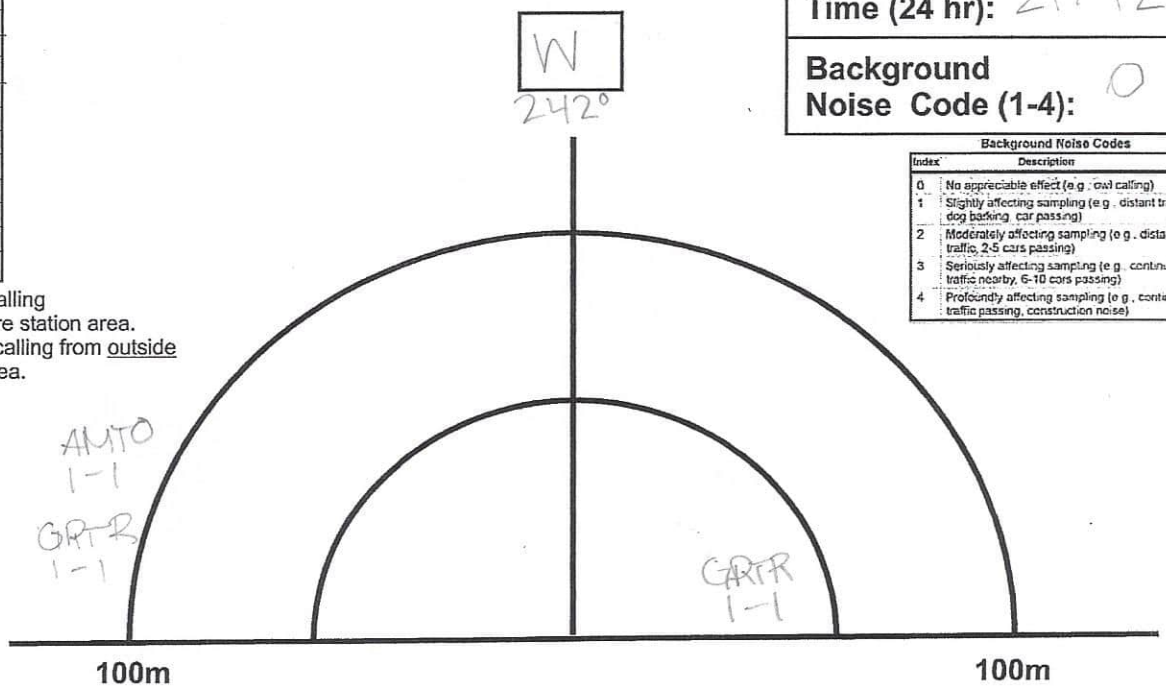
* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr): 21:42

Background Noise Code (1-4): 0

Background Noise Codes

Index	Description
0	No appreciable effect (e.g. owl calling)
1	Slightly affecting sampling (e.g. distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g. distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g. continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g. continuous traffic passing, construction noise)



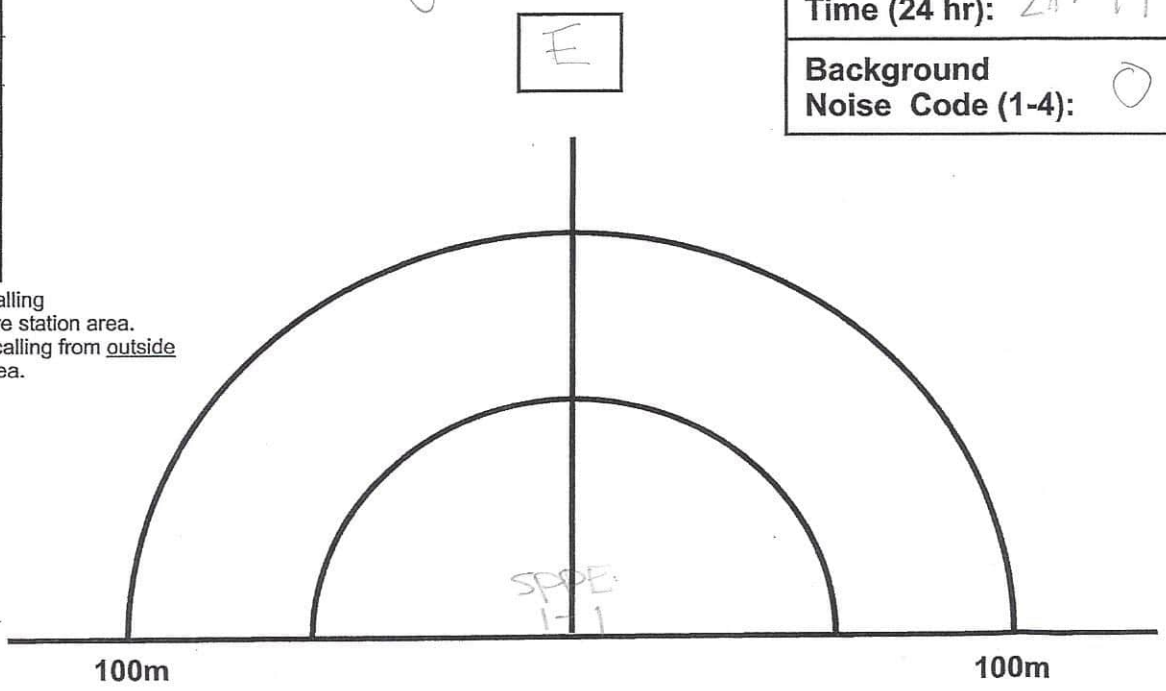
Station: Frog 2

Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE	✓	
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr): 21:49

Background Noise Code (1-4): 0



AMPHIBIAN MONITORING FIELD SHEET

Project: 45761-101
Date: June 27, 2021
Collector(s): ER, VS
Project Manager: DH
Visit #:

WEATHER CONDITIONS						WIND SCALE	
Temp.	Wind: 10km/hr		Cloud Cover (%)	Precipitation		0	Calm
25°C	Direction: S		30	☑ None/Dry ☐ Damp/Fog	☐ Drizzle ☐ Rain	1	Smoke Drifts
						2	Wind Felt on Face
						3	Leaves in constant motion
						4	Wind raises dust and paper

CALL LEVEL CODES

Code 1: Calls not simultaneous, number of individuals can be accurately counted
Code 2: Some calls simultaneous, number of individuals can be reliably estimated
Code 3: Full chorus, calls continuous and overlapping, number of individuals cannot be reliably estimated

Reference Site: ☐ No ☐ Yes UTM

Station: Frog 3

Species	In*	Out**
AMTO		✓
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		✓
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

