

NATURAL HERITAGE ENVIRONMENTAL IMPACT STUDY

PREPARED FOR

Sydenham Square Inc.

Draft Plan of Subdivision: Telfer Creek Square

**2275 16th Street East
City of Owen Sound
County of Grey**

PREPARED BY

AWS

ENVIRONMENTAL CONSULTING INC.

Operating as Aquatic and Wildlife Services

Phone: (519) 372-2303, Fax: (519) 372-1990, Email: aws@gbtel.ca
JOHN MORTON, R. R. # 1, Shallow Lake, Ontario, N0H 2K0

April, 2021

Table of Contents

1	Executive Summary	2
2	Introduction	2
3	Study Works.....	3
3.1	Background Review	3
3.2	Field Study Methodology	3
3.3	Field Survey Dates.....	5
4	Vegetation Community Characterization.....	6

Significant Feature Analysis

5	Habitat of Endangered and Threatened Species.....	7
6	Fish Habitat	9
7	Significant Valleylands	10
8	Significant Areas of Natural and Scientific Interest (A.N.S.I.).....	11
9	Significant Wetlands / Wetlands.....	12
10	Significant Woodlands	12
11	Significant Wildlife Habitat	13
11.1	Seasonal Concentration Areas of Animals	14
11.2	Rare Vegetation Communities.....	16
11.3	Specialized Habitat for Wildlife	17
11.4	Habitat for Species of Conservation Concern	18
11.5	Animal Movement Corridors.....	23
11.6	Exceptions for Ecoregion 6E.....	23
12	Significant Feature Analysis Summary.....	24

Impact Assessment

13	Habitat for Endangered and Threatened Species – Butternut	25
13.1	Characterization.....	25
13.2	Impact Assessment	25
14	Fish Habitat – Adjacent Lands	26
14.1	Characterization.....	26
14.2	Impact Assessment	26
15	Significant Woodland – Adjacent Lands	27
15.1	Characterization.....	27
15.2	Impact Assessment	27
16	Mitigation	28
17	Conclusions	28
18	References	30
19	Figures.....	31

1 Executive Summary

Sydenham Square Inc. has proposed a Draft Plan of Subdivision referred to as 'Telfer Creek Square' located at 2275 16th Street East within the City limits of Owen Sound, Grey County. The full property is 7.03 ha (17.39 ac) in area with Assessment Roll number 425904006014000. See Appendix 1 for a Grey County parcel report. The proposed development area is within the north-west third of the property, bound by commercial development to the west, Telfer Creek to the south and east and Highway 26 along the north. The lands up until recently were in agricultural use with an abandoned farm dwelling and barn still within the northwest property corner. The farm field has been ideal for several years with early succession immature trees and shrubs scattered throughout much the property.

The proposed site development is a mix of commercial and residential with sanitary servicing hook-up into the municipal system near the northeast property corner. Through the applicant's preliminary contacts with the City of Owen Sound and Grey Sauble Conservation Authority (GSCA), a Natural Heritage Environmental Impact Study (EIS) was requested to assess on-site environmental features and provide recommended mitigation measures for the development to maintain compliance with applicable Natural Heritage related Acts, Legislation and Planning Policies.

AWS Environmental Consulting Inc. (AWS) submitted an EIS-Term of Reference on behalf of the proponents, which was approved by the GSCA in March 2020. EIS field investigations commenced in late April 2020 and concluded in January 2021.

Through on-site field work, inventory data analysis and impact assessment, mitigation measures have been recommended and incorporated into the recent Site Plan design. With the mitigative measures implemented, site development will be in compliance with the Natural Heritage Policies of the 2020 Provincial Policy Statement, 2019 Grey County Official Plan and the 2017 City of Owen Sound Official Plan along with other applicable reviewed Acts and Legislation.

2 Introduction

This Natural Heritage 'Environmental Impact Study' (EIS) technical reporting format will follow the Provincial Natural Heritage Reference Manual of March 2010 for natural heritage feature, ecological function identification and impact assessment format. Reporting analysis shall address the seven Natural Heritage Features, as defined by the Provincial Policy Statement 2.1, with a review of literature reports, data files, feature maps etc. currently available through Municipal, Provincial and Federal agencies, augmented with field inventory works and air photo interpretation of the surrounding landscape.

Within this technical report, the field investigation lands are referred to as the '**Study Land**', as delineated on Figure No. 2. An adjacent 1 land review of the 120m surrounding lands to the Study Land, referred to as the '**Site Lands**' is also delineated on Figure No. 2. The Site Lands were accessed on-site were feasible from property or road side observations, air photo interpretation, and background literature reviews to identify any off-site natural environment features for corridor/linkage functions.

3 Study Works

3.1 Background Review

A literature review and data search was conducted to aid in the identification of Natural Heritage Features (see Figure No. 3) and historical occurrence records for Flora and Fauna species of conservation concern within 5km's to the Study Lands (see Appendix 2). This background review was utilized to augment field data collection, with a full listing of reports / documents reviewed or cited provided within the reference section.

- Natural Heritage Information Center (NHIC) web site of the Ontario Ministry of Natural Resources and Forestry (MNRF) for significant flora and fauna records.
- MNRF- Owen Sound Area Office; fish and wildlife records and maps and Land Information Ontario data bank and maps.
- 2019 Grey County Official Plan and schedule mapping.
- 2017 Grey County –Natural Heritage System ‘Green in Grey’
- August 2020 City of Owen Sound and agencies pre-consultation comments.

3.2 Field Study Methodology

Site location mapping for the subject property has been provided on Figure No. 1, with the field inventory lands or '**Study Land**', delineated on Figure No. 2. Historical data record searches, literature reviews and air photography interpretation encompassed the Site Lands with a broader landscape review extending 5km from the Study Lands for Species of Conservation Concern. Field investigations and data collection for this EIS reporting were carried out from April 2020 to January 2021, with a full listing of field work dates and weather conditions provided under Table No. 1.

- A qualified two-person team comprised of John Morton and Judith Jones from AWS Environmental Consulting Inc. completed natural environment field inventory and assessment works within the Study Lands.

Vascular Plant Surveys were conducted during the growing seasons (spring and summer) of 2020, with a full species listing, ranking, status levels and Floristic Quality Scores provided within Appendix 3. Given the uniformity and small area size of the Study Land, field survey works followed a random coverage search method.

General Fauna Surveys within the Study Land included specific searches and/or investigation for amphibians, breeding birds, activity for snakes, general searches for mammals and movement corridor functions. A full summary list of all recorded fauna species over the study period has been provided under Appendix 4 with current rankings, status levels and highest bird breeding codes observed.

Breeding Bird Surveys for the Study Lands followed two standardized search methods:

- a) Monitoring activity included a 'Point Count' methodology for breeding activity in accordance to the Ministry of Natural Resources and Forestry-Bobolink/Meadowlark protocols. Point Count undertaking times and location mapping have been provided within Appendix 4.
- b) Additional bird observations of feeding adults and fledglings during summer site visits were also recorded and listed under Appendix 4 as observations outside the breeding season.

Herpetofaunal Surveys were conducted throughout the Study Land but were focused within suitable habitat areas.

- a) Intensive amphibian (Anuran) calling survey works were undertaken at identified suitable 'breeding' habitat within the Study Land.
- b) Reptiles- Turtle activity survey works were deemed to be unnecessary as no suitable 'breeding or overwintering' habitat was identified within the Study Land.
- c) Reptiles-Snake activity was actively searched for during the spring hibernation emergence period and summer gestation period within suitable habitat areas.

Mammal sightings or observations of habitat use (tracks, scat) were recorded during all other flora and fauna investigation work during site visits in 2020. Specific searches plus random coverage across the Study Lands focused.

Fish Habitat and fish community survey works were only undertaken through observation within Telfer Creek along the Study Land eastern and southern perimeter. Sufficient provincial background information on Telfer Creek and its fish community and aquatic resources is available that no intensive on-site fisheries assessment was deemed required.

The EIS field survey works for species listings, ecological function determinations and habitat characterization as outlined above, follow recommended and standard provincial guidelines, protocols and methodology relative to the site features within the Study Land.

3.3 Field Survey Dates

Table No. 1: Field Survey Dates and Focus of Works

Date	Survey Time & Duration	Weather Conditions (at start time)	Survey Focus
April 26, 2020	0900 to 1200 For 3.0 hrs	Wind Speed = 6-11 km's/hr Air Temp. = 11.0 C Precipitation = 0, Cloud Cover = 75%	Hydrology, General Fauna, Snake hibernation emergence activity
May 1, 2020	2300 to 2315 For 0.5 hrs	Wind Speed = 6-11 km's/hr Air Temp. = 5.0 C Precipitation = 0, Cloud Cover = 25%	First night time survey for Anuran calling Activity and Bat activity.
May 7, 2020	1015 to 1130 For 1.25 hrs	Wind Speed = 6-12 km's/hr Air Temp. = 6.0 C Precipitation = 0, Cloud Cover = 50%	General Fauna, Snake hibernation emergence activity, Bat roosting/tree cavity search
May 27, 2020	2315 to 2330 For 0.5 hrs	Wind Speed = 0-3 km's/hr Air Temp. = 18.0 C Precipitation = 0, Cloud Cover = 25%	Second night time survey for Anuran calling activity and Bat activity.
June 1, 2020	0700 to 0900 For 2.0 hrs	Wind Speed = 6-11 km's/hr Air Temp. = 13.0 C Precipitation = 0, Cloud Cover = 50%	First breeding Bird survey, General Fauna
June 11, 2020	0630 to 0830 For 2.0 hrs	Wind Speed = 12-19 km's/hr Air Temp. = 15.0 C Precipitation = 0, Cloud Cover = 75%	Second breeding Bird survey, General Fauna
June 22, 2020	0630 to 0830 2-person crew For 4.0 hrs	Wind Speed = 3-6 km's/hr Air Temp. = 20.0 C Precipitation = 0, Cloud Cover = 50%	Third breeding bird survey, Turtle egg laying search, Spring season Flora inventory, General Fauna
July 29, 2020	1645 to 1745 For 1.0 hrs	Wind Speed = 11-19 km's/hr Air Temp. = 21.0 C Precipitation = 0, Cloud Cover = 75%	General Fauna, ELC delineation, Snake gestation activity
August 14, 2020	1500-1730 For 2.5 hr	Wind Speed = 12-19 km/hr Air Temp. = 28.0 C Precipitation = 0, Cloud Cover = 25%	General Fauna, Summer Flora Snake gestation activity, Hydrology-Fish Habitat
January 18, 2021	1115 to 1145 For 0.5	Wind Speed = 3-6 km/hr Air Temp. = -5C Precipitation = 0, Cloud Cover = 25%	Overwintering activity for Raptors

Total field survey search effort provided 17.25 hours of coverage over ten site visits during the spring and summer seasons of 2020 and winter of 2021 for 3-season coverage.

4 Vegetation Community Characterization

Vegetation community boundaries within the Site Lands are depicted on Figure No.7, which was mapped and defined in the field based upon the ‘Ecological Land Classification (ELC) for Southern Ontario, First Approximation’. ELC types, ranking and characterization for each vegetation community is provided in Table No. 2.

Table No. 2: Vegetation Communities Type - ELC Codes

Veg. Comm. Number	ELC Code	Type	Description	Prov. Ranking
1	CUM1-1	Dry-Moist Old Field Meadow	Anthropogenic disturbed lands (former pasture lands) dominated with graminoids and forbs with scattered immature trees.	S5
2	FOD6-1	Fresh-Moist Sugar Maple-Lowland Ash Deciduous Forest	Mature stand of Maples and Ash, little ground cover or regeneration (past livestock impacts). Periodically flooded from Telfer Creek.	S5
3	CUW1	Mix of Deciduous Early Succession Trees- Cultural Woodland	Anthropogenic disturbed lands (former pasture lands regenerating) being a mix of early successional immature trees with abundant shrubs and open areas with dense grasses. Majority of stand trees are under 12cm dbh , primarily infected Ash (emerald ash borer).	S5
4	FOM7-1	Fresh-Moist White Cedar-Sugar Maple Mixed Forest	Mature mixed forest stand with closed canopy. Located outside the Study Land.	S5
5	FOD5-8	Dry-Fresh Sugar Maple-White Ash Deciduous Forest	Mature deciduous forest stand with closed canopy. Located outside the Study Land.	S5
6	DAL	Designated Agricultural Land	Active agricultural cash crop fields	N.A.

Significant Feature Analysis

5 Habitat of Endangered and Threatened Species

A literature search for historic records of Endangered and Threatened species has been undertaken for the surrounding landscape extending 5 km's from the Study Land utilizing the Species At Risk in Ontario (SARO) listings maintained by the Ontario Ministry of Natural Resources and Forestry (MNR/F); and the national lists maintained by Environment Canada (i.e. Committee on the Status of Endangered Wildlife in Canada (COSEWIC), has been provided under Appendix 2.

Through this background literature review of the full coverage search area three bird species, one vascular plant and one insect have been identified as Species-At-Risk (SAR) in Ontario. The remainder of the 'species of conservation concern' noted under Appendix 2 are discussed under Significant Wildlife Habitat section 11.4. A review of provincial habitat description, on-site habitat and recommended impact assessment approach is provided below for the five noted SAR.

- Chimney Swift
 - Provincial habitat description: *Likely to be found in and around urban settlements where they nest and roost (rest or sleep) in chimneys and other manmade structures. They also tend to stay close to water as this is where the flying insects they eat congregate*
 - On-Site Habitat: Potential suitable nesting/roosting habitat within the abandoned dwelling and barns/structures with suitable forage habitat with the close proximity to Telfer Creek. Detailed on-site bird investigations did not record this species (see Appendix 4) within the Study Land. Therefore it has been concluded that no further review or impact assessment is deemed warranted for this Species-At-Risk bird.
- Bobolink
 - Provincial habitat description: *Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland > 50 ha*
 - On-Site Habitat: Marginal on-site suitable habitat but suitable habitat within the adjacent farm fields. Detailed on-site bird investigations did not record this species (see Appendix 4) within the Study Land. No negative impacts to the surrounding potential habitat lands shall occur from the proposed site development. Therefore it has been concluded that no further review or impact assessment is deemed warranted for this Species-At-Risk bird.

- Eastern Meadowlark

- Provincial habitat description: *Open, grassy meadows, farmlands, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent open grassy areas > 10 ha in size*
- On-Site Habitat: Minor on-site suitable habitat but suitable habitat within the adjacent farm fields. Detailed on-site bird investigations did not record this species (see Appendix 4) within the Study Land. No negative impacts to the surrounding potential habitat lands shall occur from the proposed site development. Therefore it has been concluded that no further review or impact assessment is deemed warranted for this Species-At-Risk bird.

- Butternut

- Provincial habitat description: *In Ontario, Butternut usually grows alone or in small groups in deciduous forests. It prefers moist, well-drained soil and is often found along streams. It is also found on well-drained gravel sites and rarely on dry rocky soil. This species does not do well in the shade, and often grows in sunny openings and near forest edges*
- On-Site Habitat: Suitable habitat identified. EIS investigations identified one natural Butternut sapling within the Study Land (see Appendix 3 and location mapping on Figure 8). Additionally several planted Butternuts were identified within the very southwest corner of the Study Land. These planted Butternuts were part of an earlier ESA approved planting by the former landowner. With Butternut confirmed on-site, further review and impact assessment is required and provided under section 13.

