



Environmental Impact Study

Project Location: 735 Southdale Road West

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Table of Contents

1.0	Introduction	6
1.1	Report Objective	6
1.2	Format	6
1.3	Background Documents.....	7
1.4	Pre-Consultation	7
2.0	Land Use Settings	8
2.1	The London Plan	8
2.1.1	Place Type Designations (London Plan, Map 1)	8
2.1.2	Environmental Classifications (London Plan, Map 5)	8
2.2	The Southwest Area Secondary Plan (Updated December 2019).....	9
2.3	City of London Zoning Bylaws.....	9
2.4	Upper Thames River Conservation Authority (UTRCA) Regulation.....	9
2.5	Planning Act	9
2.6	Endangered Species Act	10
2.7	Fisheries Act.....	10
2.8	Migratory Birds Convention Act.....	10
2.9	Fish and Wildlife Conservation Act	10
3.0	Triggers for EIS	11
4.0	Description of the Natural Environment	12
4.1	Physical Setting	12
4.1.1	Physiography	12
4.1.2	Soils.....	12
4.1.3	Topography	12
4.1.4	Surface Water.....	12
4.1.5	Hydrogeology	13
4.2	Biological Setting	13
4.2.1	Designated Natural Heritage Features.....	13
4.2.2	Protected Species and Species of Conservation Concern Records	13
4.3	Vegetation and Floral Inventories	14
4.3.1	Vegetation	14
4.3.2	Floral Inventory.....	16
4.4	Significant Wildlife Habitat	17
4.5	Faunal Site Investigations.....	17
4.5.1	Avifauna	17
4.5.2	Amphibians.....	18
4.5.3	Bat Maternity Roost Habitat	18

4.5.4	Mammal Burrows	18
4.5.5	Terrestrial Crayfish	19
4.5.6	Reptiles	19
4.5.7	Aquatic	19
5.0	Natural Heritage Policy Considerations	20
5.1	Provincial Policy.....	20
5.1.1	Significant Wetlands	20
5.1.2	Significant Woodlands	21
5.1.3	Significant Valleylands.....	21
5.1.4	Significant Wildlife Habitat	21
5.1.5	Areas of Natural and Scientific Interest.....	22
5.1.6	Fish Habitat	22
5.1.7	Habitat of Endangered or Threatened Species	22
5.2	Municipal Policy	22
5.2.1	Provincially Significant Wetlands, Wetlands, and Unevaluated Wetlands (1330-1336) 22	
5.2.2	Significant Woodlands and Woodlands (1337-1343).....	22
5.2.3	Significant Valleylands and Valleylands (1344-1351).....	23
5.2.4	Significant Wildlife Habitat (1352-1355)	23
5.2.5	Areas of Natural and Scientific Interest (1356-1360).....	23
5.2.6	Fish Habitat (1323-1324)	23
5.2.7	Habitat of Endangered Species and Threatened Species (1325-1329).....	23
5.2.8	Water Resource Systems (1361-1366).....	23
5.2.9	Environmentally Significant Areas (1367-1371)	23
5.2.10	Upland Corridors (1372-1377)	23
5.2.11	Potential Naturalization Areas (1378-1381).....	24
5.2.12	Vegetation Patches Larger Than 0.5 Hectares (1385-1386)	24
5.2.13	Other Drainage Features (1387).....	24
5.3	Conservation Authority Regulations	24
5.4	Summary of Identified Features and Functions.....	24
5.5	Ecological Buffers and Pre-Development Considerations	25
5.5.1	Public Ownership/Acquisition.....	25
5.5.2	Ecological Buffers	25
5.5.3	Stewardship.....	26
6.0	Description of the Development.....	27
7.0	Impacts and Mitigation	28
7.1	Direct Impacts.....	28
7.1.1	North Talbot PSW	28

7.1.2	Unevaluated Wetlands.....	29
7.1.3	Significant Wildlife Habitat	30
7.1.4	Habitat of Endangered and Threatened Species	31
7.2	Indirect Impacts	31
7.2.1	Sediment and Erosion Control Measures.....	31
7.2.2	Construction Site Management.....	32
7.2.3	Protection of Water Resources	32
7.2.4	Disturbance to Wildlife	33
7.2.5	Landowner(s) Education	33
7.3	Monitoring Plan.....	34
7.4	Net Effects.....	34
8.0	Summary and Conclusions.....	38
9.0	References.....	39

List of Figures

- Figure 1 – Site Location
- Figure 2 – Land Use (The London Plan Map 1, 2021)
- Figure 3 – Natural Heritage (The London Plan Map 5, 2021)
- Figure 4 – SWAP Mapping (2019)
- Figure 5 – Zoning (City of London Zoning By-Law)
- Figure 6 – Vegetation Communities
- Figure 7 – Wildlife Investigations
- Figure 8 – EMG Recommended Buffers
- Figure 9 – Development Plan (Zedd Architecture, April 2022)
- Figure 10 – Development Overlay
- Figure 11 – Mitigation Measures
- Figure 12 – Compensation and Naturalization Measures

List of Tables

- Table 1: Ecological Land Classification for the Subject Lands
- Table 2: Southern Ontario Floral Inventory Analysis (SOFIA) Results
- Table 3: Amphibian Call Count Code Results
- Table 4: Environmental Considerations for the Subject Lands
- Table 5: Significant Natural Heritage Features
- Table 6: Net Effects Table

List of Appendices

- Appendix A – Record of Pre-Consultation
- Appendix B – MNRF Information Request
- Appendix C – Ecological Land Classification Information
- Appendix D – Floral Inventory Data
- Appendix E – Breeding Bird Survey Data
- Appendix F – Amphibian Breeding Survey Data
- Appendix G – Bat Maternity Roost Survey Data
- Appendix H – Significant Wildlife Habitat Table

1.0 Introduction

2425293 Ontario Inc. (the 'Proponent') has initiated the Zoning By-Law Amendment and Official Plan Amendment approval process for a high-density residential development (the 'Project') on a 3.8 ha Legal Parcel located at 735 Southdale Road West in the City of London. The property is located on Concession ETR Part Lot 78. The property is along a section of Southdale Road West that has previously been proposed to be widened by the City of London to accommodate increased traffic volume that is expected to result from proposed developments in the region (AECOM, 2018).

The area of proposed development is referred to as the Subject Lands throughout this report and this includes the entire Legal Parcel [Figure 1]. The Study Area for the EIS includes the Subject Lands (which were the focus of field investigations) and adjacent lands within 120 m.

Life science data collection within the Subject Lands was completed by MTE Consultants between 2018 and 2020. This report compiles the data collection for those years. In addition, data collected for other assessments within the Study Area by other parties will be included where appropriate. This will include the 2009 North Talbot Wetland Evaluation completed by the Ministry of Natural Resources (MNR), Upper Thames River Conservation Authority (UTRCA), and BioLogic (now part of MTE Consultants). Data collected and reported by AECOM for the Southdale Road West Improvements Environmental Impact Study (2018) will also be referenced in this Environmental Impact Study (EIS).

1.1 Report Objective

This report is an Environmental Impact Study (EIS), with the first sections meeting the Subject Lands Status Report (SLSR) requirements to identify features on site. A combined EIS/SLSR was requested by the City of London and Upper Thames River Conservation Authority (UTRCA) [Appendix A]. The objective of the SLSR 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. An EIS also provides this overview and will evaluate 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 is also designed to provide a support document for additional approvals that may be required, including Conservation Authority Act 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 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 Settings
- 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 Conclusion

1.3 Background Documents

The following additional studies were used to review the current environment.

- Upper Thames River Source Protection Area Assessment Report (Thames-Sydenham and Region Source Protection Committee, 2015)
- Southdale Road West Improvements – Pine Valley to Colonel Talbot Road – Environmental Impact Study (AECOM, 2018) [This EIS is in support of the Southdale Road West Improvements Municipal Class EA]
- Hydrogeological Assessment – Western Prestige Village (EXP Services Inc., 2022)
- North Talbot Community Plan Area Ecological Resource Inventory and Analysis (BioLogic, 1998)
- Southwest Area Plan (SWAP, 2019)
- 735 Southdale Road West Preliminary Servicing Report (Development Engineering, 2016)

1.4 Pre-Consultation

An information request for records of species protected under the *Endangered Species Act* (ESA) in the general area of the Subject Lands was submitted to MNRF by MTE Consultants in 2019. A response was received from Jason Webb (MNRF) on February 1, 2019 [Appendix A]. Shortly after receiving the response, responsibility for administering the ESA was transferred from MNRF to MECP. However, the data and response remain valid. This background review will be incorporated into this Environmental Impact Study.

A Scoping Meeting for this project was held on February 1, 2019 with James McKay (City of London Ecologist Planner), Sandi Levin (EEPAC), Jeff Bruin (City of London), Christine Creighton (UTRCA), and Dave Hayman (MTE). A Scoping Checklist was submitted January 20, 2020 [Appendix A]. The Upper Thames River Conservation Authority (Tara Tchir) provided comments on May 11, 2020. UTRCA accepted the scoping checklist provided a scoped hydrogeological study is completed using the UTRCA checklist, flora and fauna are identified per ELC community, and significant wildlife habitat (SWH) is evaluated. These comments will be addressed in this EIS.

An updated Initial Proposal Report (IPR) was prepared by Zelinka Priamo Ltd., EXP, and MTE Consultants in June 2020. A Proposal Review Meeting was held on July 15, 2020, and James McKay provided comments on the proposed plan and potential natural heritage concerns [Appendix A]. These comments will be addressed in this EIS. A new development plan has been completed since this meeting, and this updated Site Plan will be described in Section 6.0.

2.0 Land Use Settings

The Subject Lands are located at 735 Southdale Road West, Concession ETR, Part Lot 78, City of London [Figure 1]. The Subject Lands are comprised of agricultural and residential lands, as well as cultural and natural vegetation communities.

The area of the Subject Lands is primarily existing residential lands with agricultural lands to the southwest. Part of the North Talbot Provincially Significant Wetland (PSW) is located along the south edge of the Subject Lands and other natural features are interspersed in the surrounding landscape.

2.1 The London Plan

The London Plan (2021a) 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 2021a). 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 Place Type Designations (London Plan, Map 1)

The Subject Lands are designated as Neighbourhoods on Map 1 of the London Plan (2021a) [Figure 2]. Adjacent lands to the north and south are similarly designated Neighbourhoods, except for areas of Green Space along the south property boundary (North Talbot PSW) and across Southdale Road West to the northeast (Southwest Optimist Park and Stormwater Management Pond).

2.1.2 Environmental Classifications (London Plan, Map 5)

Map 5 of the London Plan (2021a) indicates there is a Provincially Significant Wetland (North Talbot PSW) that borders the south of the Subject Lands [Figure 3]. Two small Unevaluated Wetlands are also shown within the southwest and northeast corners of the Subject Lands. These features were not identified in the SWAP (2019). A Valleyland is located approximately 100 metres to the south of the Subject Land. No other natural heritage features are identified within 120 metres of the Subject Lands. The Southwest Optimist SWM Pond is located about 30 metres north across Southdale Road West.

2.2 The Southwest Area Secondary Plan (Updated December 2019)

The Southwest Area Secondary Plan (SWAP) applies to lands (~2,700 ha) 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 North Talbot Residential Neighbourhood, as shown on Schedule 12 of the Southwest Area Secondary Plan. The Subject Lands are designated Medium Density Residential on this schedule, with the adjacent PSW designated Open Space and Environmental Review [Figure 4]. Adjacent lands are designated Low and Medium Density Residential. The SWAP mapping supersedes the London Plan (2021a).

2.3 City of London Zoning Bylaws

The Subject Lands are zoned Residential (R5-2, R6-4, R8-4) with holding provisions (h-2, h-30, h-53, h-75) [Figure 5]. A zoning by-law amendment will be required for the proposed development application to accommodate 8-12 storey residential apartment buildings to be consistent with the London Zoning By-law Z.-1.

2.4 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 riverine flooding and erosion hazards, wetlands and the surrounding area, and requires that landowners obtain written approval from the Authority prior to undertaking any site alteration or development within the regulation limit.

The UTRCA has indicated that it regulates the central portion of the Subject Lands under Ontario Regulation 157/06. This regulation area is a 120 m distance associated with the North Talbot PSW to the south. The regulation area is also identified as a Dingman Creek Screening Area (under review) by the UTRCA online regulatory mapping (2018).

2.5 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 is 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.

2.6 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 Ontario Regulation 242/08.

An information request for records of species protected under the *Endangered Species Act* (ESAct) in the general area of the Subject Lands was submitted to MNRF by MTE Consultants in 2019. A response was received from Jason Webb (MNRF) on February 1, 2019 [Appendix A] indicating Barn Swallow [THR] and Butternut [END] may be present in the area. Shortly after receiving the response, responsibility for administering the *ESAct* was transferred from MNRF to MECP. However, the data and response remain valid. This background review will be incorporated into this Environmental Impact Study.

2.7 Fisheries Act

The federal *Fisheries Act, 1985* (amended 2019) manages fisheries resources, as well as conserves and protects fish and fish habitat, including by preventing pollution. Protections apply to all fish and fish habitat in Canada. There are no identified waterbodies within the Subject Lands that provide fish habitat, therefore the *Fisheries Act, 1985* will not apply.

2.8 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.

2.9 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 (e.g. Draft Plan of Subdivision, or amendments to the Official Plan and/or zoning by-law), the City of London requires an EIS if the proposed development or site alteration is within or adjacent to Natural Heritage System in accordance with the features and distances set out in Table 13 (Areas Requiring Environmental Study) of the London Plan (2021a).

The proponent is proposing a medium density residential development at 735 Southdale Road West in London, ON. Based on the London Plan Maps 1, 5 and 6 (2021) and considering 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 120 m of a Provincially Significant Wetland
- Proposed development within 120 m of Unevaluated Wetlands
- Proposed development within 120 m of Valleylands

As well, application for a permit under the UTRCA Ontario Regulation 157/06 may require an EIS

- Portions of the Subject Lands are within the UTRCA's regulation limits for the PSW to the south

In addition, the *Endangered Species Act* (2007) protects species and their habitats which have not been mapped in Official Plans or on provincial mapping. 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) describes the natural heritage existing conditions of the Subject Lands.

4.0 Description of the Natural Environment

The following section reviews the abiotic and biotic features on and within 120 m 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 property limits were studied from the edge of the property or using satellite imagery.

4.1 Physical Setting

4.1.1 Physiography

The Subject Lands are underlain by Middle Devonian-aged limestone, dolostone, and shale of the Dundee Formation (Ontario Geological Survey, 1991). Bedrock is not exposed at this site, and it was not encountered during drilling by EXP Services (2022).

The Subject Lands are within the Mount Elgin Ridges physiographic region and are located on the Ingersoll Till Moraine (Chapman & Putnam, 1984). The quaternary geology on site consists of glaciofluvial outwash deposits with gravel and sand (Barnett et al., 1981).

4.1.2 Soils

The predominate soil type in the area of the Subject Lands is Muriel that consists of Muriel, Gobles and Kelvin associates. Muriel soil type is described as silty clay loam, silty clay, and occasionally clay loam glacial till deposited by glaciation from the Lake Erie basin (Hagerty & Kingston, 1992). These soils typically exhibit moderately well to imperfect drainage characteristics. Bennington soils are also present in the region. This soil type has well to imperfect drainage and is described as 40-100 cm of glaciolacustrine loam, silt loam, and occasionally very fine sandy loam overlying clayey glaciolacustrine deposits.

The OGSEarth Surficial Geology mapping provided by the Ministry of Energy, Northern Developments, and Mining (2017) identifies this region as having 5d till (clay to silt-textured till derived from glaciolacustrine deposits or shale).

Based on site investigations by EXP Services, the Subject Lands are overlain by a layer of topsoil and covered with a low-permeability silty clay till that thins in the west of the site. The till also has occasional wet sands and silt pockets. MECP Well Records suggest an extensive dry sand stratum underlies the till at elevations ranging from 253 m to 272 m. The sand was located at depths of 5.0 m to 8.6 m below ground in the area of the PSW. The sand stratum is likely connected to a fluvial terrace extending to the west Adjacent Lands (EXP, 2022).

4.1.3 Topography

In the general vicinity of the Subject Lands, the topography is very gently sloping (Hagerty & Kingston, 1992). On a site-specific scale, the property is generally sloped towards the southeast (EXP, 2022). Site elevations range between 282 and 274 metres (EXP, 2022).

4.1.4 Surface Water

The Subject Lands are located in the Dingman Creek Subwatershed. Surface drainage generally follows the site topography, draining towards the PSW to the south and the Unevaluated Wetlands (EXP, 2022). These wetlands have ponded surface water after rainfall due to the low permeability soils. The PSW had seasonal fluctuations between dry surface conditions in summer/fall and up to one metre of standing water. The PSW is primarily influenced by rainfall and surface water that drains south from the west Subject Lands (EXP, 2022).

A tiled drain is shown to extend to the south from the south edge of the PSW on UTRCA mapping (2018) and AgMaps (2022). This was not investigated in the field as it is outside the property boundary.

4.1.5 Hydrogeology

The Subject Lands are located in the Upper Thames River Source Protection Area. The Subject Lands are not within a wellhead protection zone, nor a significant groundwater recharge area (SGRA), nor a highly vulnerable aquifer (HVA) (TSRSPC, 2015). Hydrogeological investigations by EXP services were consistent with the absence of a SGRA and HVA (EXP, 2022).

Four groundwater monitoring wells were installed by EXP Services in November 2019 and groundwater elevations were collected for one year. Groundwater elevations are relatively high (seasonal high of 0.5 mbgs in April 2020). Local shallow groundwater flow is anticipated to follow local topography, generally draining southwest towards Dingman Creek (EXP, 2022). Additional groundwater monitoring details and a water balance are provided in the Hydrogeological Assessment (EXP, 2022).

4.2 Biological Setting

Life science data were collected on the Subject Lands and Adjacent Lands by MTE Consultants between 2018 and 2020. This section summarizes the background review of the Subject Lands, data collection methods, and the results of field investigations.

4.2.1 Designated Natural Heritage Features

The Land Information Ontario (LIO) mapping (MNRF, 2021), Natural Heritage Information Centre (NHIC) online database (2021) and London Plan Map 5 were reviewed for natural heritage features in the Study Area.

Map 5 of the London Plan (2021) identifies a Provincially Significant Wetland (PSW) partially on and within the south boundary of the Subject Lands. No Areas of Natural and Scientific Interest (ANSI) or Environmentally Significant Areas (ESA) are located on or within 120 m of the Subject Lands. A review of the LIO mapping identifies the North Talbot Wetlands (PSW) similarly to Map 5 (City of London, 2021), but this wetland boundary differs slightly from the SWAP boundaries. This is discussed further in this EIS.

4.2.2 Protected Species and Species of Conservation Concern Records

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) database and an information request submitted to MNR in 2018 [Appendix B] identified several Protected Species as potentially present in the area of the Subject Lands. These sources display data for a broad area (e.g. per 10 km atlas square) and therefore provide only a general potential for species presence on or near the Subject Lands:

- American Badger (Southwestern Ontario pop.) [END]
- American Chestnut [END]
- Butternut [END]
- Eastern Flowering Dogwood [END]
- False Hop Sedge [END]
- Barn Swallow [THR]
- Bobolink [THR]
- Eastern Meadowlark [THR]

In addition to the above list, there are a number of other species that can be commonly found in the area but, while protected under the *ESA*, are not always listed in the database and information sources. These additional species to consider include bat species (Little Brown Myotis [END], Northern Myotis [END], Tri-coloured Bat [END] and Eastern Small-footed Myotis [END]).

An assessment of habitat for these Protected Species and SOCC, along with targeted surveys where suitable habitat was present, was conducted by MTE on the Subject Lands as part of the current EIS. Survey methods and results are discussed in Sections 4.3 and 4.4.

4.3 Vegetation and Floral Inventories

4.3.1 Vegetation

The vegetation communities within the Subject Lands were assessed by Will Huys, certified to conduct ELC in Southern Ontario, on October 17, 2018, and May 13, June 4, June 19, and August 1, 2019 [Figure 6] using protocols outlined in the Ecological Land Classification (ELC) System for Southern Ontario (Lee et al., 1998). ELC information sheets are provided in Appendix C. Provincial significance of vegetation communities is based on the rankings assigned by the NHIC (2020). All communities listed in Table 1 are secure in Ontario [Table 1].

Table 1: Ecological Land Classifications for the Subject Lands and Adjacent Lands

Community Type	Polygon	ELC Code	Description	S-rank	Area (ha)
Wetland					
	1a	MAM2	Mineral Meadow Marsh Ecosite inclusion	n/a	0.08
	A2a	SWT1	Mineral Swamp Thicket Ecosite	n/a	0.03
	3	SAS1	Submerged Shallow Aquatic Ecosite	n/a	0.25
	4	MAS2	Mineral Shallow Marsh Ecosite	n/a	0.10
	5	SWD3	Maple Mineral Deciduous Swamp Ecosite	n/a	0.30
Cultural					
	1	CUM1-1	Dry-Moist Old Field Meadow Type	n/a	1.9
	2	CUM1-1	Dry-Moist Old Field Meadow Type	n/a	0.83
Anthropogenic					
	A1	-	Residential Home and Yard	n/a	0.50
	A2	-	Active Horse Pasture	n/a	0.23

* Measured area within the Subject Lands only.

Community A1 (0.50 ha), within the centre portion of the Subject Lands, is a residential property with a single-family home, driveway, storage shed and mowed lawn.

Community A2 (0.23 ha) is an active horse pasture located in the east Subject Lands between communities 2 and 3. This community includes a small (0.03 ha) SWT1 Mineral Swamp Thicket Ecosite inclusion (A2a) that is dominated by White Willow, Rough Cocklebur, and Devil's Beggarticks.

Community 1 (1.9 ha) is a CUM1-1 Dry-Moist Old Field Meadow Type located in the west Subject Lands. Community 1 is a meadow with scattered trees throughout. The west portion of this community is dominated by occasional Shagbark Hickory and Oak trees in the canopy. The remainder of the community has Black Walnut in the canopy along with Eastern Cottonwood and Shagbark Hickory. The understory is primarily White Willow, with Canada Thistle, Smooth Brome, Fescue species, and Canada Goldenrod in the ground layer. Community 1 was observed to have mowed pathways through it on October 27, 2021. A small (0.08 ha) Mineral Meadow Marsh inclusion (1a) is located in Community 1 along the south property boundary. This inclusion includes Devil's Beggarticks, Lance-leaved Aster, Rough Cocklebur, and European Buckthorn. Inclusion 1a also contains Skunk Cabbage which can be a groundwater indicator, but may also just grow in wet areas. The lack of other indicators suggests there is no groundwater influence. This inclusion was observed to be seasonally dry in the summer and this is consistent with what was observed by EXP (2022).

Community 2 (0.83 ha) is also a CUM1-1 Dry-Moist Old Field Meadow Type, and is located in the east Subject Lands. This vegetation community is dominated by Smooth Brome, Creeping Wildrye, Canada Goldenrod, and Everlasting Pea. Other abundant floral species include New England Aster and Curly Dock.

Community 3 (0.25 ha total, 0.10 ha on site) is a SAS1 Submerged Shallow Aquatic Ecosite in the east corner of the Subject Lands. The canopy surrounding the wetland is dominated by White Willow. The ground layer around the edge of the pond is primarily Creeping Bentgrass and Devil's Beggarticks; Narrow-leaved Cattail and Redtop are also notably present. This community has surface water all year and is supported by surface runoff and flows from a pond north of the road through a culvert. This is supported by monitoring by EXP (2022). No floral groundwater indicators were observed in this community.

Community 4 is a 0.10 ha Mineral Shallow Marsh Ecosite (MAS2) that is located in a topographic low in adjacent lands, approximately 65 metres south of the Subject Lands. This community is the south section of a PSW that is part of the North Talbot Wetland Complex. Community 4 is dominated by Broad Cattail, Creeping Bentgrass, Hemp Dogbane, Devil's Beggarticks, and Ditch-stonecrop. The community is wet in the spring, but was observed to be dry by August.

Community 5 is a 0.34 ha Maple Mineral Deciduous Swamp Ecosite (SWD3) located adjacent to the south edge of the Subject Lands. This community is part of the same North Talbot Wetland Complex PSW as Community 4, although there appears to be no hydrological surface connection with Community 4 or any other wetland. No floral groundwater indicators were observed in this community. The canopy of Community 5 is strongly dominated by Silver Maple, but White Willow is also present. The understory is dominated by Eastern Buttonbush, Common Buckthorn, and Gray Dogwood. Community 5 has occasional non-native species growing throughout it with flooding in the spring and little to no standing water by mid-July or August. The wetland boundary differs marginally from LIO mapping along the north boundary based on site investigations. The site specific boundary has been used in this report as it reflects field investigations and refinement and more closely matches the boundary identified in SWAP.

4.3.2 Floral Inventory

A three-season floral inventory within the Subject Lands was completed by Will Huys on October 17, 2018, and May 13, June 4, June 19, and August 1, 2019 [Appendix D]. Communities 4 and 5 were not inventoried as they are outside of the Legal Parcel. The provincial status of all plant species is based on the Species at Risk in Ontario (SARO) List under Ontario Regulation 230/08 (2007). Locally rare and uncommon flora and fauna species were identified using the List of Vascular Plants of Ontario's Carolinian Zone (Oldham, 2017). No floral Protected Species or SOCC were observed within the Subject Lands.

Based on the floral inventories, vegetation communities were assessed using SOFIA (Southern Ontario Floral Inventory Analysis) (Lebedyk, 2018). Community 1 (CUM1-1) had a total of 90 species with 73% native species. Community 2 (CUM1-1) had 28 floral species recorded, with 64% being non-native. Community 3 (SAS1) had 42 species with exactly 50% being native and introduced.

SOFIA also provides several values based on floral inventories to evaluate the value and natural quality of vegetation communities. These values are provided in Table 2. The Coefficient of Conservatism (CoC) is a value (0-10) assigned to each species based on the species' degree of fidelity to certain ecological parameters (Oldham, Bakowsky & Sutherland, 1995). Plants found in a wide range of vegetation communities are assigned low values while those that are found in a narrow range of parameters are assigned high values. 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. 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). As a point of reference, 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.

Table 2: Southern Ontario Floral Inventory Analysis (SOFIA) Results

Vegetation Community	Mean CoC	FQI	Comments
Community 1 Dry-Moist Old Field Meadow Type (CUM1-1)	2.3	18.7	<ul style="list-style-type: none"> Poor floristic quality, no natural quality. Has the highest FQI, but it is still not high enough to indicate significant floristic quality.
Community 1a Mineral Meadow Marsh Ecosite inclusion (MAM2)	2.3	17.0	<ul style="list-style-type: none"> Poor floristic quality, no natural quality.
Community 2 Dry-Moist Old Field Meadow Type (CUM1-1)	0.8	0	<ul style="list-style-type: none"> Poor floristic quality, no natural quality. Has the lowest Mean CoC and FQI values.
Community 3 Submerged Shallow Aquatic Ecosite (SAS1)	1.5	9.4	<ul style="list-style-type: none"> Poor floristic quality, no natural quality. It should be noted that species observed around the edge of this community were included in the analysis.