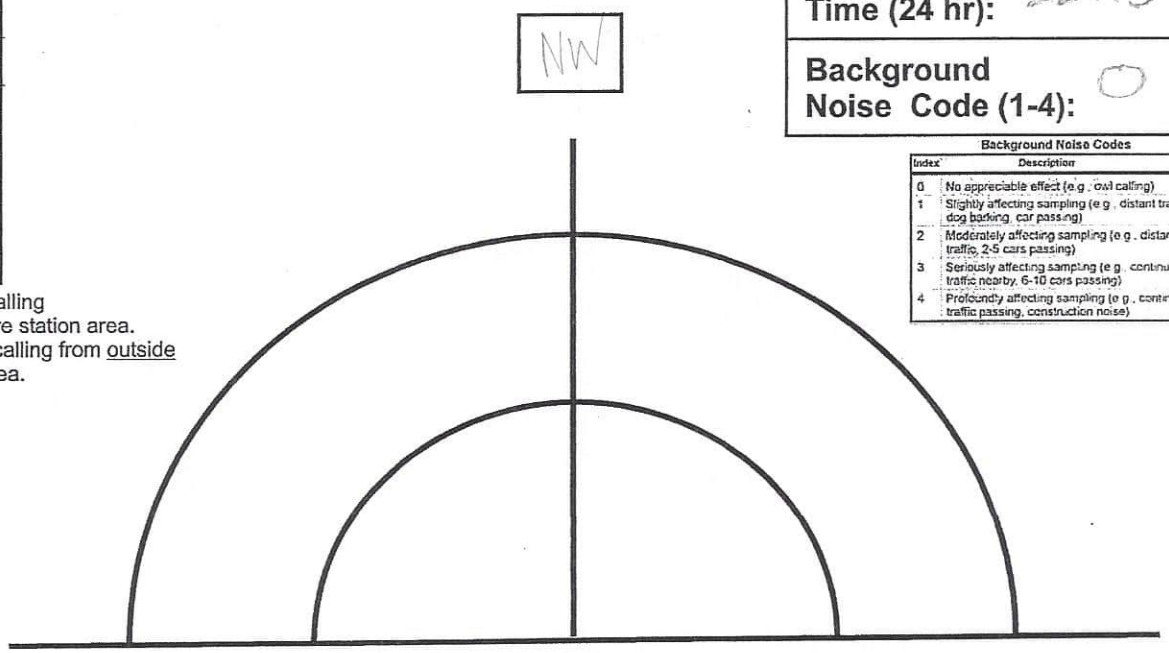
* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr): 22:15

Background Noise Code (1-4): 0

Background Noise Codes

Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	Profoundly affecting sampling (e.g., continuous traffic passing, construction noise)



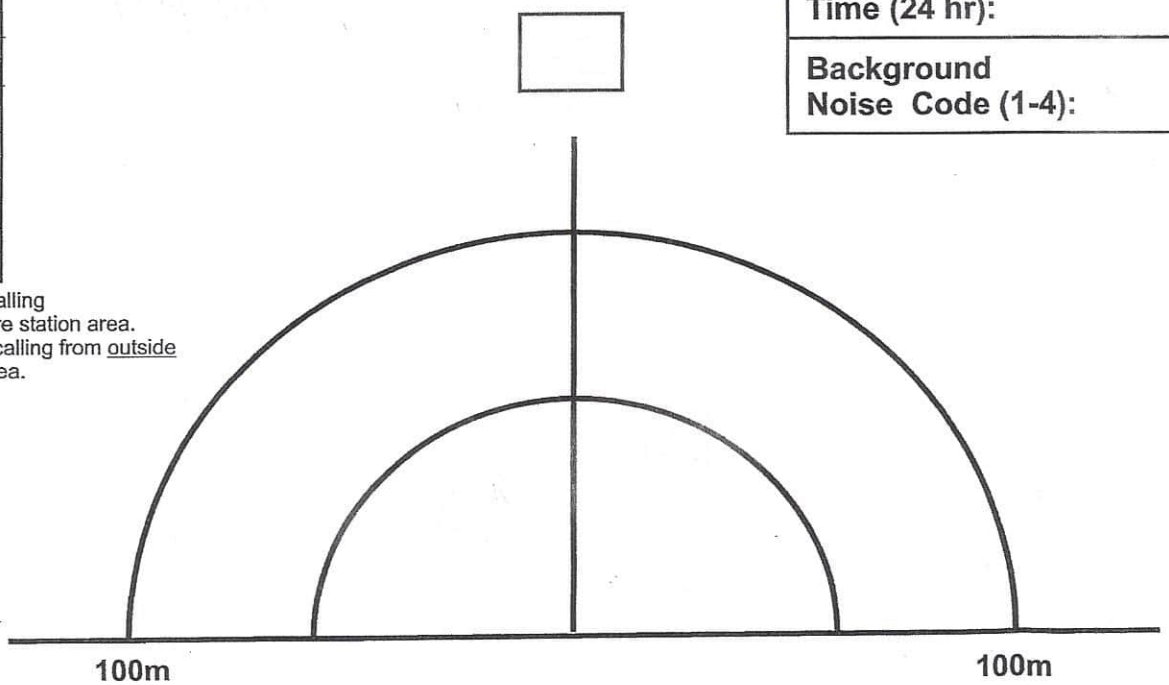
Station:

Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE		
WOFR		

* Check if species is calling from inside 100-metre station area.
** Check if species is calling from outside 100-metre station area.

Station Start Time (24 hr):

Background Noise Code (1-4):



Appendix J

Bat Maternity Roost Survey Data

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all live and dead standing trees ≥10cm dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: 45761-101 Survey Date(s): April 22, 2021

Site Name: Col. Talbot Observers(s): ER, LMH

ELC Ecosite: Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class[2]	Snag attributes (check all that apply)	Easting	Northing	Notes
1	Basswood	48	1	☐ cavity[3] ☑ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3?[4] (2)	476212	14752076	
2	Basswood	45	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	476301	14752035	
3	Ash	30	3	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (4)	476314	14752016	Dead
4	Sugar Maple	32	3	☐ cavity ☐ loose bark ☑ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (2)	476316	14751975	
5	Ash	30	3	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (4)	476319	14751979	Dead
6	Maple	20	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	476245	14751960	
7	Beech	48	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	476256	14751959	
8	Ash	25	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (4)	476235	14751959	Dead
9	Ash	43	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (4)	476164	14751919	Dead
10	? no id'ing features	57	4	☑ cavity ☑ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (4)	476114	14751942	Dead, no bark

[2] **Height Class**: 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

[3] The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

Decay Class: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all live and dead standing trees ≥10cm dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: 45761-101 Survey Date(s): Apr. 22 2021

Site Name: Col. Talbot Observers(s): LMM ER

ELC Ecosite: Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class[2]	Snag attributes (check all that apply)	Easting	Northing	Notes
11	Basswood	35	1	☑ cavity[3] ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3?[4] (1)	476102	14752030	
12	Maple	40	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475868	14752009	
13	Basswood	30	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475853	14752005	
14	Basswood	40	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (3)	475839	14751970	
15	Beech	49	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475782	14751948	
16	Basswood	32	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (2)	475696	14751879	
17	Basswood	28	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475685	14751891	
18	Basswood	24	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475684	14751879	
19	Basswood	38	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (2)	475699	14751831	
20	Beech	51	3	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475873	14751811	

[2] **Height Class**: 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

[3] The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

Decay Class: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Appendix B – Suitable Maternity Roost Trees for Little Brown Myotis/Northern Myotis

Include all live and dead standing trees ≥10cm dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: 45761-101 Survey Date(s): Apri 22 2021

Site Name: col talbot Observers(s): Um m ER

ELC Ecosite: Snag Density (snags/ha):

Tree #	Tree Species ID	dbh (cm)	Height Class[2]	Snag attributes (check all that apply)	Easting	Northing	Notes
21	Beech	45	2	☑ cavity[3] ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3?[4] (1)	475949	1475186	cavity 120cm from ground
22	Maple	36	2	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (2)	476001	1475977	
23	Beech	52	1	☑ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☑ Decay Class 1-3? (1)	475999	1475994	
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			
				☐ cavity ☐ loose bark ☐ crack ☐ knot hole ☐ other snag within 10m? ☐ Decay Class 1-3?			

[2] **Height Class**: 1 = Dominant (above canopy); 2 = Co-dominant (canopy height); 3 = Intermediate (just below canopy); 4 = suppressed (well below canopy)

[3] The approx. height of the cavity should be noted. Note that cavities with an entrance near the ground may also be used by bats if they are "chimney-like".