- Rusty-patched Bumble Bee

- Provincial habitat description: *This species, like other bumble bees, can be found in open habitat such as mixed farmland, urban settings, savannah, open woods and sand dunes. The most recent sightings have been in oak savannah, which contains both woodland and grassland flora and fauna. The species has suffered rapid, severe decline throughout its entire range since the 1970s with only a handful of specimens collected in recent years in Ontario. The only sightings of this bee in Canada since 2002 have been at the Pinery Provincial Park on Lake Huron.*
- On-Site Habitat: Minor on-site suitable habitat identified. Detailed on-site investigations did not record this species (see Appendix 4) within the Study

Land. Therefore it has been concluded that no further review or impact assessment is deemed warranted for this Species-At- Risk.

The Provincial Policy Statement (PPS) section 2.1.7 states:

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

MNR documentation of historical records states:

Absence of information for a specific location does not mean there are no natural areas, provincially tracked species, plant communities or wildlife concentration areas at that location. It means that on the date the MNR created the dataset there was no information for that location. These data are not a substitute for site visits.

Similar wording and policy intent can be found in the Grey County Official Plan policy 7.10.2 for Habitat of Endangered or Threatened Species. No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

As such, detailed site investigations within the Study Land were undertaken for flora and fauna with a review to those that are currently listed under the Endangered Species Act (ESA). Appendix 3 and Appendix 4 provide this on-site species listing recorded through EIS investigations for the Study Land. Through intensive on-site survey works, one vascular plant, Butternut was identified within the Study Land which has regulated habitat under the Endangered Species Act 2007.

Through the analysis of historical data and on-site investigations, Butternut has been **confirmed** within the Study Land. Thus further review and impact assessment is required and provided under reporting section 13 to demonstrate compliance with the Endangered Species Act (ESA) 2007, the PPS 2.1.7 and the Grey County Official Plan 7.10.2.

6 Fish Habitat

Through planning maps and Ontario Base mapping, a watercourse is identifiable along the south and east perimeter of the Study Land. This watercourse is known as ‘Telfer Creek’ which the province has characterized as having a ‘Cold-Water’ thermal regime and supports Fish Habitat. Provincial literature documents this watercourse supporting both resident and migratory fish communities, primarily migratory Rainbow Trout and Salmon with a resident population of Brown Trout and several common species of the Cyprinidae Family (minnows).

The Provincial Policy Statement 2.1.6 states:

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

The Grey County Official Plan 7.9.1 has similar wording for Fish Habitat.

No development or site alterations has been proposed within Telfer Creek itself, as such no Fish Habitat shall be directly impacted and site development will be in compliance with the Federal Fisheries Act, PPS 2.1.6 and the Grey County Official Plan 7.9.1.

The PPS section 2.1.8 for the adjacent lands to Fish Habitat states:

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

The proposed site development is within 120m to Fish Habitat of Telfer Creek. Therefore with Fish Habitat **confirmed** within the Study Land, further review and impact assessment is required and provided under section 14 to demonstrate site development compliance with adjacent land policies of the PPS 2.1.8 and the Grey County Official Plan.

7 Significant Valleylands

Grey County has identified Significant Valleylands within its Natural Heritage System 'Green in Grey'. Applicable area mapping is provided on Figure 4B which demonstrates that **no** Significant Valleyland feature occurs within the Site Lands.

The Provincial Policy Statement 2.1.5 (c) states:

Development and site alteration shall not be permitted in significant valleylands in Ecoregions 6E and 7E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

The Provincial NHRM, 2010 under section 8.4 for Significant Valleylands states that the Adjacent Land width to said features is 120m.

The PPS section 2.1.8 for the adjacent lands to Significant Valleylands states:

Development and Site Alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been

demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Similar policy wording and intent for Significant Valleylands is also under the Grey County Official Plan policy 7.7.1. No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

Through this analysis it has been demonstrated that **no** Significant Valleyland feature occurs within the Study or Site Lands, thus site development will be in compliance with the PPS section 2.1.5 (c) and 2.1.8 and the Grey County Official Plan 7.7.1 for Significant Valleylands. Therefore, it can be concluded that no further impact assessment for this feature is deemed warranted.

8 Significant Areas of Natural and Scientific Interest (A.N.S.I.)

A review of Provincially Significant ANSI's was undertaken and provided on Figure No. 3, sourced through the MNR web site mapping. This provincial mapping demonstrates that **no** provincially significant ANSI feature, either earth science or life science, occurs within the Site Lands.

The Provincial Policy Statement (PPS) section 2.1.5 (e) states:

Development and site alteration shall not be permitted in significant areas of natural and scientific interest unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

Similar policy wording and intent for Significant Valleylands is also under the Grey County Official Plan policy 7.6.1. No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

With **no** provincially significant ANSI features confirmed within the Site Lands, it has been demonstrated and can be concluded that site development would be in compliance with the PPS 2.1.5 (e), 2.1.8 and the Grey County Official Plan 7.6.1. Therefore, no further review or impact assessment is warranted for this feature.

9 Significant Wetlands / Other Wetlands

A review of Provincially Significant Wetlands (PSW) was undertaken and provided on Figure No. 3, sourced through the MNRF web site mapping. This provincial mapping demonstrates that **no** significant wetland features occur within the Study or Site Lands. Additionally County Official Plan mapping on Figure No. 4B shows no 'other' wetland feature occurring within the Site Lands.

The Provincial Policy Statement (PPS) section 2.1.4 (a and b) states:

Development and site alteration shall not be permitted in significant wetlands in Ecoregions 5E, 6E and 7E and significant coastal wetlands.

Similar policy wording and intent for Significant Valleylands is also under the Grey County Official Plan policy 7.3.1. No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

With **no** Significant Wetland or Wetland feature within the Site Lands, it has been demonstrated and can be concluded that site development would be in compliance with the PPS 2.1.4 (a and b), 2.1.8 and the County of Grey Official Plan policies 7.3.1 and 7.3.2. Therefore, no further review or impact assessment is required relating to Significant Wetlands or Wetlands.

10 Significant Woodlands

The County of Grey has undertaken countywide mapping for Significant Woodlands within its Official Plan, as per policy 2.8.4. In review of the County Official Plan- Constraint mapping, provided on Figure No. 4B, the forest cover north of 16th street east (Highway 26) beyond the Study Land but within the Site Lands has been designated 'Significant Woodland' under the Grey County Official Plan. No forest cover within the Study Land has this designation.

The Provincial Policy Statement 2.1.5 (b) states:

Development and site alteration shall not be permitted in significant woodlands in Ecoregions 6E and 7E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

The PPS section 2.1.8 for the adjacent lands to Significant Woodlands states:

Development and Site Alteration shall not be permitted on adjacent lands (120m) to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

The Grey County Official Plan 7.4.1 in part states:

No development or site alteration may occur within Significant Woodlands or their adjacent lands (120m) unless it has been demonstrated through an environmental impact study, as per Section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.

The current City of Owen Sound 2012 Official Plan policy 7.1.2.5.1 has similar wording and policy intent for Significant Woodlands as does the City of Owen Sound's Draft 2020 version policy 6.1.3.2.

With Significant Woodland identified within the northerly Site Lands (but not within the Study Land), further impact assessment review is required and provided under reporting section 15, to demonstrate site development compliance with applicable 'adjacent land' policies.

11 Significant Wildlife Habitat

Currently no mapping has been undertaken within Grey County or within the Grey Sauble Conservation Authority Watershed to identify Significant Wildlife Habitat (SWH) due to its complexity and sub-component aspects requiring on-site survey works. Some historical Provincial MNRF inventory and wildlife assessment works within Grey County has been sourced to aid in determination of confirmed SWH within these Study Land and within the County's Natural Heritage System. Additionally EIS field inventory works carried out over the Study Land will augment this historical data to aid in the determination of significance for each wildlife habitat sub-component.

The Ontario Ministry of Natural Resources and Forestry published in January 2015 'Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E' as a supplement document to the 2000 Significant Wildlife Habitat Technical Guide (SWHTG). This supporting document provides a listing of candidate and criteria or threshold levels to confirm the presence of significant wildlife habitat within Ecoregion 6E with MNRF-Land Information Ontario identifying that the subject lands are situated within Ecoregion 6E. Some historical Provincial MNRF inventory and wildlife assessment works within Grey County has been sourced to aid in determination of confirmed SWH. Additionally EIS field inventory works carried out over the Study Lands will augment this historical data to aid in the determination of significance for each wildlife habitat sub-component.

The Study Land is within the provincial Ecoregion 6E. Provided below is a review of Ecoregion 6E criteria for candidate SWH, a review of threshold levels and confirmed SWH for the Study Lands. This review follows the Natural Heritage Reference Manual, 2010 (NHRM), flow chart of Figure No. 9-1 for the identification and confirming Significant Wildlife Habitat.

11.1 Seasonal Concentration Areas of Animals

A summary review of Provincial Criteria Table 1.1 is provided below:

- Waterfowl Stopover and staging (Terrestrial)
 - One criteria waterfowl species: Mallard was observed during the early summer season, non-migration period.
 - One ELC criteria code: CUM1 is present within the Study Land but no anticipated flooding (sloped lands).
 - Criteria threshold for species and aggregate numbers not met and no functional habitat identified.
 - No confirmed SWH.
- Waterfowl Stopover and staging (Aquatic)
 - No criteria waterfowl species were observed during the migration period within the Study Land.
 - No ELC criteria codes are present within the Site Lands.
 - Criteria threshold for species and aggregate numbers not met and no functional habitat identified.
 - No Confirmed SWH.
- Shorebird Migratory Stopover
 - No criteria shorebird species were observed within the Study Land.
 - No ELC criteria codes are present within the Site Lands.
 - Criteria threshold for species and aggregate numbers not met.
 - No confirmed SWH.
- Raptor Wintering Area
 - No criteria raptor species were observed.
 - Three ELC criteria codes: CUM, CUW and FOD are present however; no known historical habitat use observed during the overwinter period investigation.
 - No confirmed SWH.
- Bat Hibernacula
 - No criteria bat species were observed.
 - No ELC criteria codes present within the Site Lands.
 - No historical documentation of bat hibernation activity.
 - No confirmed SWH.
- Bat Maternity Colonies
 - No criteria bat species were observed.
 - ELC criteria code FOD is present within the Study Land.
 - Vegetation community 2 is a narrow riparian forest strip open to cross winds and gets seasonally flooded from Telfer Creek, unsuitable habitat for bat roosting functions. No large diameter trees with cavities or standing snags were observed.

- No historical documentation of bat maternity activity and no habitat meeting provincial criteria.
- No confirmed SWH.
- Turtle Wintering Areas
 - No criteria turtle species were observed.
 - No ELC criteria codes are present within the Site Lands.
 - No suitable overwintering habitat (permanent water bodies with soft mud substrate) features are present.
 - No confirmed SWH.
- Reptile Hibernaculum
 - Two criteria species: Eastern Gartersnake and Northern Brownsnake were observed during the summer –forage season only.
 - No activity observed during the spring emergence period.
 - No confirmed SWH.
- Colonially-Nesting Bird Breeding Habitat: Bank and Cliff
 - No criteria bird species were observed.
 - One ELC criteria code: CUM1 is present within the Study Land but no steep bank or cliff habitat present.
 - No confirmed SWH.
- Colonially-Nesting Bird Breeding Habitat: Tree/Shrub
 - One criteria bird species: Great Blue Huron was observed foraging during the summer season, no nesting activity within the Study Land.
 - No ELC criteria codes are present within the Site Lands.
 - No confirmed SWH.
- Colonially-Nesting Bird Breeding Habitat: Ground
 - No criteria bird species were observed within the Study Lands.
 - One ELC criteria code: CUM is present within the Study Land however; no nesting activity observed.
 - No confirmed SWH.
- Migratory Butterfly Stopover Areas
 - No criteria butterfly species were observed.
 - Forest & Field ELC criteria codes are present however; the Study Land is not located within 5 km of Lake Ontario (provincial criteria location).
 - No confirmed SWH.
- Landbird Migratory Stopover Areas
 - Several migratory songbird species present within the Study Lands.
 - Forest ELC criteria codes are present however; the Study Lands is not located within 5 km of Lake Ontario (provincial criteria location).
 - No confirmed SWH.

- Deer Yarding Areas
 - OMNRF determines this habitat. Midhurst District has identified and mapped wintering deer yards within Grey County. A review of provincial mapping shows no such habitat has been designated within the Site Lands. Confirmed on-site that there is no suitable deer overwintering habitat to provincial description.
 - No confirmed SWH.

- Deer Winter Congregation Areas
 - Within Grey County, deer are typically constrained by snow depths thus yarding habitat is used rather than congregation areas. Congregation areas are typically associated with Carolinian regions, thus not a SWH function in Grey County.
 - No confirmed SWH.

11.2 Rare Vegetation Communities

A summary review of Provincial Criteria Table 1.2.1 is provided below:

- Cliffs and Talus Slopes
 - No ELC criteria code present within the Site Lands.
 - No confirmed rare community type.

- Sand Barren
 - No ELC criteria code types present within the Site Lands.
 - No confirmed SWH.

- Alvar
 - No ELC criteria code types present within the Site Lands.
 - No confirmed SWH.

- Old Growth Forest
 - One ELC criteria code: FOD is present within the Study Land.
 - Provincial habitat description criteria for 'Old Growth Forest' community are not present (tree sizes, density, etc.) within the Study Lands or identifiable within the adjacent lands.
 - No confirmed SWH.

- Savannah
 - No ELC criteria code types present within the Site Lands.
 - No confirmed SWH.

- Tallgrass Prairie
 - No ELC criteria code types present within the Site Lands.
 - No confirmed SWH.

- Other Rare Vegetation Communities
 - No identified vegetation communities with an S1, S2 or S3 ranking present within the Site Lands.
 - No confirmed SWH.

11.3 Specialized Habitat for Wildlife

A summary review of Provincial Criteria Table 1.2.2 criteria is provided below:

- Waterfowl Nesting Area
 - One criteria waterfowl species: Mallard was observed during the summer roosting period within the Study Land however; no nesting activity recorded during the breeding season.
 - No ELC criteria codes are present within the Site Lands.
 - Criteria thresholds not met for species diversity, or habitat type.
 - No confirmed SWH.

- Bald Eagle and Osprey Nesting, Foraging and Perching Habitat
 - No criteria species were observed within the Study Land.
 - Two ELC criteria codes: FOM and FOD are present however; Study Land is not adjacent to a large open water body.
 - Criteria thresholds not met for active use of habitat.
 - No confirmed SWH.

- Woodland Raptor Nesting Habitat
 - No criteria species observed.
 - Two ELC criteria codes: FOM and FOD are present; however, no nesting activity identified. No documented or observed nesting activity within the immediate adjacent lands.
 - Criteria thresholds for species, numbers and habitat size plus habitat use, not met.
 - No confirmed SWH.

- Turtle Nesting Areas
 - No criteria species observed.
 - No ELC criteria codes present and no suitable habitat identified within the Site Lands.
 - Criteria thresholds for species, numbers and habitat size plus use, not met.
 - No Confirmed SWH.

- Seeps and Springs
 - One criteria fauna species: White-tailed Deer were noted within the Study Land.
 - One spring or groundwater upwelling feature is present within the Study Land with location mapping provided on Figure 8.
 - Criteria threshold of 2 or more seeps is not met.
 - No confirmed SWH.

- Amphibian Breeding Habitat (Woodland)
 - One criteria species: Gray Treefrog was recorded within the Study Land.
 - One ELC criteria code: FOD is present in the Study Land.
 - Criteria threshold for species diversity or numbers of "*at least 20 individuals*" not met (see Appendix 4).
 - No confirmed SWH.