Two floral species listed as regionally rare (Middlesex County) were identified during field investigations (Oldham, 2017): Cockspur Hawthorn (*Crataegus crus-galli*) and Larger Straw Sedge (*Carex normalis*). It should be noted that these species were not considered rare within Middlesex County in *Rare Vascular Plants of Ontario, Fourth Edition* (Oldham & Brinker, 2009), and no sources dated after 2009 were referenced for Middlesex County in the 2017 *List of Vascular Plants of Ontario's Carolinian Zone* (Oldham, 2017). Therefore, there is a lack of published evidence supporting the rarity of these species in Middlesex County. In addition, both species are frequently observed by MTE throughout the London area. It is MTE's opinion is that the regional rarity is due to under-reporting rather than actual species presence and distribution, based on surveys

conducted in the London region. Regardless, background information for these species is provided below.

Cockspur Hawthorn was found in Communities 1 (CUM1-1) and 2 (CUM1-1). This Hawthorn species is considered common and secure in Ontario and is one of the most common Hawthorn species found throughout Ontario (MNR, 2021). Cockspur Hawthorn can be found in many areas, including along streams and riverbanks, in forest edges, on sandy hillsides, on roadsides, in fields or pastures, in thickets, and sometimes in wet ground (Reznicek, Voss & Walters, 2011).

Larger Straw Sedge was found in Communities 1a (MAM2) and 3 (SAS1), and is also common and secure in Ontario and can be found in moist fields, thickets, open forests, and occasionally drier areas (Reznicek, Voss & Walters, 2011).

Regionally rare species are not protected under the *Endangered Species Act* (2007), however potential opportunities for mitigating impacts to these species will be discussed in Section 7.0.

4.4 Significant Wildlife Habitat

MNR 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, 2021a). An assessment of candidate SWH was completed for the Subject Lands using a combination of desktop analysis, satellite imagery interpretation and field observations, and is provided in Appendix H.

Candidate Specialized Habitats of Wildlife Considered SWH

Waterfowl Nesting Area – North Talbot PSW (SWD3), MAM2 inclusion

Amphibian Breeding Habitat (Woodlands) – North Talbot PSW (SWD3), MAM2 inclusion

Amphibian Breeding Habitat (Wetlands) – SAS1

Terrestrial Crayfish – MAM2 inclusion, North Talbot PSW (SWD3), MAS2

Candidate Habitats for Species of Conservation Concern Considered SWH

Terrestrial Crayfish – Community 1 (SWD4), Adjacent Lands (SWD/SWT)

Special Concern and Rare Wildlife Species - Green Dragon [SC], Snapping Turtle [SC], and Hoary Tick-trefoil [S2].

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 5.0.

4.5 Faunal Site Investigations

A breeding bird survey, an amphibian breeding survey, a bat maternity roost survey, and general observations of habitat suitability for American badger [END] were completed on the Subject Lands.

4.5.1 Avifauna

Will Huys conducted breeding bird surveys on June 4 and June 19, 2019 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 each community within the Subject Lands. The number of individuals and the highest level of breeding evidence were recorded for all avian species observed.

Pastures and meadows in adjacent lands previously supported breeding Bobolink [THR] and Eastern Meadowlark [THR] (BioLogic, 1998; AECOM, 2018), but the majority of the adjacent lands have since been transitioned to row crops. Communities 1 and 2 remain as potentially suitable CUM1-1 Old Field Meadow Types, however opportunities for nesting by Eastern Meadowlark [THR]

and Bobolink [THR] have been limited by the adjacent changes in agricultural land use. No Bobolink or Eastern Meadowlark were observed during breeding bird surveys. A shed is present on the Subject Lands in the residential yard (A1) and a search for Barn Swallow [THR] nests was conducted on October 28, 2021. No nests were present on the outside or on the first level of the shed, but the top floor could not be accessed. The top floor appeared to be fully closed off from the outside and therefore is unlikely to provide suitable nesting habitat for Barn Swallows [THR]. No Barn Swallows [THR] were observed during breeding bird surveys.

No other avian Protected Species or SOCC were observed within the Subject Lands [Appendix E]. The most common species observed were Red-winged Blackbird, Song Sparrow, House Sparrow, Common Grackle, and Mallard.

4.5.2 Amphibians

Will Huys conducted amphibian call surveys on April 8, May 16, and June 12, 2019, guided by the Marsh Monitoring Program (MMP) protocol (BSC, 2009). A summary of observations is provided in Table 3, below. The call code (1 to 3) is provided along with the number of individuals heard in brackets where applicable. Complete field data are provided in Appendix F.

Table 3: Amphibian Call Count Code Results

Species	Station A (Community 5 – SWD3)			Station B (Community 3 – SAS1)		
	April	May	June	April	May	June
Spring Peeper	3	3; 2(18)		3; 3*	3	
Gray Treefrog		3*	1(3); 1(2)			1(1)
Green Frog						1(4)
American Toad					2(3)	

* indicates the call heard was outside the 100 m station area.

Station A was located in Community 1, facing south towards features 1a (MAM2) and the North Talbot PSW (SWD3). Spring Peepers were heard at call code 3 from the PSW (Community 5) in both April and May. Gray Treefrog was also heard at call code 3 from the PSW in May, and in smaller numbers (five individuals) from approximately the same location in June. No frogs were identified in Community 1a.

Station B was farther east along Southdale Road West and faced south towards A2a (SWT1) and Community 3 (SAS1). Spring Peepers were heard at call code 3 in April and May from Community 3. Three American Toads were heard from this community in May, and one Gray Treefrog and four Green Frogs were heard in June from Community 3 as well. No frogs were identified in Community A2a.

4.5.3 Bat Maternity Roost Habitat

A bat maternity roost survey was conducted by Will Huys on May 13, 2019 according to MECP protocols (“Treed Habitats – Maternity Roost Surveys”, 2021) and MNRF survey guidelines (“Survey Protocols for Species at Risk Bats within Treed Habitats”, 2017) to identify potential habitat for Endangered bat species. Although this survey was completed outside the recommended timing window (fall to early spring), the tree leaves had not yet fully emerged so foliage was not significantly obscuring the view of tree cavity and bark features. Five candidate maternity roost trees were located near the west and south edge of Community 1 (CUM1-1) [Figure 7]. All five trees are Shagbark Hickory (*Carya ovata*), which is a species with loose peeling bark, and are described as alive and healthy (decay class 1) [Appendix G].

4.5.4 Mammal Burrows

Two animal burrows were identified west of the Subject Lands during life science inventories [Figure 7]. These burrows likely belonged to groundhogs. No evidence of American Badger [END] (e.g. large burrows with lateral claw marks or soil piles) was present within the Subject Lands.

4.5.5 Terrestrial Crayfish

A single Terrestrial Crayfish chimney was observed in the 1a inclusion (MAM2) during field investigations [Figure 7]. Two chimneys were also observed along the edge of Community 5 (SWD3). Terrestrial Crayfish could also be present in Community 4 (the south portion of the North Talbot PSW), however this community could not be searched as it is outside the Legal Parcel.

4.5.6 Reptiles

NHIC and the 2018 MNRF information request did not identify any Protected reptiles in the area. No potential hibernaculum features (i.e. burrows, rock piles, crevices) were identified within the Subject Lands. The SAS1 pond (Community 3) is likely too shallow for overwintering turtles and not suitable for Snapping Turtle, Northern Map Turtle, Eastern Musk Turtle, Softshell Turtle, or Blanding's Turtle (AECOM, 2018). No turtles were observed during a targeted reptile basking survey completed by MTE staff on May 1, 2020 nor during any of the other life science investigations. The adjacent North Talbot PSW is also unlikely to support turtles as it did not support permanent standing water through the winter months or during the summer.

No incidental observations of snakes were recorded during site investigations in the Subject Lands.

4.5.7 Aquatic

There is a permanent pond (Submerged Shallow Aquatic Ecosite) located in the northeast corner of the Subject Lands. This pond has no surface connections to other watercourses and is not considered fish habitat. No watercourses are present within the Subject 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 within 1 km of the Subject Lands (DFO, 2020).

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 28, 2021a),
- the Southwest Area Secondary Plan (City of London, 2019),
- the City of London Environmental Management Guidelines (2021b),
- 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.

5.1 Provincial Policy

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.

These features are described in the Natural Heritage Reference Manual (MNR, 2010), a technical document intended to support the PPS which also provides guidance to help assess these natural heritage features. Section 2.1.4 of the PPS states that development and site alteration are not permitted in Significant Wetlands or Significant Coastal Wetlands in Ecoregion 7E, where the Subject Lands are located. Section 2.1.5 states that development and site alteration shall not be permitted in Significant Woodlands, Significant Valleylands, SWH or ANSI's unless it has been demonstrated through an EIS that there will be no negative impacts on the features or their ecological functions. Development and site alteration are not permitted in Fish Habitat or habitat of Endangered or Threatened species, except in accordance with provincial and federal legislation.

5.1.1 Significant Wetlands

A Provincially Significant Wetland that is part of the North Talbot Wetland Complex is located along the south edge of the Subject Lands. This report suggests a minor boundary adjustment could occur as the wetland does not encroach into the Subject Lands as suggested by the MNR map (2021). The actual wetland boundary has been assessed by MTE in the field and is shown on Figure 6. The PSW boundary more closely matches the PSW boundary shown on SWAP mapping (2019) and a wetland boundary revision is being submitted.

5.1.2 Significant Woodlands

No woodland communities are present on the Subject Lands. No vegetation within the Legal Parcel has been identified as Significant Woodlands on Map 5 of the London Plan (May 2021).

5.1.3 Significant Valleylands

There are no Significant Valleylands within the Subject Lands (London Plan, 2021a). A Valleyland is located in adjacent lands, approximately 100 metres to the south, and was not investigated for this report.

5.1.4 Significant Wildlife Habitat

Candidate significant wildlife habitat (SWH) is based on ELC communities that were identified in Section 4.4. Confirmed significant wildlife habitat is determined through appropriate field investigations and evaluation of species use in accordance with specific criterion outlined in the Ecoregion Criteria Schedules 7E (MNR, 2015). Candidate SWH identified on or adjacent to the Subject Lands is assessed below.

Waterfowl Nesting Areas

Breeding bird surveys completed in 2019 did not identify any nesting waterfowl in the 1a inclusion (MAM2). Twelve young-of-year Mallards and a mating pair were observed in Community 3 (SAS1), but this does not meet the minimum criteria for community size or number of Mallard nesting pairs. Incidental encounters during 2018 spring field surveys identified several adult Wood Ducks in Community 5, but multiple nests or pairs of target species were not observed.

Not SWH – Confirmed Not Significant (North Talbot PSW)

Amphibian Breeding Habitat (Woodland)

The adjacent North Talbot PSW (Community 5) is a Maple Mineral Deciduous Swamp. Amphibian breeding monitoring completed in 2019 confirmed the presence of two listed frog species (Gray Treefrog and Spring Peeper) with call codes of 3 within the North Talbot PSW, therefore the PSW meets the defining criterion for significance.

Confirmed SWH – Community 5 (North Talbot PSW)

Amphibian Breeding Habitat (Wetlands)

Community 3 (SAS1) and the 1a inclusion (MAM2) are >500m² and >120m from woodland ecosites. Amphibian breeding monitoring completed in 2019 confirm that the criteria for significance are not met.

Not SWH – Confirmed Not Significant (SAS1 and MAM2)

Terrestrial Crayfish

Observations made in 2019 and 2020 during completed life science inventories confirmed the presence of Terrestrial Crayfish chimneys (burrows) in the MAM2 inclusion and the North Talbot PSW (SWD3). Therefore, the defining criterion for significance is met in these communities. Features beyond 30m from property limit were not surveyed for this site.

Confirmed SWH – MAM2 and North Talbot PSW (SWD3)

Candidate SWH – Unconfirmed in Community 4 (MAS2)

Special Concern and Rare Wildlife Species

NHIC identified several Special Concern or rare species as potentially present within the area of the Subject Lands. These include Green Dragon [SC], Snapping Turtle [SC], and Hoary Tick-trefoil [S2]. None of these or any other SOCC were identified within the Subject Lands during site investigations. Habitat for SOCC on Adjacent Lands (including the North Talbot PSW) could not be confirmed as site investigations were restricted to the Legal Parcel.

Not SWH – Confirmed Not Significant (Subject Lands)

Candidate SWH – Unconfirmed in North Talbot PSW (Adjacent Lands)

5.1.5 Areas of Natural and Scientific Interest

There are no ANSI's within or adjacent to the Subject Lands.

5.1.6 Fish Habitat

Detailed scale Fish Habitat considers Fish Habitat within the Subject Lands. There is no suitable habitat for fish within the Subject Lands.

Broad scale Fish Habitat considers downstream fisheries. Based on orthographic imagery interpretation and review of drainage maps (OMAFRA, 2020), an unnamed ephemeral flowpath may exist south of the adjacent North Talbot PSW, but if present it would flow south to be collected by a stormwater management system downstream. No fish habitat is present.

5.1.7 Habitat of Endangered or Threatened Species

No floral or faunal species protected under the *ESA* (2007) were observed within the Subject Lands during completed site investigations.

Five candidate bat maternity roost trees (all decay class 1 Shagbark Hickory) were identified in Community 1 (CUM1-1) of the Subject Lands. These trees may provide suitable habitat for Little Brown Myotis [END], Northern Myotis [END], or Tri-coloured Bat [END], although use of the candidate roost trees was not confirmed. It should be noted that Little Brown Myotis prefer buildings or building-associated features for maternity roosting rather than natural features (Gerson, 1984; Humphrey & Fotherby, 2019).

5.2 Municipal Policy

The municipal Natural Heritage policy considerations are based on the London Plan, May 28 2021, 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. Additional municipal Natural Heritage policy not addressed in Section 5.1 is provided below. The relevant policy sections are included in brackets. The Subject Lands are included in the Southwest Area Secondary Plan (SWAP; City of London, 2019a), however no additional natural heritage features are identified in SWAP that are not already addressed in the London Plan.

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

As noted in Section 5.1.1, a portion of the North Talbot PSW Complex is located along the south edge of the Subject Lands. A small section of the PSW is shown within the Subject Lands on Map 5 of the London Plan (2021a), but the actual wetland boundary has been assessed by MTE in the field and better matches the PSW boundary shown on SWAP mapping (2019). An MNRF wetland boundary revision request has been submitted to revise the PSW boundary based on MTE field investigations.

Two Unevaluated Wetlands (Community 3 and inclusion 1a) are located in the Subject Lands and shown on Map 5 of the London Plan. An additional wetland inclusion (A2a - Mineral Swamp Thicket Ecosite) was identified during ELC investigations in the northeast Subject Lands. Only Community 3 exceeds 0.1 ha in size.

5.2.2 Significant Woodlands and Woodlands (1337-1343)

As noted in Section 5.1.2, no vegetation community within 120 metres of the Subject Lands has been identified as Significant or Unevaluated Woodlands based on ELC or designated on Map 5 of the London Plan (May 2021).

5.2.3 Significant Valleylands and Valleylands (1344-1351)

As noted in Section 5.1.3, there are no Significant Valleylands within the Subject Lands (London Plan, 2021). A Valleyland is located in adjacent lands, approximately 100 metres to the south, and was not investigated for this report.

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. Additional SWH defined in the London Plan are described below.

Community 3 in the northeast Subject Lands is a Submerged Shallow Aquatic Ecosite. This community type is considered an under-represented habitat type by the City of London (Policy 1354), however this review was based on mapped wetlands at the time of the subwatershed studies in the 1990's, which were typically greater than 0.5 ha. Community 3 is very small (0.25 ha) and would not have been considered in the representative review. It is our opinion that small ponds such as these are not under represented in London and not biologically important to be considered in this context. In addition, Community 3 does not have a high diversity of species that are of value for research, conservation, education and passive recreation opportunities, and it does not qualify as SWH according to the Ecoregion 7E Criteria Schedule. This community will not be considered significant wildlife habitat in this EIS.

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

There are no ANSI's within or adjacent to the Subject Lands.

5.2.6 Fish Habitat (1323-1324)

As noted in Section 5.1.6, there is no aquatic habitat within or adjacent to the Subject Lands to support fish species.

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

As noted in Section 5.1.7, no floral or faunal species protected under the *ESA* (2007) were observed within or adjacent to the Subject Lands. Potential maternity roost habitat for Little Brown Myotis [END], Northern Myotis [END], or Tri-coloured Bat [END] is present in five Shagbark Hickory trees within Community 1 (CUM1-1) of the Subject Lands. It should be noted these trees are not in woodland habitat and Little Brown Myotis tend to prefer buildings instead of trees for maternity roosts (Gerson, 1984; Humphrey & Fotherby, 2019).

5.2.8 Water Resource Systems (1361-1366)

The Subject Lands are located within the Upper Thames River Source Protection Area. The Thames-Sydenham and Region Source Protection Committee indicate the Subject Lands are not within a SGRA or HVA (TSRSPC, 2015). No watercourses are present within the Subject Lands.

Water inputs (quality and quantity) to the adjacent North Talbot PSW and Community 3 (SAS1) need to be managed during and post-construction, however this will be discussed in the context of wetlands. Management of water resources will be discussed in greater detail in the EXP Services Hydrogeological Assessment.

5.2.9 Environmentally Significant Areas (1367-1371)

There are no Environmentally Significant Areas (ESAs) within or adjacent to the Subject Lands.

5.2.10 Upland Corridors (1372-1377)

There are no Upland Corridors identified on Map 5 of the London Plan (2021a) within or adjacent to the Subject Lands.

5.2.11 Potential Naturalization Areas (1378-1381)

There are no Potential Naturalization Areas identified on Map 5 of the London Plan (2021a) within or adjacent to the Subject Lands.

5.2.12 Vegetation Patches Larger Than 0.5 Hectares (1385-1386)

There are no forested vegetation patches larger than 0.5 ha within or adjacent to the Subject Lands that need to be evaluated. A band of trees borders the west edge of the property but this community is smaller than 0.5 ha. Community 1 and 2 are larger than 0.5 ha, however these are Dry-Moist Old Field Meadow Types that are not forested (Community 1 only contains some scattered trees) and both communities are culturally impacted, historically anthropogenic (pasture lands), and have low floristic quality.

5.2.13 Other Drainage Features (1387)

There are no other drainage features (i.e., municipal or agricultural drains, intermittent streams, headwater streams, manmade or natural ponds) located within or adjacent to the Subject Lands.

5.3 Conservation Authority Regulations

The UTRCA Regulated Area Screening Map (2018) suggests there is a UTRCA regulation limit within the Subject Lands as a result of the proximity to the adjacent North Talbot Wetland. This area is also identified by the UTRCA as a Dingman Creek Screening Area (under review). The regulation area extends to adjacent lands to the south. Based on this mapped regulation limit, the UTRCA would require a Section 28 Permit Application from the UTRCA. However, since the wetland has no direct contribution through a surface connection, the definition for this regulation has not been met under the Conservation Authorities Act (Section 28(25)):

- (b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse (Conservation Authorities Act, 2021)

As a result, the requirement for a permit under section 28 should be more fully reviewed through the detailed engineering phase.

5.4 Summary of Identified Features and Functions

Table 4 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 an EIS. Policy-protected features under Provincial Policy are not re-stated under the London Plan.

Table 4: Environmental Considerations for the Subject Lands

Policy Category	Policy-protected Feature	Description of Feature
Provincial Policy	Provincially Significant Wetlands	North Talbot PSW (adjacent lands to the south).

Policy Category	Policy-protected Feature	Description of Feature
Statement	Significant Wildlife Habitat	<ul style="list-style-type: none"> Confirmed terrestrial crayfish SWH – Subject Lands (1a inclusion) and Adjacent Lands (SDW3 North Talbot PSW) Candidate terrestrial crayfish SWH – Adjacent Lands (MAS2 North Talbot PSW) Confirmed breeding amphibian habitat (woodland) SWH – Adjacent Lands (North Talbot PSW) Unconfirmed candidate special concern/rare species SWH – Adjacent Lands (North Talbot PSW)
	Habitat of Endangered or Threatened Species	Five candidate bat maternity roost trees in Community 1 (CUM1-1) of the Subject Lands may provide suitable habitat for Little Brown Myotis [END], Northern Myotis [END], or Tri-coloured Bat [END].
The London Plan	Wetlands, and Unevaluated Wetlands	<ul style="list-style-type: none"> Two Unevaluated Wetlands (1a inclusion and Community 3) identified on Map 5 One additional wetland inclusion (A2a) observed in the northeast during site investigations
UTRCA Regulations	Regulated Area and Screening Area	Under review - Associated with the adjacent North Talbot PSW.

5.5 Ecological Buffers and Pre-Development Considerations

Based on the above review, the main components of the natural heritage system are the North Talbot PSW to the south and the Unevaluated Wetlands within the Subject Lands. The North Talbot PSW in particular provides the majority of candidate and confirmed significant wildlife habitat.

5.5.1 Public Ownership/Acquisition

In policy section 1404-1407 of the London Plan (2021a), the City recognizes not all natural heritage areas will be brought into public ownership, or shall be open and accessible for public use. Section 20.5.3.6 of the Southwest Area Secondary Plan (SWAP, 2019a) states that lands delineated as ecological buffers for natural heritage features may be acquired by the City, pursuant to the City of London Official Plan. In the case of this development, the buffer area of the North Talbot PSW within the Subject Lands will remain in private ownership.

5.5.2 Ecological Buffers

The London Plan (2021a) policies 1412-1416 state that ecological buffers are meant to protect natural heritage features and their 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 Section 5 of the *City of London Environmental Management Guidelines* (City of London, 2021b). The *Environmental Management Guidelines* (EMGs) suggest minimum buffers for different natural heritage features (ex: Significant Woodlands, Woodlands, Wetlands, etc.), and then these buffer widths are adjusted (larger or smaller) through the EIS process based on the size, sensitivity, and functions of the existing feature, as well as the characteristics of the site and potential impacts of the proposed development (2021b).

Based on the review in Section 5.3, the most critical component of the natural heritage system is the North Talbot PSW to the south. The EMG suggests a minimum buffer width of 30 metres between development and wetlands, with adjustments based on the sensitivity and value of the wetland functions (2021b). A 30 m buffer is suggested by the EMGs for the North Talbot PSW as it is a significant community that is relatively large with wildlife habitat, hydrological functions, and SWH (Terrestrial Crayfish, breeding amphibians, unconfirmed SOCC).

Several small Unevaluated Wetland pockets are also present within the Subject Lands. The small (<0.5 ha) wetland inclusions and the northeast SAS1 pond are proposed for removal and therefore will not require buffers, although the relocated SAS1 pond should be provided with a 10 m naturalized buffer based on an agreement with the City for the property to the south.

Recommended buffers are shown on Figure 8 and will be discussed in Section 7.0 in the context of impact avoidance and mitigation.

5.5.3 Stewardship

Under the stewardship policies 1408-1411 of the London Plan, protection is encouraged for natural heritage systems that remain in private lands. These 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.

6.0 Description of the Development

2425293 Ontario Inc. (the proponent) is proposing a high-density residential development at 735 Southdale Road West in the City of London [Figures 9 and 10]. The Legal Parcel is described as Concession ETR, Part Lot 78.

The 3.8 ha Subject Lands are currently comprised of an active rural residence, a horse pasture, and several cultural and natural vegetation communities. The Subject Lands are proposed to be developed into a residential area that includes four apartment buildings (between 9 and 12 storeys) with associated landscaping, walkways, roads, and parking. Access to the residential area is proposed via Southdale Road West. A total of 560 residential units are provided by the four buildings. A total of 656 parking spaces are proposed to be provided through a combination of both above and below-ground parking areas. Walking trails are proposed throughout the development footprint, and a potential connection to the south adjacent lands is proposed to the east of the PSW. A landscape plan for the park space will be provided at a later stage.

The development is proposed to be completed in conjunction with the City of London Southdale Road widening project and is the location of the previously approved municipal road connection to Southdale Road from the North Talbot Community. The City of London has expressed a preference for the road connection to be directly across from the entrance to the Southwest Optimist Park across Southdale Road West and through the SAS1 pond.

Water and Sanitary Servicing

An existing 400mm diameter watermain on the north side of Southdale Road West will provide adequate domestic and fire flows for the development. The development is tributary to the existing sanitary system to the south within the Talbot Village Subdivision Phases 5 and 6. The proposed development will be connected to the future Talbot Village subdivision sanitary outlet to the south. Further details are provided in the Initial Proposal Report (Zelinka Priamo Ltd. et al, 2020).

Storm Servicing

The west Subject Lands currently drain to the North Talbot PSW to the south. The east Subject Lands outlet to an existing 600mm diameter culvert which drains north under Southdale Road West. The culvert inlet is located in the south boulevard of Southdale Road West across from Old Grove Place. This culvert outlets to an existing Stormwater Management Facility (SWMF) on the north side of Southdale Road. The SWMF and 600mm diameter inlet sewer have been previously designed to account for a portion of the subject property (Zelinka Priamo Ltd. et al, 2020).

Stormwater management within the proposed development will include catch basins that direct flow from impervious surfaces (parking lots, rooftops, walkways, patios) offsite to an existing stormwater management (SWM) pond. Infiltration will be maintained in open space and green space areas (EXP, 2022).

7.0 Impacts and Mitigation

This section reviews the development proposal and identifies potential direct and indirect impacts to the significant natural heritage features within and adjacent to the development footprint. Appropriate avoidance, protection and mitigation measures for the impacts are also presented.

Based on the analysis in Section 5.0, the significant features identified are summarized in Table 4. Significant natural heritage features identified on the Subject Lands are:

- Provincially Significant Wetlands and Wetlands
- Significant Wildlife Habitat
- Habitat of Threatened and Endangered Species
- UTRCA Regulated Areas

The potential direct impacts of the proposed development on these natural heritage features will be discussed in the following Section 7.1, and indirect impacts are discussed in Section 7.2. UTRCA Regulated Areas will be discussed in conjunction with the wetland features they are associated with. At the conclusion of the section, a net effects table is provided for the proposed development application summarizing potential impacts as well as proposed mitigation, compensation or enhancement measures [Table 6].

7.1 Direct Impacts

7.1.1 North Talbot PSW

As discussed in Section 5.5.2, a 30 metre buffer is suggested for the North Talbot PSW based on the City of London EMG (2021b) and the significant functions of the PSW. The proposed development plan provides an approximately 26 m to 30 m wide buffer between residential buildings and the North Talbot PSW [Figure 11]. The residential buildings encroach approximately 0.02 ha into the 30 m EMG-recommended buffer. In combination with other mitigation measures, this buffer is appropriate to protect the adjacent PSW. The buffer will be considered Park – Open Space and should be landscaped using native species, as per EMG (2021b) recommendations. The border of Silver Maple trees around the north section of the North Talbot PSW should be retained and the PSW buffer should be naturalized. An additional area of at least 0.02 ha outside the 30 m buffer should be included in the naturalization plan to help compensate for the encroachment of the residential buildings into the 30 m buffer [Figure 12]. These additional naturalized areas may be provided in the area of the proposed LID measures west of the PSW. Details will be provided at detailed design.

The buffer area is proposed to include pedestrian pathways located approximately 20-30 metres from the wetland boundary. One pathway will lead to a potential connection to the south adjacent property. Pathways will have recreational value and formalized pathways can direct pedestrians along acceptable routes away from more sensitive features (McWilliam et al., 2011; Matlack, 1993). The Southwest Area Secondary Plan (SWAP, 2019a) encourages development patterns that provide visual public access to natural heritage features, and the pathways will create recreational linkages for walking and encourage nature appreciation.