Decay Class: 1 = Healthy, live tree; 2 = Declining live tree, part of canopy lost; 3 = Very recently dead, bark intact, branches intact

Appendix K

Species at Risk Screening Table

Threatened or Endangered Species

Common Name	Scientific Name	SARO	Source	Habitat Requirements[2] and Range	Potential in the Subject Lands	Rationale
Plants						
American Chestnut	*Castanea dentata*	END	Under-represented species	Typically, habitat is upland deciduous forests on moist to well drained, sandy acidic soils. Occasionally occurs on heavy soils. Range: Restricted primarily to southwestern Ontario between Lakes Erie and Huron.	Absent	The Subject Lands are largely active agriculture. Species was not identified in the north hedgerow or adjacent Patch 10070 within 120 m during the three-season floral inventory.
Butternut	*Juglans cinerea*	END	NHIC, 2022	Usually found alone or in small groups in deciduous forests with moist, well-drained soils. Often occurs along streams. Butternut require sunny conditions and therefore are often found in canopy openings or near forest edges. Range: Found throughout the southwest, north to the Bruce Peninsula, and south of the Canadian Shield.	Absent	The Subject Lands are largely active agriculture. Species was not identified in the north hedgerow or adjacent Patch 10070 within 120 m during the three-season floral inventory.
Eastern Flowering Dogwood	*Cornus florida*	END	NHIC, 2022	Understory tree or on edges of mid-age to mature deciduous or mixed forests, floodplains, slopes, bluffs, ravines, and sometimes along roadsides or fencerows. Often found clustered in the drier areas of its habitat. Range: Only found in the Carolinian Zone of southern Ontario – specifically in Oakville, along the Niagara Escarpment through Halton to Hamilton, Niagara Region, and plentiful in Norfolk County.	Absent	The Subject Lands are largely active agriculture. Species was not identified in the north hedgerow or adjacent Patch 10070 within 120 m during the three-season floral inventory.
False Hop Sedge	*Carex lupuliformis*	END	NHIC, 2022	Found in Carolinian Forest zones in riverine swamps and marshes, and around temporary forest ponds with lots of sunlight. Range: One of the rarest sedges; occurs only in five locations in Ontario (London, Amherstburg, Elgin County (two sites), and Mount Brydges.	Absent	The Subject Lands are largely active agriculture. Species was not identified in the north hedgerow or adjacent Patch 10070 within 120 m during the three-season floral inventory.

Common Name	Scientific Name	SARO	Source	Habitat Requirements[2] and Range	Potential in the Subject Lands	Rationale
Birds						
Bank Swallow	*Riparia riparia*	THR	eBird, 2022	Nests in natural and disturbed settings where there are vertical faces in silt and sand deposits. Many found along rivers and lakes, but also in active sand and gravel pits. Range: Found across southern Ontario, sparse in northern Ontario. Largest populations found along Lake Erie and Lake Ontario shorelines, and along the Saugeen River.	Absent	Suitable habitat (vertical faces) is not present within the Subject Lands. Species was not identified within the Subject Lands during the 2021 breeding bird surveys or other visits.
Barn Swallow	*Hirundo rustica*	THR	NHIC, 2022; OBBA, 2022; eBird, 2022	Barn Swallows are typically found nesting in close association with human rural settlements, such as in old sheds, barns, and under bridges or culverts. This species forages for aerial insects in open habitats including grassy fields, pastures, agricultural fields and farms, lake and river shorelines, wetlands, and clearings. Range: Throughout southern Ontario and as far north as Hudson Bay.	Absent	Suitable habitat (buildings, barns, sheds) is not present within the Subject Lands. Species was not identified within the Subject Lands during the 2021 breeding bird surveys or other visits.
Bobolink	*Dolichonyx oryzivorus*	THR	NHIC, 2022; OBBA, 2022; eBird, 2022	Found in large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields, marshes. Grasslands size requirements have been reported to range from 5 ha to 50 ha depending on the study (MNR, n.d.). Range: Widely distributed throughout most of the province south of the boreal forest. May be found in the north where suitable habitat exists.	Absent	No suitable breeding grounds (only row crops) present on the Subject Lands. Species was not identified during the 2021 breeding bird surveys or other visits.
Chimney Swift	*Chaetura pelagica*	THR	NHIC, 2022; OBBA, 2022	Found in urban and rural areas near buildings. Nest and roosts in hollow trees, crevices of rock cliffs and, most commonly, in unlined chimneys. Suitable sites are reused annually. Range: Estimated 7500 breeding individuals in Ontario; most widely distributed in the Carolinian south and southwest.	Absent	Suitable nesting sites were not observed within the Subject Lands. Species was not identified during the 2021 breeding bird surveys or other visits.

Common Name	Scientific Name	SARO	Source	Habitat Requirements[2] and Range	Potential in the Subject Lands	Rationale
Eastern Meadowlark	*Sturnella magna*	THR	NHIC, 2022; OBBA, 2022;	Breeds mostly in moderately tall grasslands (native prairies and savannahs), also pastures, hayfields, herbaceous fencerows, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Eastern Meadowlarks may not be strongly area-sensitive (McCracken et al. 2013), however large tracts of grasslands (5 ha or greater) are preferred over smaller fragments (Herkert 1991, Vickery et al. 1994). Range: Primarily found south of the Canadian Shield, but also inhabits Lake Nipissing, Timiskaming, and Lake of Woods areas.	Absent	No suitable breeding grounds (only row crops) present on the Subject Lands. Species was not identified during the 2021 breeding bird surveys or other visits.
Prothonotary Warbler	*Protonotaria citrea*	END	eBird, 2022	Breeds only in deciduous swamp forests or riparian floodplain forests dominated by silver maple, ash, and yellow birch. Nest in naturally formed tree cavities or cavities excavated by other species. Also use properly placed artificial nest boxes. Range: Only known to nest in southwestern Ontario, primarily along the north shore of Lake Erie. Overs half of the population is found in Rondeau Provincial Park.	Absent	Limited deciduous swamp available in the adjacent lands and no riparian floodplain forests present. Species was not identified during the 2021 breeding bird surveys or other visits.
Reptiles						
Eastern Hog-nosed Snake	*Heterodon platirhinos*	THR	Ontario Nature, 2019	Prefer habitats with sandy, well-drained soil and open vegetative cover such as woods, brushland, fields, forests, edges, and disturbed sites; often near water where amphibian prey are abundant. Generally avoids dense or dark moist forest (Rowell, 2012). Roads are considered a barrier to movement, however if suitable habitat is present on both sides the barrier may be considered incomplete (Kraus, 2011).	Absent	No suitable habitat (dry forest, beach, brushland) is found within the Subject Lands. Forest habitat is present only in adjacent lands and is disturbed and in close proximity to residential development. This species is not commonly found in the City of London.