- Amphibian Breeding Habitat (Wetlands)
 - Two criteria species: Northern Leopard Frog and Gray Treefrog were recorded identified within the Study Land.
 - No ELC criteria codes are present within the Site Lands.
 - Criteria thresholds for species diversity or numbers of “at least 20 breeding adults” were not met (see Appendix 4).
 - No confirmed SWH.

- Woodland Area-Sensitive Bird Breeding Habitat
 - No criteria bird species were observed within the Study Land during the breeding season.
 - ELC criteria code: FOD is present within the Study Land however; no forest interior habitat is present.
 - Criteria thresholds for species diversity, numbers, presence or interior forest habitat, not met
 - No confirmed SWH.

11.4 Habitat for Species of Conservation Concern

(Not including Endangered or Threatened Species)

A summary review of Provincial Criteria Table 1.3 criteria is provided below:

- Marsh Breeding Bird Habitat
 - No criteria bird species observed.
 - No ELC criteria codes are present within the Site Land.
 - Criteria thresholds not met for species diversity, numbers or active habitat use.
 - No confirmed SWH.

- Open Country Bird Breeding Habitat
 - No criteria bird species observed.
 - One ELC criteria code: CUM1 is present within the Study Land.
 - Criteria thresholds for species diversity, numbers or active habitat use, not met.
 - No confirmed SWH.

- Shrub/Early Successional Bird Breeding Habitat
 - One Indicator Species : Brown Thrasher but no Common criteria species were identified within the Study Lands.
 - One ELC criteria code: CUW1 is present within the Study Land.
 - Criteria thresholds for species diversity (minimum of 1 indicator + 2 common species) not met.
 - No confirmed SWH

- Terrestrial Crayfish
 - No criteria species (no chimneys) observed.
 - No ELC criteria codes are present within the Site Lands.
 - Criteria threshold for species diversity, numbers or active habitat use, not met.
 - No confirmed SWH.

- Special Concern and Rare Wildlife Species
 - **No** flora species were observed in 2020 within the Study Land that have a ranking of ‘Special Concern’ or of provincial rarity (S1, S2 or S3). See Appendix 3 listing.
 - No fauna species were observed in 2020 within the Study Land that have a ranking of ‘Special Concern’ or of provincial rarity (S1, S 2 or S3). See Appendix 4 listing.
 - Historical MNRF Records (see Appendix 2) for the surrounding landscape (extending 5 km from Study Lands) identified three bird species, one vascular plant, two reptiles and one fish with provincial ‘Special Concern’ status. Additionally one reptile species of federal (COSEWIC) concern was noted. A review of each for habitat requirements, on-site habitat features, potential impacts and/or warranted further impact assessment is provided below:
 - Wood Thrush
 - Provincial habitat description: *The wood thrush lives in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches. These birds prefer large forests, but will also use smaller stands of trees. They build their nests in living saplings, trees or shrubs, usually in sugar maple or American beech.*
 - Study Land: No suitable habitat within the Study Land (vegetation community 2 is too small to function as suitable habitat). Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 bird listings). Thus no negative impacts are anticipated from site development and no impact assessment is deemed required.

➤ Golden-winged Warbler

- Provincial habitat description: *Golden-winged Warblers prefer to nest in areas with young shrubs surrounded by mature forest – locations that have recently been disturbed, such as field edges, hydro or utility right-of-ways, or logged areas*
- Study Land: Suitable habitat within vegetation community 3. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 bird listings). Thus no negative impacts are anticipated from site development and no impact assessment is deemed required.

➤ Eastern Wood-pewee

- Provincial habitat description: *The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation.*
- Study Land: Suitable habitat within vegetation community 2. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 bird listings). Thus no negative impacts are anticipated from site development and no impact assessment is deemed required

➤ Eastern Milksnake

- Provincial habitat description: *Can be found in a variety of habitats but tend to use open habitats such as rocky outcrops, fields and forest edge. In rural areas this snake may be common, especially around barns where they thrive on the abundant mice. The milksnake hibernates underground, in rotting logs or in the foundations of old buildings.*
- Study Land: Pockets of suitable habitat scattered throughout the Study Land. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 reptile listings). Abundant forage habitat within the non-developable Telfer Creek floodplain area to be maintained in a natural environment. Thus no negative impacts are anticipated from site development and no impact assessment is deemed required

➤ Western Chorus Frog

- Provincial habitat description: *Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps and temporary ponds in open country, or even urban areas. This frog breeds in almost any fishless pond with at least 10 centimetres of water, including quiet, shallow, usually temporary waterbodies with vegetation that is submerged or protrudes from the water, and especially in rain-flooded meadows and ditches, and in temporary ponds on floodplains. The western chorus frog overwinters underground or under surface cover, such as fallen logs*
- Study Land: Marginal pockets of suitable habitat scattered throughout the Telfer Creek flood plain environment. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 amphibian listings). Primary habitat within the non-developable Telfer Creek floodplain area to be maintained in a natural environment. Thus no negative impacts are anticipated from site development and no impact assessment is deemed required

➤ Snapping Turtle

- Provincial habitat description: *Inhabit permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size ~28 ha*
- Study Land: Suitable habitat on-site associated with Telfer Creek and its riparian zone. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 reptile listings). Primary habitat within the non-developable Telfer Creek floodplain area to be maintained in a natural environment. Thus no negative impacts are anticipated from site development and no impact assessment is deemed required

▪ Hart's-tongue Fern

- Provincial habitat description: *American Hart's Tongue Fern grows on calcareous rocks in deep shade on slopes in deciduous forest. Most Ontario occurrences are in maple-beech forest. Established plants can grow in exposed, rocky crevices and on*

outcrops, but moist, mossy areas seem to be essential for spore germination and early plant development.

- Study Land: No suitable habitat to provincial description identified within the Study Land. Intensive on-site investigations did not record this species within the Study Land (see Appendix 3 Flora listings). Thus no negative impacts are anticipated from site development and no impact assessment is deemed required.

➤ Northern Brook Lamprey

- Provincial habitat description: *The Northern brook lamprey inhabits clear, coolwater streams. The larval stage requires soft substrates such as silt and sand for burrowing which are often found in the slow-moving portions of a stream. Adults are found in areas associated with spawning, including fast flowing riffles comprised of rock or gravel.*
- Study Land: Suitable habitat within Telfer Creek. Impact assessment to Telfer Creek is addressed through the 'Fish Habitat' component with no negative impacts anticipated from site development. Thus no additional separate impact assessment is deemed required.

➤ Midland Painted Turtle

- Provincial habitat description: *Inhabit waterbodies, such as ponds, marshes, lakes and slow-moving creeks, that have a soft bottom and provide abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water. The midland painted turtle hibernates on the bottom of waterbodies.*
- Study Land: Marginal habitat on-site associated with Telfer Creek and its riparian zone. Intensive on-site investigations did not record this species within the Study Land (see Appendix 4 reptile listings). Primary habitat within the non-developable Telfer Creek floodplain area to be maintained in a natural environment. Thus no negative impacts are anticipated from site development and no impact assessment is deemed required.

11.5 Animal Movement Corridors

A summary review of Provincial Criteria Table 1.4.1 Criterion is provided below:

- Amphibian Movement Corridors
 - No Confirmed significant breeding habitat through Table 1.1 review for amphibian breeding habitat-wetland or woodland, thus no corridor assessment required.
- Deer Movement Corridors
 - No deer wintering habitat was confirmed through Table 1.1 analysis, thus no delineation or threshold levels for deer movement corridor is required.

11.6 Exceptions for Ecoregion 6E

A summary review of Provincial Criteria Table 1.5.1 is provided below:

- Mast Producing Areas
 - Candidate areas are only within EcoDistrict 6E-14, the Upper Bruce Peninsula.
 - No confirmed SWH.
- Sharp-tailed Grouse
 - Candidate areas are only within EcoDistrict 6E-17, for Manitoulin Island.
 - No confirmed SWH.

In summary for this review of Ecoregion 6E criterion schedule, **no** confirmed or candidate Significant Wildlife Habitat has been identified within the Study Land.

The Natural Heritage PPS 2.1.5 (d) states:

Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

The Grey County Official Plan 7.10.1 in part states:

Development and Site Alteration is not permitted within, Significant Wildlife Habitat and their adjacent lands, unless it has been demonstrated through an acceptable environmental impact study completed in accordance with section 7.11 of this Plan, that there will be no negative impacts on the natural features or their ecological functions.

No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

With no Significant Wildlife Habitat identified within the Study Land or noted within the immediate adjacent lands, site development will be in compliance with the aforementioned planning policies. Thus no further review or impact assessment is deemed warranted for this natural heritage feature.

12 Significant Feature Analysis Summary

Through the significant feature analysis two natural heritage features have been identified within the Study Land: Habitat for Endangered Species and Fish Habitat. Beyond the Study Land, a Significant Woodland feature has been identified within the northerly Site Lands with the subject Study Land situated within the adjacent lands to this Significant Woodland Feature.

Further review of these identified features and their ecological functions have been provided within the 'Impact Assessment' component of the EIS. Site development with recommended mitigation measures in relation to the proposed development activity has also been provided to maintain compliance with applicable Planning Policies.

Impact Assessment

13 Habitat for Endangered and Threatened Species – Butternut

13.1 Characterization

Through the background review of land acquisition it was disclosed that within the subject property an approved 2013 Endangered Species Act-Butternut Planting Plan had been undertaken by the adjacent Heritage Grove Development. A total of 42 replacement Butternuts were planted at the location mapped on Figure 8 and shown on the subject Site Plan design mapping. The required ESA monitoring activities for that planting plan extended for 5 years post planting.

On-site EIS investigations of 2020 identified a single butternut sapling (other than the above noted 2013 ESA Planting Plan) within the Study Land. Tree location mapping is provided on Figure 8. A Butternut Health Assessment report for this single sapling was completed in accordance to provincial guidelines by this author (provincially approved health assessor) in August 2020 and submitted to the Ontario Ministry of Environment, Conservation and Parks (MECP).

13.2 Impact Assessment

The province of Ontario has accepted the submitted Butternut Health Assessment report, and the application under the Endangered Species Act 2007 (ESA) in accordance to Ontario Regulation 242/08 which was submitted in December 2020. Exquisite Real Estate Ltd. received provincial clearance/approval of this ESA application under Ontario Regulation 242/08 (copy provided under Appendix 7) to remove the single identified Butternut sapling and undertake replacement planting near the 2013 Butternut Planting location.

With the confirmed ESA clearance/approval to the single noted sapling, the required 50m buffer zone around healthy retained Butternut is not applicable to the original butternut sapling location. However, this 50m buffer zone is required around the perimeter to the noted ESA-Butternut planting location. This 50m development setback is shown on Figure 9 and the Site Plan.

With Ontario Regulation 242/08 (under ESA) satisfied, site development within the Development Envelope lands as shown on Figure 10 will be in-compliance with ESA and the 2020 Provincial Policy Statement 2.1.7 and adjacent land policy 2.1.8. Similarly site development will be in-compliance with the 2019 Grey County Official Plan policy 7.10.2 and general environmental policies of the City of Own Sound Official Plan (2020 draft inclusive).

14 Fish Habitat – Adjacent Lands

14.1 Characterization

As discussed under reporting section 6, the province has designated Telfer Creek with a cold-water thermal regime supporting both a resident and migratory Trout and Salmon fish community.

For the Study Land, the flat terrain along sections of this headwaters area to Telfer Creek has established a floodplain environment which extends well beyond the low flow channel bank. Detailed study investigations by the consulting engineering company has delineate the floodplain limit within the Study Land, found to extend in much of the Study Land area to be greater than 30m from the base flow channel. Within the Study Land, this upper head waters section of Telfer Creek supports sensitive fish habitat for both spawning and rearing habitat of salmonid family. Seasonal high water flows during the spring and fall salmonid migration and spawning period typically inundate portions of the flat terrain floodplain in this area, extending seasonal ‘fish habitat’ slightly (1m to 3m) beyond the top of bank to the base flow channel.

Through on-site investigations a single groundwater upwelling (spring) was identified within the west riparian bank of Telfer Creek, with location mapping provided on Figure 8. This ‘spring’ provides cold water input during both the summer and overwintering seasons to Telfer Creek and functions as a critical Fish Habitat feature for thermal regulation and water quantity and quality input source.

14.2 Impact Assessment

The provincial NHRM section 11.3 provides a recommended minimum natural vegetated cover adjacent to fish habitat to coldwater streams, stating:

30m or 20m where it is demonstrated as satisfying policy 2.1.6

Similarly the Grey County Official Plan section 7.9.2 for Fish Habitat states in part:

No Development will be permitted within 30 metres of the banks of a stream, river or lake unless an environmental impact study prepared in accordance with section 7.11 of this Plan...

No specific policy for this natural heritage feature is under the current 2012 City of Owen Sound Official Plan or its first 2020 O.P. draft.

Given the identified sensitive ecological functions for fish and fish habitat within the Study Land it is recommended that site development maintain a separation distance of 34m from the base flow channel top-of-bank (incorporates the 4m seasonal fish habitat limit beyond the

base flow channel). The exception to this will be for minor construction works needed for below grade connection to the City's sanitary trunk line running along the west side of the Rail Trail. In review of the engineering mapping of the floodplain limit (accepted by the GSCA), site development shall be focused beyond this 34m Fish Habitat setback recommendation.

The identified groundwater upwelling-spring feature provides critical fish habitat functions to Telfer Creek. Significant alterations to groundwater flow patterns or any alteration to the groundwater output water quantity or quality could negatively impact Fish Habitat. As such, a Hydrogeological Constraint Zone extending 120m up-gradient to this spring feature has been delineated on Figure 9. Any site development or site alterations within this Constraint Zone must demonstrate no adverse changes to groundwater flow patterns or impairment to the springs discharge waters for quantity and/or quality (including thermal).

With site development focused beyond 30m to the Fish Habitat limit and the noted Hydrogeological Constraint Zone requirements, site development will be in-compliance with the adjacent land policy of the PPS 2.1.6, the Grey County Official Plan policy 7.9.2 and the City of Owen Sound Official Plan policy 6.1.4 for Hazard Lands relating to fish habitat.

15 Significant Woodland – Adjacent Lands

15.1 Characterization

As discussed under reporting section 10, the woodland environment north of Highway 26 within the Site Lands has been designated Significant Woodland under the Grey County Official Plan, as shown on Figure 4B. The subject woodlands are mapped as EIS vegetation community numbers 4 and 5 on Figure 7, being on other private property lands. No significant woodland designation or feature occurs within the Study Land itself.

15.2 Impact Assessment

With Highway 6 (16th Street East) separating the Significant Woodland from the Study Land, no direct or indirect ecological functions are identifiable within the Study Land which would support the Significant Woodland feature. As such no specific mitigative measures are required for site development within the Study Land in relation to this feature.

Therefore, it has been concluded that site development will be in-compliance with the adjacent land policies of the PPS 2.1.8, the County of Grey Official Plan policy 7.4 and the City of Owen Sound Official Plan policy 6.1.3 for Significant Woodlands.

16 Mitigation

The following mitigative measures should be implemented through Site Plan Control, Development Agreement and/or Development permits/approvals. These measures are recommended to maintain the ecological functioning role and natural heritage features that have been identified within the Study Land and are in compliance with applicable Acts, Legislation, and Natural Heritage Planning Policies of the Provincial Policy Statement and Official Plans.