The proposed development will likely result in increased run-off and decreased infiltration due to the construction of impermeable surfaces. The use of Low Impact Development (LID) strategies and secondary infiltration opportunities are recommended by EXP (2022) to maintain pre-development infiltration volumes and sustain the adjacent PSW. It is proposed that runoff from impermeable surfaces (ex: rooftops) and infiltration in landscaped areas will contribute to the North Talbot PSW to maintain appropriate surface water levels post-development (EXP, 2022).

Protection of this PSW may also help maintain downstream hydrological features via an ephemeral flowpath from the PSW to the woodland and a small wetland to the south. This feature is outside the property boundary and was not investigated in detail.

Recommendation 1:

Incorporate mitigation measures (ex: Low Impact Development strategies and secondary infiltration opportunities) as recommended in the Hydrogeological Assessment (EXP, 2022).

Recommendation 2:

Provide a landscape plan for the North Talbot PSW buffer as part of the Site Plan approval process. The buffer should be landscaped using plant species appropriate for the soil conditions and native to Middlesex County. Native Hawthorn species and other similar native shrubs can be incorporated into the buffer planting design to discourage the public from entering the adjacent PSW. Use of species considered to be regionally rare species (Oldham, 2017) that are currently present in the Subject Lands (Cockspur Hawthorn and Larger Straw Sedge) is encouraged where possible.

Recommendation 3:

Invasive plant species that are identified within the proposed buffer area should be removed and best management practices for limiting the spread of floral invasive species, such as those provided by the Ontario Invasive Plant Council (2020), should be followed during development.

Recommendation 4:

The pathways within the buffer area should be constructed using permeable materials to maintain infiltration rates within the area of the PSW.

Recommendation 5:

Install permanent boundary demarcations along the edge of the trail next to the adjacent North Talbot PSW [Figure 11]. This could include open boundary demarcation (ex: posts, page wire fencing) and/or strategic landscaping with species that discourage trespassing (ex: Hawthorns, Raspberries). A barrier may help deter encroachment (ex: litter, trampling of plants, wildlife disruption) while still allowing the passage of wildlife species. Chain link can restrict the movement of wildlife and will not be more effective in reducing encroachment unless the entire wetland is fenced and fencing is frequently monitored.

Recommendation 6:

Confirm the requirements to protect the PSW from development with the UTRCA. Requirements for Section 28 approval established by the UTRCA during discussions, if any, must be fulfilled.

Recommendation 7:

Confirm the PSW boundary revision with MNRF. A wetland boundary revision request has been submitted.

7.1.2 Unevaluated Wetlands

Three Unevaluated Wetlands were identified within the Subject Lands. The northeast pond (SAS1) and wetland inclusion 1a (MAM2) were identified on Map 5 of the London Plan (2021), and the A2a inclusion (SWT1) was delineated during ELC investigations.

The London Plan Policy 1334 states that for non-provincially significant wetlands there shall be no net loss of the wetlands' features or functions. In some instances, and in consultation with the conservation authority having jurisdiction, the City may consider the replacement of wetlands rather than in situ protection where the features and functions of the wetland may be provided elsewhere and would enhance or restore the Natural Heritage System. Where a wetland is less than 0.1 ha, the City may consider replacement on a less than one-to-one land area basis and/or additional measures to achieve no net loss of function.

The two wetland inclusions (1a and A2a) are both less than 0.1 ha. These features can therefore be removed on the condition that no loss of function occurs. No Special Concern or Protected Species

were observed in these communities, although one Terrestrial Crayfish chimney was identified in the 1a inclusion. The value of these inclusions is considered to be largely limited to hydrological function. LID measures are proposed by EXP in the southwest near the current location of inclusion 1a to maintain the hydrologic functions of the removed wetlands post-construction. The Terrestrial Crayfish burrow in 1a can be retained in this inclusion, with additional wet habitat possibly extending from this retained wet area. Further details will be determined in the detail design phase.

The northeast pond (SAS1) is separated from the proposed residential development by Park-Open Space, but will need to be removed as part of the Southdale Road widening and construction of the City-approved Southdale Road access. Although the road construction does not pass through the entire wetland, the entire community should be relocated to avoid creating a small isolated pond fragment next to the road that has limited wildlife function. Approximately 0.11 ha of the 0.25 ha SAS1 pond to be removed is within the Subject Lands and is recommended to be recreated at a ratio of 2:1 along with the remainder of the wetland that is on the adjacent property. The relocated wetland should be given a 10 m naturalized buffer to protect it from adjacent development based on discussions with the City. This compensation recommendation is consistent with the approach for the property to the south as agreed upon with the City of London.

Recommendation 8:

Implement Low Impact Development (LID) measures and secondary infiltration strategies as recommended by EXP (2022) to ensure no net loss of hydrological function from the removal of the two wetland inclusions and the SAS1 pond. Details will be determined at detailed design.

Recommendation 9:

Retain the Terrestrial Crayfish habitat currently in inclusion 1a.

Recommendation 10:

Prior to dewatering the pond at the approved Southdale Road access location, fish and wildlife must be salvaged and relocated as guided by the Southdale Road EA. The logical and most accessible release location is the Southwest Optimist Stormwater Management Pond, immediately north across Southdale Road. Alternatively, the salvaged wildlife could be moved to the North Talbot PSW to the southwest, although this is not a suitable location for species requiring permanent water bodies. Non-native species will be destroyed.

Recommendation 11:

The removal of the northeast pond (SAS1) is recommended to be compensated for (2:1 by area with a 10 metre buffer) through wetland creation off-site. The relocated wetland should be naturalized with native wetland species and include wildlife habitat features (variable water depths, logs, brush/rock piles, emergent vegetation, bird nesting boxes). Wetland relocation will need to be coordinated with the City of London and the south adjacent landowner.

7.1.3 Significant Wildlife Habitat

Confirmed and candidate SWH in the North Talbot PSW includes confirmed woodland breeding amphibian habitat, confirmed Terrestrial Crayfish habitat, and candidate SOCC habitat. All habitat present within the North Talbot PSW will be retained and protected by the approximately 26 m buffer of Park - Open Space. No development is proposed within the dripline of the Maple Mineral Deciduous Swamp.

The only SWH present in the Subject Lands is confirmed terrestrial crayfish habitat in the 1a inclusion (MAM2) where a single crayfish chimney was observed. Terrestrial crayfish habitat in the PSW will not be impacted by the proposed development, and therefore the loss of terrestrial crayfish SWH is considered minimal.

Recommendation 12:

Retain confirmed and candidate SWH in the adjacent North Talbot PSW and protect the function of this wetland habitat with a naturalized buffer (26-30 m) from development.

7.1.4 Habitat of Endangered and Threatened Species

Five candidate bat maternity roost trees in Community 1 (CUM1-1) of the Subject Lands may provide suitable habitat for Little Brown Myotis or Northern Long-eared Myotis [END]. It should be noted that Little Brown Myotis prefer buildings or building-associated features for maternity roosting rather than natural features (Gerson, 1984; Humphrey & Fotherby, 2019). Three of the candidate roost trees are proposed for removal and two will be retained [Figure 11]. Appropriate compensation and mitigation measures will prevent direct impacts to potential bat maternity roost habitat.

Recommendation 13:

Removal of potential bat maternity roost trees should occur between October 1 and April 30, outside of the active bat season.

Recommendation 14:

One rocket-style bat box should be installed near the north edge of the North Talbot PSW, adjacent to the wooded feature and open park land where habitat is suitable for foraging. One rocket-style bat box can provide the habitat equivalence of five trees. The location of the bat box should be incorporated into the landscape plan and installation should be supervised by a qualified biologist.

7.2 Indirect Impacts

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 within 30 m of adjacent natural heritage features, substantial sediment and erosion control measures will be required to ensure that indirect impacts to the adjacent natural heritage features identified in this report are avoided or mitigated.

Recommendation 15:

A detailed interim stormwater management plan is needed to guide the construction phase and protect the wetland features. Stormwater must be discharged away from the adjacent wetland feature. This will be provided at detail design.

Recommendation 16:

A multi-barrier approach for sediment and erosion control will be used for this development. Prior to works on site, robust sediment and erosion control fencing should be installed along the limits of the development adjacent to the wetlands [Figure 9]. The fence will act as a barrier to keep construction equipment and spoil away from the slope and vegetation to remain, and prevent erosion and sedimentation of the adjacent wetland features.

Recommendation 17:

Sediment and erosion control fencing will 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 18:

During construction, the lands between the sediment and erosion control fencing should be maintained. The fence at the southern and northeastern boundaries should remain in place until construction is complete and the remainder of the natural areas to remain are sodded or seeded and naturalized.

Recommendation 19:

Soil stockpiles should be established on the tableland in locations where natural drainage is away from the PSW. No soil should be stockpiled in the area of close proximity to the PSW. If this is not possible and there is a possibility of any stock pile slumping and moving toward the PSW edge,

these stockpiles should be protected with robust sediment and erosion control. Access to the stockpile should be confined to the up-gradient side. The stockpile locations should be determined at detailed design.

Recommendation 20:

Sediment and erosion control fencing should be inspected prior to construction to ensure it was installed correctly and during construction to ensure that the fencing is being maintained and functioning properly. Any issues that are identified are resolved in the same day.

Recommendation 21:

Sediment control measures should be provided at the discharge point of the dewatering system (EXP, 2021).

Recommendation 22:

Sediment and erosion control fencing should not be removed until adequate re-vegetation and site stabilization has occurred. 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 23:

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 24:

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 25:

Regular cleanup of the Subject Lands must be completed during construction and post-construction to ensure the adjacent natural heritage features are not degraded.

Recommendation 26:

Equipment should be cleaned prior to arrival 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 27:

A tree preservation report should be completed in conjunction with the grading plan for the trees to remain within and outside the development footprint.

7.2.3 Protection of Water Resources

Recommendation 28:

If imported materials are required to restore onsite excavations, or to raise grades within the Subject Lands, analytical testing of the imported material may be considered to ensure that any material brought to the site meets the applicable standards under Ontario Regulation 153 for residential lands.

Recommendation 29:

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 and equipment operators should have spill-prevention kits, where appropriate (EXP, 2022).

Recommendation 30:

The use of chemical applications (such as commercial fertilizers) in landscaped and grassed areas should be limited. Consider using heartier grass varieties that require less extensive watering or fertilizers (EXP, 2022).

Recommendation 31:

Limit the use of salts or other additives for ice and snow control on the roadways and parking areas (EXP, 2022).

Recommendation 32:

As per recommendations by EXP Services, additional water testing during or post-development should be considered to ensure the quality of surface water features (such as the south PSW) is maintained (EXP, 2021).

7.2.4 Disturbance to 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.

Recommendation 33:

Avoid vegetation clearing and site disturbance during migratory bird breeding season (April 1 to August 31) to ensure that no active nests are removed or disturbed, in accordance with the *Migratory Birds Convention Act* and/or Regulations under that Act. If works are proposed within the breeding season, the area should be checked for nesting birds prior to any vegetation removal or ground disturbance. If nesting birds are present, works in the area should not proceed until after August 31.

Recommendation 34:

No Bank Swallow [THR] were observed within or adjacent to the Subject Lands, however creation of suitable habitat during construction should be avoided. Best management practices for deterring nesting during construction activities should be implemented (OMNRF, 2017). These measures should include slope management (i.e., grading stockpiles, eliminating vertical extraction faces, reducing slopes to 70 degrees or less) until at least July 15.

Recommendation 35:

Make workers aware of potential incidental encounters with wildlife and the necessary protections. If an animal enters the work site, work at that location will 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.

7.2.5 Landowner(s) Education**Recommendation 36:**

Develop an information package (brochure and/or web-based resources) to educate future residents on ways to protect the natural heritage components beyond the property boundaries. This should include information on the impact of pets on wildlife and natural areas, how to limit attraction of nuisance urban wildlife, and potential impacts of recreational activities in natural features.

Recommendation 37:

The installation of educational signage along the pathways adjacent to the PSW is recommended to inform residents of the significance of the adjacent PSW. Signage discussing the natural heritage features present may be effective as some studies show people are more likely to avoid damaging activities if they are aware of the link between their actions and the subsequent negative impacts, if

they feel they are responsible for the stewardship of a natural area (Gamman et al., 1995; Johnson and Van de Kamp, 1996), and if they understand the reason for a barrier (Johnson, 1989).

Recommendation 38:

Information material (i.e. posters or brochures) should be posted in the lobbies or main foyers of the proposed residential area to inform residents of the natural heritage significance of the adjacent PSW and the species present within.

7.3 Monitoring Plan

Avoidance of direct impacts to the significant natural heritage features is achieved with the proposed Draft Plan. Mitigation and compensation measures recommended in this EIS aim to minimize the indirect impacts to the 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 will be two-phase and will consist of a construction monitoring plan and a long-term post-construction plan. 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 rear yards and grounds adjacent to natural features are vegetated and stabilized. This plan will be developed during the detailed design stage. 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 of the setback area. This plan should include remedial actions that are triggered if effects exceed pre-determined thresholds (e.g. supplemental plantings if survival rates are low). Monitoring requirements should be determined at the detailed design stage in consultation with agency staff. Recommendations for monitoring include, but are not limited to:

- Survival success of the plantings in the Park-Open Space in the 30 metre buffer adjacent to the PSW and the wet meadow naturalization areas
- Success of the relocated wetland (compensation for the removal of the SAS1 pond)
- 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

7.4 Net Effects

Table 6, below, summarizes potential impacts to natural heritage features and functions as well as proposed mitigation, compensation or enhancement measures.

Table 6: Net Effects

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Artificial Lighting	North Talbot PSW	Low impacts expected - residential lights	Buffer retained between PSW and dwellings; edge of Silver Maple tree retained	No net effect	None
Litter and Garbage	North Talbot PSW	Low impacts expected - garbage litter from residential area	Garbage bins along pathways; public education (brochures, signage, web-based resources) to educate about the importance about the adjacent PSW	No net effect	Public garbage bins should be readily available and emptied regularly. On-going education.
Yard Waste	North Talbot PSW	Medium impacts expected - residents transporting yard waste from dwellings to PSW	Educational brochure and signage; web-based resources	No net effect	Monitoring and on-going education is recommended to ensure the impacts of yard waste disposal is understood by residents.
Increased access to sensitive area	North Talbot PSW	Medium impacts expected - vegetation could get trampled	Educational brochure and signage to discourage off-path wandering; web-based resources; permanent fence between residential area and PSW	No net effect	Monitoring and ongoing education is recommended to ensure that access to PSW is avoided.
Creation of new trails	North Talbot PSW	Medium impacts expected - ad-hoc trails may trample ground cover, transport invasive species	Educational brochure and signage to discourage off-path wandering; web-based resources; established path in outer area of buffer to direct recreational traffic; permanent fence between residential area and PSW	No net effect	Monitoring and ongoing education is recommended to ensure that access to PSW is avoided.
Tree damage	North Talbot PSW	Low impacts expected - limb removal	Educational brochure, web-based resources; Buffer retained between PSW and residential area; permanent fence between residential area and PSW	No net effect	Monitor for non-permitted tree removal
Increased noise	North Talbot PSW	Low impacts expected - common wildlife species found	Buffer between PSW and dwellings; low level noise from adjacent residential homes will not impact common species	No net effect	Residential by-laws restrict excessive noise.
Disturbance to wildlife during construction	North Talbot PSW	Low impacts expected - disruption to activities of nearby wildlife	Restrict timing of habitat and vegetation removal to outside breeding and sensitive periods for birds, bats, and other wildlife; make workers aware of potential incidental encounters and necessary protections; if an animal enters the work site, work at that location will stop and the animal should be permitted to leave unharassed; 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 PSW and surrounding lands. Monitoring and reporting protocols for incidental wildlife encounters should be followed.
Decreased infiltration and increased run-off	North Talbot PSW, northeast pond (SAS1)	Low to medium impacts expected - impervious surfaces adjacent to PSW produce levels of infiltration that are acceptable	Mitigation measures will be provided by EXP Services once hydrogeological investigations are complete; sediment and erosion control fencing at edge of development; 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	TBD	Refer to the Hydrogeological Assessment (EXP, 2022).

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Increased erosion	North Talbot PSW, northeast pond (SAS1)	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.
Increased nutrient, pesticide and sediment	North Talbot PSW, northeast pond (SAS1)	Low impacts expected - wetlands may receive regular seasonal nutrient and sediment loads	Stormwater management system; sediment and erosion control plan during construction; ban on cosmetic pesticides	No net effect	
Visual intrusion	North Talbot PSW	Low impacts expected - houses and parkland are not visually intrusive	Buffer landscaped with native species between PSW and dwellings	No net effect	
Domestic animals	North Talbot PSW	Medium impacts expected - cats that roam and catch small animals - off leash dogs can trample plants	Educational brochure - including information on the impacts of cats on wildlife; dogs on leashes; signage provided adjacent to the PSW	No net effect	Ongoing education.
Introduced invasive plants	North Talbot PSW	Medium impacts expected - disposed yard waste can have invasive species that can spread if disposed of in the PSW - invasive plants can spread if planted near wetland edge	Educational brochure and web-based resources including a list of recommended native plant species for residential landscaping; buffer with native species between PSW and dwellings to limit spread; active invasive species management; permanent fence between residential area and PSW to restrict access of residents and discourage dumping of yard waste	No net effect	Ongoing education.
Increase in urban wildlife species	North Talbot PSW	Medium impacts expected - garbage can attract nuisance wildlife	Educational brochure and web-based resources including information on what attracts nuisance wildlife	No net effect	Ongoing education.
Air pollution	North Talbot PSW	No impacts expected	Residential homes will not generate substantial air pollution	No net effect	
Fire Hazards	North Talbot PSW	Low impacts expected - potential for recreational gatherings in the PSW or Silver Maple edge	Educational brochure and web-based resources including information on potential impacts of recreational bonfires	No net effect	Ongoing education.
Use of heavy machinery – tree damage	North Talbot PSW, adjacent retained trees	High impacts expected - machinery too close to swamp edge or retained trees can break off branches or wound trunks	Complete a tree preservation report for the Subject Lands; install construction fence to restrict access to the PSW and surrounding trees during construction; tree protection fencing/sediment and erosion control fencing should be inspected frequently; all issues with fencing should be resolved the same day	No net effect	Monitor sediment and erosion control fencing.

Source of Impact	Affected Feature	Predictions of Impact	Mitigation Strategy	Net Effects	Recommendations for Management and Monitoring
Use of heavy machinery – soil compaction	North Talbot PSW, adjacent retained trees	High impacts expected - machinery too close to retained trees can compact soils over vital tree roots	Complete a tree preservation report for the Subject Lands; install construction fence to restrict access to retained wooded areas	No net effect	Regular monitoring during construction to ensure tree protection fencing and sediment and erosion control fencing is functioning, and tree roots are protected
Use of heavy machinery – oil, gasoline, grease spill	North Talbot PSW, northeast pond (SAS1)	Medium impacts expected - machinery can leak or refueling can generate spills	Establish storage/refueling area away from wetland edges and seasonal flow paths	No net effect	Containment of spills should be included in plan.
Changes in soil grade	North Talbot PSW	Medium impacts expected - raising the grades may result in root suffocation - lowering grade may result in removal of tree roots - grade changes can alter water table or drainage patterns	Complete a tree preservation report for the Subject Lands; install construction fence along development limit to protect roots from soil compaction	No net effect	Regular monitoring by an ecological consultant during construction to ensure trees are protected

8.0 Summary and Conclusions

2425293 Ontario Inc. (the proponent) is proposing a high-density residential development at 735 Southdale Road West in the City of London.

The proposed development avoids direct biological impacts to the features and functions of the PSW at the south edge of the Subject Lands. A suitable buffer (26-30 m wide) is provided from the PSW to help mitigate indirect impacts to the PSW and protect the adjacent significant wildlife habitat (confirmed and candidate). The buffer area should be landscaped with native species to establish an enhanced buffer between the proposed development and the adjacent significant natural heritage features and functions. The PSW and the buffer area should be protected as Open Space.

Two small (<0.1 ha) Unevaluated Wetlands within the Subject Lands are proposed to be removed. Net loss of function will be prevented by retention of Terrestrial Crayfish SWH and implementation of LID measures to maintain hydrological function. Relocation of the northeast SAS1 pond feature due to road-widening along Southdale Road West and the City-preferred road connection will need to be coordinated with the City of London and the south adjacent landowner.

This EIS has set out recommendations to protect the adjacent significant natural heritage features from indirect impacts. Provided these are met, 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.



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ACL:dh
Encl: References
cc:

9.0 References

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Figures

Figure 1 – Site Location

Figure 2 – Land Use (The London Plan Map 1, 2021)

Figure 3 – Natural Heritage (The London Plan Map 5, 2021)

Figure 4 – Southwest Area Secondary Plan Mapping (2019)

Figure 5 – Zoning (City of London Zoning By-Law)

Figure 6 – Vegetation Communities

Figure 7 – Wildlife Investigations

Figure 8 – Recommended Buffers

Figure 9 – Development Plan (Zedd Architecture, April 2022)

Figure 10 – Development Overlay

Figure 11 – Mitigation Measures

Figure 12 – Compensation and Naturalization Measures

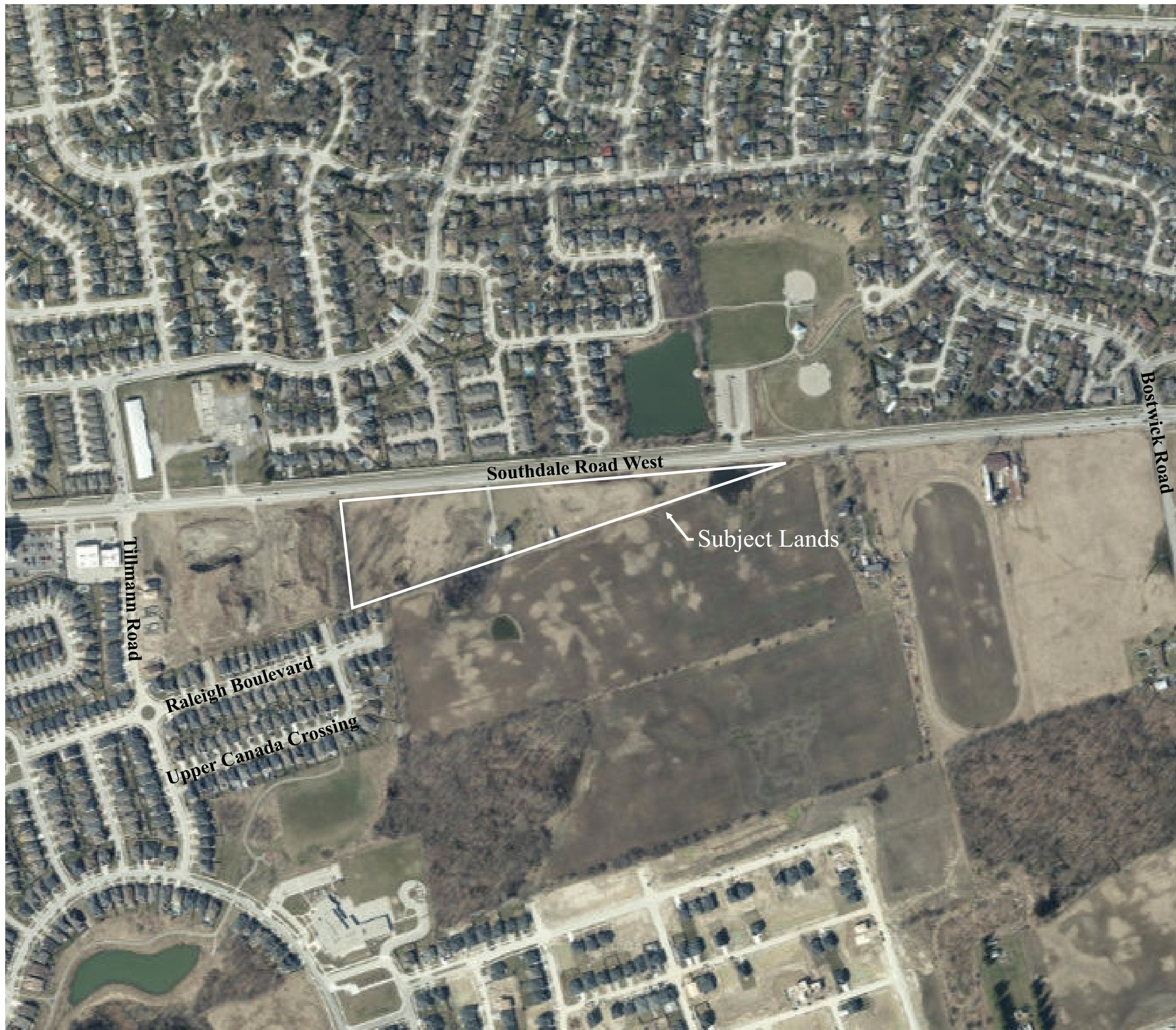
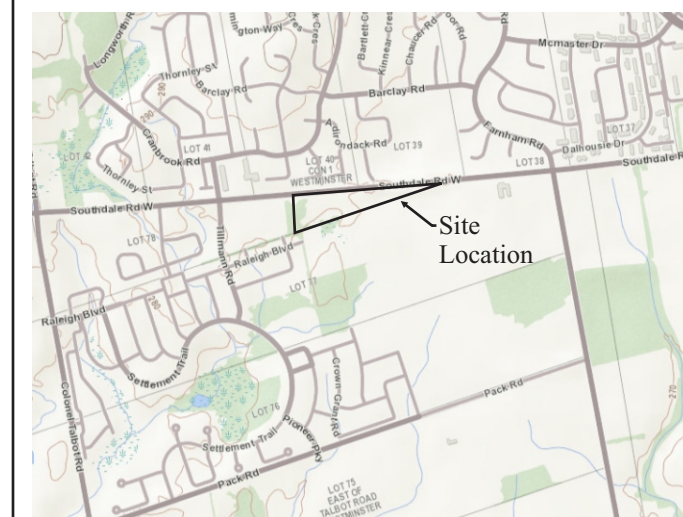


Figure 1: Site Location
(City of London Air Photo, 2020)



0 1,000
Scale 1:50,000
Key Plan

* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

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Scale 1:5000
August 2021

MTE Project#: 42128-200



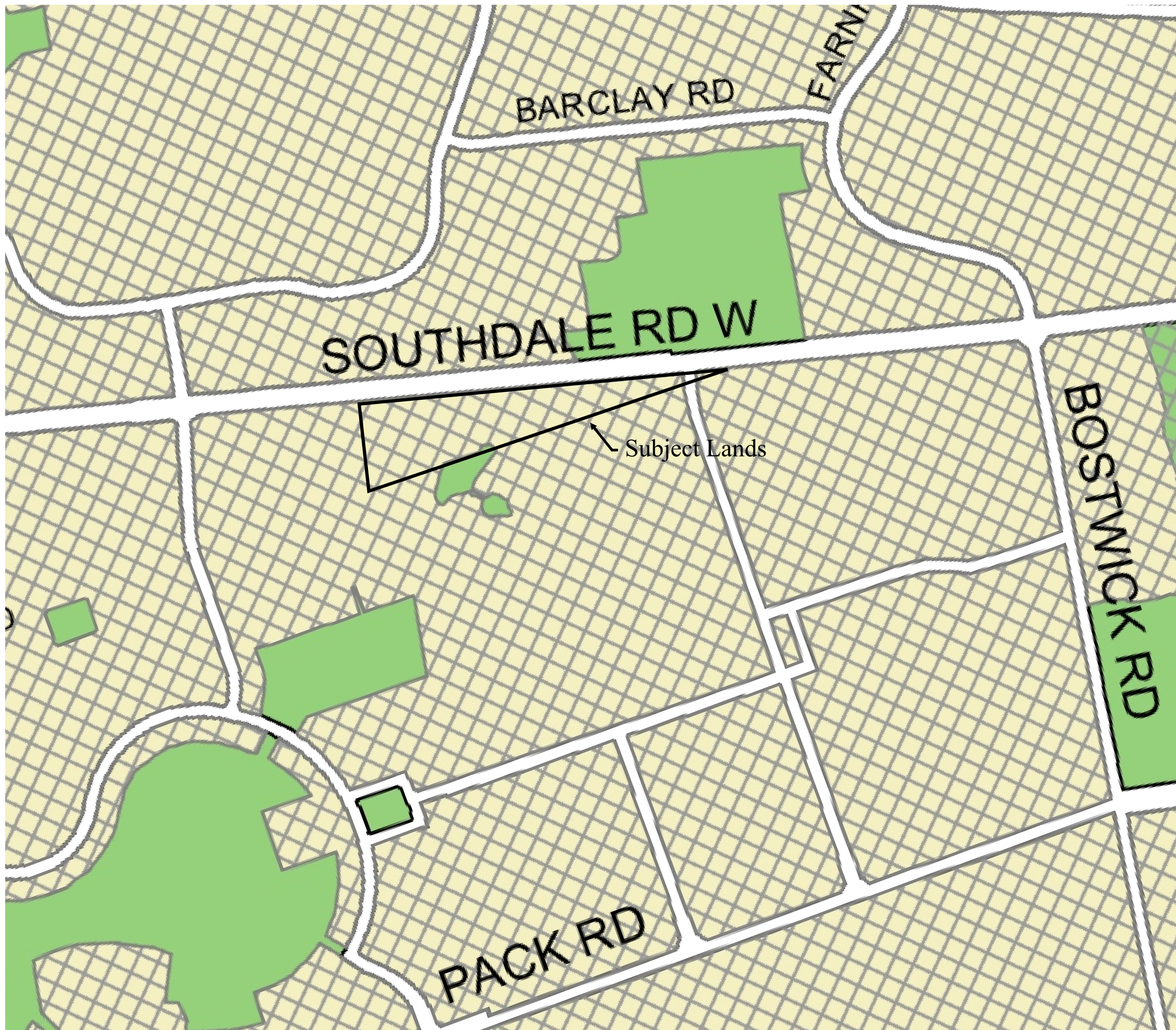


Figure 2: Land Use
(The London Plan Map 1, May 2021)



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Scale 1:50,000
Key Plan

Legend

- Green Space
- Environmental Review
- Farmland
- Neighbourhoods
- Urban Growth Boundary
- Watercourses/Ponds
- Railways
- Areas Withheld from LPAT Approval

* Locations are approximate and should be verified by survey where necessary.