Common Name	Scientific Name	SARO	Source	Habitat Requirements[2] and Range	Potential in the Subject Lands	Rationale
				Range: Isolated populations in along southern Lake Huron, Lake Erie and eastern Georgian Bay.		Species was not identified during general site investigations, although a targeted survey was not conducted.
Spiny Softshell	*Apalone spinifera*	END	iNaturalist, 2022	Highly aquatic, rarely traveling far from water. Primarily in rivers and lakes but also creeks, ditches, and ponds near rivers. Require open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and food availability. Range: Lake St. Clair, Lake Erie, western Lake Ontario watersheds. Majority in the Thames and Sydenham rivers and two sites in Lake Erie.	Absent	No rivers, lakes, or other aquatic features present on site. Wet depression within the adjacent lands is only seasonally wet in the spring and cannot support this species.
Mammals						
American Badger	*Taxidea taxus*	END	NHIC, 2022	Variety of habitats including tall grass prairies, sand barrens, open grassland, and farmland. Range: Southwestern Ontario, close to Lake Erie in the Norfolk and Middlesex area. Northwestern population in Thunder Bay and Rainy River Districts.	Absent	No tallgrass prairie or sand barrens present, though fallow fields may be suitable for foraging. No mammal burrows (>10cm) identified in the Study Area during site investigations.
Eastern Small-footed Myotis	*Myotis leibii*	END	Under-represented species	Roosts in caves, mine shafts, crevices, or buildings in or near a woodland. Hibernates in cold dry caves or mines. Range: From south of Georgian Bay to Lake Erie, east to Pembroke.	Absent	No potential roost features were identified within the Study Area during field investigations.
Little Brown Myotis	*Myotis lucifugus*	END	Under-represented species	Little Brown Myotis roosts in caves, quarries, tunnels, hollow trees, or buildings. Little Brown Myotis typically prefer buildings or building-associated features for maternity roosting rather than natural features (Gerson, 1984; Humphrey & Fotherby, 2019). This	Absent (potential in west adjacent lands)	Potential roost trees were identified in the adjacent FOD5-2 forest. No targeted surveys were completed to confirm presence.

Common Name	Scientific Name	SARO	Source	Habitat Requirements[2] and Range	Potential in the Subject Lands	Rationale
				species hibernates in humid caves and forages in wetlands and forest edges. Range: Widespread across southern Ontario.		
Northern Myotis	*Myotis septentrionalis*	END	Under-represented species	Roosts in houses, manmade structures, but prefers hollow trees or under loose bark. Hunts in forests. Range: Throughout forested areas in southern Ontario.	Absent (potential in west adjacent lands)	Potential roost trees were identified in the adjacent FOD5-2 forest. No targeted surveys were completed to confirm presence.
Tri-colored Bat	*Perimyotis subflavus*	END	Under-represented species	Roosts in older forests and occasionally barns/structures. Hibernate in damp, draft-free caves. Hunt over water and along streams in a forest.	Absent (potential in west adjacent lands)	Potential roost trees were identified in the adjacent FOD5-2 forest. No targeted surveys were completed to confirm presence.

[2]Ministry of the Environment, Conservation and Parks. (2018, July 12). *Species at risk in Ontario.* Government of Ontario. Retrieved from Species at risk in Ontario | ontario.ca.

Ministry of Mines, Ministry of Northern Development, and Ministry of Natural Resources and Forestry. (Updated: 2020, August 20). *Appendix G: Wildlife habitat matrices and habitat descriptions for rare vascular plants.* Government of Ontario. Retrieved from 1 Significant wildlife habitat technical guide: Appendix G: Wildlife habitat matrices and habitat descriptions for rare vascular plants | Ontario.ca

Environment and Climate Change Canada. (Updated: 2021, February 2). *Species at risk pubic registry.* Government of Canada. Retrieved from Species at risk public registry - Canada.ca

Ministry of Natural Resources (MNR). n.d. General Habitat Description for the Bobolink (Dolichonyx oryzivorus). Retrieved from https://files.ontario.ca/environment-and-energy/species-at-risk/mnr_sar_ghd_bblnk_en.pdf

Gerson, H. 1984. Habitat Management Guidelines for Bats of Ontario. Ontario Ministry of Natural Resources. 42 pp.

Humphrey, C. and Fotherby, H. 2019. Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*) and Tri-colored Bat (*Perimyotis subflavus*) in Ontario. Ontario Recovery Strategy Series. Prepared by the Ministry of the Environment, Conservation and Parks, Peterborough, Ontario. vii + 35 pp. + Appendix. Adoption of the Recovery Strategy for the Little Brown Myotis (*Myotis lucifugus*), the Northern Myotis (*Myotis septentrionalis*), and the Tricolored Bat (*Perimyotis subflavus*) in Canada (Environment and Climate Change Canada 2018).

Special Concern Species

Common Name	Scientific Name	Source[1]	Habitat Requirements[2]	Potential in the Subject Lands	Rationale
Plants					
Green Dragon	*Arisaema dracontium*	NHIC, 2022	Grows in moderate to wet deciduous forests along streams, associated highly with maple forests and forests dominated by Red Ash and White Elm. Range: Great Lakes Region; specifically, southwestern Ontario.	Absent	The Subject Lands row crops with a narrow hedgerow, which is not suitable habitat for Green Dragon. While suitable habitat may be present in FOD5-2, this species was not identified during the three-season floral inventory.
Birds					
Bald Eagle	*Haliaeetus leucocephalus*	eBird, 2022	Nest in a variety of habitats and forests in close proximity to a major lake or river. Range: Higher density of nesting in northwest Ontario, with successful reintroductions in southern Ontario.	Absent	The Subject Lands are largely row crops and do not offer any suitable habitat. The werst adjacent forest habitat is not within close proximity to a major lake or river (Thames River >4km away). Species was not identified during field surveys.
Eastern Wood-Pewee	*Contopus virens*	eBird, 2022; OBBA, 2005	Lives in mid-canopy layer of forest clearings and the edges of deciduous and mixed forests. Abundant in middle-aged forests with little understory. Range: Found across most of southern and central Ontario.	Absent	No suitable forest habitat present on the Subject Lands. The adjacent Community 1 (FOD5-2) may provide suitable nesting habitat, but the species was not identified during targeted breeding bird surveys in 2021.
Grasshopper Sparrow	*Ammodramus savannarum*	OBBA, 2005	Lives in open grasslands with well-drained sandy soil. Nests in hayfields and pastures, preferring areas with sparse vegetation. Range: Southern Ontario, occasionally the Canadian Shield.	Absent	No open grasslands with sandy soil present. Species was not identified during breeding bird surveys in 2021.
Peregrine Falcon	*Falco peregrinus*	eBird, 2022	Nests on tall, steep cliff ledges close to large bodies of water. Also adapted to city life using tall buildings and ledges. Range: Nest in and around Toronto and other southern Ontario cities, majority of breeding is found around Lake Superior.	Absent	No suitable habitat (cliffs, large water bodies, tall building) present on site. Species was not identified during field surveys, although no targeted raptor surveys were conducted.
Wood Thrush	*Hylocichla mustelina*	OBBA, 2005	Lives in mature deciduous and mixed forests, seeking moist stands with well-developed undergrowth.	Absent	No large mature deciduous forest with highly developed undergrowth present. Species was not identified

Common Name	Scientific Name	Source[1]	Habitat Requirements[2]	Potential in the Subject Lands	Rationale
			Prefer large forests but will use smaller. Range: Across southern Ontario, less common up north to Lake Superior.		during the 2021 breeding bird surveys.
Reptiles					
Northern Map Turtle	*Graptemys geographica*	Ontario Nature, 2022	Lives in rivers and lakeshores. Basks on emergent rocks and fallen trees, and hibernates in deeps, slow-moving sections of the river. Range: Great Lakes region and west. Primarily on shores of Georgian Bay, Lake St. Clair, Lake Erie, and Lake Ontario. Rivers include the Thames, Grand, and Ottawa.	Absent	No rivers or lakeshores present within the Subject Lands or adjacent lands.
Snapping Turtle	*Chelydra serpentina*	Ontario Nature, 2022	Spend most of their time in water, preferring shallow waters to hide in soft mud and leaf litter. Nest in gravelly or sandy areas along streams, taking advantage of man-made structures for nesting sites, including roads, dams, and aggregate pits. Range: Limited to southern part of Ontario.	Absent	No water bodies present in the Subject Lands or in the 120 m adjacent lands.