- 16.1 No development or site alterations shall occur within 50m to the ESA-Butternut Planting Area as delineated on EIS Figure 9 and reflected on the Site Plan, without further ESA review and clearance. Mitigative measures for the removal of the single Butternut sapling recorded within the Development Envelope shall be addressed in accordance to the ESA approval.
- 16.2 No development or site alterations are permissible within 30m to the identified limit of Fish Habitat or 34m from the base flow channel 'top-of-bank' of Telfer's Creek. Exception to this shall be for the below grade sanitary line hook-up which will require a separate review once detailed engineering designs are prepared, to demonstrate compliance with the Federal Fisheries Act and Fish Habitat-Planning Policies.
- 16.3 Site development or site alterations occurring within the identified Hydrogeological Constraint Zone (120m from the mapped groundwater upwelling/spring) mapped on Figure 9, shall demonstrate no adverse changes to groundwater flow patterns or impairment of water quantity and quality (including thermal) to the noted groundwater upwelling discharge waters.
- 16.4 Tree clearing or vegetation removal for site development activity within the Development Envelope Lands should not occur from April 1st to August 31st in any given year, during the active nesting period for migratory birds. If site clearing is to occur within this restricted timeline, additional measures and monitoring in accordance to the federal Migratory Birds Act shall be required.
- 16.5 The final 'Site Plan' design shall be reviewed by AWS to insure compliance with the EIS mitigation measures, with a review letter provided to applicable planning agencies.

17 Conclusions

As per Ontario Regulation 242/08 for Butternut, the applicant must abide by subsections 8 & 10 (Record keeping, Butternut planting guidelines and 2-Year Monitoring) under the Endangered Species Act. As this is under regulated Provincial control and very specific Act and Ontario Regulation requirements, it was not included as part of the 'mitigation measures' of the EIS.

The Impact Assessment component mitigation requires: a retained vegetative buffer zone and development setback to Fish Habitat and hydrology floodplain limit, constrained hydrogeological zone for below grade alterations and constrained tree cutting period. Through these mitigation measures it has been demonstrated and concluded that the proposed development activity would have no anticipated negative impacts or loss of ecological function to the Natural Heritage features assessed within the Study Lands or surrounding natural environment.

Therefore, site development would be in compliance with the Endangered Species Act, 2007 the Federal Fisheries Act, the Natural Heritage policies of the 2020 Provincial Policy Statement, the 2019 Grey County Official Plan and General Environmental Policies of both the current 2012 City of Owen Sound Official Plan and first draft 2020 new Official Plan.

It was noted the City of Owen Sound under their review comments section K.1, the requirement of a 'Tree Preservation & Planting Plan'. This EIS has focused the site development away from the forested riparian zone, with tree impacts to vegetation community number 1 and 3 only. Through focused site development and vegetative setbacks, the 'forested' environment of vegetation community 2 shall not incur any negative impacts or impaired ecological functions from the proposed development. Noted under Table 2, vegetation community 1 has only scattered immature trees (<10cm dbh) with vegetation community 3 having a higher tree density level but still in an early successional condition, predominantly trees are under 14cm dbh. Additionally within vegetation community 3 it was noted that the dominant species was Ash, which are significantly infected with emerald ash borer (several tree mortalities already observed on-site). As such, it is recommended no trees within the development envelope are considered to be salvageable. Mitigative measures for the noted Butternut and ecological functions associated with this immature tree stand have been incorporated into the EIS (development setbacks and tree clearing constraints timelines).

All comments contained within this report '*italicized*' are quotes pertaining to available literature, technical reports, manuals and documents relevant to the features and/or functions observed within these Study Lands. All natural feature locations are estimates based on current Grey County or Province of Ontario air photo imagery and plotting by hand held GPS unit and aided by detailed surveyed existing features mapping by GM BluePlan Site Plans.

Respectfully Submitted



John Morton
President, AWS Environmental Consulting Inc.

18 References

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

Environment Canada, Federal Committee on the Status of Endangered Wildlife in Canada (COSEWIC), www.cosewic.gc.ca

GM BluePlan Engineering: Floodplain Analysis Report, Telfer Creek Square and Draft Site Plan design.

Grey County Official Plan, 2019 and schedule mapping

Grey County Natural Heritage System, Green in Grey, January 2017

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

Natural Heritage Information Centre (NHIC), 2020
Provincial status of Plants, Wildlife and Vegetation Communities database
OMNR, Peterborough. http://nhic.mnr.gov.on.ca/nhic_.cfm

Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement 2005, Ontario Ministry of Natural Resources, second version, March 2010

Niagara Escarpment Plan, 2017

Oldham, M.J., W.D. Bakowsky and D.A. Sutherland, (1995). Floristic Quality Assessment for Southern Ontario. Ontario Ministry of Natural Resources, Natural Heritage Information Centre

Ontario Ministry of Municipal Affairs and Housing, 2020.
Provincial Policy Statement

Ontario Ministry of Natural Resources, 2018
Committee on the Status of Species at Risk in Ontario (COSSARO)
www.mnr.gov.on.ca/mnr/speciesatrisk

Ontario Ministry of Natural Resources, 2000
Significant Wildlife Habitat Technical Guide, Fish and Wildlife Branch

Ontario Ministry of Natural Resources and Forestry, Significant Wildlife Habitat Eco-regional Criteria Schedules, January 2015

Ontario Ministry of Natural Resources and Forestry, Significant Wildlife Habitat Mitigation Support Tool, Version 2014

19 Figures




Mapping Note for Clarification:

All Below Figures Are A Very Close Approximation For The Property Boundary But Given Various Mapping Scales, Boundary Anomalies etc., Figures May Not Match The Survey Plan Dimensions etc. to Its Entirety.

Figure 1.....	Property Location
Figure 2.....	Study and Site Lands
Figure 3.....	Provincial Natural Heritage Features
Figure 4A.....	Grey County Official Plan – Land Use
Figure 4B.....	Grey County Official Plan – Constraints
Figure 5A.....	City of Owen Sound Official Plan – Land Use
Figure 5B.....	City of Owen Sound- Zoning
Figure 6.....	Conservation Authority Regulatory Lands
Figure 7.....	Vegetation Communities
Figure 8.....	Natural Heritage Features
Figure 9.....	Natural Heritage Buffer Zones
Figure 10.....	Development Land and Constraint Zones

Figure 1 : Property Location

Legend

-  Parcels - Current
-  Study Land
2275 16th St East
Owen Sound
-  Site Lands
(120m Adjacent
Lands)



Notes

Sydenham Square Inc.
Telfer Creek Square-
Draft Plan of Subdivision

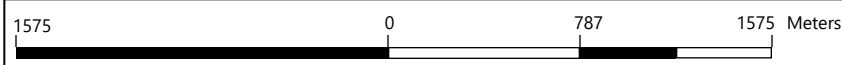


Figure 2: Study Land and Site Lands

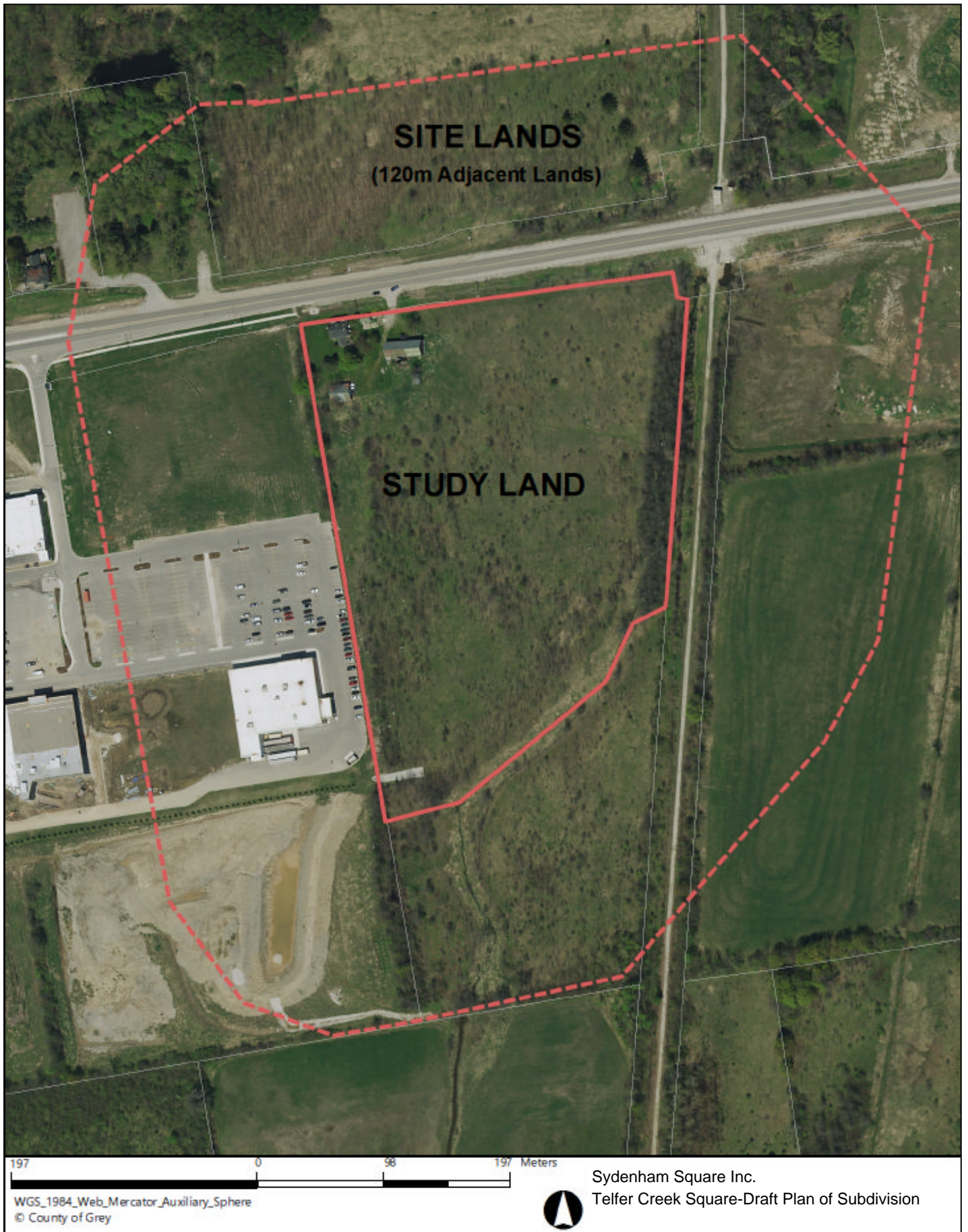
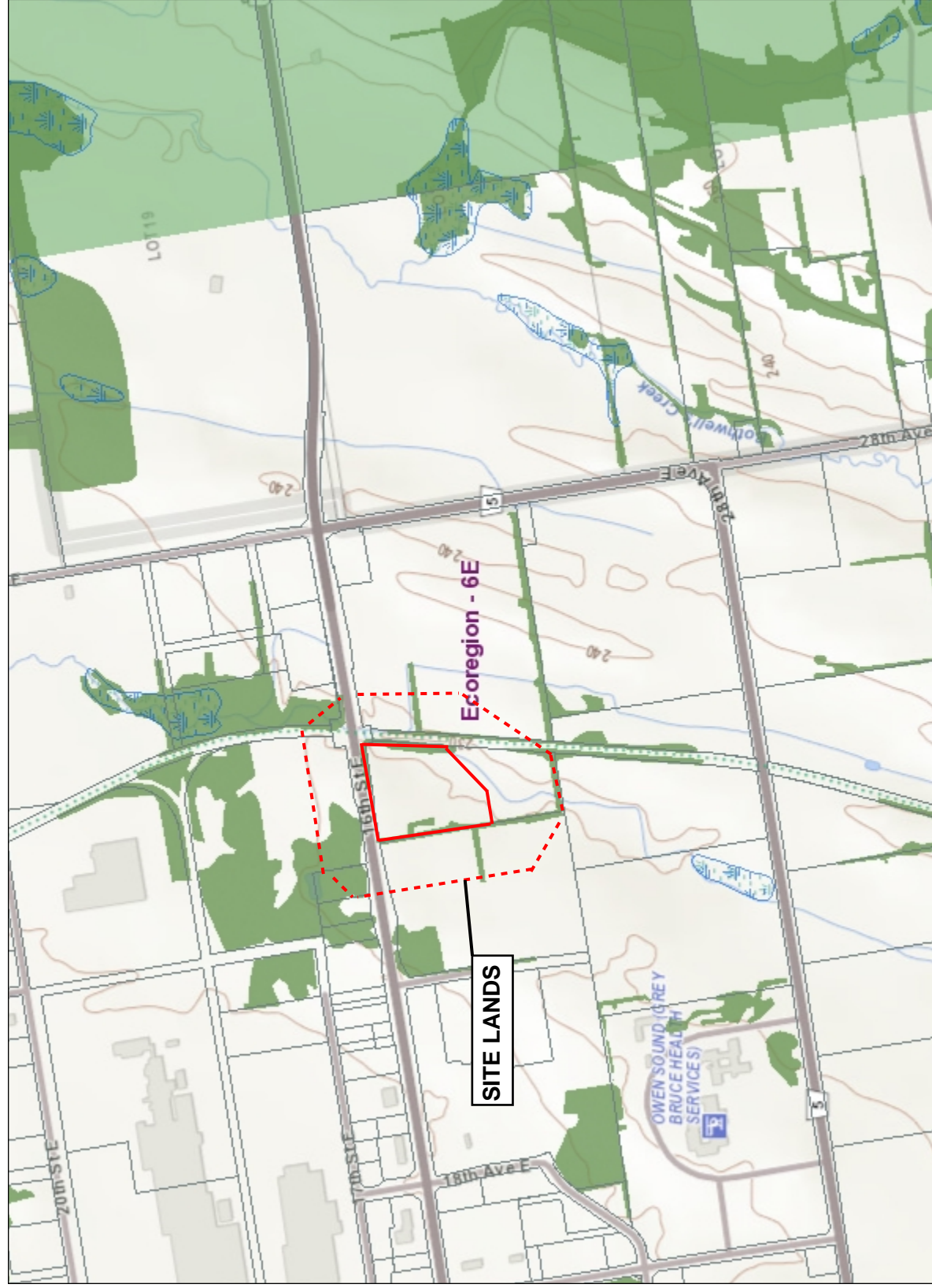


Figure 3: Provincial Features

Notes: Sydenham Square Inc.
Telfer Creek Square-
Draft Plan of Subdivision



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion
- Wetland
- Provincially Significant Wetland (Evaluated)
- Non-Provincially Significant Wetland (Evaluated)
- Wetland Evaluated
- Unevaluated Wetland
- Area of Natural Heritage & Scientific Interest (ANSI)
- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI
- Greenbelt Plan**
- Boundary
- Greenbelt External Connections
- Land Use Designations**
- Protected Countryside
- Greenbelt Towns and Villages
- Greenbelt Hamlets
- Urban River Valley
- Greenbelt Specialty Crop Area
- Niagara Escarpment Plan (NEP)**
- Boundary
- Parks and Open Space System
- Land Use Designations**
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre
- Oak Ridges Moraine Conservation Plan (ORM)**
- Boundary
- Land Use Designations**
- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates
- Residential Community
- Settlement Area

0.7
0
0.33
0.7
Kilometers

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry (OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

© Copyright for Ontario Parcel data is held by Queen's Printer for Ontario and its licensors [2020] and may not be reproduced without permission. THIS IS NOT A PLAN OF SURVEY.

This map may not display all features listed in the legend because the feature layer was not turned on at the time the map was made; the features do not exist in the geographic range; or features have not been mapped. Absence of a feature in the map does not mean they do not exist in this area.