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August 2021

MTE Project#: 42128-200





Figure 3: Natural Heritage
(The London Plan Map 5, May 2021)



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Scale 1:50,000
Key Plan

Legend

- Provincially Significant Wetlands
- Wetlands
- Unevaluated Wetlands
- Significant Woodlands
- Woodlands
- Significant Valleylands
- Valleylands
- Areas of Natural and Scientific Interest (ANSI)
- Environmentally Significant Areas (ESA)
- Potential ESAs
- Upland Corridors
- Unevaluated Vegetation Patches
- Potential Naturalization Areas
- Water Bodies
- Conservation Authority Boundary
- Subwatershed Boundary
- Watercourses/Ponds
- Urban Growth Boundary

* Locations are approximate and should be verified by survey where necessary.

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August 2021

MTE Project#: 42128-200



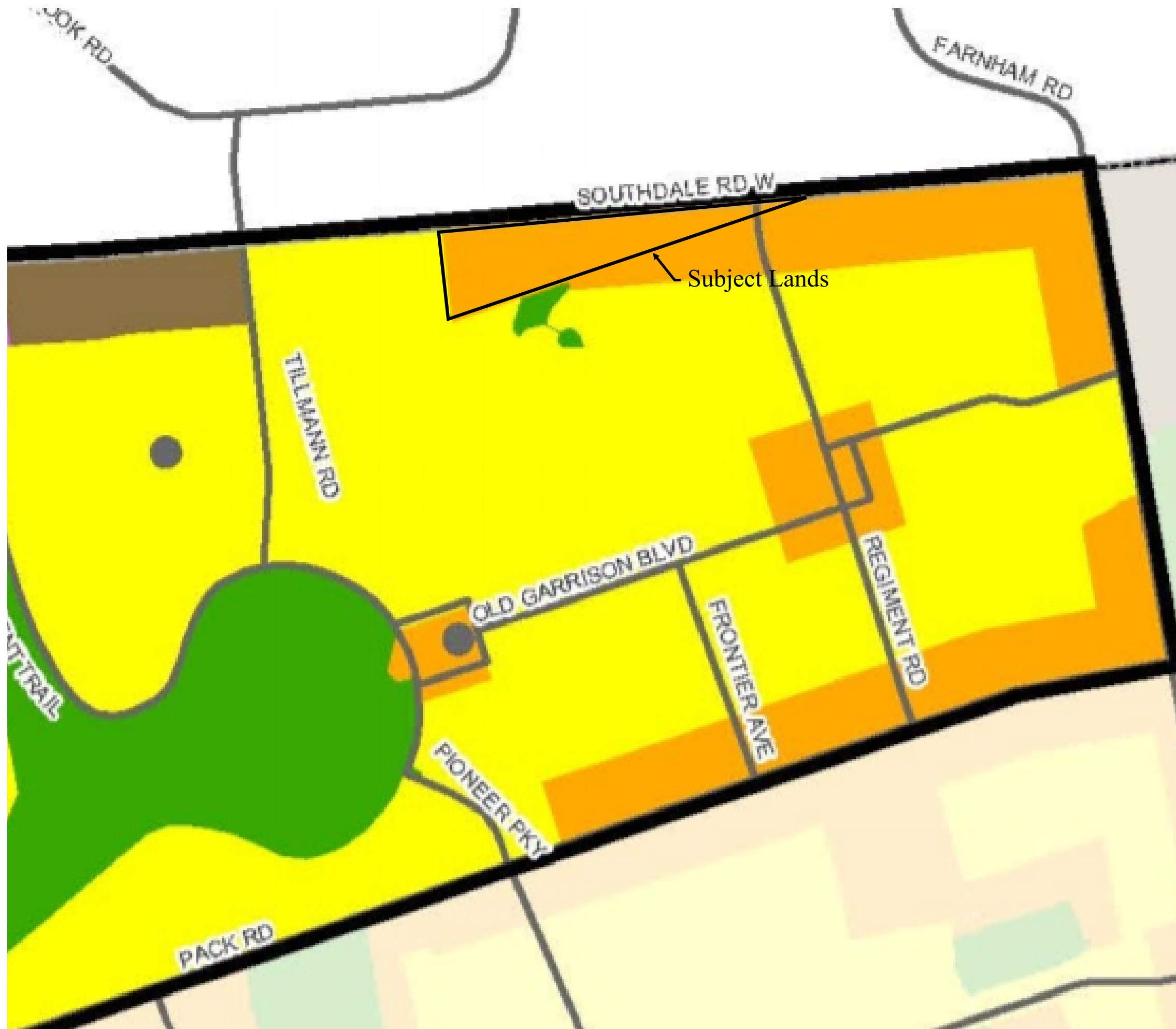


Figure 4: Southwest Area Secondary Plan
Land Use Designations
(Southwest Area Secondary Plan, Updated December 2019)



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Scale 1:50,000
Key Plan

- Legend**
- High Density Residential
 - Medium Density Residential
 - Low Density Residential
 - Open Space and Environmental Review
 - Parks (Existing and Proposed)
 - Urban Growth Boundary
 - Neighbourhood Boundary

* Locations are approximate and should be verified by survey where necessary.
Print on 11X17, Landscape Orientation

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Scale 1:6000
February 2022

MTE Project#: 42128-200



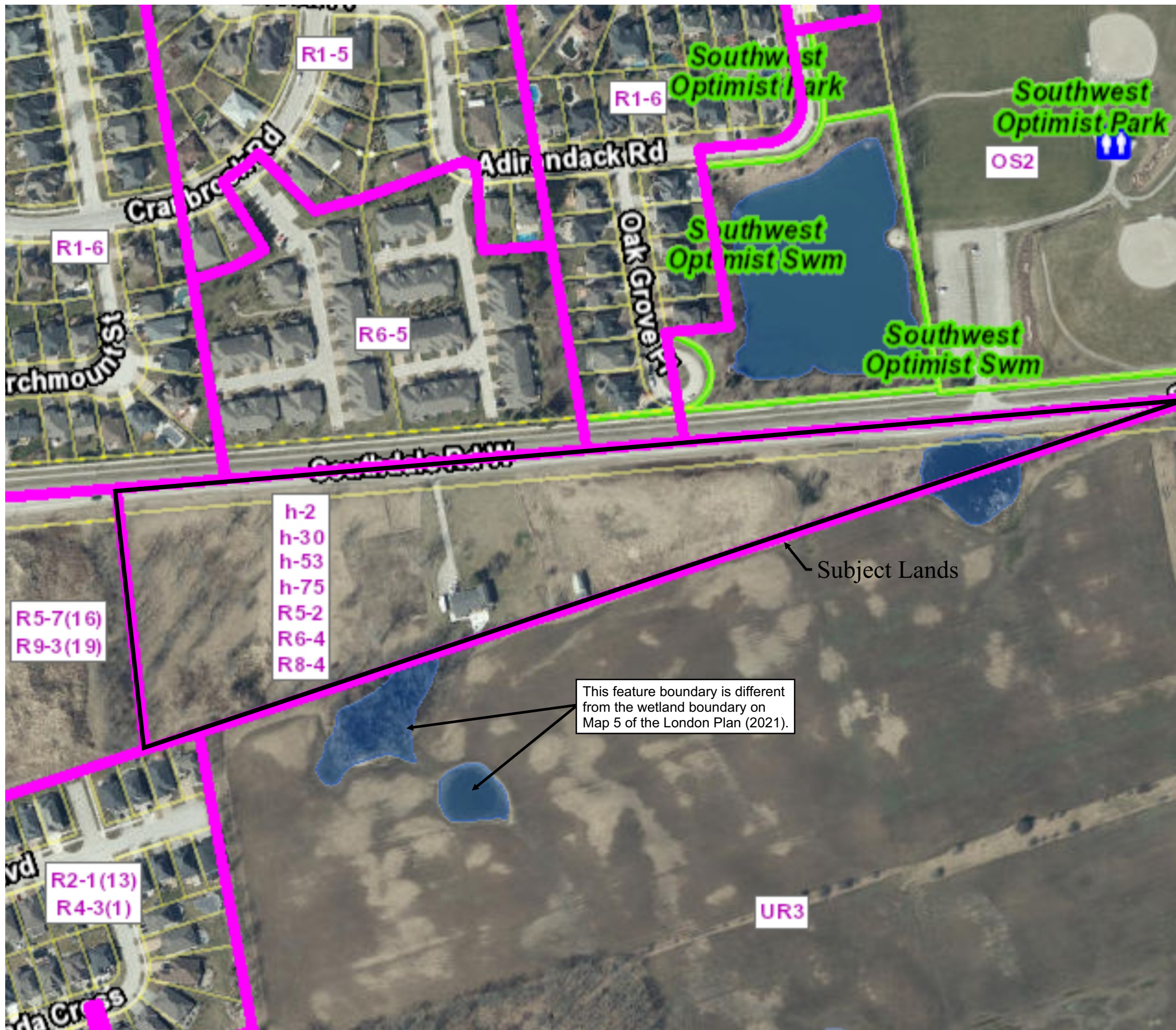


Figure 5: City of London Zoning
(City of London Zoning By-Law, July 2021)



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Scale 1:50,000
Key Plan

Legend

Zoning Boundaries

* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

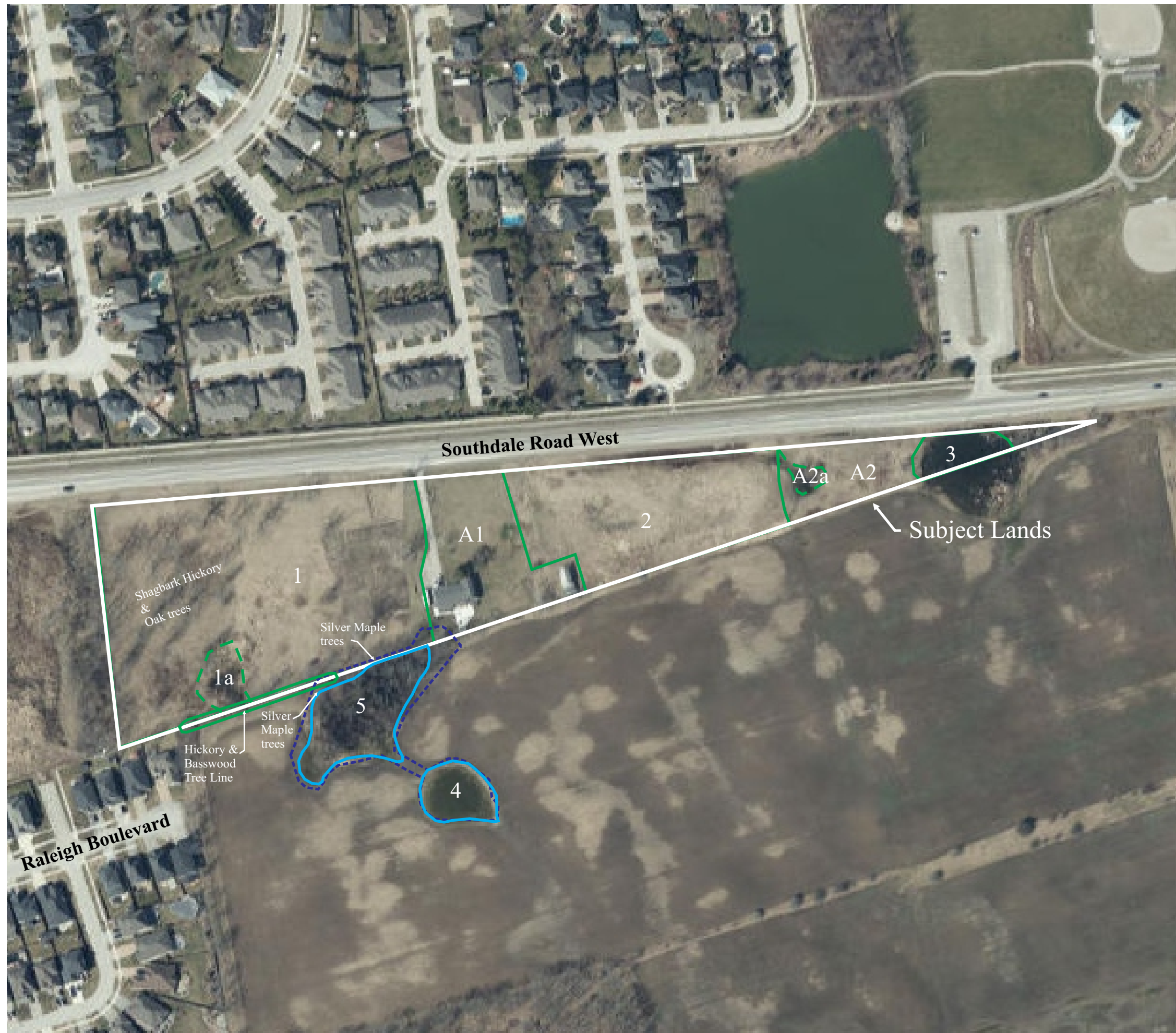
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August 2021

MTE Project#: 42128-200



Figure 6: Vegetation Communities
(City of London Air Photo, 2020)



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Scale 1:50,000
Key Plan

Legend

- 1 CUM1-1 Dry-Moist Old Field Meadow Type (1.9 ha) with 1a MAM2 Mineral Meadow Marsh Ecosite inclusion (0.08ha)
- A1 Residential Home and Yard (0.50ha)
- 2 CUM1-1 Dry-Moist Old Field Meadow Type (0.83 ha)
- A2 Active Horse Pasture (0.23 ha) with A2a SWT1 Mineral Swamp Thicket Ecosite (0.03 ha)
- 3 SAS1 Submerged Shallow Aquatic Ecosite (0.1 ha on site)
- 4 MAS2 Mineral Shallow Marsh Ecosite (0.1 ha)
- 5 SWD3 Maple Mineral Deciduous Swamp Ecosite (0.3 ha)
- North Talbot PSW Boundary (London Plan Map 5, 2021)
- Proposed Wetland Boundary (MTE Consultants)
- Vegetation Community
- - - Vegetation inclusion

* Locations are approximate and should be verified by survey where necessary.
Print on 11X17, Landscape Orientation
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Scale 1:2250
May 2022 MTE Project#: 42128-200





Figure 7: Key Field Findings
(City of London Air Photo, 2020)



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Scale 1:50,000
Key Plan

Legend

- 1 CUM1-1 Dry-Moist Old Field Meadow Type (1.9ha) with
1a MAM2 Mineral Meadow Marsh Ecosite inclusion (0.08ha)
- A1 Residential Home and Yard (0.50ha)
- 2 CUM1-1 Dry-Moist Old Field Meadow Type (0.83ha)
- A2 Active Horse Pasture (0.23ha) with
A2a SWT1 Mineral Swamp Thicket Ecosite (0.03ha)
- 3 SAS1 Submerged Shallow Aquatic Ecosite (0.10ha on site)
- 4 MAS2 Mineral Shallow Marsh Ecosite (0.10ha)
- 5 SWD3 Maple Mineral Deciduous Swamp Ecosite (0.30ha)

- Proposed Wetland Boundary (MTE)
- Amphibian Call Count Station (100 m radius)
- Candidate Bat Maternity Roost Tree
- Terrestrial Crayfish Evidence (Chimney or Individual)
- Animal Burrow (>10 cm diameter)
- ▨ Confirmed Significant Wildlife Habitat (SWH)
- ▨ Candidate Significant Wildlife Habitat (SWH)

* Locations are approximate and should be verified by survey where necessary.
Print on 11X17, Landscape Orientation

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Scale 1:1250

May 2022

MTE Project#: 42128-200



Figure 8: Wetland Management Strategy
(City of London Air Photo, 2020)



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Scale 1:50,000
Key Plan

Legend

- 1 CUM1-1 Dry-Moist Old Field Meadow Type (1.9ha) with 1a MAM2 Mineral Meadow Marsh Ecosite inclusion (0.08ha)
- A1 Residential Home and Yard (0.50ha)
- 2 CUM1-1 Dry-Moist Old Field Meadow Type (0.83ha)
- A2 Active Horse Pasture (0.23ha) with A2a SWT1 Mineral Swamp Thicket Ecosite (0.03ha)
- 3 SAS1 Submerged Shallow Aquatic Ecosite (0.10ha on site)
- 4 MAS2 Mineral Shallow Marsh Ecosite (0.10ha)
- 5 SWD3 Maple Mineral Deciduous Swamp Ecosite (0.30ha)
- Proposed PSW Boundary (MTE Consultants)
- - - Recommended Wetland Buffer

* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

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Scale 1:1250
May 2022

MTE Project#: 42128-200



Figure 9: Development Plan (Zedd Architecture, April 2022)



365 TOTAL UNITS @ 1,100SF AVERAGE
369 CARS PROVIDED (1:1)

313 TOTAL UNITS @ 1,100SF AVERAGE
341 CARS PROVIDED (1:1.1)

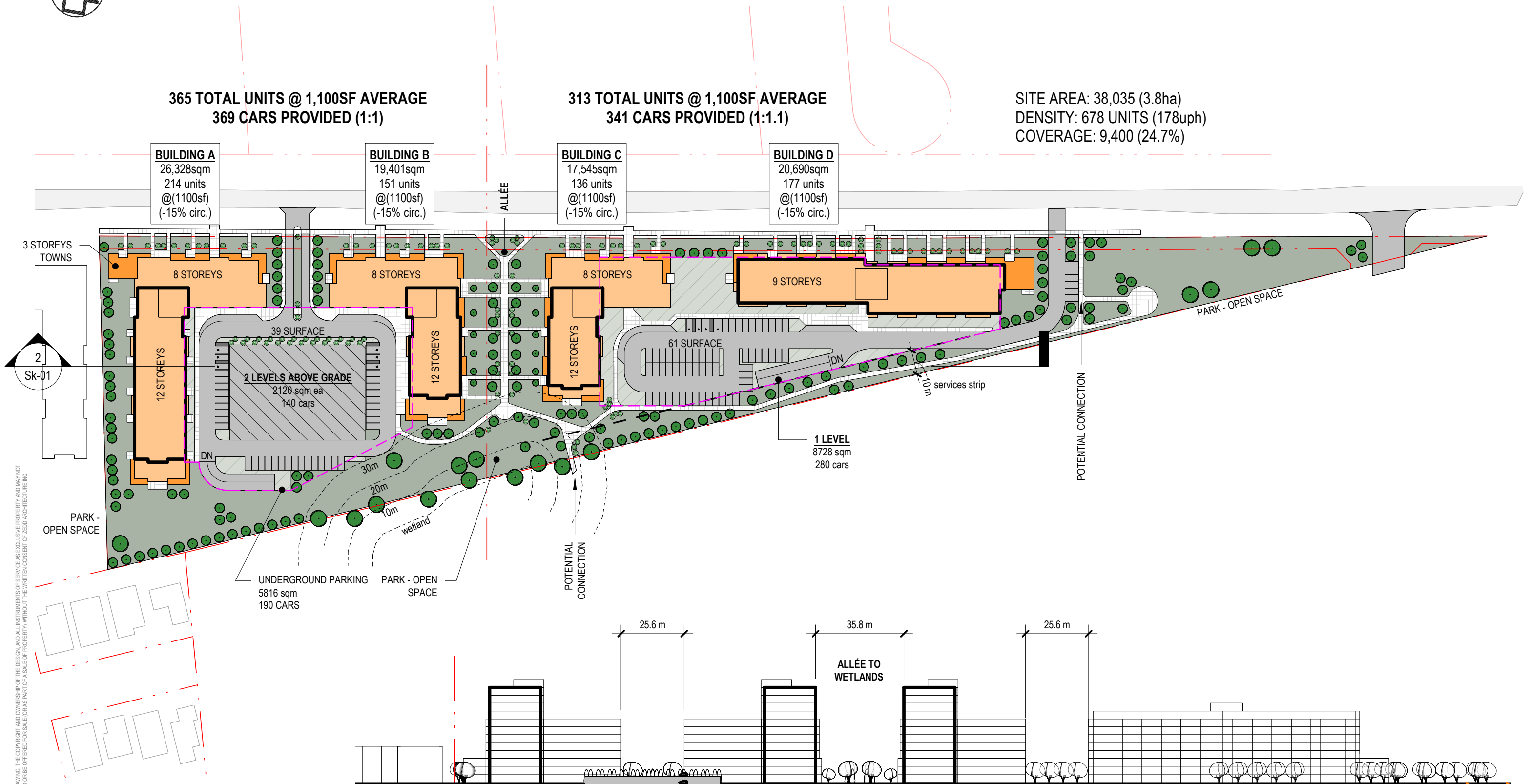
SITE AREA: 38,035 (3.8ha)
DENSITY: 678 UNITS (178uph)
COVERAGE: 9,400 (24.7%)

BUILDING A
 26,328sqm
 214 units
 @(1100sf)
 (-15% circ.)

BUILDING B
 19,401sqm
 151 units
 @(1100sf)
 (-15% circ.)

BUILDING C
 17,545sqm
 136 units
 @(1100sf)
 (-15% circ.)

BUILDING D
 20,690sqm
 177 units
 @(1100sf)
 (-15% circ.)