Appendix L

“Living with Natural Area” Brochure (UTRCA et al., 2005)

Living With Natural Areas

a guide for homeowners

Is this information for me?

Natural areas are valuable features of our communities' parks and open spaces. Many citizens, however, may not be aware of these local treasures and the need to protect them. What can you do - whether as a property owner or as someone out to enjoy the scenery and get some exercise - to minimize your impact on natural areas? This brochure answers that question. First, it provides guidelines for those of us who live near natural areas, outlining ways to make the spillover impact from our properties more positive. Next, a "code of behaviour" describes what activities are appropriate in a natural area. The last section lists sources where more information can be obtained.

What is a natural area?

Natural areas include wetlands, meadows, woodlots, valley lands and other relatively undisturbed lands that are home to many different plants and wildlife. Natural areas also include the green spaces and stormwater management ponds found in many new developments.

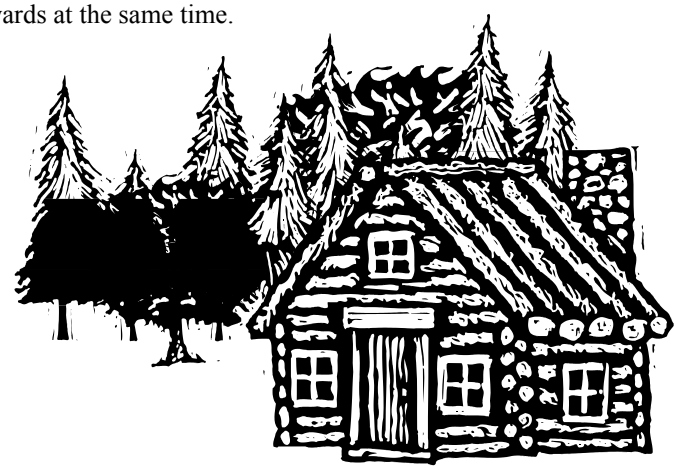
Some natural areas contain rare plants, wildlife or landforms, or have features characteristic of the region before European settlement, or are especially large or diverse in habitat. Many natural areas are considered environmentally significant on a local, regional, provincial or even national scale.

Many municipalities are working to preserve local natural areas. Settlement and development have destroyed much natural vegetation and caused some types of habitat to disappear completely. Often, natural areas contain the only remaining large sections of forest or wetland. They help us to learn about nature, provide clues to the current health of our environment, and add to our quality of life.

ur home - having a tive impact

The properties that surround natural areas were once part of a wild landscape. Some yards still have remnants of particular habitat types, such as wet areas along the edge of a wetland. As development moves closer to natural areas, trees and other plants that were once in the middle of woodlands or wetlands, shielded by forests, are now exposed.

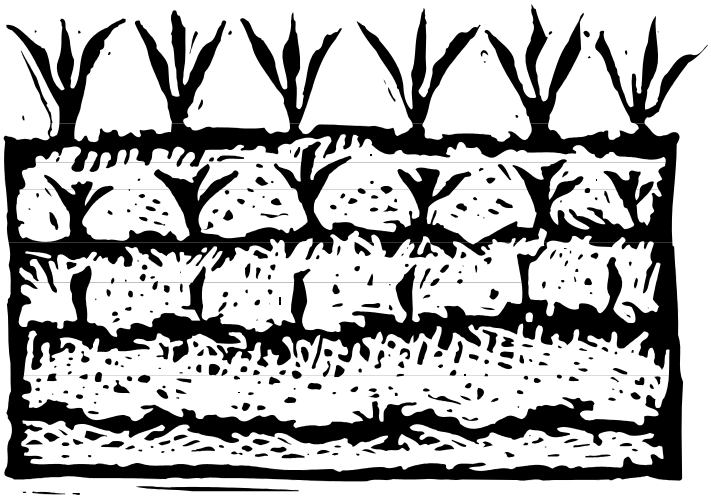
Because urban development sits on the doorstep of many natural areas, what is done in neighbouring yards is critical to their health. Here are some ideas to help home owners to ensure that their activities can help neighbouring natural areas and enhance their yards at the same time.



What about encroachment into natural areas?

Thanks to people who recognize their property limits! If a lawn is mowed past property boundaries into a natural area, the rich habitat is replaced by a manicured lawn and the original diversity is reduced. The cumulative impact of dozens, even hundreds of landowners cutting into the edges of natural areas threatens their integrity.

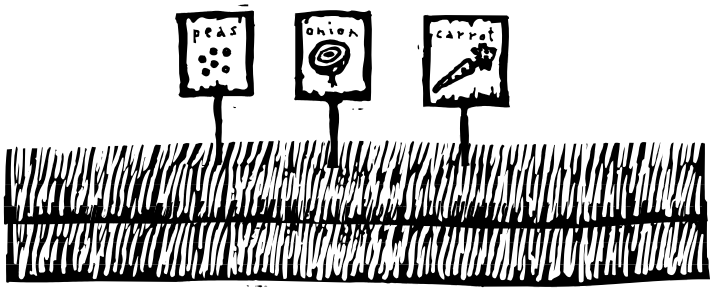
Encroaching past private lot lines into municipal parkland or open space is not permitted and may result in legal proceedings. Call your municipality for more information.



Can I dump my yard & garden waste in a natural area?

Dumped yard waste is bad news for any natural area. Dumped material smothers natural vegetation, may contain harmful chemicals, and often has plant seeds not found normally in the wild. If these materials are dumped in a natural area, the introduced seeds may grow where they fall. Native plants and the wildlife that depends on are constantly under threat from invading non-native plants.

Your local municipality has by-laws concerning dumping waste. For more serious offences, charges can be laid under the Provincial Offences Act, with fines of up to $5000. Call your municipality if you have concerns about waste being dumped illegally.

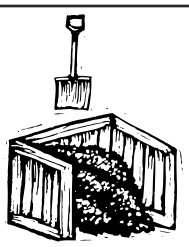


What should I do with yard & garden waste?

The best solution is to reduce and recycle as much as possible, by composting leaves, grass clippings, weeds and other materials on your own property. You reduce the amount of garbage going to landfills and create rich soil for your lawn and garden. If you can't use all your grass clippings, leaves and brush, ask your neighbours if they need more material for their home composters. Alternatively, put your yard waste out for curbside collection, or drop it off at London's Yard Waste Depots.

If you employ a professional gardener, check that proper disposal practices are followed. Reputable commercial gardeners are well aware of the City's yard waste regulations.

If you are having home composting problems, such as visits from unwanted wildlife, call the Rot Line (operated by the Thames Region Ecological Association, or TREA) at 519-672-5991 for free advice.



Is it okay to use lawn and garden chemicals?

Remember that, just as water landing on your property doesn't always stay there, neither may all the chemicals that you put on your lawn, garden or driveway. If your property drains into a natural area, any chemical that you use can be carried by water into that area. By adopting an environmentally friendly approach to yard maintenance, you will enhance both your yard and the natural area beyond.

Here are some tips to follow:

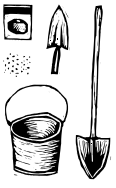
- Add compost to your lawn to fertilize it.
- Use a mulching lawnmower to return nutrients to your lawn.
- Cut your lawn at a high setting to reduce weed growth and retain moisture.
- Water grass early in the morning and allow it to dry out between waterings.
- Use alternative native ground covers in shaded areas.
- If you live next to a natural area, consider creating a buffer strip (up to 5 metres wide) on your property. Plant native shrubs and trees in the buffer to reduce the spillover effect.
- Investigate non-toxic alternatives to chemicals for control of pests, weeds and plant diseases.
- If you have to use pesticides, read the product labels carefully and use only as directed. Dispose of household and pool chemicals safely.