Imagery Copyright Notices: DRAPE © Aéro-Photo (1961) Inc., 2008 - 2009
GTA 2005 / SWOOP 2006 / Simcoe-Muskoka-Dufferin © FirstBase Solutions, 2005 / 2006 / 2008
© Queen's Printer for Ontario, 2020



Legend

- Land use
- Primary Settlement Area
 - Secondary Settlement Area
 - Agricultural
 - Escarpment Recreation Area
 - Hazard Lands
 - Inland Lakes & Shoreline
 - Niagara Escarpment Plan /
 - Rural
 - Space Extensive Industrial
 - Sunset Strip Area
 - Industrial Business Park
 - Special Agriculture
 - Provincially Significant Wetland
 - Recreation Resort Area
 - Parcels - Current



Notes

Sydenham Square Inc.
Telfer Creek Square-
Draft Plan of Subdivision



Legend

- ANSI
 - ANSI, Earth Life Science
 - ANSI, Earth Science
 - ANSI, Life Science
- Other Wetlands
- Significant Valleylands
- Significant Woodlands
- Parcels - Current



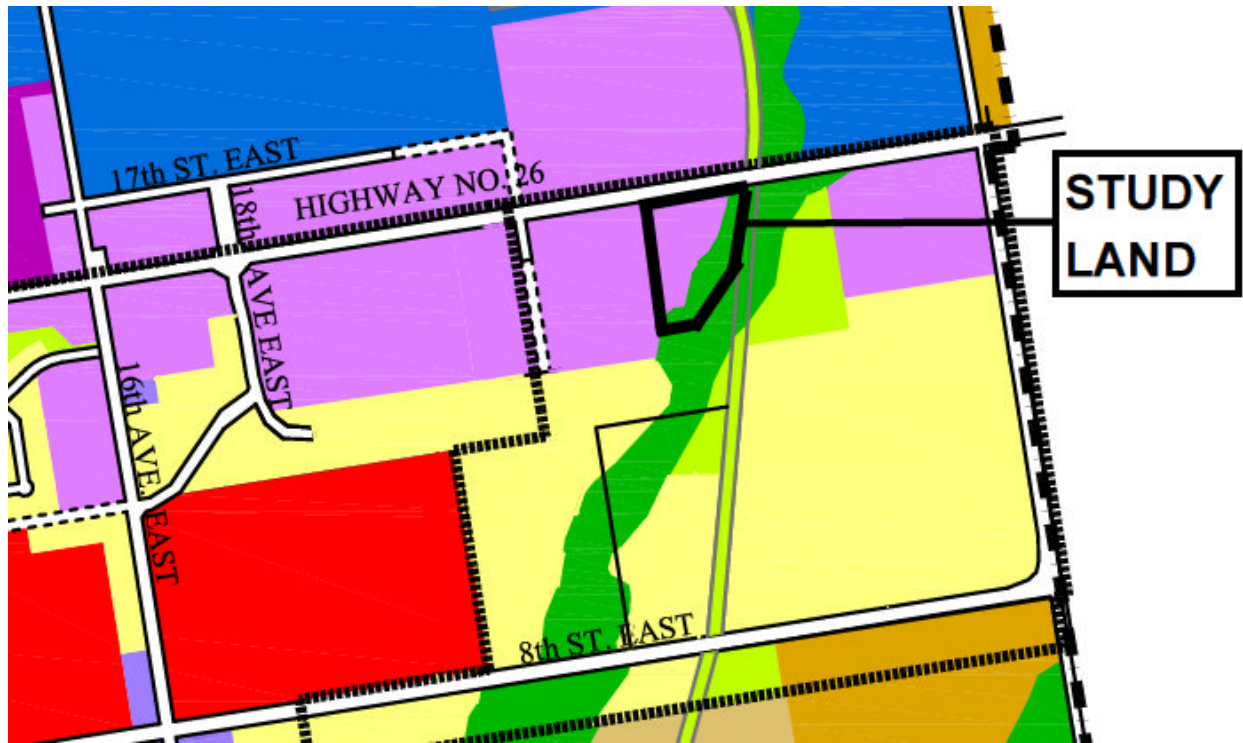
Notes

Sydenham Square Inc.
Telfer Creek Square-
Draft Plan of Subdivision



Figure 5A: City of Owen Sound Official Plan- Land Use Designations

➤ Excerpt mapping from Appendix 'A'



LAND USE


















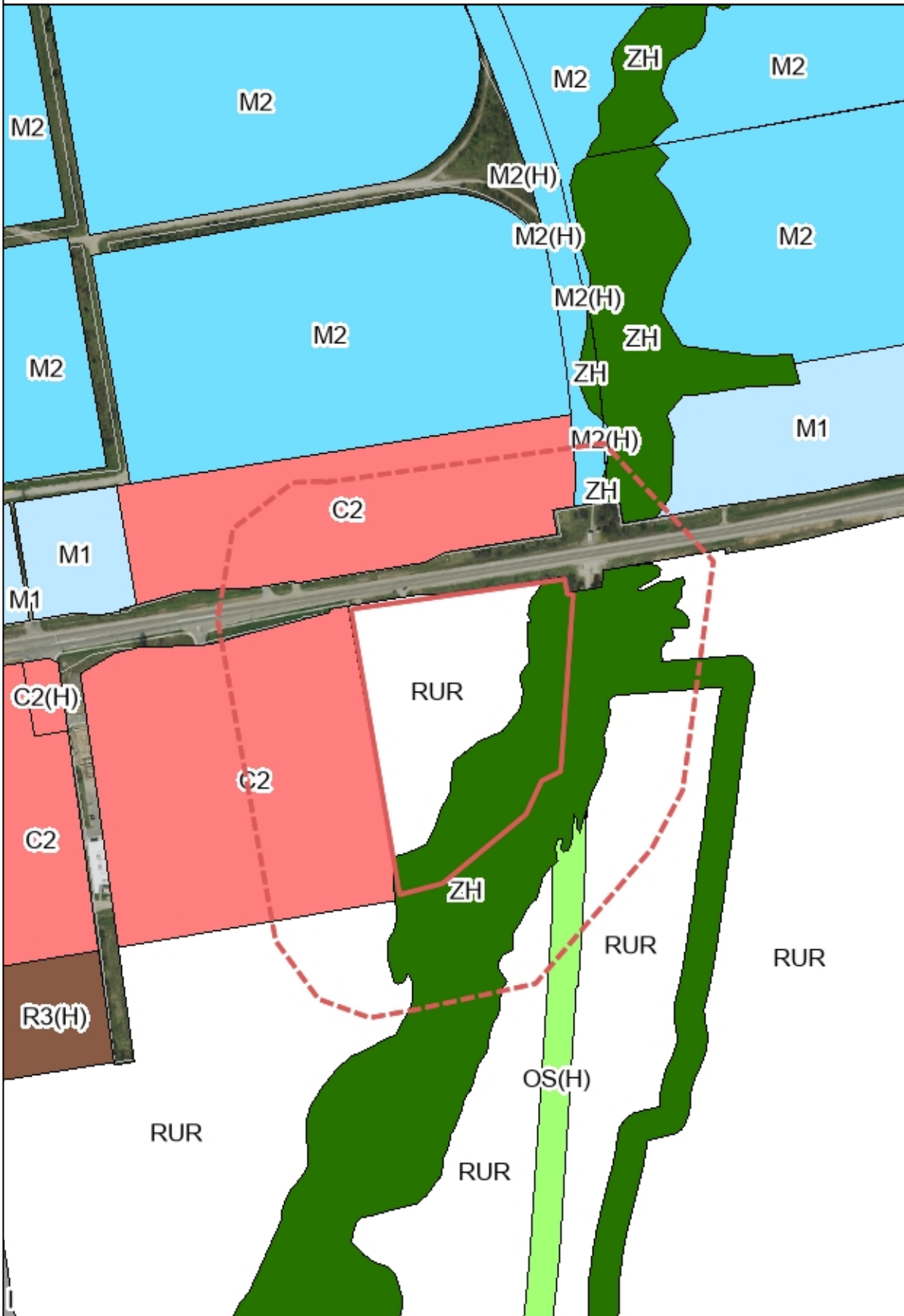
- | | |
|--|--|
|  Residential |  Institutional |
|  Downtown Commercial |  Open Space |
|  Regional Shopping Centre |  Rural |
|  East City Commercial |  Hazard Lands |
|  West City Commercial |  Escarpment Natural |
|  Arterial Commercial |  Escarpment Protection |
|  Waterfront Mixed Use |  Escarpment Rural |
|  Institutional |  Escarpment Urban |
| |  Planning Area Boundary |

Figure 5B : City of Owen Sound - Zoning

Legend

Zoning - Owen Sound

- Subject to Control - Niagar
 - (A) Agricultural
 - (C1) Core Commerical
 - (C2) Retail Commerical
 - (C2H) Retail Commerical H
 - (C3) Neighbourhood Comr
 - (C4) Arterial Commerical
 - (C4H) Arterial Commerical
 - (C5) Regional Shopping C
 - (I) Institutional
 - (IH) Institutional Holding
 - (M1) General Industrial
 - (M2) Heavy Industrial
 - (M2H) Heavy Industrial Ho
 - (MU) Mixed Use Industrial
 - (MUH) Mixed Use Indusrie
 - (MC) Mixed Use Commerc
 - (MCH) Mixed Use Commer
 - (MR) Multiple Residential
 - (MRH) Multiple Residential
 - (OS) Open Space
 - (OSH) Open Space Holdin
 - (R1) Single Residential
 - (R2) Low Density Resident
 - (R3) Low Density Resident
 - (R3H) Low Density Reside
 - (R4) Medium Density Resid
 - (R4H) Medium Density Re:
 - (R5) General Residential
 - (R5H) General Residential
 - (RUR) Rural
 - (ZH) Hazard Lands
- Parcels - Current
 Study Land
 Site Lands



Notes

Sydenham Square Inc.
 Telfer Creek Square-
 Draft Plan of Subdivision

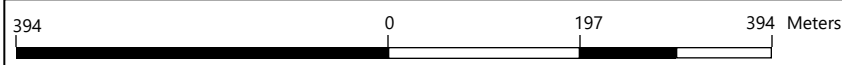







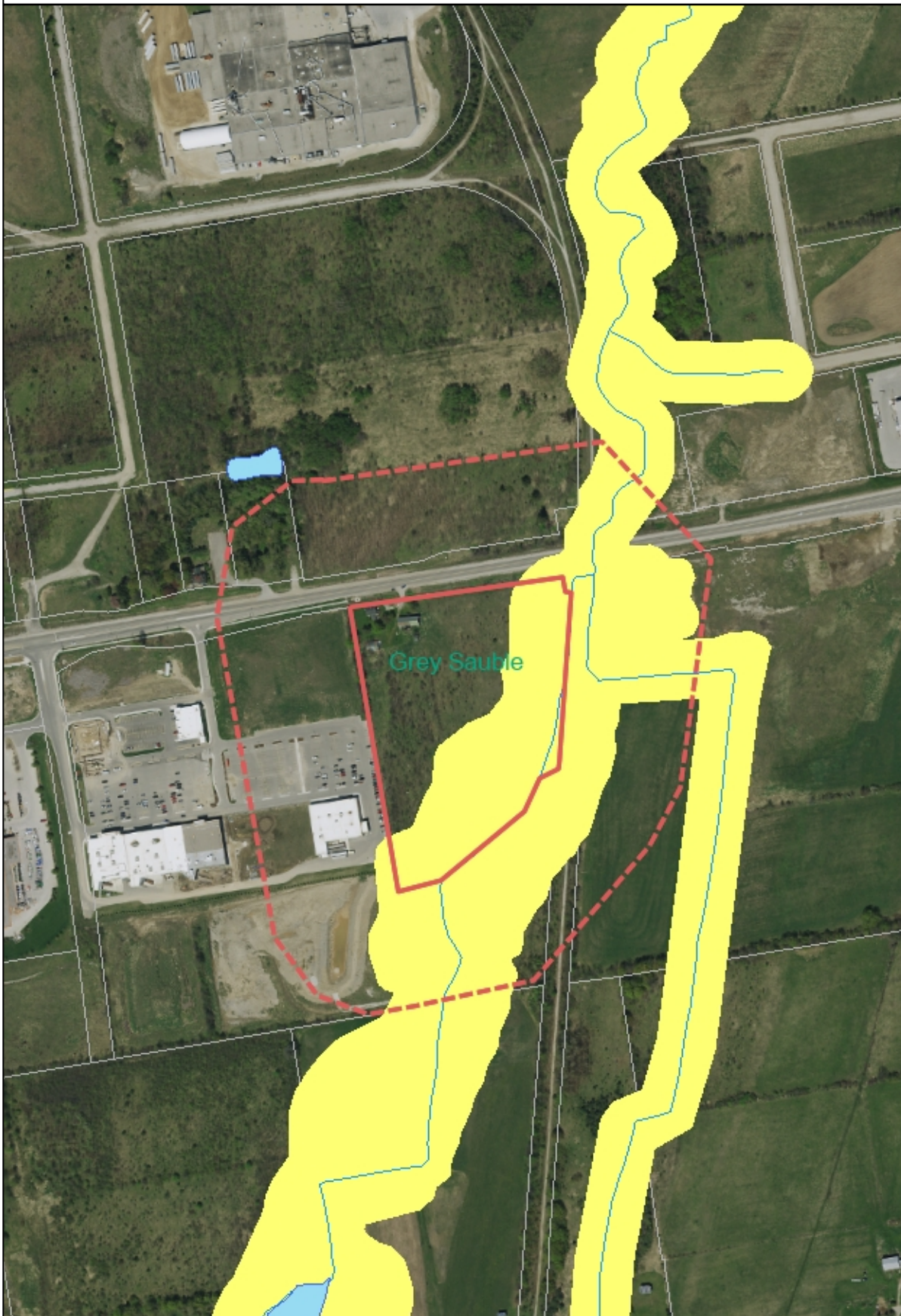


Figure 6 : Conservation Authority - Regulatory Lands

Legend

-  CA Boundaries
-  Wet Areas - GSCA
-  Watercourses
-  Regulations - GSCA
-  Parcels - Current