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Scale : 1 : 1500



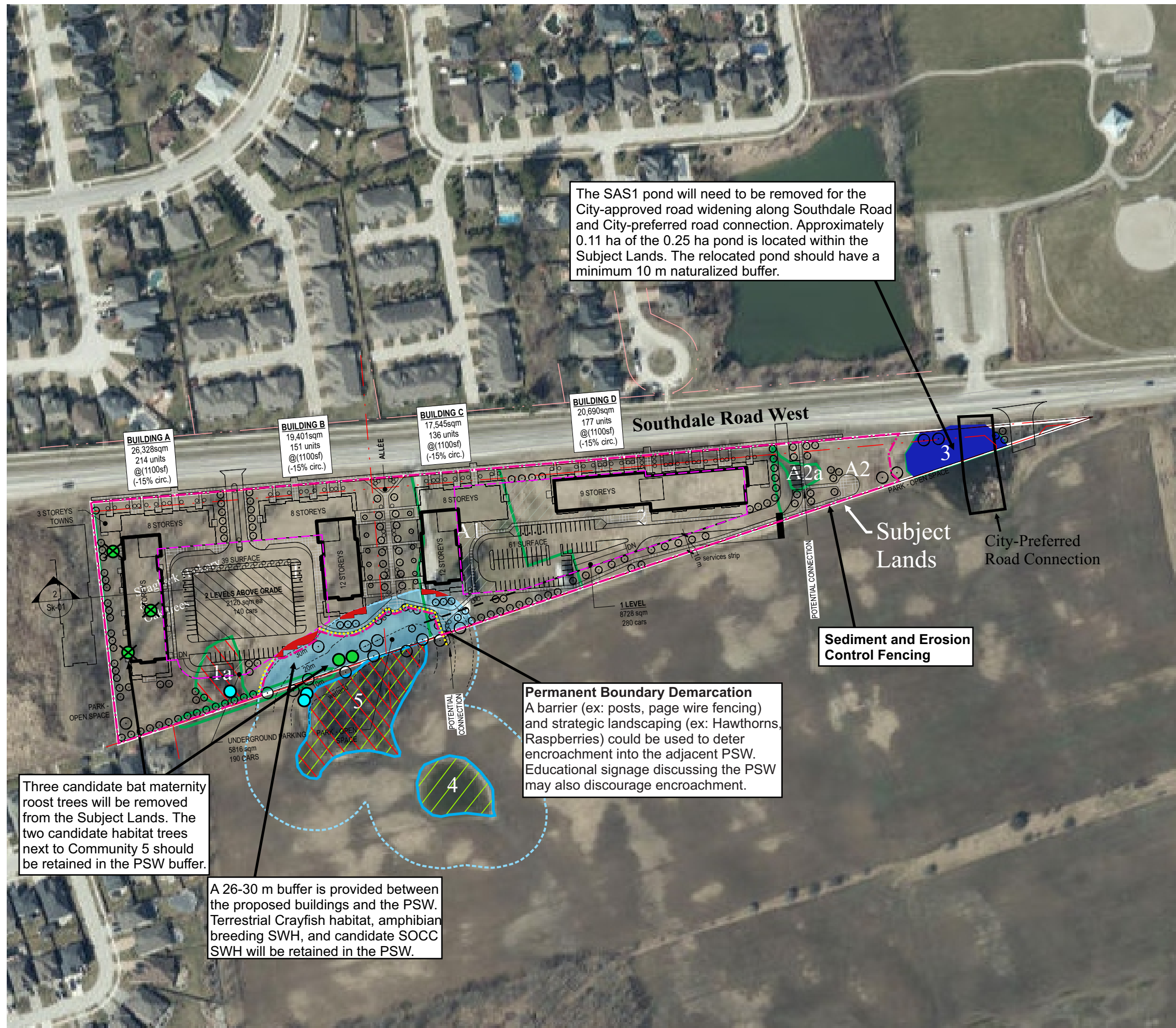
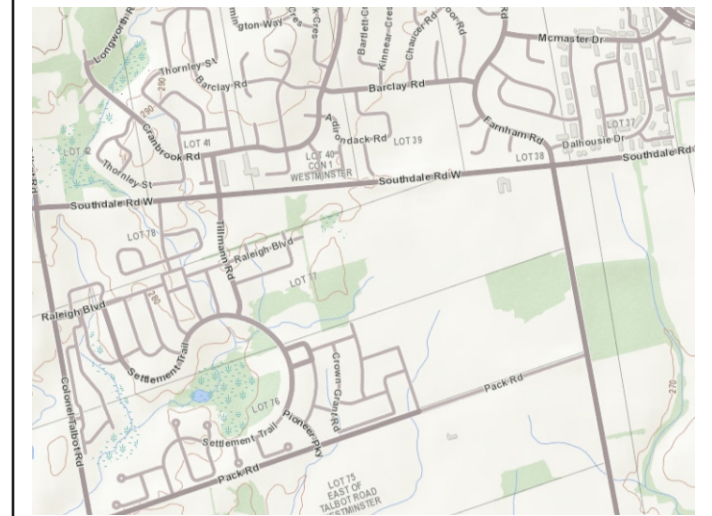


Figure 11: Mitigation Measures
(City of London Air Photo, 2020)



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Scale 1:50,000
Key Plan

Legend

- 1 CUM1-1 Dry-Moist Old Field Meadow Type (2.2ha) with
 - 1a MAM2 Mineral Meadow Marsh Ecosite inclusion (0.1ha)
- A1 Residential Home and Yard
- 2 CUM1-1 Dry-Moist Old Field Meadow Type (0.9ha)
- A2 Active Horse Pasture with
 - A2a SWT1 Mineral Swamp Thicket Ecosite (0.03ha)
- 3 SAS1 Submerged Shallow Aquatic Ecosite (0.1ha on site)
- 4 MAS2 Mineral Shallow Marsh Ecosite (0.10ha)
- 5 SWD3 Maple Mineral Deciduous Swamp Ecosite (0.30ha)

- PSW Boundary (MTE)
- - - Approximate Location of Sediment and Erosion Fencing
- Proposed Boundary Demarcation
- 30m Buffer From PSW
- Encroachment of Development Into the 30 m Buffer
- Approximate Area of SAS1 Pond to be Removed From the Subject Lands and Relocated
- Candidate Bat Maternity Roost Tree to be Retained
- ⊗ Candidate Bat Maternity Roost Tree to be Removed
- Terrestrial Crayfish Burrow
- Confirmed SWH
- Candidate SWH

* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

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Scale 1:2250
May 2022

MTE Project#: 42128-200



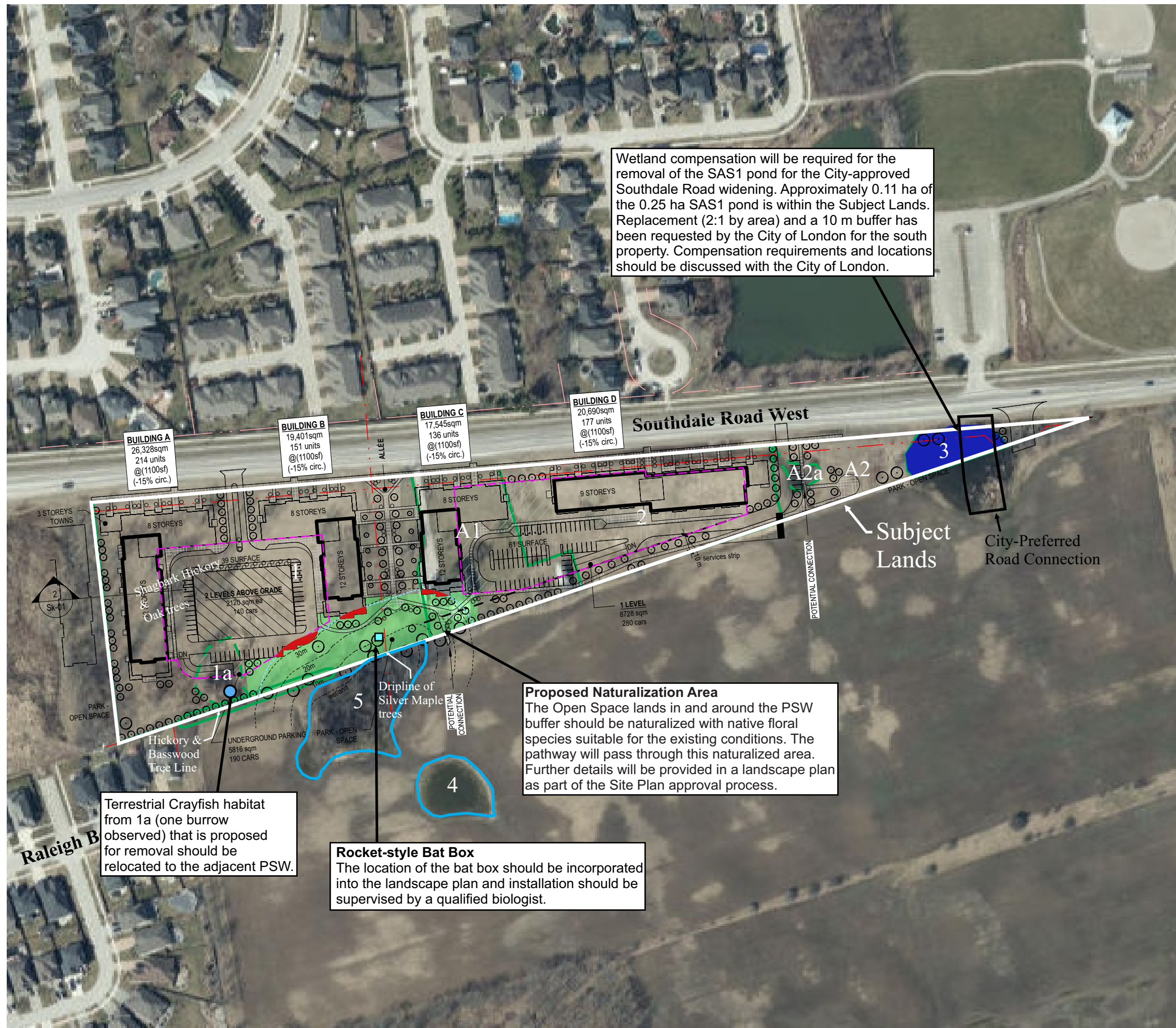


Figure 12: Compensation and Naturalization Measures

(City of London Air Photo, 2020)



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Scale 1:50,000
Key Plan

Legend

- 1 CUM1-1 Dry-Moist Old Field Meadow Type (2.2ha) with
 - 1a MAM2 Mineral Meadow Marsh Ecosite inclusion (0.1ha)
 - A1 Residential Home and Yard
 - 2 CUM1-1 Dry-Moist Old Field Meadow Type (0.9ha)
 - A2 Active Horse Pasture with
 - A2a SWT1 Mineral Swamp Thicket Ecosite (0.03ha)
 - 3 SAS1 Submerged Shallow Aquatic Ecosite (0.1ha on site)
 - 4 MAS2 Mineral Shallow Marsh Ecosite (0.10ha)
 - 5 SWD3 Maple Mineral Deciduous Swamp Ecosite (0.30ha)
- PSW Boundary (MTE)
 - - - Approximate Location of Sediment and Erosion Fencing
 - Proposed Boundary Demarcation
 - Conceptual Rocket-style Bat Box Location
 - Proposed Naturalization Area
 - - - Conceptual 30 m PSW Buffer
 - Encroachment of the Development Into the 30 m Buffer
 - Terrestrial Crayfish Burrow to be Relocated to PSW

* Locations are approximate and should be verified by survey where necessary.

Print on 11X17, Landscape Orientation

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Scale 1:2250
May 2022

MTE Project#: 42128-200



Appendix A

Record of Pre-Consultation

APPENDIX A

Environmental Impact Study ISSUES SUMMARY CHECKLIST REPORT

Application Title: 735 Southdale Rd

Date Submitted: January 20, 2020

Proponent: Royal Premiere Homes - Farhad Noory

Qualifications

Primary Consultant:

Key Contact Person:

Other Consultants/ field personnel:

Hydrogeology/ Hydrology: Exp

Biological – Flora: MTE

Biological – Fauna: MTE

Other:

Context for Background Information

Subwatershed: Dingman Creek

Tributary Fact Sheet Number:

Planning / Policy Area: Talbot/SWAP

Technical Advisory Review Team

Ecologist Planner James MacKay

Planner for File

EEPAC

Conservation Authority Tara Tchir

Ministry of Natural Resources

Ministry of Municipal Affairs and Housing

Ministry of Agriculture and Food

Other Review Groups (e.g., Community Associations, Field Naturalists)

1.0 DESCRIPTION OF THE ENVIRONMENT (Features)

Purpose: To have a clear understanding of the current status of the land, and the proposed “development” or land use change.

1.1 Mapping (Location and Context)

Current aerial photography

- Land Use – Excerpts of the Official Plan for the City of London Ontario Schedules A, B, showing a 5-10 km radius of subject site
- Terrain setting @ 1:10,000 – 1:15,000 scale showing landscape features, subwatershed divides
- Existing Environmental Resources showing @1:2,000 – 1:5,000 showing Vegetation, Hydrology, contours, linages.
- Environmental Plan or Strategy from Subwatershed reports (tributary fact sheet), Community (Area) Plans, or other

1.2 Description of Site, Adjacent lands, Linage with Natural Heritage System

List all supporting studies and reports available to provide background summary (e.g. subwatershed, hydrological, geo-technical, natural heritage etc.).

SWAP, Southdale Road Widening EA

Check the first box if the information is relevant and required as part of this study. Check the second box if sufficient data is available.

1.2.1 Terrain Setting

- | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Soils (surface and subsurface) |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Glacial geomorphology – landform type |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | Subwatershed |

- Topographic features
- Ground water discharge
- Shallow ground water/baseflow
- Ground water discharge/aquifer
- Aggregate resources

1.2.2 **Hydrology**

- Hydrological catchment boundary
- Surface drainage pattern
- Watercourses (Permanent, Intermittent)
- Stream order (Headwater, 1st, 2nd, 3rd or higher)
- Agricultural Drains
- Downstream receiving watercourse
- Agricultural Drains
- Hazard Line (Map 6)

1.2.3 **Natural Hazards**

- 100 year Erosion Line
- Floodline mapping
- Fill line mapping

1.2.4 **Vegetation**

- Vegetation Patch Number
- System (Terrestrial, Wetland, Aquatic)
- Cover (Open, Shrub, Treed)
- Community Type(s)
- ELC Community Class (Bluff, Forest, Swamp, Tallgrass Prairie, Savannah & Woodland, Fen, Bog, Marsh, Open Water, Shallow Water)
- ELC Community Series
- Rare Vegetation Communities

1.2.5

Flora

Flora (inventory dates, source)

3-season

Rare flora (National, Provincial, Regional)

1.2.6

Fauna

Fauna (Inventory dates; sources)

Breeding Birds

Standard 2 June visits

Migratory Birds

Amphibians

Reptiles

incidental

Mammals

incidental

Butterflies

incidental

Odonata

incidental

Other

Bird Species of Conservation Priority

Rare Fauna

1.2.7

Wildlife Habitat

- Species-At-Risk Regulated Habitat critical habitat mapping

SAR bat maternity roosting habitat
- Winter habitat for deer, wild turkey
- Waterfowl Habitat (wetlands, poorly drained landscape – bottomlands, beaver ponds, seasonally flooded areas, staging areas, feeding areas)
- Colonial Birds Habitat
- Hibernacula
- Habitat for Raptors
- Forests with springs or seeps
- Ephemeral ponds
- Wildlife trees (snags, cavities, x-large trees > 65 cm DBH)
- Forest Interior Birds
- Area-sensitive birds

1.2.8

Aquatic Habitat

(SWS Aquatic Resources Management Reports)

- Fish communities
- Fish spawning areas
- Fish migration routes
- Thermal refuge for fish

- Benthic inventory
- Substrate
- Riparian habitat (extent and type)

1.2.9

Linkages and Corridors

(The diversity of natural features in an area, and the natural connections between them should be maintained, and improved where possible. PPS 2.3.3)

- Valleylands
- Significant Watercourses (Thames River, Stoney Creek, Medway Creek, Dingman Creek, Pottersburg Creek, Wabuno Creek, Mud Creek, Stanton Creek (Drain), Kelly Creek (Drain))
- Upland Corridors / species migration routes
- Big Picture Cores and Corridors
- Linkages between aquatic and terrestrial areas (riparian habitat, runoff)
- Groundwater connections
- Patch clusters (mosaic of patches in the landscape)

1.3 Social Values

1.3.1

Human Use Values

- Recreational linkages for hiking, walking
- Nature appreciation, aesthetics
- Education, research
- Cultural / traditional heritage
- Social (parks and open space)
- Resources Products (e.g. timber, fish, furbearers, peat)
- Aggregate Resources

1.3.2

Land Use - Cultural

- Archaeological (pre 1500)
- Historical (post 1500 – present)
- Adjacent historical and archeological
- Future

1.3.3

Land Use - Active

- Archaeological (pre 1500)
- Historical (post 1500 – present)
- Adjacent historical and archeological
- Future

1.3.4

Other

2.0 EVALUATION OF SIGNIFICANCE

Components of the Natural Heritage System

The policies in Section 15.4 apply to recognized and potential components of the natural heritage system as delineated on Schedule 'B' or features that may be considered for inclusion on Schedule 'B'. They also address the protection of environmental quality and ecological function with respect to water quality, fish habitat, groundwater recharge, headwaters and aquifers.

2.1 Environmentally Significant Areas

- Identified Environmentally Significant Areas (ESA)

Name

- Potential ESAs – Expansion of an Existing ESA

Name

- Potential ESA – Area not associated with an existing ESA

Name

2.2 Wetlands

- Provincially Significant Wetlands

Name

- Wetlands

Name

- Unevaluated Wetlands

2.3 Areas of Natural and Scientific Interest

- Provincial Life Science ANSI
- Regional Life Science ANSI
- Earth Science ANSI

2.4 Habitat of Species-At-Risk (SAR)

- Endangered
- Threatened
- Vulnerable

2.5 Woodlands

- Significant Woodlands
- ~~Unevaluated Vegetation Patches~~ – patches >0.5ha

2.6 Corridors and Linkages

- River, Stream and Ravine Corridors
- Upland Corridors
- Naturalization and Anti-fragmentation Areas

3.0 IDENTIFICATION AND DESCRIPTION OF FUNCTIONS

Ecological Functions the natural processes, products or services that species and non-living environments provide or perform within or between ecosystems and landscapes. Check those functions that will be required to assess for the study (key and supporting functions).

3.1 Biological Functions

- Habitat (provision of food, shelter for species)
- Limiting habitat
- Species life histories (reproduction and dispersal)
- Habitat guilds
- Indicator species
- Keystone species
- Introduced species
- Predation / parasitism
- Population dynamics
- Vegetation structure, density and diversity
- Food chain support

- Productivity
- Diversity
- Carbon cycle
- Energy cycling
- Succession and disturbance processes (natural and man-made)
- Relationships between species and communities

3.2 Hydrological and Wetland Functions

- Groundwater recharge and discharge (hydrogeology)
- Water storage and release (fluvial geomorphology)
- Maintaining water cycles (water balance)
- Water quality improvement
- Flood damage reduction
- Shoreline stabilization / erosion control
- Sediment trapping
- Nutrient retention and removal / biochemical cycling
- Aquatic habitat (fish, macroinvertebrates)

3.3 Landscape Features and Functions

- Size
- Connections, corridors and linkages
- Proximity to other areas / natural heritage features (e.g. woodlands, wetlands, valleylands, water, etc.)
- Fragmentation

3.4 Functions, Benefits and Values of Importance to Humans

- Contributing to healthy and productive landscapes
- Improving air quality by supplying oxygen and absorbing carbon dioxide
- Converting and storing atmospheric carbon
- Providing natural resources for economic benefit
- Providing green space for human activities
- Aesthetic and quality-of-life benefit
- Environmental targets and/or environmental management strategies

PROPOSAL REVIEW MEETING SUMMARY & RECORD OF CONSULTATION

Date: August 6, 2020

Subject: Proposal Review Meeting
735 Southdale Road West

Meeting Date: July 15, 2020 (Online Zoom meeting)

Meeting Participants:

R. Carnegie (Coordinator)	Development Services
M. Feldberg	Development Services
L. Pompilii (Chair)	Development Services – Planning
L. Mottram	Development Services – Planning
T. Koza	Development Services – Engineering
M. Harrison	Development Services – Engineering
B. Williams	Development Services – Engineering
J. MacKay	Development Services – Ecologist
B. Page	Parks & Recreation Services
G. LaForge	Development Finance
A. Giesen	E.E.S. – Transportation
S. Chambers	E.E.S. – Stormwater Management
A. Sones	E.E.S. – Stormwater Management
J. Chaves	E.E.S. – Stormwater Management
M. Schaum	E.E.S. – Wastewater & Drainage Engineering
K. Graham	E.E.S. – Wastewater & Drainage Engineering
P. Lupton	E.E.S. – Water Engineering
J. Robinson	E.E.S. – Water Engineering
J. Smolarek	Urban Design
L. Dent	Heritage Planning
S. Pratt	Upper Thames River Conservation Authority

Owner/Applicant: Royal Premier Homes
Authorized Agent: Zelinka Priamo c/o Harry Froussios
File Reference: File #TS2020-005
Type of Application: Proposed Draft Plan of Subdivision
Location: 735 Southdale Road West
File Manager: Lou Pompilii
Planner: Larry Mottram

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:

Lou Pompilii *Manager, Development Services Planning*
Larry Mottram *Senior Planner*

- As indicated in the IPR under Section 6.0 - Area Studies, a site-specific amendment to the SWAP is required to permit the proposed density of 147 UPH. Please include in the FPR a brief overview of the criteria outlined in Section 20.5.4.1 iv) e) of the SWAP in support of the proposed increase in density.
- Justification for the increased density should give consideration to density bonusing in return for facilities, services, and matters that result in a public benefit (ie. affordable housing).
- Noise impact assessment study for development adjacent Southdale Road West may be required as a condition of draft plan approval and/or a holding provision in the zoning by-law.
- It's our expectation that applications for Official Plan and Zoning By-law Amendment will be brought forward together with the Plan of Subdivision application, as stated on Page 19 of the IPR. During the Proposal Review meeting the proponent's agent indicated a preference for submitting the subdivision application followed by applications for OPA and

ZBA at a future date. Development Services is prepared to review the request with the applicant at the time of submission prior to acceptance for processing.

DEVELOPMENT SERVICES - URBAN DESIGN:

Jerzy Smolarek *Urban Designer*

General Comments:

- Overall urban design staff are supportive of the general block layout of the subdivision, which provides for two blocks and two roads. The inclusion of Street 'A' will be an important element as this will provide for a much needed connection between Southdale Road and the future neighbourhood to the south in keeping with Policies in SWAP with regards to connectivity and street network. The ultimate location of this connection should take into account the natural heritage constraints and keep the road outside of any required features and their buffers.

Zoning Comments:

- An analysis should be provided to show how any proposed built form does not negatively impact the surrounding low-rise residential developments, both existing and planned. This includes any proposed multi-level parking structures.
- The following comments are specifically related to the design of the building and site, if this proposal requires a bonus these features should be included in a detailed set of drawings forming part of the re-zoning application. Otherwise some of the comments below may form part of the zoning envelope to ensure that policies of the Southwest Area Plan (SWAP), the current Official Plan, and The London Plan are implemented in terms of the general placement, massing, and design of the building.
 - Design buildings to respond to their locations. If a building is located next to a street corner location, the lower portion of the building(s) should provide interest to the intersection they are adjacent to. If a building is mid-block its massing should generally be located along the street frontage, and where the building extends towards the rear of the site, provide for appropriate yard (interior and rear) setbacks and/or step-backs;
 - Ensure the residential entrance (lobby) of the building is easily distinguished from the individual ground floor unit entrances and provide for architectural features to pronounce this entrance.
 - For any ground floor street facing residential, include individual ground floor unit entrances with related courtyards or "front porches" with access directly to the City sidewalk along the street frontage they face in order to active the street edge.
 - Articulate the facades to provide depth and variation in the built form to enhance the pedestrian environment;
 - Include an appropriate step-back above the 3rd or 4th floor adjacent to any street frontage in order to provide for a human scale along the street;
 - Incorporate a variety of materials and textures to highlight different architectural elements and provide interest and rhythm along the building (i.e. trim, framing, decorative masonry details, fenestration rhythm);
 - Include a high proportion of glazing in order to break up the massing of the building
- This application is to be reviewed by the Urban Design Peer Review Panel (UDPRP), and as such, an Urban Design Brief will be required. 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 Wyatt Rotteau at 519.661.2500 x7545 or by email at wrotteau@london.ca.

DEVELOPMENT SERVICES - HERITAGE PLANNING:

Laura Dent *Heritage Planner*

- Archaeological Potential at the above property is identified on the City's 2018 archaeological mapping and includes both indigenous and historic potential on the property. Soil disturbance is reasonably anticipated due to proposed future construction on the property.
- Section 7.3 in the Internal Proposal Report (June 2020) identifies archaeological and built heritage concerns and indicates that "an archaeological study will be completed and submitted with the application."(p9)
- Specific conditions of a complete application should include the following:
 - The proponent shall retain a consultant archaeologist, licensed by the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) under the provisions of the Ontario Heritage Act (R.S.O. 1990 as amended) to carry out a Stage 1-2 archaeological assessment on the entire property and follow through on recommendations to mitigate, through preservation or resource removal and

documentation, adverse impacts to any significant archaeological resources found (Stages 3-4).

- The archaeological assessment must be completed in accordance with the most current Standards and Guidelines for Consulting Archaeologists, Ministry of Tourism, Culture and Sport.
- All archaeological assessment reports will to be submitted to the City of London once the Ministry of Tourism, Culture and Sport has accepted them into the Public Registry; both a hard copy and PDF format of archaeological reports should be submitted to Development Services.
- No soil disturbance arising from demolition, construction, or any other activity shall take place on the subject property prior to Development Services receiving the Ministry of Tourism, Culture and Sport compliance letter indicating that all archaeological licensing and technical review requirements have been satisfied.
- Additional notes include the following:
 - If an archaeological assessment has already been completed and received a compliance letter from the Ministry, the compliance letter along with the assessment report may be submitted for review to ensure they meet municipal requirements.
 - The subject property is in an area identified as being of archaeological potential in the City of London Archaeological Management Plan. It is an offence under Section 48 and 69 of the Ontario Heritage Act for any party other than a consultant archaeologist to make alterations to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from an archaeological site.
 - Should previously undocumented (i.e. unknown or deeply buried) archaeological resources be discovered, they may be a new archaeological site and therefore be subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the Ontario Heritage Act. Archaeological sites recommended for further archaeological fieldwork or protection remain subject to Section 48(1) of the Ontario Heritage Act and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.
 - If human remains/or a grave site is discovered, the proponent or person discovering the human remains and/or grave site must cease alteration of the site immediately. The Funerals, Burials and Cremation Services Act requires that any person discovering human remains must immediately notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries and Cemetery Closures, Ontario Ministry of Government and Consumer Services.

DEVELOPMENT SERVICES - NATURAL HERITAGE:

James MacKay *Ecologist*

- Significant concerns over the buffers shown on the draft plan. Minimum buffers to Provincially Significant Wetlands have not been adhered to (30m).
- The development appears to come as close as 10m to the wetland feature (part of road network), this is not supportable.
- The draft plan shows the potential for 13 additional parking spaces, these are fully within the 30m buffer and as close as 10m from the Provincially Significant Wetland.
- The scoping meeting identified an additional wetland feature within the adjacent lands to the Provincially Significant Wetland on the subject site (to the northwest), this has not been shown on the draft plan and appears to indicate it is being removed or potentially relocated (offsite?).
- The scoping meeting identified another wetland feature located in the far northeast corner of the subject site. While the proponent indicated that the entire feature would be removed by a City constructed road requirement, this is not entirely clear and will require further review. As the proponent shows a local road connecting at the point where the wetland appears to be located. It may be a joint issue still requiring resolution. The scoping document indicated the City is willing to work with the proponent to resolve this issue, if indeed it is a joint issue.
- The City recognizes the desire for high density at the subject site and trying to work with an odd shaped parcel, however this also must be reflected in the protection of the Natural Heritage Features and the increased impacts expected from high density use as identified in the EMG. Revisions to address buffers and potential compensation issues as per City Policies and EMG documents need to be reflected in an updated draft plan, what is currently shown is not supportable as previously identified. The City is willing to work with the proponent to address buffer and other related issues.
- The scoping documents identifies the requirement for a combined SLSR/EIS (this will need to be in conformity with all in-force London Plan policies including 1429 and 1430).
- The scoping document identifies the requirement for a full Hydrogeological study and water balance, to be scoped with the UTRCA.

PARKS AND RECREATION:

Bruce Page *Senior Planner*

- Parkland dedication is required for the subdivision. This dedication may be in the form of land or cash-in-lieu pending the result of the approved EIS

WASTEWATER & DRAINAGE ENGINEERING:

Marcus Schaum *Senior Technologist*

- Based on the South West Area Master Servicing Plan the North Talbot Community Plan the subject lands are ultimately tributary to the future Colonel Talbot PS currently under construction. The subject lands are within Oxford/Greenway WTP sanitary sewersheds
- The intended municipal sanitary sewer outlet based on accepted sanitary drainage area plans is the municipal 450mm diameter sanitary sewer at Pack Road that has since been extended to the north by way of residential developments such as Talbot Village Ph 5 and 6. Furthermore an IPR was recently submitted for TV Ph 7 and 8 which could further extend sanitary sewers and roads to the limits of these lands.
- As mentioned in the 735 Southdale Rd IPR a Phase 1 for a planned Block 1 is being proposed that would move ahead once the TVPS and Westfield Village pumping stations are decommissioned by way of an interim sanitary connection for Block 1 to the existing unassumed sanitary sewer on Tillman Road.
- SED is not supportive of temporary interim servicing and it is not the preferred solution. It is further recognized it has been a few years since there were offline discussions with senior staff about a possible interim sanitary connection. The cost, timing and social impacts and noting these lands were never included in the sanitary drainage area plan to the Tillman Road sewer, at this point in time may not make it as feasible. In addition a proposed interim solution would result in temporary non-standard private servicing in the municipal ROW and result in connections to unassumed sewers, unassumed works and services and pumping station in the adjacent Westfield Village Subdivision. Written permission from the adjacent subdivider is also required prior to any proposed connections to unassumed works and services, as well as, all specific details and co-ordination will need to be provided and all expectations clarified.
- To this end SED is open to having further dialogue and will require more clarity and more detail on the Owner's expected timing for this development proposal moving forward and expectations and timing for when TVPS and Westfield PS can be decommissioned and what, if any, arrangements and co-ordination are in place that would extend and route sewers and align with the adjacent lands to the south; and what has been negotiated to date that will provide the ultimate sanitary routing and connection and road connections. Sewer routing and maximum density should be clarified.
- A municipal sanitary outlet for the subject lands will need to be demonstrated and align with sewer connection locations, and sewer routings under ultimate conditions with the adjacent lands to the south and will need to be included as part of a complete application and included as part of the IPR and will need to also align with maximum density and population.