Did you know that, in general, approximately 10 times more pesticides are applied by city home owners than are used by farmers on an equal area of farm land?

Does it matter what I grow in my garden?

Alien alert! Be careful when growing plants that are not native to Southern Ontario. Plants don't recognize property boundaries and can spread easily from gardens to natural areas. Many alien species do not have natural predators here and are extremely invasive. For example, the beautiful European import called Purple Loosestrife is flourishing across North America, invading wetlands and out-competing native plants. As a result, plant diversity is reduced and fewer places remain where native wildlife can survive.

Other common species that out-compete native plants are Norway Maple, Periwinkle, and Goutweed (Goat's Foot). Check with your local nursery to find out which plants are native to your region before purchasing. Native plants are better adapted to the climate, soil conditions, insects and diseases of this area.



Many municipalities or counties have information on plants that are suitable for use near natural areas and which plants to avoid.

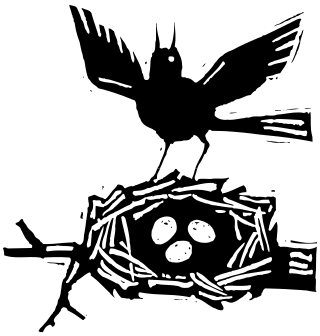
Can I attract wildlife to my yard?

Habitat loss is the number one threat to wildlife today. With time and careful planning, you can create habitat in your back yard and provide a safe haven for many species to visit. Wildlife will be attracted by food, water and shelter, but these elements must be arranged so that birds and animals are not exposed to danger. Cats can have a major impact on bird and animal populations. Keeping your cat indoors from May to July will reduce its impact on nesting birds and small animals. Squirrels drawn to birdfeeders will also eat eggs and nestlings.

A natural area can be a great source of scenic beauty and pleasure. These areas may also be home to insects, such as mosquitoes, that are an important link in the food chain. Suitable clothing and insect repellants will help you avoid becoming part of the chain.

Stepping out in a natural area - "Take only memories, leave only footprints"

Many natural areas are accessible to the public. Local significant areas may contain rare and endangered plants and animals, unique landforms, and habitats that are prized for their high quality and diversity. However, the very features that make them precious are also those that could be easily damaged by thoughtless actions. Most damage occurs when people leave the marked trails and trample vegetation. By following the guidelines below, you can enjoy these natural areas without harming them, and leave them in a healthy state for their "residents" and future visitors.



Rules to remember in a natural area

- Please use the official access points and managed trails. Don't create or use trails that originate in people's backyards, as these additional trails cause more widespread trampling and disturbance of wildlife and plants.
- Avoid walking in natural areas when the trails are muddy, such as in the early spring or after a heavy rainfall. More vegetation gets trampled when people have to walk around mudholes.
- Please respect signs indicating that bicycles are not permitted in a natural area.
- Keep natural areas litter free.
- Keep dogs leashed. Cats and dogs are hunters by nature. If allowed to run loose, they put great stress on or kill birds and small animals. Don't forget to stoop and scoop!
- Do not disturb wildlife or pick or transplant flowers.

Can I take anything from a natural area?

Natural areas are often the only wild place remaining for rare native wildflowers to grow. These plants may have complicated life cycles or need seeds from existing flowers to regenerate the next year. Removing even a few plants can jeopardize the remaining population. Some garden centres stock a wide variety of native plants, trees and shrubs. These have a much better chance of surviving in your yard as they have been raised under similar soil and light conditions.

It is tempting to pick plants for food or herbal remedies, but this practice, just like transplanting, is not appropriate or sustainable. Even a few people picking plants can put the local population of that species in danger. Besides, those plants have a more important role in the natural environment than as food or medicine for humans!

A natural area is no place to find firewood or lawn decorations. Taking dead wood from a natural area will hurt that area's health in the long-term. As wood decays, it contributes nutrients to the soil and provides food and shelter for thousands of tiny organisms. In addition, new growth often depends on old stumps and logs. Cutting trees and brush destroys habitat, tramples vegetation and disturbs wildlife.

Enjoy wildlife when you discover it, but leave it in its natural setting. Don't make survival harder by taking animals out of their homes, leaving fewer behind to carry on. It is impossible to give a wild animal the proper care and nutrition to keep it healthy and happy. Also, it is illegal to keep wild animals, even injured ones, in captivity without a permit.

You can help out the local naturalist and trail groups that regularly remove litter from the natural areas. Pick up any litter that you find and dispose of it properly, and, of course, don't leave any more behind!

Beware!

If you encounter a plant with three shiny green leaflets, leave it alone! You may have found poison ivy, which is abundant in many natural areas. Many people get nasty rashes from the sap of this plant, whether from direct contact with the leaves, roots and stems or from touching pets or equipment that have the sap on them. Remember, though, that poison ivy is part of the food chain, growing berries that are edible for birds and animals. Learn to recognize and avoid it, rather than trying to get rid of it. Poison ivy is usually found in partial shade as a knee-high ground cover, but can also grow as a vine up tree trunks. "Leaflets three, let it be!"

Deer, Deer!

If you are bothered by deer foraging in your backyard, here are some suggestions to protect your garden.

Make your garden unpalatable - Garden centres and the Internet are good sources of information on "deer proof plants." Beebalm, bleeding heart, butterfly bush, cone flower, foxglove and rhododendron are among the plants that deer don't like eating.

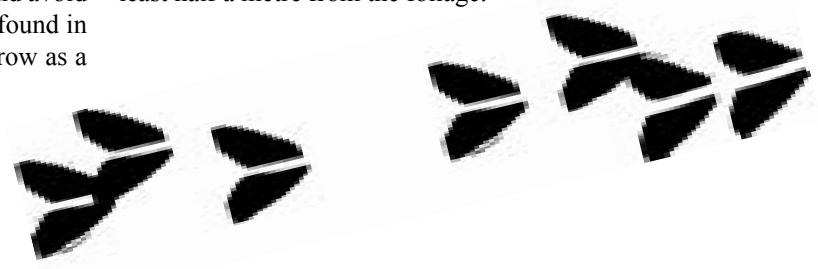
Make the fringes unpalatable - Surround your property with unpalatable and repellent native plants, and the deer may decide to forage elsewhere. Cedar and yew are delicacies for deer and should be avoided. White spruce, tamarack and juniper are good substitutes as deer will avoid them.

Block the view - Deer want an unobstructed view to see approaching predators and do not like to venture past anything that they cannot see through or over. A trellis covered in vines may discourage them.

Block the landing sites - Deer will not jump into your yard if they cannot see where they will land. Wooden fences or lattices that obstruct their view are a good deterrent.

Tidy up - Pick fruit such as apples and pears as they ripen, and remove or till under plants in the vegetable garden after harvest.

Fence them out - Specific trees or beds can be protected with mesh or screen. The barriers should be at least two metres high and at least half a metre from the foliage.



Where can I find out more?

More information on being a good natural neighbour:

- For composting tips call the "Rot Line" at 519-672-5991. This free service is offered to the public by the Thames Region Ecological Association (TREA).
- *Backyard Habitats* (pamphlet) and *Natural Invaders* (booklet). Available from the Federation of Ontario Naturalists at 1-800-440-2366, www.ontarionature.org
- Johnson, Lorraine, 1995. *The Ontario Naturalized Garden*. Whitecap Books, Toronto, Ontario.
- Ministry of Natural Resources, 1990. *Landscaping for Wildlife*. Queen's Printer for Ontario, Ontario.
- Rubin, Carole, 1989. *How to Get your Lawn & Garden off Drugs*. Friends of the Earth, Ottawa, Ontario.