-  Study Land
-  Site Lands



Notes

Sydenham Square Inc.
Telfer Creek Square -
Draft Plan of Subdivision



Figure 7: Vegetation Communities & Ecological Land Classification



Figure 8: Natural Heritage Features

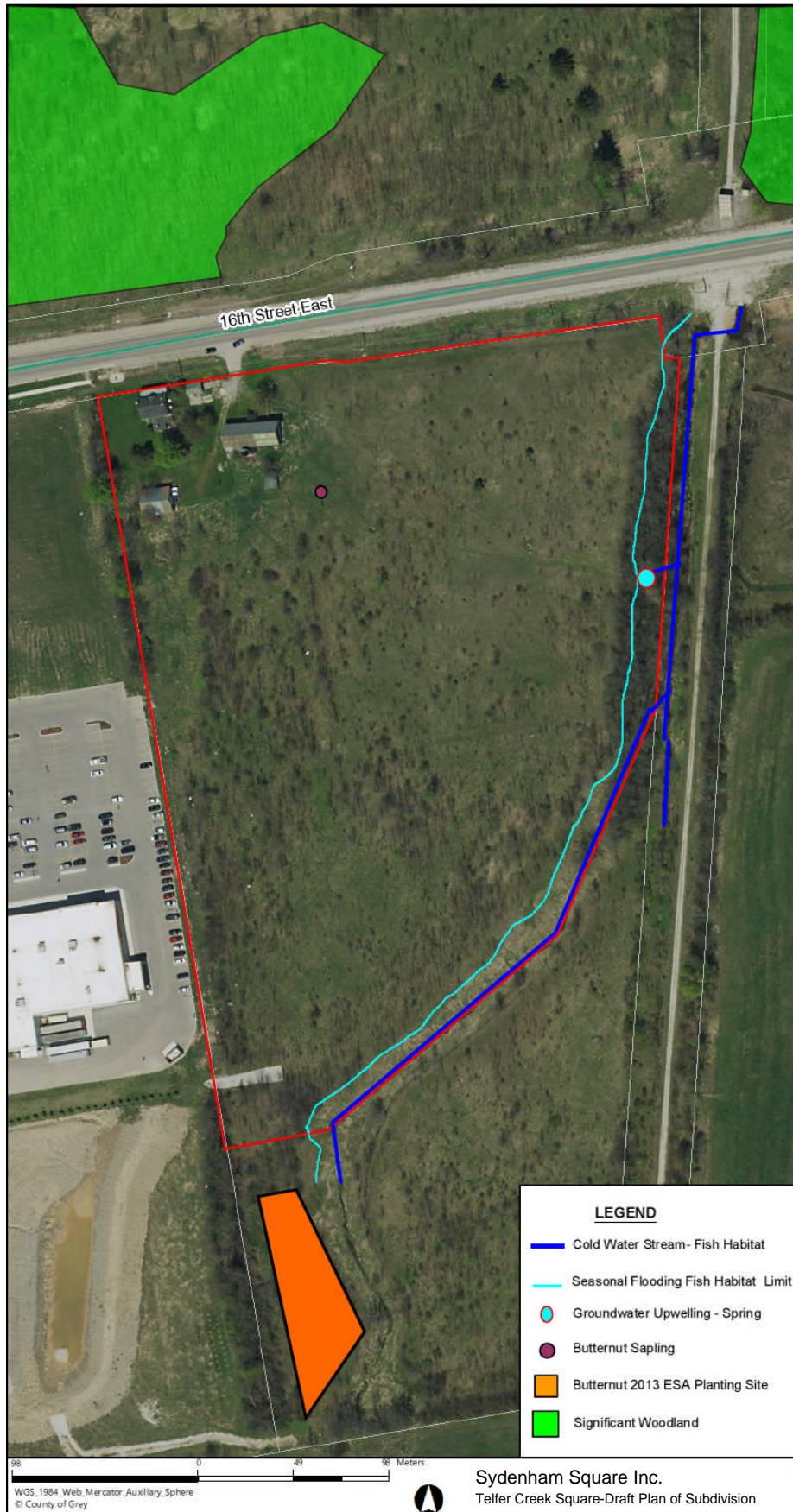


Figure 9: Natural Heritage – Development Setbacks & Constraint Zone

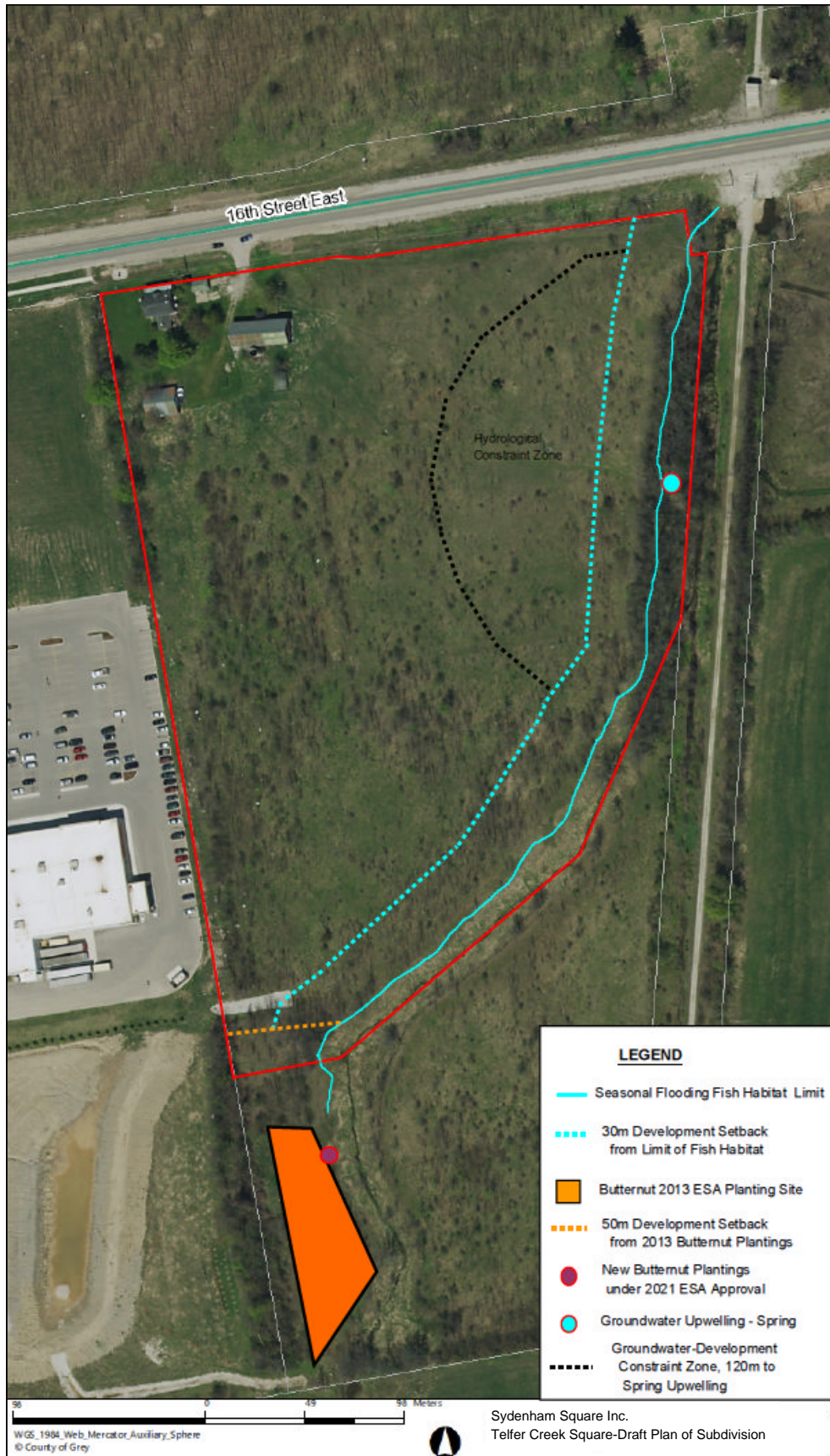
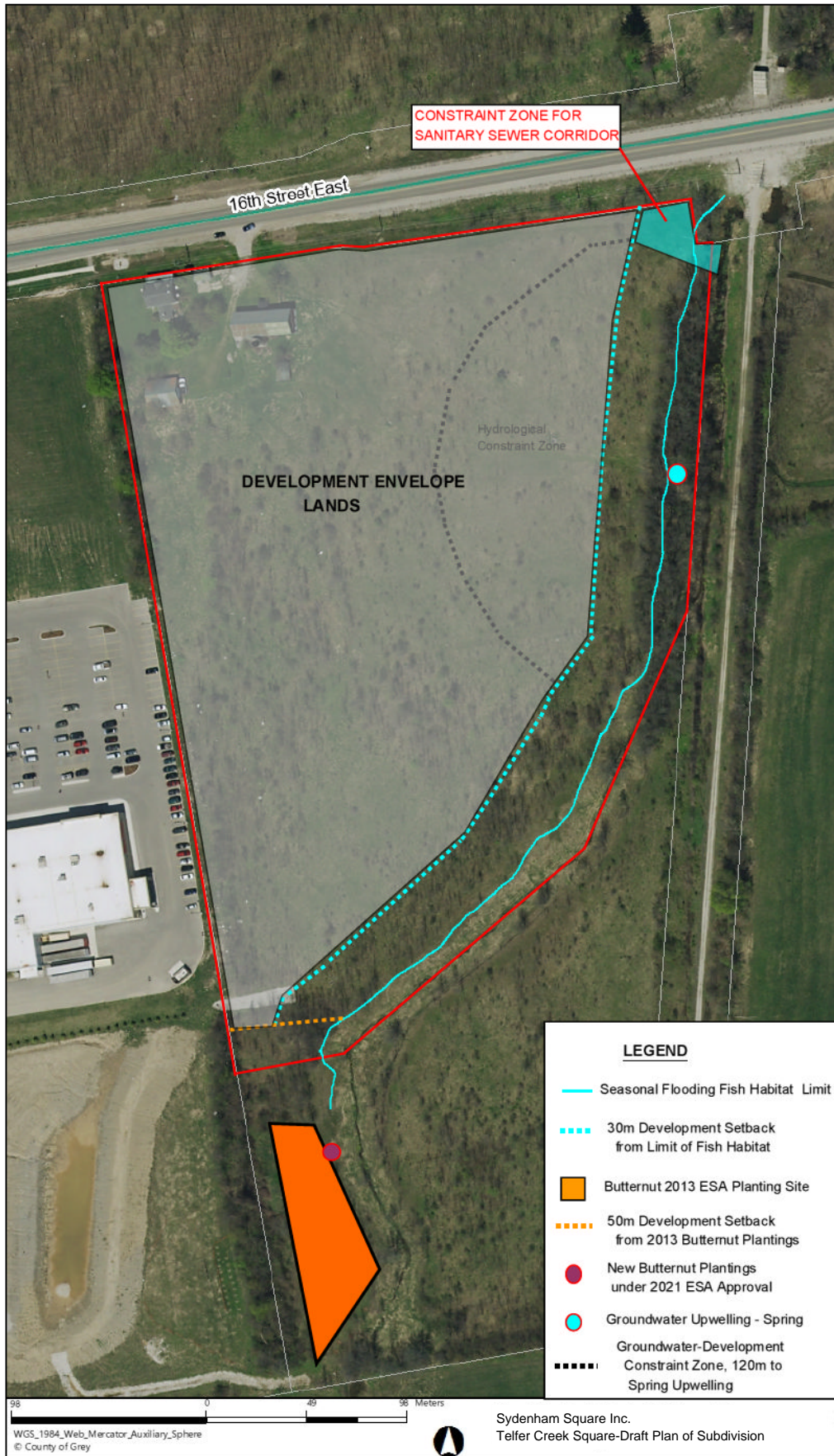


Figure 10: Development Envelope Lands & Constraint Zones



APPENDIX 1

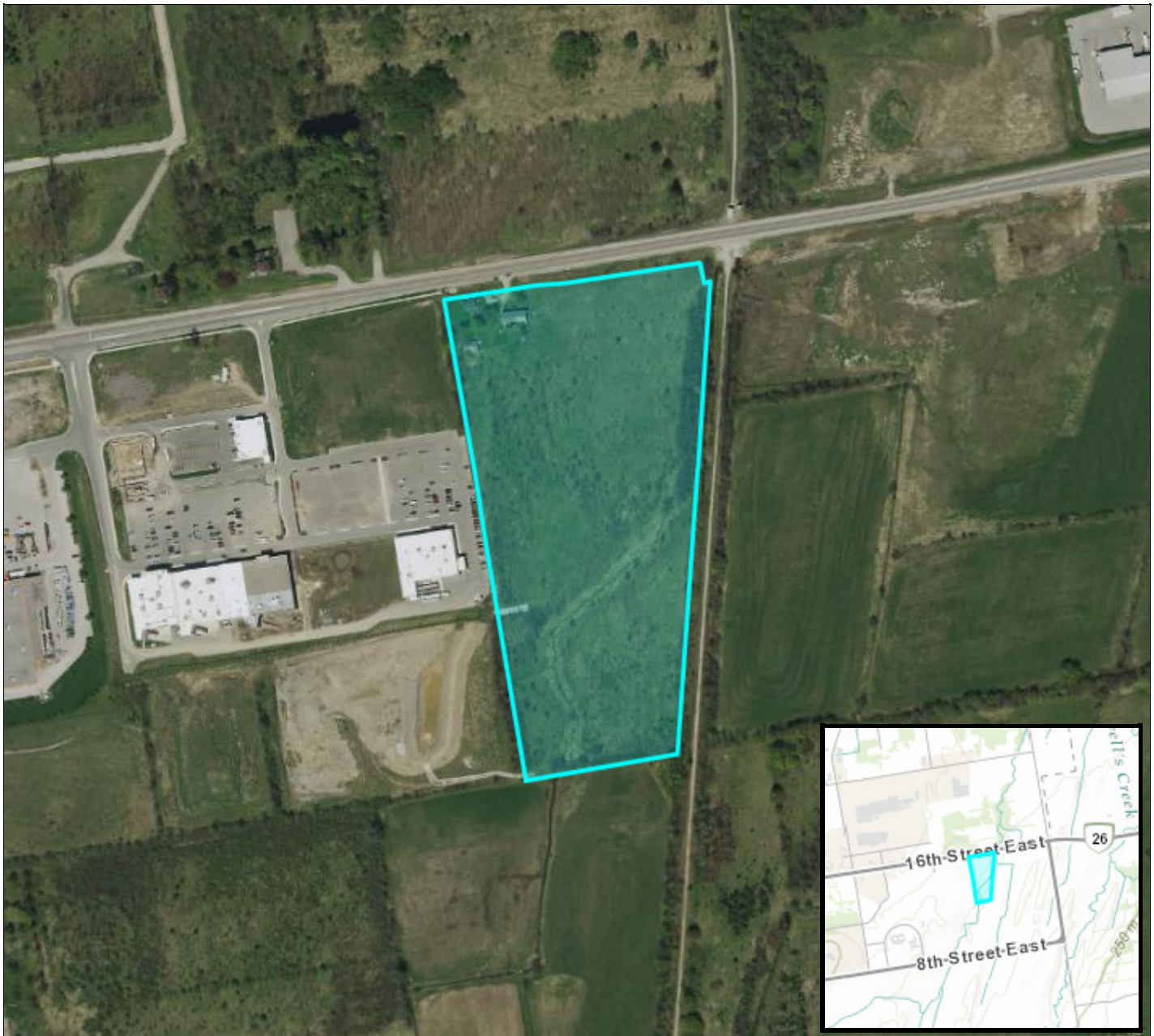
- Grey County web site: Parcel Reports for Lot 1 and Lot 2

Roll Number	Address	Assessed Value	Acerage
425904006014000	2275 16TH ST E	\$309000	17.39

Notice: Assessed value may not reflect current market value [MPAC](#)