WATER ENGINEERING:

Josh Robinson *Technologist II*

Water Engineering have reviewed the proposal summary and has the following comments.

- Water is available for the subject site via the municipal 400mm concrete high level watermain on Southdale Road East.
- This watermain is part of the Springbank/Westmount/Pond Mills/Wickerson high level system which has a hydraulic grade line of 335.0m.
- City records indicate the current site is not connected to a municipal watermain. Any existing wells on site are to be abandoned to MOECP standards and guidelines.
- The proposal identifies the tallest building to be 18 storeys. Please note that if a building over 84m in height will require a second water service connection in accordance with the OBC.
- As indicated in the report each building will require its own independent water service to prevent the creation of any regulated drinking water systems.
- A water servicing report addressing domestic demands, fire flows, and water quality will be required.

STORMWATER MANAGEMENT:

Adrienne Sones *Environmental Services Engineer*

General Comments/Information – Stormwater Management (SWM)

- The site is located within the Dingman Creek Subwatershed. The subject lands are within the stormwater drainage areas of the existing Southwest Optimist SWM Facility. Portions of the site to be accommodated by water quality and quantity controls of the existing SWM Facility

will not be required to meet additional requirements of the Dingman EA. Any new stormwater controls required in addition to the existing SWM Facilities shall be designed in accordance with the requirements of the Dingman EA.

- A detailed hydrogeological investigation carried out by a qualified consultant will be required, which will be prepared in accordance with the guidance contained in the most recent City of London Design Specifications & Requirements Manual. It is recommended that the proponent and their consultant undertake pre-consultation with City of London and UTRCA staff to confirm the scope of the required technical study. The hydrogeological study shall be submitted as part of the complete application.
- The SWM report shall:
 - Address how the proposed development will meet City of London water quality and quantity SWM design criteria (as per the Dingman EA and Stormwater Management Design Specifications and Requirements Manual, section 6.2.3) and the functional design of the Southwest Optimist SWM Facility (formerly referred to as Cranbrook South SWM Facility).
 - Verify any existing storm infrastructure proposed to accommodate flows from the site has sufficient capacity to meet current design standards and conditions and is also in adequate condition to receive flow from the proposed development.
 - Support and reflect the findings of an accepted Hydrogeology Report and Environmental Impact Study.
 - Verify and demonstrate water balance or stormwater conveyance requirements of adjacent natural features. Conveyance of stormwater to natural features shall consider the hydrological impacts such as, but not limited to peak flows, total runoff volumes and annual water balance conditions. The stormwater requirements and justification for maintenance to natural features should be supported by the findings and requirements of the EIS and hydrogeological investigation as scoped with City and UTRCA staff and clearly detailed in the Stormwater Management Report.
 - Include a representative lot level runoff coefficient value including all anticipated impervious surfaces including buildings and hardscaping to verify the proposed development meets approved “c” runoff coefficients.
 - Be submitted as part of the complete application. A functional SWM report may be included as part of the complete application. This report may be required to be updated, revised and resubmitted to support the detailed design submission.
- 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).
 - Development of appropriate contingency plans (if applicable), in the event of groundwater interference related to construction.

TRANSPORTATION PLANNING & DESIGN:

Andrew Giesen *Senior Transportation Technologist*

The Transportation Planning & Design Division has reviewed the proposal summary and has the following comments.

- The applicant is to have regard for and implement through this plan of subdivision Complete Streets (which includes such things as barrier curb, sidewalk on both sides, asphalt width, and ROW width)
- The applicant is also to have regard for the Council approved Southdale Road West Environmental Assessment (EA):
<http://www.london.ca/residents/Environment/EAs/Pages/Southdale-Road-West--Bostwick-Road-Improvements-.aspx>
- The applicant is to coordinate with the land owner to the south the location of Street “A” & Street “B”
 - Right of way widening of 18.0m from centre line required along Southdale Road West
 - 6.0m x 6.0m daylight triangles required at Street “A” and Southdale Road West and at Street “B” at Southdale Road West.
 - As part of a complete application an updated plan showing all bends, tapers, & centre line radii complying with City Standards including 10m straight tangents between horizontal curves, and centre line radii complying with the Design Specifications and

Requirement Manual (DSRM) will be required. (150m centre line radii required for Neighbourhood connectors)

- As part of a complete application a Transportation Impact Assessment (TIA) is required to determine the impact the proposed development may have on the surrounding transportation network, the TIA is to be scoped with City staff prior to undertaking and be carried out in conformance with the City's TIA Guidelines
- Barrier curb will be required through the subdivision in accordance with the (DSRM)
- The centre line of Street "A" and Street "B" is to align perpendicular to Southdale Road West
- Right and left turn lanes will be required on Southdale Road West at Street "A"
- Street "A" at Southdale road West is to be restricted to Right in/Right out in accordance with City standards and as envisioned in the Southdale Road West EA
- Gateway widening required on Street "B" at Southdale Road West with a ROW width of 24.0m for 45.0m tapered back over 30m to a ROW width of 23.0m
- Street "B" to be constructed with an asphalt width of 13.0m and include buffered bike lanes in accordance with the Cycling Master Plan and DSRM
- Street "B" to include a yellow centre line in accordance with the DSRM
- Gateway widening required on Street "A" at Southdale Road West with a ROW width of 21.5m for 30.0m tapered back over 30m to a ROW width of 20.0m
- TMP required for any work in the City ROW

DEVELOPMENT FINANCE:

Greg LaForge *Manager I*

- The below comments are based on the 2019 DC Background Study and By-law. Development Finance has reviewed the documents provided regarding the above noted IPR and based on this information have the following comments:

Water

- There are no anticipated claims for subsidy on oversized watermains (watermains 300mm or greater). All local and private watermains and connections will be installed at the Owner's cost.

Wastewater

- There are no anticipated claims for subsidy on oversized sanitary sewers (sanitary sewers 300mm or greater). All local, temporary or private sanitary sewer works and connections will be installed at the Owner's cost.

Stormwater

- There are no anticipated claims for subsidy on oversized storm sewers (storm sewers 1200mm or greater). All local and private sewers and connections will be installed at the Owner's cost.

Stormwater Management

- If LIDs 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 a site plan are not eligible for subsidy.

Transportation

- A related City led DC project to upgrade Southdale Road West between Bostwick Road and Colonel Talbot Road from 2 to 4 lanes fronting this property is currently scheduled for construction in 2031 (est. \$11.7 M). Construction of any external roadworks will be dependent upon the coordination and timing of these works.
- If Owner led DC eligible Minor Road Works are identified through the subdivision design process, these works would be subject to Work Plan approval. The Work Plan submission would be required in conjunction with the first submission of engineering drawings and may include the following works:
 - Internal road widenings would be claimable for the difference in construction costs between the standard road width up to a Neighbourhood Connector and the oversized road width under the Road Oversizing program.
 - Construction costs related to on-road cycling lanes would be eligible for a claim under the Active Transportation program.
- All other internal roadworks up to and including Neighbourhood Connectors, temporary external road works and connections are to be constructed at the Owner's cost.

Parks

- There are no Owner anticipated claims for parks related infrastructure.

DEVELOPMENT ENGINEERING:

Ted Koza *Manager, Development Engineering*
Mike Harrison *Senior Engineering Technologist*
Bryn Williams *Engineering Technologist*

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.).

INITIAL PROPOSAL REPORT COMMENTS:

- General Comments in regards to the report i.e. the report signed, identify if any existing draft plan of subdivision will need to be amended based on the proposed draft plan of subdivision, etc.

9.0 Water Servicing:

- It should be noted that the existing watermain on Southdale Rd runs through the north side of the Road. A detailed traffic management plan will be required for making the two road cuts on Southdale Rd.

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;
 - Topographical information (e.g. contours, elevations, vegetation areas, water courses, wells, utility corridors, and flood plain limits)
 - 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
 - Road widening's
 - Dimension all right of way's including window streets
 - Daylighting triangles where applicable
 - 0.3m reserves and road dedications as necessary
 - Drawing to scale
 - North arrow, etc.

REQUIREMENTS FOR A COMPLETE DRAFT PLAN OF SUBDIVISION SUBMISSION:

- For a complete Draft Plan of Subdivision Application, the Owner is to provide the following:
- The Final Proposal Report addressing all Development Services comments with respect to the IPR.
- Revised proposed Draft Plan of Subdivision drawing as per Development Services comments.
- The Owner shall provide to the City for review and acceptance a geotechnical report to address all geotechnical issues with respect to the development of this plan, including, but not limited to, the following:
 - Servicing, grading and drainage of this subdivision;
 - Road pavement structure;
 - Dewatering;
 - Foundation design;
 - Removal of existing fill (including but not limited to organic and deleterious materials);
 - The placement of new engineering fill;
 - Any necessary setbacks related to slope stability for lands within this plan;
 - Identifying all required mitigation measures including Low Impact Development (LIDs) solutions; and any other requirements as needed by the City, all to the satisfaction of the City.
- Provide an opinion letter certified by a Professional Engineer confirming if an EA is required.

These notes highlight the Development Services (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.

Development Services 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 (MNR)

Karina Černiavskaja
(No comments Rec'd)

District Planner – Aylmer District

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

Christie Kent *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 received via email and attached below

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 13”(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
- **Official Plan and Zoning By-law Amendment Application:**
 - 2 copies of completed City of London Official 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 policies of the Provincial Policy Statement, the Planning Act, the 1989 Official Plan, the London Plan and the Southwest Area Secondary Plan.
- **Reports/Studies and Plans Required:**
 - Road layout and concept plan showing all bends, tapers, 10m straight tangents between horizontal curves, and centre line radii complying with the DSRM will be required. (150m centre line radii required for Neighbourhood connectors)
 - Transportation Impact Assessment (TIA)
 - Confirmation the proponents have demonstrated a municipal sanitary outlet for the subject lands acceptable to City of London – Sewer Engineering Division
 - Water Servicing Report
 - Stormwater Management (SWM) Report
 - Hydrogeological Investigation Report (scoped with City of London and UTRCA staff)
 - Water Balance Analysis
 - Geotechnical Report

- Stage 1 – 2 Archaeological Assessment
- EA opinion letter
- Urban Design Brief
- Environmental Impact Study (EIS)

Prepared By:

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

Reviewed By:

Larry Mottram *Senior Planner, Development Planning*
(519) 661- CITY (2489) ext. 4866 LMottram@london.ca

Approved By:

Lou Pompilii *Manager, Development Planning*
(519) 661- CITY (2489) ext. 5488 LPompilii@london.ca

"Inspiring a Healthy Environment"

July 21, 2020

City of London - Development Services
P.O. Box 5035
London, Ontario N6A 4L9

Attention: Rob Carnegie (sent via e-mail)

Dear Mr. Carnegie:

Re: UTRCA Comments – Proposal Review Meeting July 15, 2020
Owner/Applicant: Royal Premier Homes c/o Farhad Noory
Agent: Zelinka Priamo Ltd. c/o Harry Frousios
735 Southdale Road West, London, ON

The Upper Thames River Conservation Authority (UTRCA) has reviewed the proposed draft plan and associated Initial Proposal Report with regard for the policies in the *Environmental Planning Policy Manual for the Upper Thames River Conservation Authority (June 2006)*. These policies include regulations made pursuant to Section 28 of the *Conservation Authorities Act*, and are consistent with the natural hazard and natural heritage policies contained in the *Provincial Policy Statement (2020, PPS)*. The *Upper Thames River Source Protection Area Assessment Report* has also been reviewed in order to confirm whether the subject lands are located in a vulnerable area. The Drinking Water Source Protection information is being disclosed to the Municipality to assist them in fulfilling their decision making responsibilities under the *Planning Act*.

PROPOSAL

The subject lands are a triangular lot, approximately 3.8 ha (9.4 ac) in size and currently contain an existing dwelling and shed; there is also an existing wetland/ponding area located at the eastern extent of these lands, along with other small pockets of wetlands.

The applicant is proposing to development a residential apartment complex consisting of four (4), nine (9) storey buildings containing a total of 500 units. Parking will be accommodated with at-grade centralized parking and two (2), three (3) storey above grade parking structures. The present design of the lands includes two (2) municipal road connections to Southdale Road West and tying into the Talbot Village subdivision to the south (Phase 7 and 8). These roads will act as separations for the phases of development, initiating in the west. The eastern-most portion of the lands will be a small open space block.

The subject lands are currently:

- Zoned “*Holding Residential h-h-2-h-30-h-53-h-75-R5-2/R6-4/R8-4*”;
- Designated “*Multi-Family Medium Density Residential*” in the Official Plan (1989); and,
- Within the “*Neighbourhoods*” Place Types in the London Plan (2016).

In addition, the subject lands are located within the Southwest Area Plan and North Talbot Residential Neighbourhood, identifying the property as medium density residential. It should also be noted that all policy documents identify the adjacent natural heritage features as open space or environmental review, which slightly encroach onto the subject lands.

The Initial Proposal Report, prepared by Zelinka Priamo Ltd. and dated June 2020, states that an Official Plan Amendment and a Zoning By-law Amendment application will be required and submitted at a later time.

CONSERVATION AUTHORITIES ACT

The UTRCA has the provincially delegated responsibility for the natural hazard policies of the PPS, as established under the “Provincial One Window Planning System for Natural Hazards” Memorandum of Understanding between Conservation Ontario, the Ministry of Natural Resources and Forestry (MNR) and the Ministry of Municipal Affairs and Housing. This means that the Conservation Authority represents the provincial interest in commenting on *Planning Act* applications with respect to natural hazards and ensures that the proposal is consistent with the PPS.

The UTRCA’s role in the development process is comprehensive and coordinates our planning and permitting interests. Through the plan review process, we ensure that development proposals meet the tests of the *Planning Act*, are consistent with the PPS, conform to municipal planning documents as well as the policies in the UTRCA’s Environmental Planning Policy Manual (2006). Permit applications must meet the requirements of Section 28 of the *Conservation Authorities Act* and our policies as set out in our Environmental Planning Policy Manual. This approach ensures that the principle of development is established through the *Planning Act* approval process and that subsequently, the necessary approvals can be issued under Section 28 of the *Conservation Authorities Act* once all of the planning matters have been addressed.

Section 28 Regulations - Ontario Regulation 157/06

The subject lands are regulated by the UTRCA in accordance with Ontario Regulation 157/06, made pursuant to Section 28 of the *Conservation Authorities Act*. The regulation limit is comprised of:

- Provincially Significant Wetland (PSW), known as the North Talbot Wetlands, and surrounding area of interference; and,
- Unevaluated wetlands and their surrounding areas of interference.

Please refer to the attached mapping for the location of the PSW. It should be noted that where a discrepancy in the mapping occurs, the text of the regulation prevails and a feature determined to be present on the landscape is regulated by the UTRCA. For this particular site, preliminary ecological studies have identified a small unevaluated wetland pocket to the west of the PSW, and an unevaluated wetland at the eastern-most extent of these lands.

The UTRCA has jurisdiction over lands within the regulated area and requires that landowners obtain written approval from the Authority prior to undertaking any site alteration or development within this area including filling, grading, construction, alteration to a watercourse and/or interference with a wetland.

UTRCA ENVIRONMENTAL PLANNING POLICY MANUAL (2006)

The UTRCA’s Environmental Planning Policy Manual is available online at:
<http://thamesriver.on.ca/planning-permits-maps/utrca-environmental-policy-manual/>

NATURAL HAZARDS

As indicated, the UTRCA represents the provincial interest in commenting on *Planning Act* applications with respect to natural hazards. The PPS directs new development to locate and avoid natural hazards. In Ontario, prevention is the preferred approach for managing hazards in order to reduce or minimize the risk to life and property. This is achieved through land use planning and the Conservation Authority’s regulations with respect to site alteration and development activities.

The UTRCA's natural hazard policies are consistent with the PPS and those which are applicable to the subject lands include:

3.2.2 General Natural Hazard Policies

These policies direct new development and site alteration away from hazard lands. No new hazards are to be created and existing hazards should not be aggravated. The Authority also does not support the fragmentation of hazard lands through lot creation which is consistent with the PPS.

3.2.6 Wetland Policies

New development and site alteration is not permitted in wetlands. Furthermore, new development and site alteration may only be permitted in the area of interference surrounding a wetland if it can be demonstrated through the preparation of an Environmental Impact Study (EIS) that there will be no impact on the hydrological function of the wetland feature and no potential hazard impact on the development.

The subject lands and adjacent lands contain a Provincially Significant Wetland and the surrounding area of interference, forming part of the North Talbot Wetlands. These lands also contain additional unevaluated wetlands and areas of interference. The UTRCA does not support development within Provincially Significant Wetlands or wetland hazards, and requires an appropriate buffer to be established through the completion of technical studies.

An EIS and Hydrogeological Investigation are required to establish the extent and ecological functions of the existing features which shall in turn guide an appropriately buffered area for development that can maintain these features and functions. These reports have already been scoped with UTRCA and City of London staff earlier this year. We continue to recommend that the applicant work with the adjacent landowner to obtain information on the connections to the adjacent features.

The proposed concept plan only identifies the PSW and a limited buffer. Additional information will be required as to how the development will interact with the PSW and other unevaluated wetlands. Should the relocation of these features be proposed to accommodate development, the overall site design shall result in a net environmental benefit. The technical reports shall speak to any relocation and compensation efforts to achieve the overall benefit. Proposals of this nature are subject to the requirements of the Section 28 permit process and approval from the UTRCA Hearings Committee.

NATURAL HERITAGE

The UTRCA provides technical advice on natural heritage to ensure an integrated approach for the protection of the natural environment consistent with the PPS. The linkages and functions of water resource systems consisting of groundwater and surface water features, hydrologic functions and the natural heritage system are necessary to maintain the ecological and hydrological integrity of the watershed. The PPS also recognizes the watershed as the ecologically meaningful scale for integrated and long-term planning which provides the foundation for considering the cumulative impacts of development.

The UTRCA's natural heritage policies are consistent with the PPS and those which are applicable to the subject lands include:

3.3.2 Wetland Policies

New development and site alteration is not permitted in wetlands. Furthermore, new development and site alteration may only be permitted in the adjacent lands of a wetland if it can be demonstrated through the preparation of an Environmental Impact Study (EIS) that there will be no negative impact on the feature or its ecological function.

DRINKING WATER SOURCE PROTECTION: Clean Water Act

The subject lands have been reviewed to determine whether or not they fall within a vulnerable area (Wellhead Protection Area, Highly Vulnerable Aquifer, and Significant Groundwater Recharge Areas). Upon review, we can advise that the subject lands **are not** within a vulnerable area. For policies, mapping and further information pertaining to drinking water source protection, please refer to the approved Source Protection Plan at: <https://www.sourcewaterprotection.on.ca/approved-source-protection-plan/>

COMMENTS AND REQUIREMENTS

As indicated, the subject lands and adjacent lands are regulated by the UTRCA. A summary of our comments/requirements are as follows:

1. The Initial Proposal Report (IPR) and proposed conceptual plan have identified the PSW and a limited buffer (in some cases 10 metres). Additional information will be required relating to how the development will interact with the PSW and other unevaluated wetlands. Should the relocation of these features be proposed to accommodate development, the overall site design shall result in a net environmental benefit. The technical reports shall speak to any relocation and compensation efforts to achieve the overall benefit. Proposals of this nature are subject to the requirements of the Section 28 permit process and approval from the UTRCA Hearings Committee.
2. The proposed conceptual plan identifies two (2) access points from Southdale Road West.
 - a) Through discussions at the Proposal Review Meeting (PRM), it was identified that compensation for the east unevaluated wetland would be a shared responsibility of the applicant and the City, due to proposed future road widening of Southdale Road West. Please coordinate and provide any additional information once available.
 - b) The PRM also included discussions regarding the west roadway requirements. It was identified that consideration will need to be given to the PSW prior to determining if, and where a potential access road will connect to the southern development.
3. Section 7.1 of the IPR states “*Any Conservation Authority interests will be addressed prior to final approval*”. Please ensure the UTRCA is involved throughout the entirety of the planning process to ensure the lands are appropriately reviewed and planned with UTRCA’s/Provincial interest considered. This will help ensure that approval is not granted through the *Planning Act* process that cannot be approved under Section 28 of the *Conservation Authorities Act*.
4. The UTRCA will require the preparation of a full EIS and Hydrogeological Assessment to be submitted alongside future applications for review. These documents have already been scoped with City of London and UTRCA staff. We continue to recommend that the applicant work with the adjacent landowner to obtain information on the connections to the adjacent features.
5. The IPR provides an overview the Stormwater Management (SWM) proposal. Once an appropriate development limit has been established from the natural hazard and natural heritage features on site, a detailed SWM report will be required to ensure the existing SWM facilities have sufficient capacity to accommodate this proposal. The implementation of Low Impact Development measures is strongly encouraged where feasible.
6. A water balance analysis will also be required to ensure flows to all wetlands features are maintained from pre to post development.

7. As this application is still in the pre-consultation stage, the UTRCA requirements are subject to change pending further consultation and revisions to the proposed development.

MUNICIPAL PLAN REVIEW FEES

Consistent with UTRCA Board of Directors approved policy, Authority Staff are authorized to collect fees for the review of *Planning Act* applications. Upon submission of formal applications, the applicant may be invoiced as follows:

- Pre-Consultation: No Fee
- Draft Plan of Subdivision: \$150.00 per lot, to a maximum of \$10,000
- Official Plan Amendment Application: \$750.00
- Zoning By-law Amendment Application: \$750.00
- Site Plan Consultation: No Fee
- Site Plan Application: \$500.00
- Technical Review of EIS: \$1,075.00
- Technical Review of Hydrogeological Investigation: \$1,075.00
- Technical Review of Stormwater Management Report: \$1,075.00
- Section 28 Permit Fee: To be determined upon future submission

Please note these fees are subject to change dependent upon the timing of the submission(s).

Thank you for the opportunity to provide comments on the Initial Proposal Report and attend the Proposal Review Meeting. Please circulate a copy of the meeting minutes to our office.

If you have any questions, please contact the undersigned at extension 430.

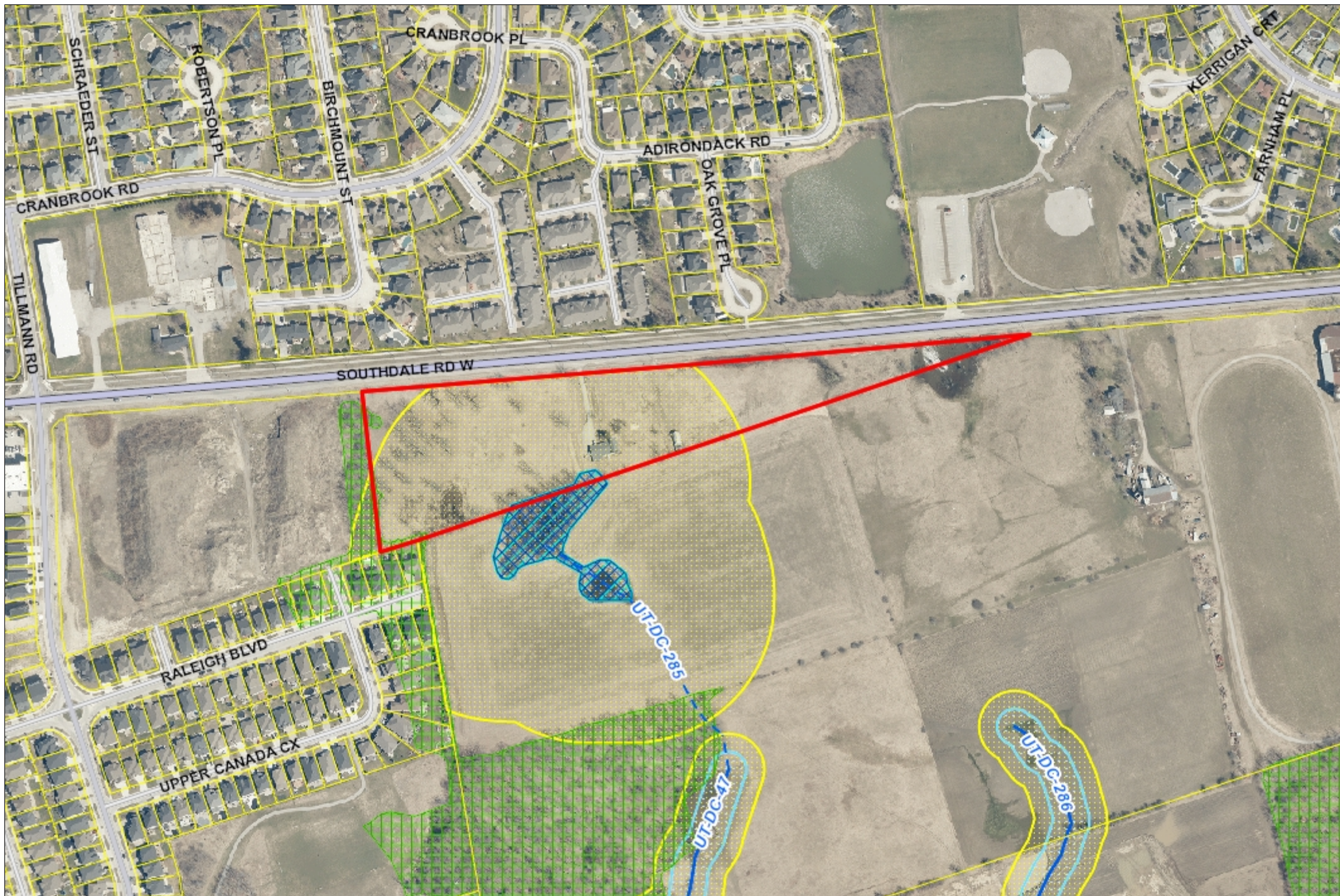
Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY



Stefanie Pratt
Land Use Planner

Enclosure: UTRCA Regulation Limit Mapping (please print on legal size paper for accurate scales)

c.c.: Harry Frousios, Zelinka Priamo Ltd.
Farhad Noorry, Royal Premier Homes
Larry Mottram, City of London Development Services (Subdivisions) Senior Planner
Lou Pompilii, City of London Development Services (Subdivisions) Manager
James MacKay, City of London Development Services (Subdivisions) Ecologist
Brent Verscheure, UTRCA Land Use Regulations Officer



Regulation Limit

Regulation under s.28 of the *Conservation Authorities Act*
 Development, interference with wetlands, and alterations to shorelines and watercourses. O.Reg 157/06, 97/04.

Legend

- Assessment Parcel (MPAC)
- Watercourse (UTRCA, 2015)
 - Open
 - Tiled
- Middlesex NHSS Woodland (2014)
 - Candidate for Ecologically Important
 - Ecologically Important
 - Significant Ecologically Important
- Wetlands (MNRF)
 - Evaluated-Provincial
 - Evaluated-Other
 - Not Evaluated
- Wetland Hazard
- Flooding Hazard
- Erosion Hazard (Detail)
- Regulation Limit 2018

The Regulation Limit depicted on this map schedule is a representation of O.Reg 157/06 under O.Reg 97/04.

The Regulation Limit is a conservative estimation of the hazard lands within the UTRCA watershed. In the case of discrepancies between the mapping and the actual features on a property, the text of Ontario Regulation 157/06 prevails and the jurisdiction of the UTRCA may extend beyond areas shown on the maps.

The UTRCA disclaims explicitly any warranty, representation or guarantee as to the content, sequence, accuracy, timeliness, fitness for a particular purpose, merchantability or completeness of any of the data depicted and provided herein.