This brochure was published in 2005 by the Upper Thames River Conservation Authority, and based on *Living with Natural Areas - A Guide for Citizens of London*, originally produced by the Upper Thames River Conservation Authority, the City of London's Ecological and Environmental Planning Advisory Committee, and Celebrate the Thames.

UPPER THAMES RIVER
CONSERVATION AUTHORITY
Inspiring a healthy environment
1424 Clarke Road, London, Ontario N5V 5B9
519-451-2800 www.thamesriver.on.ca

Appendix M

Environmental Management Plan (EMP)

MTE Consultants
123 St. George St., London, Ontario N6A 3A1

April 24, 2023

MTE File No.: 45761-102

Colonel Talbot Developments Inc.
560 Wellington Street 2 Floor
London, ON N6A 3R4
sstapleton@auburndev.com

Dear Stephen:

RE: Environmental Management Plan (EMP) for Heathwoods East – Savoy Street Extension (45761-102)

Colonel Talbot Developments Inc. (the "Proponent") has initiated the Draft Plan of Subdivision approval process for a residential subdivision and extension of Savoy Street (the "Project") north of the existing Savoy Street and west of Bostwick Road (the "Subject Lands"). MTE Consultants has been retained to prepare an Environmental Impact Study (EIS) and Environmental Management Plan (EMP) for the proposed development. The EIS (MTE, 2023) provides recommendations for avoidance and mitigation measures to protect adjacent significant natural heritage features. This EMP has been prepared to complement the EIS and provide the mitigation and monitoring recommendations in the order to be completed.

Based on the analysis of the Subject Lands in the EIS (MTE, 2023), the significant features identified on or adjacent to the Subject Lands are:

- Significant Woodlands (Community 1 in Patch 10070)
- Significant Valleylands (Thornicroft Drain)
- Potential Habitat of Endangered and Threatened Species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat)
- Water Resources (SGRA)

1.0 Pre-Construction

Pre-construction planning includes defining the project, identifying potential risks, and mitigating risks before development begins. The recommendations are to be completed prior to the initiation of construction activities.

Buffer Establishment

The proposed Draft Plan provides adequate buffers and setbacks to adjacent natural heritage features [Figure 11; MTE, 2023] taking into consideration the feature functions and sensitivities. Buffers and setbacks are outlined in Section 7.0 of the EIS Addendum (MTE, 2021), but will be restated here. Buffers are shown on Figure 11 of the EIS (MTE, 2023). Buffers are defined as areas to be naturalized between the development and natural heritage features; setbacks are the distance between the development and the natural heritage feature to be protected from impacts.

Natural Heritage Feature	Buffer/Setback
Significant Woodlands (Patch 10070)	A 2-33m buffer (11m average) is provided to the Significant Woodland edge based on aerial photos. The buffer is proposed to be naturalized with native woodland species and will provide approximately 0.18ha of natural lands added to the existing Patch 10070.
Significant Valleylands	Development is set back nearly 120m from the east Significant Valleyland that is associated with Thornicroft Drain.
Candidate Significant Wildlife Habitat (Bat Maternity Colonies)	This potential habitat is retained in the Significant Woodland with a 2-33m buffer. The closest candidate bat maternity roost tree is over 50m from the proposed development limit.
Potential Habitat of Endangered and Threatened Species (Little Brown Myotis, Northern Myotis, or Tri-coloured Bat)	This potential habitat is retained in the Significant Woodland with a 2-33m naturalized buffer. The closest candidate bat maternity roost tree is over 50m from the proposed development limit.
Water Resources (SGRA)	The SGRA overlaps with Patch 10070 and north hedgerow (TSRSPC, 2015). The north hedgerow is proposed for removal and therefore part of the development will overlap with the SGRA. The remaining SGRA is retained in Patch 10070 with a 3-33m naturalized buffer.

Other Design and Pre-Construction Considerations

Recommendation 1.1:
An interim stormwater management plan should be prepared to guide the construction phase. Stormwater must be discharged away from the adjacent Patch 10070. The SWM plan should be provided at detailed design.

Recommendation 1.2:
The limits of site disturbance should be surveyed, staked, and fenced in the field to allow for the protection of off-site natural areas and vegetation.

Recommendation 1.3:
Have a qualified arborist inventory potential hazard trees along the east edge of Community 1 and complete a Tree Preservation Report. Hazard trees along the dripline of Community 1 should be identified and removed prior to construction, if needed.

Recommendation 1.4:
The Tree Preservation Report should identify measures (e.g., tree removal protocols if needed, protective fencing, pruning measures) to implement within the Subject Lands during construction. Tree protection fencing should be installed along the limits of grading as instructed in the Tree Preservation Report.

Recommendation 1.5:
Prior to works on site, sediment and erosion control fencing should be installed along the development limits. The fence should act as a barrier to keep construction equipment and spoil away from the slopes and vegetation to remain, as well as prevent erosion and sedimentation of the adjacent natural heritage features.

Recommendation 1.6:
Sediment and erosion control fencing should be installed according to the City of London Design Specifications and Requirements Manual specifications (2019b) and The Erosion and Sediment Control Guide for Urban Construction (TRCA, 2019).

Recommendation 1.7:
Sediment and erosion control fencing should be inspected prior to construction to ensure it was installed correctly. Any issues identified must be resolved prior to construction.

Recommendation 1.8:
A Best Management Practice (BMP) and spill contingency plan (including a spill action response plan) should be in place for fuel handling, storage, and onsite equipment maintenance activities to minimize the risk of contaminant releases as a result of the proposed construction activities. Contractors working at the site should ensure that construction equipment is in good working order. Equipment operators should have spill-prevention kits, where appropriate.

Recommendation 1.9:
Ensure workers are aware of potential incidental encounters with wildlife and the necessary protective measures that can be implemented.

2.0 During Construction

These recommendations are to be conducted from initiation of construction activities until a specified build-out stage as determined in consultation with the City of London.

Recommendation 2.1:
Avoid vegetation clearing and site disturbance during migratory bird breeding season to ensure that no active nests are removed or disturbed in accordance with the *Migratory Birds Convention Act* and/or Regulations under that Act. The active nesting season is defined as April 11 to August 16 for forest or open-habitat nesting birds in zone C2 (ECCC, 2018). If works are proposed within the breeding season, the area should be checked for nesting birds by a qualified person prior to any vegetation removal or ground disturbance. If nesting birds are present, works in the area should not proceed until after August 16 or until the nest has been confirmed inactive (e.g., young have fledged).

Recommendation 2.2:
If an animal enters the work site, work at that location should stop and the animal should be permitted to leave without being harassed. If there are repeat observations of wildlife in the work area, barrier fencing may be used to direct wildlife away from active construction and toward natural areas.

Recommendation 2.3:
Dust abatement measures (e.g., watering) are recommended if the site grading will occur during extended dry weather periods.

Recommendation 2.4:
Equipment should be cleaned whenever arriving on site including tires, undercarriage, and any part of the equipment that may transport invasive seeds to the site. Clean equipment protocols are provided by London's Invasive Plant Management Strategy (2017) and should be followed where appropriate.

Recommendation 2.5:
Roof runoff to bare ground can generate considerable sediment movement beyond the construction limits. Until the grounds have been vegetated and stable for housing and development adjacent to vegetation, roof leaders should be directed to the streets or nearby stabilized vegetated areas.

Recommendation 2.6:
During construction, the lands between the sediment and erosion control fencing should be maintained.

Recommendation 2.7:
Regular cleanup of the Subject Lands must be completed during construction and at the end of construction to ensure the adjacent natural heritage features are not degraded.