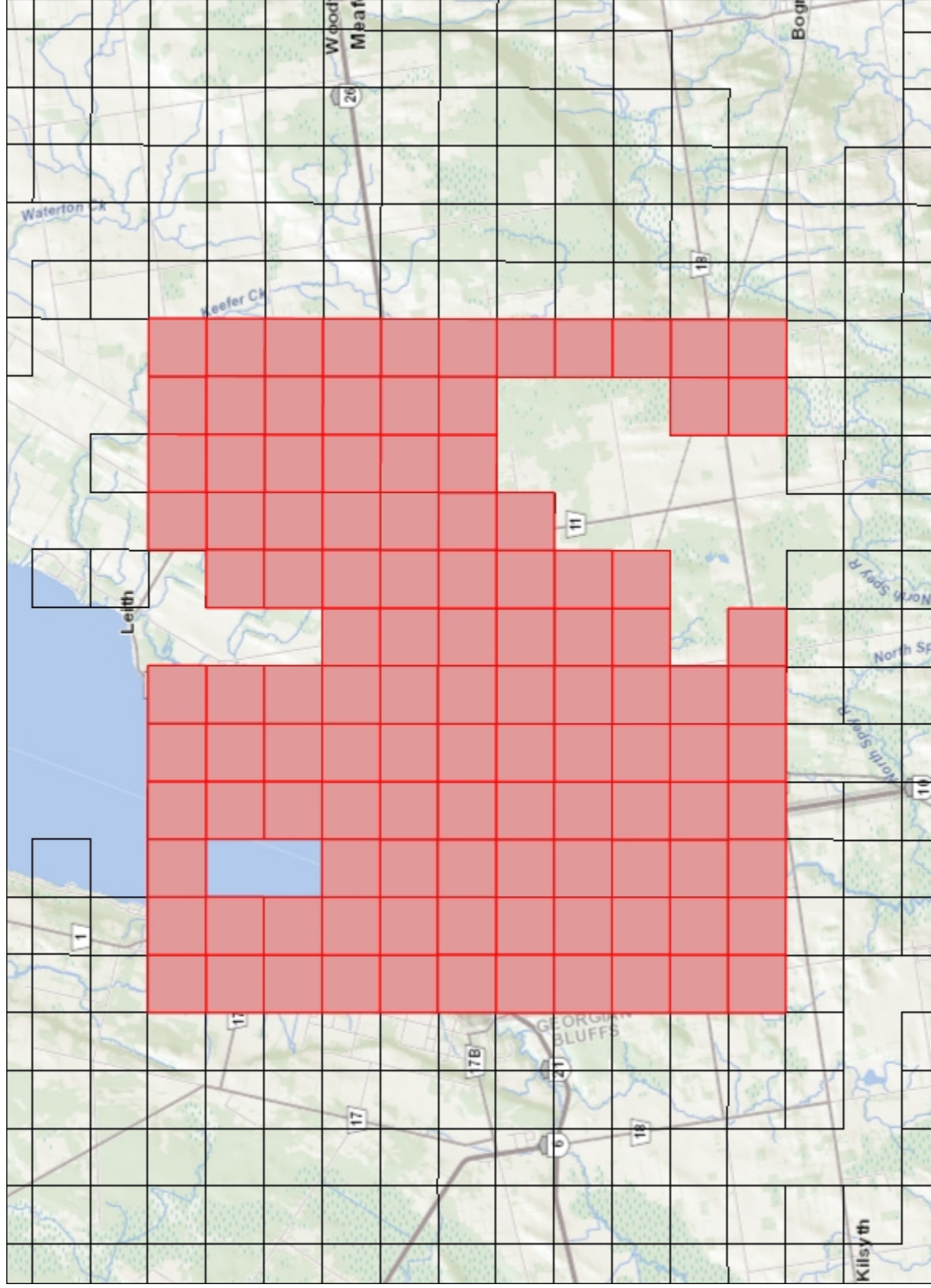
NEC Designation	Legal Description	Property Use
Outside the Niagara Escarpment Plan Area	RANGE 5 EGR PT PARK LOTS 9;AND 10	Single family detached (not on water)

Zoning
Hazard Lands



APPENDIX 2

- MNR- Natural Heritage Center data search for historical records of significant Flora and Fauna, with search coverage map of surrounding 5km area



Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion
- Wetland
- Provincially Significant Wetland/Evaluated
- Non-Provincially Significant Wetland/Evaluated
- Un-evaluated Wetland
- Area of Natural Heritage & Scientific Interest (ANSI)
- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI
- Greenbelt Plan**
- Boundary
- Greenbelt External Connections
- Land Use Designations**
- Protected Countryside
- Greenbelt Towns and Villages
- Greenbelt Hamlets
- Urban River Valley
- Greenbelt Specially Crop Area
- Niagara Escarpment Plan (NEP)**
- Boundary
- Parks and Open Space System
- Land Use Designations**
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Escarpment Recreation Area
- Urban Area
- Minor Urban Centre
- Oak Ridges Moraine Conservation Plan (ORM)**
- Boundary
- Natural Core Area
- Natural Linkage Area
- Countryside Area
- Rural Settlement
- Palgrave Estates Residential Community
- Settlement Area

5.2 Kilometers 0 2.61 5.2

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. The Ontario Ministry of Natural Resources and Forestry (OMNRF) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

© Copyright for Ontario Parcel data is held by Queen's Printer for Ontario and its licensors [2020] and may not be reproduced without permission. THIS IS NOT A PLAN OF SURVEY.

This map may not display all features listed in the legend because the feature layer was not turned on at the time the map was made; the features do not exist in the geographic range; or features have not been mapped. Absence of a feature in the map does not mean they do not exist in this area.

Imagery Copyright Notices: DRAPE © Aéro-Photo (1961) Inc., 2008 - 2009
 GTA 2005 / SWOOP 2006 / Simcoe-Muskoka-Dufferin © FirstBase Solutions, 2005 / 2006 / 2008
 © Queen's Printer for Ontario, 2020



Sydenham Square Inc.-Telfer Creek Square Draft Plan of Subdivision

2275 16th Street East, Owen Sound

NHIC historical records search for flora and fauna
'species of conservation concern', within a 5km radius to the Study Land

Element Type	Common Name	Scientific Name	S Rank	SARO Status	COSEWIC Status
Species	Butternut	Juglans cinerea	S2	END	END
Species	Rusty-patched Bumble Bee	Bombus affinis	S1	END	END
Species	Chimney Swift	Chaetura pelagica	S4B	THR	THR
Species	Eastern Meadowlark	Sturnella magna	S4B	THR	THR
Species	Bobolink	Dolichonyx oryzivorus	S4B	THR	THR
Species	Wood Thrush	Hylocichla mustelina	S4B	SC	THR
Species	Golden-winged Warbler	Vermivora chrysoptera	S4B	SC	THR
Species	Western Chorus Frog	Pseudacris maculata pop 1	S3	NAR	THR
Species	American Hart's-tongue Fern	Asplenium scolopendrium var. americanum	S4B	SC	SC
Species	Eastern Wood-pewee	Contopus virens	S4B	SC	SC
Species	Snapping Turtle	Chelydra serpentina	S4	SC	SC
Species	Northern Brook Lamprey	Ichthyomyzon fossor	S3	SC	SC
Species	Eastern Milksnake	Lampropeltis triangulum	S4	SC	SC
Species	Midland Painted Turtle	Chrysemys picta marginata	S4	NAR	SC

APPENDIX 3

- Flora Listing: Rankings, Status and Floristic Quality Scoring

Sydenham Square Inc. - Telfer Creek Draft Plan of Subdivision :
Flora Listing with current Ranking, Status and S. Ontario Floristic Quality Scoring

2275 16th Street East, Owen Sound

One species of conservation concern identified: Butternut

1) Vegetations 1, 2 and 3 within the Study Land

Latin Name	Common Name	Native or Introduced	Rank		Status			FQA	
			Nat.	Prov.	Nat.	Prov.	Local	CC	CW
<i>Acer saccharum</i>	Sugar Maple	N	N5	S5	NAR	NAR	Common	4	3
<i>Alliaria petiolata</i>	Garlic Mustard	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Anemone canadensis</i>	Canada Anemone	N	NNR	S5	NAR	NAR	Common	3	-3
<i>Angelica sylvestris</i>	Woodland Angelica	I	NNA	SNA	Exotic	Exotic	Exotic	0	0
<i>Arctium minus</i>	Burdock	I	Nat.	SNA	Exotic	Exotic	Exotic	0	5
<i>Asclepias syriaca</i>	Common Milkweed	N	N5	S5	NAR	NAR	Common	0	5
<i>Bromus inermis</i>	Smooth Brome	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Caltha palustris</i>	Marsh Marigold	N	N5	S5	NAR	NAR	Common	5	-5
<i>Carex pellita</i>	Woolly Sedge	N	N5	S5	NAR	NAR	Common	4	-5
<i>Carex retrorsa</i>	Retorse Sedge	N	N5	S5	NAR	NAR	Common	5	-5
<i>Carex rosea</i>	Rosy Sedge	N	N5	S5	NAR	NAR	Common	5	5
<i>Carex spicata</i>	Spiked Sedge	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Carex stricta</i>	Tussock Sedge	N	N5	S5	NAR	NAR	Common	4	-5
<i>Carex vulpinoidea</i>	Fox Sedge	N	N5	S5	NAR	NAR	Common	3	-5
<i>Centaurea jacea</i>	Brown Knapweed	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Centaurea nigra</i>	Black Knapweed	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Cirsium arvense</i>	Canada Thistle	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Convolvulus arvensis</i>	Field Bindweed	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Cornus amomum</i>	Silky Dogwood	N	N5	S5	NAR	NAR	Common	5	-4
<i>Crataegus punctata</i>	Dotted Hawthorn	N	N5	S5	NAR	NAR	Common	4	5
<i>Dactylis glomerata</i>	Orchard Grass	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Daucus carota</i>	Wild Carrot	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Equisetum fluviatile</i>	Water Horsetail	N	N5	S5	NAR	NAR	Common	7	-5
<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	N	N5	S5	NAR	NAR	Common	1	-3

<i>Eutrochium maculatum</i>	Joe-Pye-Weed	N	N5	S5	NAR	NAR	Common	0	0
<i>Festuca trachyphylla</i>	Hard Fescue	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Fragaria virginiana</i>	Wild Strawberry	N	NNR	S5	NAR	NAR	Common	2	1
<i>Fraxinus americana</i>	White Ash	N	NNR	S4	NAR	NAR	Common	4	3
<i>Fraxinus pennsylvaniana</i>	Green Ash	N	NNA	S4	NAR	NAR	Common	3	-3
<i>Galeopsis tetrahit</i>	Common Hemp-nettle	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Galium mullugo</i>	Smooth Bedstraw	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Galium palustre</i>	Marsh Bedstraw	N	NNR	S5	NAR	NAR	Common	5	-5
<i>Geum aleppicum</i>	Yellow Avens	N	NNR	S5	NAR	NAR	Common	2	-1
<i>Geum canadense</i>	White Avens	N	NNR	S5	NAR	NAR	Common	3	0
<i>Glechoma hederacea</i>	Ground Ivy	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Glyceria striata</i>	Fowl Manna Grass	N	N5	S5	NAR	NAR	Common	3	-5
<i>Hesperis matronalis</i>	Dame's Rocket	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Hypericum perforatum</i>	Common St. John's Wort	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Iris versicolor</i>	Blue Flag	N	N5	S5	NAR	NAR	Common	5	-5
Juglans cinerea	Butternut	N	N3N4	S3	END	END	END	6	2
<i>Leucanthemum vulgare</i>	Ox-eye Daisy	I	NNA	SNA	Exotic	Exotic	Exotic	0	0
<i>Ligustrum vulgare</i>	Privet	I	NNA	SNA	Exotic	Exotic	Exotic	0	1
<i>Festuca pratensis</i>	Meadow Fescue	I	NNA	SNA	Exotic	Exotic	Exotic	0	4
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	I	NNA	SNA	Exotic	Exotic	Exotic	0	-3
<i>Ludwigia palustris</i>	Marsh Seedbox	N	NNR	S5	NAR	NAR	Common	5	-5
<i>Lycopus americanus</i>	Water Horehound	N	NNR	S5	NAR	NAR	Common	4	-5
<i>Lysimachia ciliata</i>	Fringed Loosestrife	N	N5	S5	NAR	NAR	Common	4	-3
<i>Malus pumila</i>	Apple	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Medicago lupulina</i>	Black Medic	I	NNA	SNA	Exotic	Exotic	Exotic	0	1
<i>Onoclea sensibilis</i>	Sensitive Fern	N	N5	S5	NAR	NAR	Common	4	-3
<i>Oxalis stricta</i>	Yellow Wood-Sorrel	I	N5	S5	NAR	NAR	Common	0	3
<i>Phalaris arundinacea</i>	Reed Canary Grass	N	N5	S5	NAR	NAR	Common	0	-4
<i>Phleum pratense</i>	Timothy	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Pilea pumila</i>	Clearweed	N	NNR	S5	NAR	NAR	Common	5	-3
<i>Pilosella caespitosa</i>	Yellow Hawkweed	I	NNA	SNA	Exotic	Exotic	Exotic	0	0
<i>Pinus sylvestris</i>	Scotch Pine	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Plantago lanceolata</i>	English Plantain	I	NNA	SNA	Exotic	Exotic	Exotic	0	0
<i>Poa compressa</i>	Canada Bluegrass	I	NNR	SNA	Exotic	Exotic	Exotic	0	2

<i>Poa pratensis</i>	Kentucky Bluegrass	N	N5	S5	NAR	NAR	Common	0	1
<i>Polygonum amphibium</i>	Water Smartweed	N	N5	S5	NAR	NAR	Common	5	-5
<i>Populus balsamifera</i>	Balsam Poplar	N	N5	S5	NAR	NAR	Common	4	-3
<i>Potentilla anserina</i>	Silverweed	N	NNR	S5	NAR	NAR	Common	5	-4
<i>Prunella vulgaris</i>	Heal-all	N	N5	S5	NAR	NAR	Common	5	5
<i>Prunus virginiana</i>	Chokecherry	N	NNR	S5	NAR	NAR	Common	2	1
<i>Pyrus communis</i>	Pear	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Ranunculus acris</i>	Common Buttercup	I	NNA	SNA	Exotic	Exotic	Exotic	0	-2
<i>Rhamnus cathartica</i>	Common Buckthorn	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Rosa canina</i>	Dog Rose	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Rosa multiflora</i>	Multi-flora Rose	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Rubus occidentalis</i>	Wild Black Raspberry	N	N5	S5	NAR	NAR	Common	2	5
<i>Scripus atrovirens</i>	Dark Green Bulrush	N	N5	S5	NAR	NAR	Common	3	-5
<i>Sium suave</i>	Water Parsnip	N	N5	S5	NAR	NAR	Common	4	-5
<i>Solidago altissima</i>	Tall Goldenrod	N	NNR	S5	NAR	NAR	Common	1	3
<i>Solidago canadensis</i>	Canada Goldenrod	N	N5	S5	NAR	NAR	Common	1	3
<i>Solidago gigantea</i>	Late Goldenrod	N	N5	S5	NAR	NAR	Common	4	-3
<i>Sonchus arvensis</i>	Field Sow-thistle	I	NNA	SNA	Exotic	Exotic	Exotic	0	1
<i>Sonchus asper</i>	Prickly Sow-thistle	I	NNA	SNA	Exotic	Exotic	Exotic	0	0
<i>Symphotrichum lanceolatum</i>	Panicled Aster	N	N5	S5	NAR	NAR	Common	3	-3
<i>Symphotrichum novae-angliae</i>	New England Aster	N	N5	S5	NAR	NAR	Common	2	-3
<i>Symphotrichum puniceum</i>	Purple-stemmed Aster	N	N5	S5	NAR	NAR	Common	6	-5
<i>Taraxacum officinale</i>	Dandelion	I	N5	SNA	Exotic	Exotic	Exotic	0	3
<i>Thalictrum pubescens</i>	Tall Meadow-rue	N	NNR	S5	NAR	NAR	Common	5	-2
<i>Tragopogon dubius</i>	Goat's Beard	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Tussetlago farfara</i>	Colt's Foot	I	NNA	SNA	Exotic	Exotic	Exotic	0	3
<i>Typha latifolia</i>	Broad-leaved Cattail	N	N5	S5	NAR	NAR	Common	3	-5
<i>Ulmus americana</i>	American Elm	N	NNR	S5	NAR	NAR	Common	3	-2
<i>Veronica anagallis</i>	Water Speedwell	I	N4	SNA	Exotic	Exotic	Exotic	0	-5
<i>Viburnum lentago</i>	Nannyberry	N	NNR	S5	NAR	NAR	Common	4	-1
<i>Viburnum opulus ssp. trilobum</i>	Highbush Cranberry	N	NNR	S5	NAR	NAR	Common	5	-3
<i>Vicia cracca</i>	Tufted Vetch	I	NNA	SNA	Exotic	Exotic	Exotic	0	5
<i>Vitis riparia</i>	Wild Grape	N	N5	S5	NAR	NAR	Common	0	-2
MEAN								2	0