The UTRCA assumes no liability for any errors, omissions or inaccuracies in the information provided herein and further assumes no liability for any decisions made or actions taken or not taken by any person in reliance upon the information and data furnished hereunder.

This map is not a substitute for professional advice. Please contact UTRCA staff for any changes, updates and amendments to the information provided.

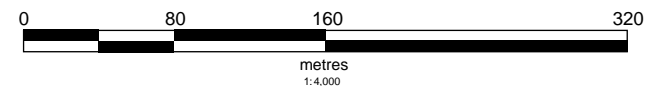
This document is not a Plan of Survey.

Sources: Base data, 2015 Aerial Photography used under licence with the Ontario Ministry of Natural Resources Copyright © Queen's Printer for Ontario; City of London.

Notes:
735 Southdale Road West, London

Created By: SP July 20, 2020

* Please note: Any reference to scale on this map is only appropriate when it is printed landscape on legal-sized (8.5" x 14") paper.



Laura McLennan

From: Tara Tchir <TchirT@thamesriver.on.ca>
Sent: Monday, May 11, 2020 2:53 PM
To: James MacKay; Laura McLennan; s.levin s.levin; Stefanie Pratt; Brent Verscheure
Cc: Linda Nicks; Tara Tchir
Subject: 735 Southdale Road
Attachments: 735 Southdale Road_Scoping Document_draft.pdf

I am good with the checklist, provided that they realize that a scoped hydrogeological study will need to be done using UTRCA checklist. It is mentioned in your checklist, I just want to make sure it is emphasized and I have cc'd Linda on this email. They also need to make sure all flora and fauna are identified per ELC community and that SWH is evaluated. Also, at this point I am not 100% UTRCA can support wetland compensation / relocation (until some additional biological info is put forward about the quality / history of wetland features in NE corner).

Tara Tchir
Ecologist
1424 Clarke Road London, Ontario, N5V 5B9
519.451.2800 Ext. 261
tchirt@thamesriver.on.ca | www.thamesriver.on.ca

>>> "MacKay, James" <jmackay@london.ca> 5/10/2020 12:42 PM >>>
Hi All, please see the attached scope for 735 Southdale Road. There are issues with the electronic version of this document that required me to come into the office and make written additions. Please provide your feedback/ comments on the document that I might have missed and I will make the updates and provide a final document for the completed report.

Regards,



James MacKay, M.Sc.

Ecologist Planner
ISA Certified Arborist
City of London
Development Services

T: (519) 661-CITY (2489) ext. 4865 | F: (519) 963-1483 | E: jmackay@london.ca

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Appendix B

MNRF Information Request

Allie Leadbetter

From: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Sent: Friday, February 1, 2019 3:57 PM
To: Erin Boynton
Cc: Dave Hayman
Subject: RE: Stage 1: Emara Southdale Road

Hello,

The Ministry of Natural Resources and Forestry (MNRF) understands that Biologic is conducting an information request for the proposed Hany Emara project located at 735 Southdale Road West in the City of London identified in the information provided.

MNRF provides the following natural heritage information in response to your request.

Species at Risk (SAR)

The Species at Risk in Ontario (SARO) List (<https://www.ontario.ca/laws/regulation/080230>) is Ontario Regulation 230/08 issued under the Endangered Species Act, 2007 (ESA). The ESA came into force on June 30, 2008, and provides both species protection (under section 9) and habitat protection (under section 10) to species listed as endangered or threatened on the SARO List.

An initial Species at Risk (SAR) (Endangered and Threatened species) screening has been completed for the above-noted property.

There are no known occurrences of SAR on the subject property; However there are known occurrences of SAR in the general project area, including:

- Barn Swallow
- Butternut

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint and potentially be impacted.

It is important to note the following:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List.
- As a result, species designations may change and changes may occur in both species and habitat protection which could affect the level of protection they receive under the ESA 2007 and whether proposed projects may have adverse effects on SAR.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA. Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation and following the rules in regulation if the project is eligible (<http://www.ontario.ca/environment-and-energy/natural-resources-approvals>).

Questions about the registry process should be directed to MNRF's Registry and Approval Services Centre at 1-855-613-4256 or at mnr.rasc@ontario.ca. Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

Significant Wildlife Habitat (SWH)

Significant wildlife habitat (SWH) may be present on or adjacent to the above-noted subject lands (within 120 m). Please consult the Significant Wildlife Habitat Technical Guide (SWHTG, OMNR 2000), the Natural Heritage Reference Manual (NHRM) and the Ecoregion Criteria Schedules for criteria on identifying and determining significance of wildlife habitat. SWH is identified by planning authorities using the criteria and processes recommended in the SWHTG and Ecoregion Criteria Schedules.

Link to the SWHTG: <https://www.ontario.ca/environment-and-energy/guide-significant-wildlife-habitat>

Link to Ecoregion 7E criteria schedule:

http://publicdocs.mnr.gov.on.ca/View.asp?Document_ID=21843&Attachment_ID=45645

MNRF completed a screening for S1-S3, SH and special concern species and the following have known occurrences in the general project area:

- Snapping Turtle (SC, S3)

The habitat of provincially rare (S1-S3, SH) and Special Concern species is considered SWH under the category of 'Special Concern and Rare Wildlife Species' in the SWHTG Ecoregion Criteria Schedules. Therefore, consideration should be given to these species and whether their habitat occurs on or within 120 m of the subject lands.

Areas of Natural and Scientific Interest (ANSIs)

There are no Provincially or Regionally Significant Earth or Life Science ANSI's within or 120m adjacent to the proposed subject lands.

Significant Woodlands

We recommend you refer to applicable Official Plans for criteria to determine the significance of woodlands near the project locations. The NHRM also contains information and criteria for determining significant woodlands.

Significant Wetlands

As you are aware, a portion of the Provincially Significant North Talbot Wetland exists along the southern boundary of the property. Site-specific investigation within the study area may find additional wetlands within such ELC communities that have not yet been evaluated or designated.

Consideration and delineation of wetland areas should be determined using criteria and methodology as outlined in the Ontario Wetland Evaluation System (OWES) and submitted to MNRF for review.

Significant Valleylands

MNRF does not possess significant valleylands mapping. The NHRM provides guidance and evaluation criteria for determining significant valleylands. Conservation authorities should be contacted to inquire about information pertaining to significant valleylands if they have not been identified in the applicable Official Plan.

Fish and Fish Habitat

There are no watercourses on or adjacent the project area.

Natural Heritage Systems

Policy 2.1.2 of the PPS states that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems (NHS), should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

Applicable natural heritage studies (e.g. in an EIS) should identify and recognize natural heritage systems and the linkages between and among natural heritage features and areas associated with the proposed development and site alteration. Based on the local NHS/linkages identified, or those specifically identified in an Official Plan, an EIS should outline potential impacts to the NHS and consider ways of maintaining, restoring, and/or improving linkages between and among natural heritage features and areas.

Conservation Authorities and Official Plans may provide additional natural heritage information for this study.

Please be advised that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

If you have any questions or require additional information, please feel free to contact me.

Thanks,

Jason Webb

Management Biologist
Ministry of Natural Resources and Forestry
Aylmer District
(519) 773-4744
Jason.webb@ontario.ca

From: Erin Boynton [mailto:eboynton@biologic.ca]
Sent: December-18-18 10:49 AM
To: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Cc: Dave Hayman <dhayman@biologic.ca>
Subject: Stage 1: Emara Southdale Road

To Whom It May Concern:

Please find attached a Stage 1 Information Request for the proposed building of medium density housing units at Part Lot 78, Concession ETR, Middlesex County, London ON.

A confirmation of receipt would be appreciated to confirm that the document is in the queue for review.

The attached documents are submitted as part of our discussions with MNRF with respect to the Endangered Species Act. Until a final decision has been rendered with respect to this application, it is our expectation these documents will be treated as Personal and Confidential. Thank you for your time.

Erin Boynton

BioLogic

201-110 Riverside Dr.

London, ON N6H 4S5

P-519-434-1516 xt 103

F-519-434-0575

E- eboynton@biologic.ca

Appendix C

Ecological Land Classification Information

-200

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 92128 - Southdale	POLYGON: 1	
	SURVEYOR(S): WH	DATE: 04/17/2018	TIME: start finish
	UTMZ: 17	UTME:	UTMN:

POLYGON DESCRIPTION

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

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	2	JUGnigr >> CARovat = POPdeH
2 SUB-CANOPY			
3 UNDERSTOREY	3	2	SALalba
4 GRD. LAYER	6	4	CIRarve = BRDiner = F2Ssp > SOLcanal

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:
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SIZE CLASS ANALYSIS:	< 10	10 - 24	25 - 50	> 50
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STANDING SNAGS:	< 10	10 - 24	25 - 50	> 50
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DEADFALL / LOGS:	< 10	10 - 24	25 - 50	> 50
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ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE:	<input checked="" type="checkbox"/> PIONEER	<input type="checkbox"/> YOUNG	<input type="checkbox"/> MID-AGE	<input type="checkbox"/> MATURE	<input type="checkbox"/> OLD GROWTH
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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:	CULTURAL	Cu
COMMUNITY SERIES:	MEADOW	CUM
ECOSITE:	MINERAL	CUM1
VEGETATION TYPE:		
INCLUSION	Mineral Meadow Marsh	MAN2
COMPLEX		

Notes:

ELC MANAGEMENT / DISTURBANCE	SITE: Southdale-42128-200
	POLYGON: 1
	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 COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <i>Shady 42128-200</i>	POLYGON: <i>2</i>	
	SURVEYOR(S): <i>WH</i>	DATE: <i>OCT 17, 2018</i>	TIME: start finish
	UTMZ: <i>19</i>	UTME:	UTMN:

POLYGON DESCRIPTION

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

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	<i>5</i>	<i>4</i>	<i>BPOwax > SLYrepe > SOLcann = LATlati</i>

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

STAND COMPOSITION: BA:

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

COMMUNITY CLASS:	ELC CODE
<i>CULTURAL</i>	<i>CU</i>
<i>MEADOW</i>	<i>CHM</i>
<i>MINERAL</i>	<i>CHM1</i>
<i>DRY/MOIST OLD FIELD MEADOW TYPE</i>	<i>CHM1-1</i>
INCLUSION	
COMPLEX	

Notes:

ELC MANAGEMENT / DISTURBANCE	SITE: <i>Shady 42128-200</i>				
	POLYGON: <i>2</i>				
	DATE:				
	SURVEYOR(S): <i>WH</i>				
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 COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: <u>Sumner 42128200</u>	POLYGON: <u>3</u>		
	SURVEYOR(S): <u>WH</u>	DATE:	TIME:	start finish
	UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

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

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	3	1 SALalbr
2	SUB-CANOPY		
3	UNDERSTOREY		
4	GRD. LAYER	6	1 AGRstol = BIDfran

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:
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SIZE CLASS ANALYSIS:	< 10	10 - 24	25 - 50	> 50
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STANDING SNAGS:	< 10	10 - 24	25 - 50	> 50
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DEADFALL / LOGS:	< 10	10 - 24	25 - 50	> 50
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ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :	PIONEER	YOUNG	MID-AGE	MATURE	OLD GROWTH
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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:	SHALLOW WATER	SA
COMMUNITY SERIES:	SUBMERGED	SAS
ECOSITE:	SUBMERGED SHALLOW WATER AQUA	SASI
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC MANAGEMENT / DISTURBANCE	SITE: <u>Sumner 42128</u>
	POLYGON: <u>3</u>
	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

Appendix D

Floral Inventory Data

Floral Inventory (2018-10-17, 2019-05-13, 2019-06-04, 2019-06-19, 2019-08-01)													
1	1a	2	3	Scientific Name	Common Name	CW	GRank	COSEWIC	Nrank	SARO	SRank	MD	Invasive
	X			<i>Acer saccharinum</i>	Silver Maple	-3.0	G5		N5		S5	C	
X				<i>Acer saccharum</i>	Sugar Maple	3.0	G5		N5		S5	C	
		X		<i>Achillea millefolium</i>	Common Yarrow	3.0	G5		N5		SE		
X	X	X		<i>Agrimonia gryposepala</i>	Hooked Agrimony	3.0	G5		N5		S5	C	
		X		<i>Agrostis gigantea</i>	Redtop	-3.0	G4G5		NNA		SE5	IC	Y
	X	X	X	<i>Agrostis stolonifera</i>	Creeping Bentgrass	-3.0	G5		N5		SE5	IC	
X	X			<i>Ambrosia artemisiifolia</i>	Common Ragweed	3.0	G5		N5		S5	C	
		X		<i>Anthoxanthum odoratum</i>	Sweet Vernalgrass	3.0	GNR		NNA		SE4	IR	
X	X			<i>Apocynum cannabinum</i>	Hemp Dogbane	0.0	G5		N5		S5		
	X			<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	-3.0	G5		N5		S5	C	
	X	X	X	<i>Asclepias incarnata</i>	Swamp Milkweed	-5.0	G5		N5		S5	C	
X	X	X	X	<i>Asclepias syriaca</i>	Common Milkweed	5.0	G5		N5		S5	C	
X	X	X	X	<i>Barbarea vulgaris</i>	Bitter Wintercress	0.0	GNR		NNA		SE5	IC	
	X	X		<i>Bidens frondosa</i>	Devil's Beggarticks	-3.0	G5		N5		S5	X	
	X			<i>Boehmeria cylindrica</i>	False Nettle	-5.0	G5		N5		S5	X	
X				<i>Brassica nigra</i>	Black Mustard	5.0	GNR		NNA		SE5	IX	
X		X	X	<i>Bromus inermis</i>	Smooth Brome	5.0	G5		NNA		SE5	IC	Y
X				<i>Cardamine diphylla</i>	Two-leaved Toothwort	3.0	G5		N5		S5	X	
X	X	X		<i>Carex blanda</i>	Woodland Sedge	0.0	G5		N5		S5	C	
	X			<i>Carex crinita</i>	Fringed Sedge	-5.0	G5		N5		S5	C	
X	X	X		<i>Carex gracillima</i>	Graceful Sedge	3.0	G5		N5		S5	C	
	X	X		<i>Carex normalis</i>	Larger Straw Sedge	-3.0	G5		NNR		S4	R	
		X		<i>Carex scoparia</i>	Pointed Broom Sedge	-3.0	G5		N5		S5		
X	X			<i>Carex sparganioides</i>	Burreed Sedge	3.0	G5		N5		S4S5	U	
	X	X		<i>Carex vulpinoidea</i>	Fox Sedge	-5.0	G5		N5		S5	C	
X				<i>Carya cordiformis</i>	Bitternut Hickory	0.0	G5		N5		S5	X	
X				<i>Carya ovata</i>	Shagbark Hickory	3.0	G5		N5		S5	X	
		X		<i>Cichorium intybus</i>	Chicory	3.0	GNR		NNA		SE5	IC	
X	X			<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	3.0	G5		N5		S5	X	
X	X	X	X	<i>Cirsium arvense</i>	Canada Thistle	3.0	G5		NNA		SE5	IC	Y
	X			<i>Cirsium muticum</i>	Swamp Thistle	-5.0	G5		N5?		S5	X	
X				<i>Claytonia virginica</i>	Narrow-leaved Spring Beauty	3.0	G5		NNR		S5	C	
X				<i>Clinopodium vulgare</i>	Field Basil	5.0	G5		N5		S5	X	
X	X			<i>Cornus racemosa</i>	Gray Dogwood	0.0	G5		N5		S5	X	
		X		<i>Cornus sericea</i>	Red-osier Dogwood	-3.0	G5		N5		S5	C	
X	X			<i>Crataegus crus-galli</i>	Cockspur Hawthorn	0.0	G5		N5		S4	R	
X				<i>Crataegus punctata</i>	Dotted Hawthorn	5.0	G5		N5		S5	C	
X				<i>Dactylis glomerata</i>	Orchard Grass	3.0	GNR		NNA		SE5	IC	
X		X	X	<i>Daucus carota</i>	Wild Carrot	5.0	GNR		NNA		SE5	IC	
X	X	X		<i>Dipsacus fullonum</i>	Common Teasel	3.0	GNR		NNA		SE5	IC	Y
	X			<i>Eleocharis obtusa</i>	Blunt Spikerush	-5.0	G5		N5		S5	C	
		X		<i>Elymus repens</i>	Creeping Wildrye	3.0	GNR		NNA		SE5	IC	
X	X			<i>Equisetum arvense</i>	Field Horsetail	0.0	G5		N5		S5	C	
	X	X		<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	-3.0	G5		N5		S5	C	
X				<i>Erythronium americanum</i>	Yellow Trout-lily	5.0	G5		N5		S5	X	
		X		<i>Eupatorium perfoliatum</i>	Common Boneset	-3.0	G5		N5		S5	C	
X	X	X		<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	0.0	G5		N5		S5	C	
X				<i>Frangula alnus</i>	Glossy Buckthorn	0.0	GNR		NNA		SE5	IU	Y
X	X			<i>Galium mollugo</i>	Smooth Bedstraw	5.0	GNR		NNA		SE5	IX	Y
X	X			<i>Geranium robertianum</i>	Herb-Robert	3.0	G5		N4		S5	C	
		X		<i>Glechoma hederacea</i>	Ground Ivy	3.0	GNR		NNA		SE5	IX	
X	X			<i>Hesperis matronalis</i>	Dame's Rocket	3.0	G4G5		NNA		SE5	IX	Y
X				<i>Hieracium vulgatum</i>	Common Hawkweed	5.0	GNR		NNA		SE2?	IR	
X				<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	0.0	G5		N5		S5	C	
X	X	X		<i>Hypericum perforatum</i>	Common St. John's-wort	5.0	GNR		NNA		SE5	IC	Y
X				<i>Hypericum punctatum</i>	Spotted St. John's-wort	0.0	G5		N5		S5	X	
		X		<i>Iris pseudacorus</i>	Yellow Iris	-5.0	GNR		NNA		SE4	IR	Y
		X		<i>Iris pumila</i>	Dwarf Iris	5.0	GNR		NNA		SEH		

Floral Inventory (2018-10-17, 2019-05-13, 2019-06-04, 2019-06-19, 2019-08-01)													
1	1a	2	3	Scientific Name	Common Name	CW	GRank	COSEWIC	Nrank	SARO	SRank	MD	Invasive
X				<i>Juglans nigra</i>	Black Walnut	3.0	G5		N4		S4?	X	
			X	<i>Juncus tenuis</i>	Path Rush	0.0	G5		N5		S5	X	
		X		<i>Lamium purpureum</i>	Purple Dead-nettle	5.0	GNR		NNA		SE3	IR	
X				<i>Lapsana communis</i>	Common Nipplewort	3.0	GNR		NNA		SE5	IR	
		X	X	<i>Lathyrus latifolius</i>	Everlasting Pea	5.0	GNR		NNA		SE4	IX	
		X		<i>Leucanthemum vulgare</i>	Oxeye Daisy	5.0	GNR		NNA		SE5	IC	
X				<i>Ligustrum vulgare</i>	European Privet	3.0	GNR		NNA		SE5	IX	Y
		X		<i>Linaria vulgaris</i>	Butter-and-eggs	5.0	GNR		NNA		SE5	IC	
		X		<i>Lonicera tatarica</i>	Tartarian Honeysuckle	3.0	GNR		NNA		SE5	IX	Y
		X	X	<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	3.0	GNR		NNA		SE5	IX	Y
			X	<i>Lycopus americanus</i>	American Water-horehound	-5.0	G5		N5		S5	C	
X				<i>Lysimachia ciliata</i>	Fringed Loosestrife	-3.0	G5		N5		S5	X	
			X	<i>Lythrum salicaria</i>	Purple Loosestrife	-5.0	G5		NNA		SE5	IC	Y
X		X	X	<i>Monarda fistulosa</i>	Wild Bergamot	3.0	G5		N5		S5		
X				<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	3.0	G5		N5		S5	C	
X	X			<i>Persicaria virginiana</i>	Virginia Smartweed	0.0	G5		N4		S4	X	
	X			<i>Phalaris arundinacea</i>	Reed Canary Grass	-3.0	G5		N5		S5	X	Y
X			X	<i>Phleum pratense</i>	Common Timothy	3.0	GNR		NNA		SE5	IC	
	X	X		<i>Phragmites australis</i>	Common Reed	-3.0	G5		N5		S4?		Y
X	X	X		<i>Plantago lanceolata</i>	English Plantain	3.0	G5		NNA		SE5	IC	
			X	<i>Plantago major</i>	Common Plantain	3.0	G5		NNA		SE5	IC	
X			X	<i>Poa pratensis</i>	Kentucky Bluegrass	3.0	G5		N5		S5		
X				<i>Podophyllum peltatum</i>	May-apple	3.0	G5		N5		S5	X	
X				<i>Populus deltoides</i>	Eastern Cottonwood	0.0	G5		N5		S5		
			X	<i>Prunella vulgaris</i>	Self-heal	0.0	G5		N5		S5		
X				<i>Quercus alba</i>	White Oak	3.0	G5		N5		S5	C	
X				<i>Quercus rubra</i>	Northern Red Oak	3.0	G5		N5		S5	C	
			X	<i>Ranunculus acris</i>	Tall Buttercup	0.0	G5		NNA		SE5	IC	
			X	<i>Ranunculus pensylvanicus</i>	Pennsylvania Buttercup	-5.0	G5		NNR		S5	X	
			X	<i>Ranunculus sceleratus</i>	Cursed Buttercup	-5.0	G5		N5		S5		
X	X			<i>Rhamnus cathartica</i>	Common Buckthorn	0.0	GNR		NNA		SE5	IC	Y
X	X			<i>Rosa multiflora</i>	Multiflora Rose	3.0	GNR		NNA		SE5	IX	Y
X	X			<i>Rubus occidentalis</i>	Black Raspberry	5.0	G5		N5		S5	C	
X				<i>Rudbeckia hirta</i>	Black-eyed Susan	3.0	G5		N5		S5	C	
X	X			<i>Rumex acetosella</i>	Sheep Sorrel	3.0	GNR		NNA		SE5	IC	
		X		<i>Rumex crispus</i>	Curly Dock	0.0	GNR		NNA		SE5	IC	
	X	X	X	<i>Salix alba</i>	White Willow	-3.0	G5		NNA		SE4	IX	
	X			<i>Salix interior</i>	Sandbar Willow	-3.0	GNR		NNR		S5	C	
X				<i>Sanguinaria canadensis</i>	Bloodroot	3.0	G5		N5		S5	X	
	X		X	<i>Schoenoplectus tabernaemontani</i>	Soft-stemmed Bulrush	-5.0	G5		N5		S5	C	
			X	<i>Scirpus atrovirens</i>	Dark-green Bulrush	-5.0	G5		N5		S5	C	
	X			<i>Scirpus pendulus</i>	Rufous Bulrush	-5.0	G5		N5		S5	C	
		X		<i>Setaria faberi</i>	Giant Foxtail	3.0	GNR		NNA		SE4	IC	
X		X		<i>Solidago altissima</i>	Tall Goldenrod	3.0	G5		N5		S5		
X	X	X		<i>Solidago canadensis</i>	Canada Goldenrod	3.0	G5		N5		S5		
		X		<i>Solidago gigantea</i>	Giant Goldenrod	-3.0	G5		N5		S5	X	
X			X	<i>Solidago juncea</i>	Early Goldenrod	5.0	G5		N5		S5	X	
X	X			<i>Sonchus arvensis</i>	Field Sow-thistle	3.0	GNR		NNA		SE5	IX	
			X	<i>Stellaria graminea</i>	Grass-leaved Starwort	5.0	GNR		NNA		SE5	IX	
X		X		<i>Symphyotrichum ericoides</i>	White Heath Aster	3.0	G5		N5		S5		
	X			<i>Symphyotrichum lanceolatum</i>	Panicked Aster	-3.0	G5		N5		S5	C	
X				<i>Symphyotrichum lateriflorum</i>	Calico Aster	0.0	G5		N5		S5	C	
	X	X		<i>Symphyotrichum novae-angliae</i>	New England Aster	-3.0	G5		N5		S5	C	
X	X			<i>Symphyotrichum pilosum</i>	White Heath Aster	3.0	G5		N5		S5		
	X			<i>Symplocarpus foetidus</i>	Skunk Cabbage	-5.0	G5		N5		S5	C	
X				<i>Tragopogon pratensis</i>	Meadow Goat's-beard	5.0	GNR		NNA		SE5	IX	
	X		X	<i>Typha angustifolia</i>	Narrow-leaved Cattail	-5.0	G5		N5		SE5	IX	Y
X	X			<i>Verbena urticifolia</i>	White Vervain	0.0	G5		N5		S5	X	
X	X			<i>Viola sororia</i>	Woolly Blue Violet	0.0	G5		N5		S5	X	

Floral Inventory (2018-10-17, 2019-05-13, 2019-06-04, 2019-06-19, 2019-08-01)													
1	1a	2	3	Scientific Name	Common Name	CW	GRank	COSEWIC	Nrank	SARO	SRank	MD	Invasive
X				<i>Vitis riparia</i>	Riverbank Grape	0.0	G5		N5		S5	C	
X	X			<i>Xanthium strumarium</i>	Rough Cocklebur	0.0	G5		N5		S5	C	

Appendix E

Breeding Bird Survey Data



AVIFAUNAL SURVEY INFORMATION SUMMARY SHEET

Project Name: 735 Southdale Road West

MTE File No.: 42128-200

Collector(s): Will Huys

Species Abbr.	Species Name	Date		Start		Finish		Weather		Comm. 1				Comm. 2				Comm. 3				S Rank	ESA Status	PIF Status	Notes
		Visit 1		Visit 2		Visit 1		Visit 2		Visit 1		Visit 2		Visit 1		Visit 2									
		Code	No.	Code	No.	Code	No.	Code	No.	Code	No.	Code	No.	Code	No.	Code	No.								
				4-Jun-19	7:45 a.m.	9:00 a.m.		13°C clear, still																	
				19-Jun-19	7:30 a.m.	9:00 a.m.		20°C clear, warm																	
MALL	Mallard									YOY	2	YOY	12					S5						Pair	
KILL	Killdeer					VO	1			VO	2							S5							
MODO	Mourning Dove									FY	4			P	2			S5							
DOWO	Downy Woodpecker	VO	1															S5							
EAKI	Eastern Kingbird				FY	2										T	1	S4				RC			
WAVI	Warbling Vireo	SM	1		P	2												S5							
BLJA	Blue Jay				T	1												S5							
TRES	Tree Swallow										P	2						S4							
BCCH	Black-capped Chickadee	VO	1															S5	-						
WBNU	White-breasted Nuthatch	SM	1															S5	-						
AMRO	American Robin	P	3		FY	4								OB	1			S5							
GRCA	Gray Catbird	OB	1															S4							
SOSP	Song Sparrow	SM	3		P	2		SM	2		P	3						S5							
NOCA	Northern Cardinal	OB, SM	1		P	2												S5							
RWBL	Red-winged Blackbird	P	6		FY	6			T	3				AE	6		FY	3	S4						
COGR	Common Grackle	FS	3		P	5								P	2		FY	4	S5						
BHCO	Brown-headed Cowbird	P	2						P	2								S4							
BAOR	Baltimore Oriole	SM	1		T	1												S4					RC,RS		
HOSP	House Sparrow													OB	3		P	10	SNA						

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 F

Amphibian Breeding Survey Data



AMPHIBIAN MONITORING FIELD SHEET

Project: Sheik - Southdale
 Date: April 8 2019 Project Manager: LM
 Collector(s): WN Visit #: 1