Recommendation 2.8:
Noise disturbance during construction should be limited to allowable hours per City of London By-law.

Recommendation 2.9:
Soil stockpiles should be established in locations where natural drainage is away from the adjacent Patch 10070. If this is not possible and there is a possibility of any stockpile slumping and moving toward the adjacent natural area, the stockpiles should be protected with robust sediment and erosion control. Access to stockpiles should be confined to the up-gradient side.

Recommendation 2.10:
Bank Swallow [THR] have not been identified within the Subject Lands, but the creation of suitable habitat (e.g., soil stockpiles) during construction should be avoided. Best management practices for deterring nesting during construction activities should be implemented (OMNRF, 2017). These measures should include stockpile slope management (i.e., grading stockpiles, eliminating vertical extraction faces, reducing slopes to 70 degrees or less) until at least July 15.

Monitoring Phase 1 - During Construction

The construction monitoring plan will monitor for construction-related impacts, document successes or deficiencies of the implemented mitigation measures and provide guidance on remedial actions for circumstances when mitigation is not successful [e.g., Erosion and Sedimentation Control (ESC) measures]. This plan should continue from clearing and grubbing through to building construction until grounds adjacent to natural features are vegetated and stabilized. Reports should be made available to the UTRCA and City design services staff.

Recommendation 2.11:
Sediment and erosion control fencing should be inspected regularly during construction to ensure that the fencing is being maintained and functioning properly. Fencing should also be checked immediately following storm events. Any issues that are identified must be resolved as quickly as possible, ideally the same day.

3.0 Post-Construction

These recommendations are to be carried out following construction until the end of the Assumption of Development Stage.

Recommendation 3.1:
Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature. Additional re-vegetation plantings and/or more time for vegetation to establish may be required; however, two growing seasons are typically sufficient to stabilize most sites.

Recommendation 3.2:
All disturbed areas should be re-seeded as soon as possible to maximize erosion protection and to minimize volunteer populations of invasive species which may spread to the adjacent feature.

Recommendation 3.3:
The limits of the naturalized buffer should be marked by a permanent fence (chain link or higher quality material) to discourage encroachment (e.g., mowing, access, waste disposal) into Patch 10070. The fence should extend from the back of the single-family houses to Savoy Street.

Recommendation 3.4:
Provide future residents with an information package (brochure and/or web-based resources) to educate the future residents on appropriate ways to protect the natural heritage components beyond the property boundaries. This could include a generic brochure such as the “Living with Natural Areas” brochure (UTRCA et al., 2005), or a brochure designed to be site-specific with information on the impact of encroachment on natural features (e.g., pets, tree damage, ad-hoc paths, landscape waste dumping, etc.). Information about interesting species present in the Significant Woodlands (e.g., Spring Peeper, Eastern Hop-hornbeam) could also be included to encourage public interest and stewardship. Education of residents should be implemented with the guidance of a qualified biologist where appropriate. The “Living with Natural Areas” brochure is provided in Appendix L.

Recommendation 3.5:
The installation of educational signage (e.g., small plaques) along the chain link fence boundary adjacent to Patch 10070 is recommended to inform residents of the significance of the adjacent feature. Signage discussing the ecological value of the Significant Woodlands and wildlife species present may be particularly effective. Some studies show the public are more likely to avoid damaging activities (ex: littering, trampling plants, dumping landscape waste) if they are aware of the link between their actions and the subsequent negative impacts, and if they feel they are responsible for the stewardship of a natural area (Gamman et al., 1995; Johnson and Van de Kamp, 1996). People are also more likely to respect a barrier if they understand the reason for it (Johnson, 1989). Education of residents should be implemented with the guidance of a qualified biologist where appropriate.

Recommendation 3.6:
Limit the use of chemical fertilizers within the Subject Lands as well as salts or other additives for ice and snow control on the roadways and parking areas, where possible.

Naturalization and Restoration

This section provides recommendations for the proposed naturalized buffer to the west of the development. A detailed restoration plan will be provided at detailed design.

Recommendation 3.7:
The proposed naturalized buffer should be planted with species native to the Ecoregion (7E) that are suitable for the existing conditions. A Landscape Plan should be provided for the buffer at detailed design.

Recommendation 3.8:
Woody plant selection should consider how the species are adapted to the site conditions, including soil type, moisture, slope and sun exposure, as well as additional wildlife benefits (e.g., berry production). Dominant tree species (Sugar Maple, Basswood, American Beech, Eastern Hop-hornbeam) present in the existing Significant Woodland should be considered for plantings.

Recommendation 3.9:
Understory and ground layer plant species should be incorporated into the naturalization plan through seeding where the ground is not already naturalized with native species. Seed mixes should consist of species all native to the Ecoregion (7E), adapted to the site conditions, and approved by the City of London. The recommended seed mix for the naturalized buffer is the City of London's Type 2: Upland Woodland Edge from the Supplemental Standards for Parks and Open Spaces (2020).

Recommendation 3.10:
The limits of the buffer should be marked by a permanent fence (chain link or higher quality material) to discourage encroachment (e.g., mowing, access, waste disposal) into Patch 10070. The fence should extend from the back of the single-family houses to Savoy Street.

Recommendation 3.11:
Improve the floristic quality of the Significant Woodland by creating an Invasive Species Management Plan to manage Buckthorn within the 10m edge of Community 1. Inventory of invasive plants within the woodland should be incorporated into the monitoring plan. Removal and control of invasive species should follow published Best Management Practices, such as those published by the Ontario Invasive Plant Council (2020).

Monitoring Phase 2 – Post-Construction

Long-term post-construction monitoring shall evaluate the success of the proposed active naturalization efforts and planting, as well as encroachment prevention. Monitoring should be undertaken at Year 1 of buffer planting (e.g., plant warranty) to document survivorship or replacements, and at Year 3 to document plant establishment and growth. Remedial actions are triggered if effects exceed pre-determined thresholds (e.g., supplemental plantings if survival rates are low, additional invasive species management). Recommendations for monitoring are:

- Encroachment activities and correction – once the development is at 80% build-out, annual reporting to the City of London should be completed for two years
- Encroachment into the adjacent Significant Woodland should be monitored for two years post-construction (e.g., litter present in natural features, informal trail creation, creation of fence gates, mowing/gardening in the buffer) and additional strategies should be implemented if required
- Vegetation monitoring in the naturalized buffer should be completed for two years (Years 1 and 3) after planting to document compliance with the plans (e.g., the correct species and quantities were planted), and establishment of planted material.
- Success of the invasive species management activities (removal of Buckthorn) in Community 1 (FOD5-2) should be monitored for two years (Years 1 and 3) post-management.
- Implement adaptive management strategies such as supplemental plantings, and/or control of non-native invasive species. Adaptive management may be triggered by poor survival of planted material (70% survival is target), insufficient vegetation cover (80% natural groundcover is target), or the presence of unacceptable non-native and invasive species.

4.0 Summary

This Environmental Management Plan has provided recommendations to protect the adjacent significant natural heritage features from both direct and indirect impacts through avoidance, mitigation, management, and monitoring. Timelines (pre-, during, and post-construction) have been outlined. Provided these recommendations are followed, it is our opinion that the proposed development will have no significant impacts on the adjacent natural heritage features.

Yours Truly,

MTE Consultants Inc.

Allie Leadbetter
Biologist
519-204-6510 ext. 2243
aleadbetter@mte85.com

Dave Hayman, M.Sc.
Senior Biologist
519-204-6510 ext. 2241
dhayman@mte85.com

AXL:sdm
\\mte85.local\mte\Proj_Mgmt\45761\102\05-Reports\EIS\Appendices\M_45761-102_EMP.docx