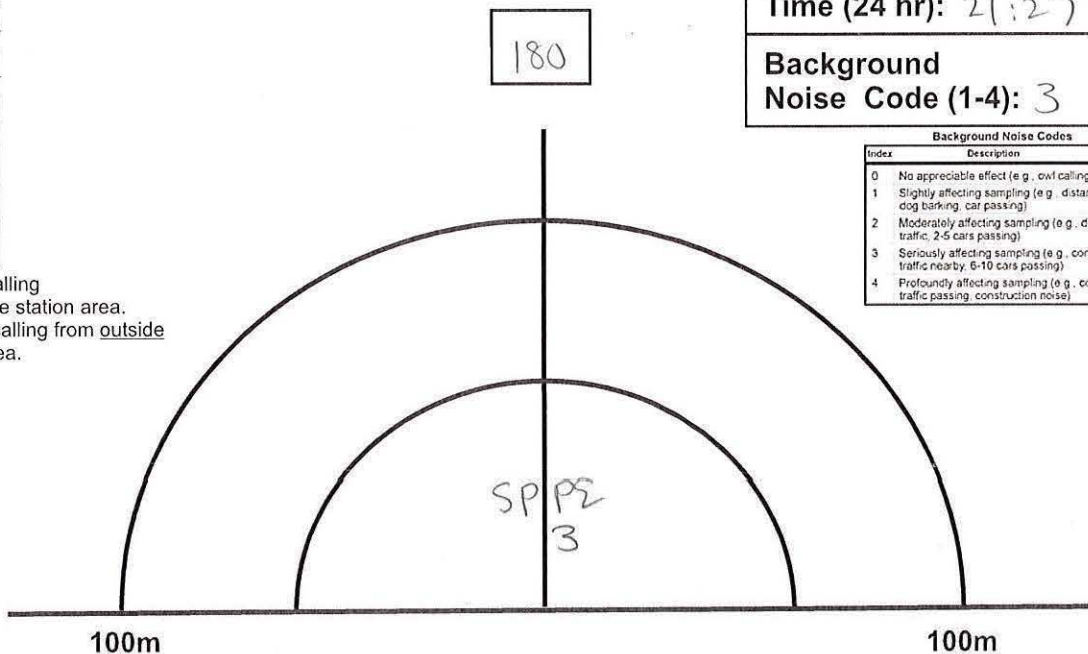
WEATHER CONDITIONS				WIND SCALE	
Temp:	Wind:	0	Cloud Cover (%)	Precipitation	0
12	Direction:	-	0	<input checked="" type="checkbox"/> None/Dry <input type="checkbox"/> Drizzle	1
				<input type="checkbox"/> Damp/Fog <input type="checkbox"/> Rain	2
CALL LEVEL CODES				3	
Code 1: Calls not simultaneous, number of individuals can be accurately counted				4	
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					

Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		
GRFR		
MIFR		
NLFR		
PIFR		
SPPE	<input checked="" type="checkbox"/>	
WOFR		

Station: A

Station Start Time (24 hr): 21:27
 Background Noise Code (1-4): 3

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



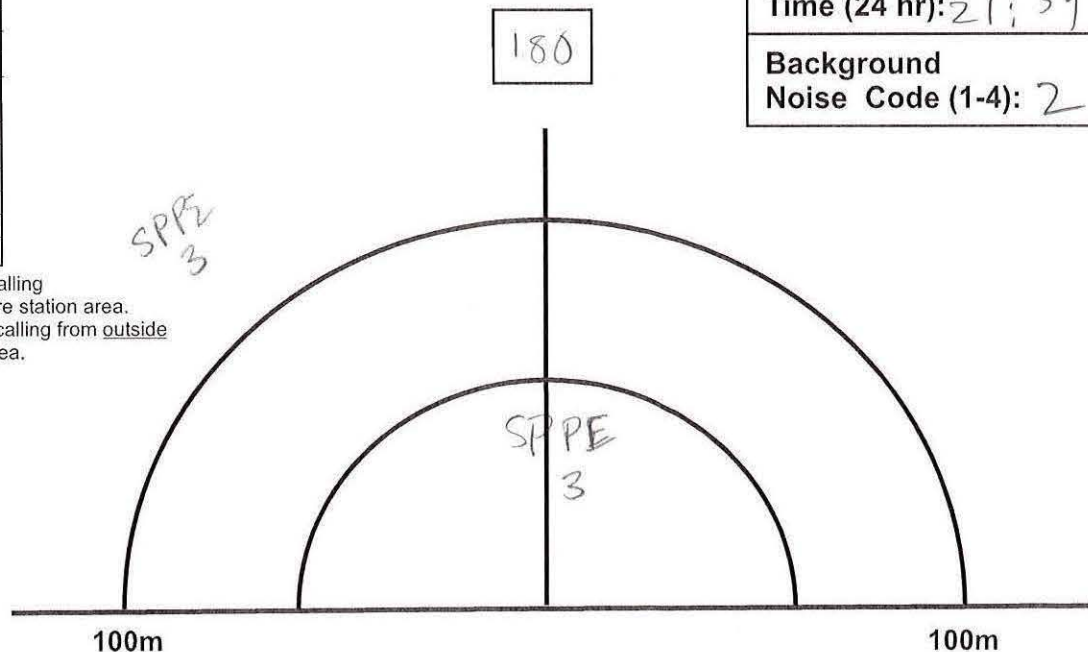
Index	Description
0	No appreciable effect (e.g., owl calling)
1	Slightly affecting sampling (e.g., distant traffic, dog barking, car passing)
2	Moderately affecting sampling (e.g., distant traffic, 2-5 cars passing)
3	Seriously affecting sampling (e.g., continuous traffic nearby, 6-10 cars passing)
4	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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WOFR		

Station: B

Station Start Time (24 hr): 21:34
 Background Noise Code (1-4): 2

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





AMPHIBIAN MONITORING FIELD SHEET

Project: 42128-200 Shalk
 Date: May 16, 2009 Project Manager: _____
 Collector(s): WN Visit #: 2

WEATHER CONDITIONS				WIND SCALE	
Temp. <u>15</u>	Wind: <u>2</u>	Cloud Cover (%) <u>80</u>	Precipitation	0	Calm
Direction: <u>S</u>			<input checked="" type="checkbox"/> None/Dry <input type="checkbox"/> Damp/Fog	1	Smoke Drifts
			<input type="checkbox"/> Drizzle <input type="checkbox"/> Rain	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 _____

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

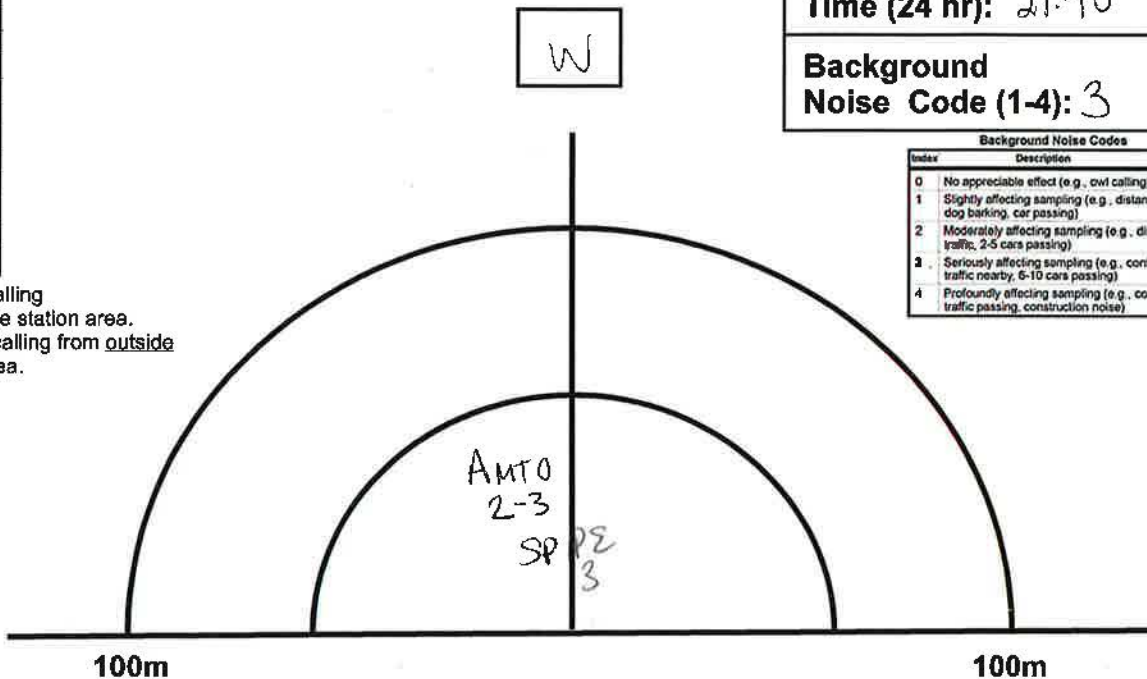
Station: 2

Station Start Time (24 hr): 21:40

Background Noise Code (1-4): 3

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, 2-3 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)

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



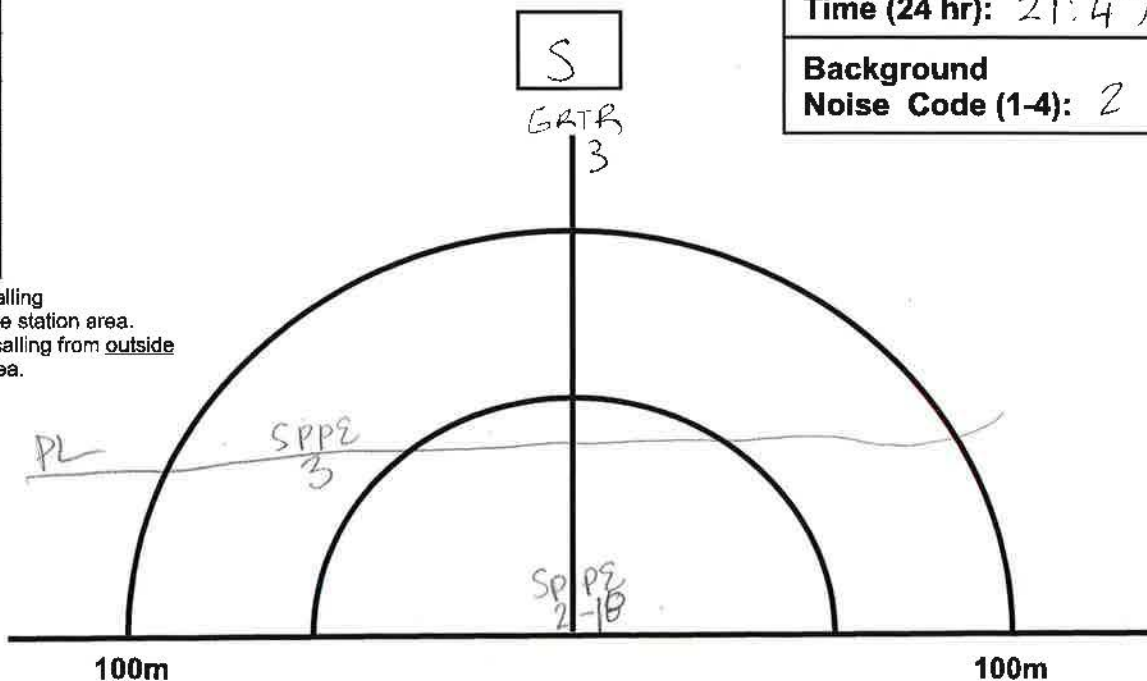
Species	In*	Out**
AMTO		
BCFR		
BULL		
CHFR		
CGTR		
FOTO		
GRTR		X
GRFR		
MIFR		
NLFR		
PIFR		
SPPE	X	
WOFR		

Station:

Station Start Time (24 hr): 21:47

Background Noise Code (1-4): 2

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





AMPHIBIAN MONITORING FIELD SHEET

Project: W2128-Sheik Southdale
 Date: June 12, 2014 Project Manager: LM
 Collector(s): ZA Visit #: 3

WEATHER CONDITIONS				WIND SCALE	
Temp: <u>17°C</u>	Wind: <u>1</u>	Cloud Cover (%): <u>90%</u>	Precipitation: <input checked="" type="checkbox"/> None/Dry <input type="checkbox"/> Drizzle	0	Calm
	Direction: <u>NE</u>		<input type="checkbox"/> Damp/Fog <input type="checkbox"/> Rain	1	Smoke Drifts
CALL LEVEL CODES				2	Wind Felt on Face
Code 1: Calls not simultaneous, number of individuals can be accurately counted				3	Leaves in constant motion
Code 2: Some calls simultaneous, number of individuals can be reliably estimated				4	Wind raises dust and paper
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		

Station: A

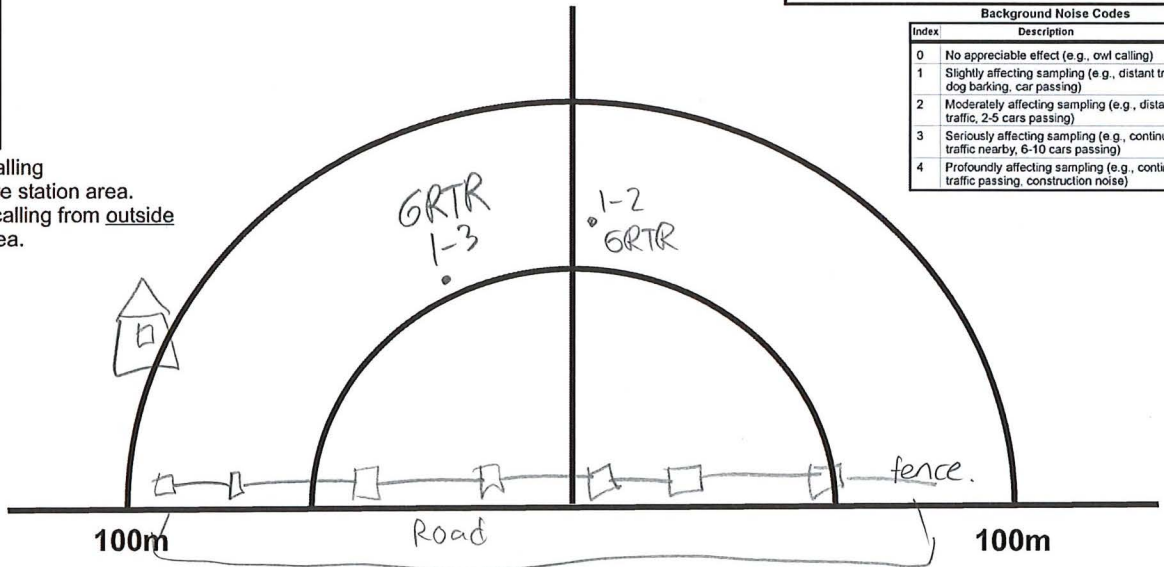
S

Station Start Time (24 hr): 23:10

Background Noise Code (1-4): 2

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)

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



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

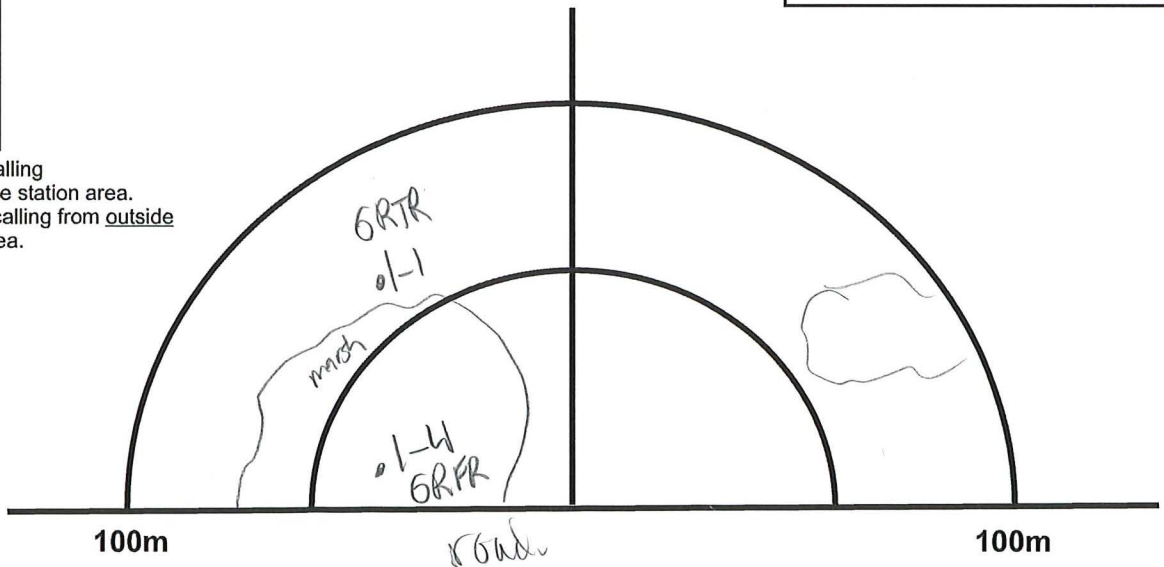
Station: B

S

Station Start Time (24 hr): 23:20

Background Noise Code (1-4): 2

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



Appendix G

Bat Maternity Roost Survey Data

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

Include all **live and dead** standing trees $\geq 10\text{cm}$ dbh with loose or naturally exfoliating bark, cavities, hollows or cracks.

Project Name: <u>42128-200</u>	Survey Date(s): <u>May 13, 2019</u>
Site Name: <u>735 Southdale Rd.</u>	Observers(s): <u>WH</u>
ELC Ecosite: <u>CUM1-1</u>	Snag Density (snags/ha): <u> </u>

Tree #	Tree Species ID	dbh (cm)	Height Class ²	Snag attributes (check all that apply)	Easting	Northing	Notes
BT1	CARYova	45	1	<input type="checkbox"/> cavity ³ <input checked="" type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>	475100	4753849	2 stems
BT2	CARYova	65	1	<input type="checkbox"/> cavity <input checked="" type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>	475129	4753821	
BT3	CARYova	45	1	<input type="checkbox"/> cavity <input checked="" type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>	475109	4753794	
BT4	CARYova	75	1	<input type="checkbox"/> cavity <input checked="" type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>	475215	4753781	
BT5	CARYova	50	1	<input type="checkbox"/> cavity <input checked="" type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>	475225	4753785	
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>			
				<input type="checkbox"/> cavity <input type="checkbox"/> loose bark <input type="checkbox"/> crack <input type="checkbox"/> knot hole <input type="checkbox"/> other snag within 10m? <input type="checkbox"/> Decay Class 1-3? <input type="checkbox"/>			

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 H

Significant Wildlife Habitat Table

ELCs: CUM1-1, MAM2 (inclusion), SWT1 (inclusion), SAS1, SWD3 (adjacent PSW)

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)	CUM1-1	- Large fields with abundant sheet water in spring not available.	No	<p>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”.</p> <ul style="list-style-type: none"> • 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)	SAS1, SWD3 (adjacent)	<p>- Pond (SAS1) is present in the northeast Subject Lands, however the feature is too small to support a significant number of waterfowl.</p> <p>- No Ruddy Ducks, Canvasbacks, or Redheads were observed during the 2009 OWES evaluation of the North Talbot PSW, and no evidence of waterfowl staging was observed.</p>	No	<p>Studies carried out and verified presence of:</p> <ul style="list-style-type: none"> • 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	MAM2 inclusion	- No beach areas, bars, seasonally flooded, muddy and un-vegetated shoreline habitat available. MAM2 inclusion is vegetated and small (0.08 ha).	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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	CUM1-1	- No forest ELC codes present and fields are small due to surrounding row crop agriculture, so no combination of forest and fields >20 ha present.	No	<p>Studies confirm the use of these habitats by:</p> <ul style="list-style-type: none"> • 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 present.	No	<ul style="list-style-type: none"> • All sites with confirmed hibernating bats are SWH. • The area includes 200m radius around the entrance of the hibernaculum for 	No

735 Southdale Road West (Project #42128-200)

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
				<p>most development types and 1000m for wind farms</p> <ul style="list-style-type: none"> • 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” 	
Bat Maternity Colonies	SWD3 (adjacent)	- The adjacent PSW does not include at least ten large diameter wildlife trees per hectare.	No	<p>Maternity Colonies with confirmed use by;</p> <ul style="list-style-type: none"> • >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
Turtle Wintering Areas	SAS1, SWD3 (adjacent)	<p>- Over-wintering sites are permanent water bodies, large wetlands, and bogs and fens with adequate dissolved oxygen.</p> <p>- Community 3 (SAS1) is likely too shallow and no turtles were observed during site investigations. This is supported by the Southdale Road West Improvements – Pine Valley to Colonel Talbot Road – EIS (AECOM, 2018).</p> <p>- The adjacent North Talbot PSW (SWD3) is dry in the winter.</p>	No	<p>Presence of 5 over-wintering Midland Painted Turtles is significant.</p> <ul style="list-style-type: none"> • 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 the Subject Lands.	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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)	CUM1-1	- No exposed soil banks, cliff faces, sandy hills, borrow pits, steep slopes, or other suitable habitat present.	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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	SWD3 (adjacent)	- Suitable habitat is present in the adjacent PSW, however this community was not investigated during the breeding bird study to	No	<p>Studies confirming:</p> <ul style="list-style-type: none"> • 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 	No

735 Southdale Road West (Project #42128-200)

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Habitat (Trees/Shrubs)		confirm the presence of colonially-nesting birds. - An OWES evaluation in 2009 gave the North Talbot PSW a score of zero for nesting of colonial waterbirds. - No heron nesting sites/colonies present based on LIO mapping (wildlife values area map).		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.	
Colonially-Nesting Bird Breeding Habitat (Ground)	CUM1-1, MAM2-2	- 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	CUM1-1	- A butterfly stopover area will be >10 ha in size with a combination of forest (FOD) and field (CUM/CUT), and be located within 5 km of Lake Erie or Lake Ontario. Criteria not met due to the lack of forested ELC codes present, the small size of CUM1-1 communities, and the large distance from both Lake Erie and Lake Ontario.	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	SWD3 (adjacent)	- 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

735 Southdale Road West (Project #42128-200)

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
<p>Deer Winter Congregation Areas</p>	<p>SWD3 (adjacent)</p>	<p>- No woodlots >100 ha in size. Criteria not met. - No White-tailed Deer wintering areas identified in the area by LIO wildlife values area mapping.</p>	<p>No</p>	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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. 	<p>No</p>

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	<ul style="list-style-type: none"> • Confirm any ELC Vegetation Type for Cliffs or Talus Slopes. 	No
Sand Barren	-	Not present.	No	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	-	Not present. No woodlands >0.5 ha.	No	<p>Field Studies will determine:</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	MAM2 inclusion, SWT1 inclusion, SWD3 (adjacent), SAS1	<ul style="list-style-type: none"> - Wetland habitat is available but the wetland size requirements are not met for the SAS1 pond or inclusion A2a (SWT1). No wetlands >0.5ha are present. - The two sections of the PSW and the MAM2 inclusion make up a cluster of wetlands that are <0.5 ha each. Lands adjacent to PSW are included. 	Yes	<p>Studies confirmed:</p> <ul style="list-style-type: none"> • 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	SWD3 (adjacent)	<ul style="list-style-type: none"> - Bald Eagle was not identified by NHIC in the 17MH75 atlas square that includes the Subject Lands. - Bald Eagle and Osprey were not observed in the 2001-2005 OBBA records in the general area of the Subject Lands. - A stick nest was observed, but likely belonging to a Red-tailed Hawk. - No Osprey feeding or resting areas identified in the area of the Subject Lands on LIO wildlife values mapping. 	No	<p>Studies confirm the use of these nests by:</p> <ul style="list-style-type: none"> • 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	SWD3 (adjacent)	<ul style="list-style-type: none"> - No natural or conifer plantation woodlands/forest stands >30ha with >4ha of interior habitat. Criteria not met. 	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • Presence of 1 or more active nests from species list is considered significant. • Red-shouldered Hawk and Northern Goshawk – A 400m radius 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. 	No
Turtle Nesting Areas	SAS1	<ul style="list-style-type: none"> - No areas with exposed mineral soils were observed adjacent to the wetland. - The wetland is bordered on one side by Southdale Road West, which is not 	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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 	No

735 Southdale Road West (Project #42128-200)

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
		favourable for nesting, and the surrounding areas are highly vegetated.		turtles nest, plus a radius of 30-100m around the nesting area dependent on slope, riparian vegetation and adjacent land use is the SWH. <ul style="list-style-type: none"> • 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. 	
Springs and Seeps	SWD3 (adjacent)	- No seeps or springs observed within the Subject Lands. - No seeps identified within the North Talbot PSW in the 2009 OWES evaluation.	No	Field Studies confirm: <ul style="list-style-type: none"> • 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)	SWD3 (adjacent)	- The adjacent North Talbot PSW is forested and bordered by Silver Maple trees.	Yes	Studies confirm; <ul style="list-style-type: none"> • 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 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 	Yes (North Talbot PSW – SWD3)
Amphibian Breeding Habitat (Wetlands)	SAS1, SWT1 inclusion	- Several small wetlands located >120m from woodland ecosites are present. - The SWT1 inclusion is too small (<500m ²) to be significant.	Yes	Studies confirm: <ul style="list-style-type: none"> • 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. <p>-Amphibian breeding surveys conducted in 2019 confirm SWH criteria are not met.</p>	No
Woodland Area-Sensitive Bird Breeding Habitat	SWD3 (adjacent)	- No large mature (>60yrs old) forest stands or woodlots >30 ha are present within or adjacent to the Subject Lands.	No	Studies confirm: <ul style="list-style-type: none"> • 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	MAM2 inclusion, SAS1	- Community 3 (SAS1) and the 1a inclusion (MAM2) may provide suitable habitat for marsh breeding birds, but they are too small to support concentrations of the target species.	No	<p>Studies confirm:</p> <ul style="list-style-type: none"> • 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. • 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”. 	No
Open Country Bird Breeding Habitat	CUM1-1	- Natural and cultural fields >30 ha are not present.	No	<p>Field studies confirm:</p> <ul style="list-style-type: none"> • 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	<p>Field Studies confirm:</p> <ul style="list-style-type: none"> • 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	MAM2 inclusion, SWD3 (adjacent), MAS2 (adjacent)	- Chimney observed in the MAM2 inclusion (1a). - Chimneys and crayfish observed approximately 90 metres south of the Subject Lands in the south patch of the North Talbot PSW.	Yes	<p>Studies Confirm:</p> <ul style="list-style-type: none"> • 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. <p>Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.</p>	Yes (MAM2, SWD3) Unconfirmed (MAS2)

735 Southdale Road West (Project #42128-200)

Wildlife Habitat	ELC Codes Triggers	Candidate Habitat Criteria	Candidate SWH	SWH Defining Criteria	Confirmed SWH
Special Concern and Rare Wildlife Species (NHIC and MNRFP pre-consultation)	-	<ul style="list-style-type: none"> - NHIC identified several Special Concern or rare species as potentially present within the area of the Subject Lands. These include Green Dragon [SC], Snapping Turtle [SC], and Hoary Tick-trefoil [S2]. - The adjacent North Talbot PSW was not thoroughly investigated for potential Special Concern or rare wildlife. 	Yes	<p>Studies Confirm:</p> <ul style="list-style-type: none"> • 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. 	<p>No (Subject Lands)</p> <p>Unconfirmed (North Talbot PSW)</p>

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. Only woodland amphibian breeding SWH has been identified.	No	<ul style="list-style-type: none"> • 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