Total number of Native species = 50 or 55%
 Total number of Introduced or Non-Native species = 41 or 45%
 91

2) Additional species found only along Telfer Creek riparian zone

Latin Name	Common Name	Native or Introduced	Rank		Status			FQA	
			Nat.	Prov.	Nat.	Prov.	Local	CC	CW
<i>Carex stricta</i>	Tussock Sedge	N	N5	S5	NAR	NAR	Common	4	-5
<i>Eutrochium maculatum</i>	Joe-Pye-Weed	N	N5	S5	NAR	NAR	Common	3	-5
<i>Fraxinus nigra</i>	Black Ash	N	NNR	S4	NAR	NAR	Common	7	-4
<i>Galium palustre</i>	Marsh Bedstraw	N	N5	S5	NAR	NAR	Common	5	-5
<i>Onoclea sensibilis</i>	Sensitive Fern	N	N5	S5	NAR	NAR	Common	4	-3
<i>Phalaris arundinacea</i>	Reed Canary Grass	N	N5	S5	NAR	NAR	Common	0	-4

National and Provincial Rank: Based on current 2021 Ontario Natural Heritage Information Center (NHIC) listings

- NNA/ NNR defined as: No Ranking
- N5 defined as: Very common
- N4 defined as: Common
- N3 defined as: Rare to uncommon species
- N2 defined as : Very Rare
- N1 defined as: Extremely Rare
- SNA defined as : Unranked
- S5 defined as: Secure
- S4 defined as: Apparently Secure
- S3 defined as: Vulnerable
- S2 defined as: Imperiled
- S1 defined as: Critically Imperiled

NAR defined as : Not At Risk / END defined as : Endangered / THR defined as :Threatened / SC defined as : Special Concern

National Status based on: Species At Risk Act, COSEWIC 2021 Listings

Provincial Status based on: Endangered Species Act 2007, NHIC 2021 and 2021 COSSARO Listings

Regional Status based on: Bruce-Grey Plant Committee: A Checklist of Vascular Plants for Bruce and Grey Counties Ontario

Ontario Ministry of Natural Resources and Forestry, 'Floristic Quality Assessment' (FQA) Scoring System:

CC = Coefficient of Conservatism, ranked 0 (grows anywhere) to 10 (very specific habitat requirements)

WI = Wetness Index, values from -5 (very wet) to 5 (very dry)

Note: CC scores of 8 or higher are indicator species of candidate Significant Woodlands

APPENDIX 4

- **Fauna Listing: Ranking and Status**

**Sydenham Square Inc. - Telfer Creek Draft Plan of Subdivision:
Study Land Recorded Fauna Listing with Ranking, Status and Breeding Bird Codes
2275 16th Street East, Owen Sound**

No Species of Conservation Concern recorded

Birds

Latin Name	Common Name	Ranking		Status			Breeding Codes
		National	Prov.	National	Prov	Local	
<i>Anas platyrhynchos</i>	Mallard	N5	S5	NAR	NAR	Common	Ob
<i>Agelaius phoeniceus</i>	Red-winged Blackbird	N5	S4	NAR	NAR	Common	Po-H
<i>Ardea herodias</i>	Great Blue Heron	N5	S4	NAR	NAR	Common	Ob
<i>Archilochus colubris</i>	Ruby-throated Hummingbird	N5	S5	NAR	NAR	Common	Po-H
<i>Buteo jamaicensis</i>	Red-tailed Hawk	N5	S5	NAR	NAR	Common	Ob
<i>Cardinalis cardinalis</i>	Northern Cardinal	N5	S5	NAR	NAR	Common	Po-H
<i>Carduelis tristis</i>	American Goldfinch	N5	S5	NAR	NAR	Common	Pr
<i>Colaptes auratus</i>	Northern Flicker	N5	S4	NAR	NAR	Common	Po-H
<i>Cyanocitta cristata</i>	Blue Jay	N5	S5	NAR	NAR	Common	Conf
<i>Dumetella carolinensis</i>	Gray Catbird	N5	S4	NAR	NAR	Common	Pr
<i>Empidonax mimimus</i>	Least Flycatcher	N5	S4	NAR	NAR	Common	Po-H
<i>Empidonax traillii</i>	Willow Flycatcher	N5	S5	NAR	NAR	Common	Po-H
<i>Geothlypis philadelphia</i>	Mourning Warbler	N5	S5	NAR	NAR	Common	Po-S
<i>Icterus galbula</i>	Baltimore Oriole	N5	S4	NAR	NAR	Common	Pr
<i>Molothrus ater</i>	Brown-headed Cowbird	N5	S4	NAR	NAR	Common	Pr
<i>Oreothlypis ruficapilla</i>	Nashville Warbler	N5	S5	NAR	NAR	Common	Po-S
<i>Picoides pubescens</i>	Downy Woodpecker	N5	S5	NAR	NAR	Common	Po-H
<i>Poecile atricapillus</i>	Black-capped Chickadee	N5	S5	NAR	NAR	Common	Po-H
<i>Quiscalus quiscula</i>	Common Grackle	N5	S5	NAR	NAR	Common	Po-H
<i>Sayornis phoebe</i>	Eastern Phoebe	N5	S5	NAR	NAR	Common	Pr
<i>Spizella passerina</i>	Chipping Sparrow	N5	S5	NAR	NAR	Common	Po-H
<i>Setophaga petechia</i>	Yellow Warbler	N5	S5	NAR	NAR	Common	Pr
<i>Sturnus vulgaris</i>	European Starling	NNA	SNA	NAR	NAR	Common	Conf
<i>Tachycineta bicolor</i>	Tree Swallow	N5	S4	NAR	NAR	Common	Po-H
<i>Toxostoma rufum</i>	Brown Thrasher	N5	S4	NAR	NAR	Common	Po-H
<i>Troglodytes aedon</i>	House Wren	N5	S5	NAR	NAR	Common	Po-S
<i>Turdus migratorius</i>	American Robin	N5	S5	NAR	NAR	Common	Conf

Tyrannus tyrannus	Eastern Kingbird	N5	S4	NAR	NAR	Common	Po-H
Vireo gilvus	Warbling Vireo	N5	S5	NAR	NAR	Common	Po-H
Zenaida macroura	Mourning Dove	N5	S5	NAR	NAR	Common	Po-H
Zonotrichia albicollis	White-Throated Sparrow	N5	S5	NAR	NAR	Common	Po-H

Condensed Breeding Codes as per Bird Studies Canada Protocol

Ob = Observed bird outside of the Breeding Season
 Ob-X = Observed in breeding season but no evidence of breeding
 Po-H = Possible: Observed in suitable nesting habitat
 Po-S = Possible: Singing/Calls in suitable nesting habitat
 Pr = Probable: pairs observed, nest building, courtship display
 Conf = Confirmed: active nest, egg shells, feeding young

Latin Name	Common Name	Ranking		Status			Numbers Observed
		National	Prov.	National	Prov	Local	
Odocoileus virginianus	White-tailed Deer	N5	S5	NAR	NAR	Common	2
Peromyscus maniculatus	Deer Mouse	N5	S5	NAR	NAR	Common	2
Procyon lotor	Raccoon	N5	S5	NAR	NAR	Common	1
Sciurus carolinensis	Eastern Gray Squirrel	N5	S5	NAR	NAR	Common	2
Sylvilagus floridanus	Eastern Cottontail	N5	S5	NAR	NAR	Common	1
Tamias striatus	Eastern Chipmunk	N5	S5	NAR	NAR	Common	1

Mammals

Storeria dekayi	Northern Brown Snake	N5	S5	NAR	NAR	Common	1
Thamnophis sirtalis	Common Garter Snake	N5	S5	NAR	NAR	Common	1

Reptiles

Lithobates pipiens	Northern Leopard Frog	N5	S5	NAR	NAR	Common	5
Hyla versicolor	Gray Treefrog	N5	S5	NAR	NAR	Common	3

Amphibians

Notropis hudsonius	Spottail Shinner	N5	S5	NAR	NAR	Common	100+
Oncorhynchus mykiss	Rainbow Trout	N5	SNA	NAR	NAR	Common	50+
Semotilus atromaculatus	Creek Chub	N5	S5	NAR	NAR	Common	15-20

Fish

Euphyes vestris	Dun Skipper	N5	S5	NAR	NAR	Common	5
Euphydryas phaeton	Baltimore Checkerspot	N5	S4	NAR	NAR	Common	2
Nymphalis anticopa	Mourning Cloak	N5	S4	NAR	NAR	Common	3
Phyciodes cocyta	Northern Crescent	N5	S4	NAR	NAR	Common	5

Butterflies

Anax junius	Common Green Darner	N5	S5	NAR	NAR	Common	2
Boyeria vinosa	Fawn Darner	N5	S5	NAR	NAR	Common	4
Erthemis simpliciollis	Eastern Pondhawk	N5	S5	NAR	NAR	Common	5

Dragonflies & Damselflies

National and Provincial Rank: Based on current 2021 Ontario Natural Heritage Information Center (NHIC) listings

NNA defined as: Not Ranked
N5 defined as: Secure
N4 defined as: Apparently Secure
N3 defined as: Vulnerable
N2 defined as : Imperiled
N1 defined as: Critically Imperiled

SNA defined as : Not Ranked, Not Applicable for conservation
S5 defined as: Secure
S4 defined as: Apparently Secure
S3 defined as: Rare to Uncommon
S2 defined as: Very Rare
S1 defined as: Extremely Rare

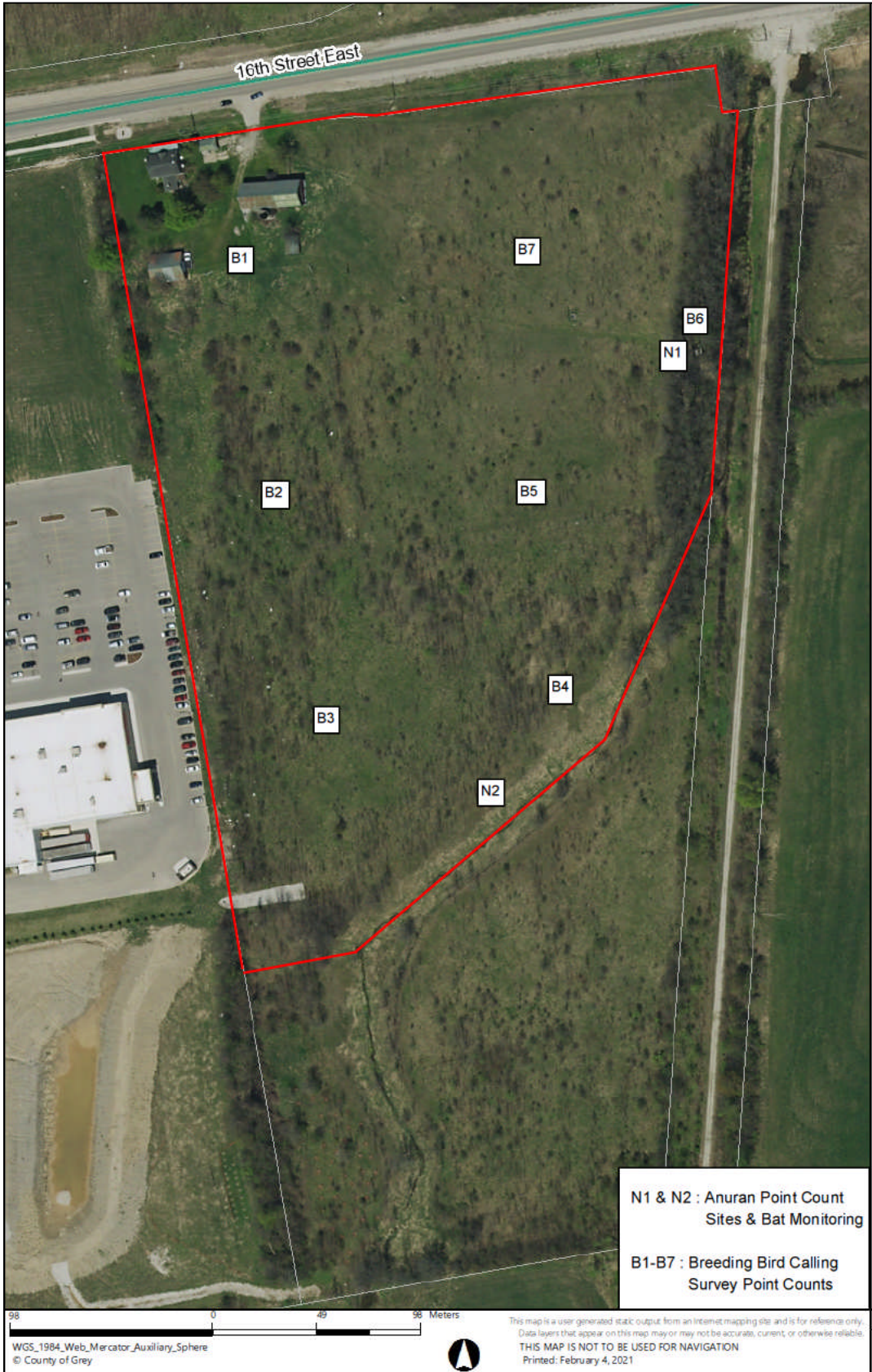
NAR defined as : Not At Risk END defined as : Endangered THR defined as: Threatened SC defined as: Special Concern

National Status based on: Species At Risk Act, and COSEWIC 2021 Listings

Provincial Status based on: Endangered Species Act 2007, NHIC 2021, COSSARO 2021 Listings

Regional Status lists based on: Birds- Region No. 9 (Grey) 'Atlas Breeding Birds of Ontario 2001-2005'
Dragonflies & Damselflies (Grey) ' Regional Lists of Ontario Odonata'

Point Count Monitoring Locations

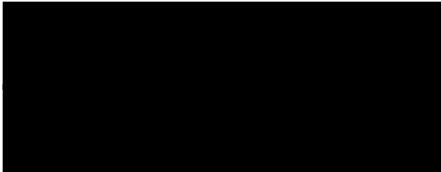


APPENDIX 5

- Agency Pre-consultation comments for Natural Heritage

May 31, 2019

Via Email



To Whom It May Concern,

RE: PRE-CONSULTATION RESPONSE FOR 2275 16TH STREET EAST, OWEN SOUND

We have completed our review of your submission made on April 26, 2019 regarding the parcel located at 2275 16th Street East, Owen Sound. The submission has proposed the following:

Phase 1

- Car dealership with approximately 1,843 m² of building area and 134 stall vehicle sale parking lot

Phase 2

- A shopping centre sized approximately 2,000 m²
- A 3-storey, 24-unit multi-unit residential building with covered parking area

Phase 3

- Reserved for future development

Based on City staff analysis and comments received from our commenting agency partners we can offer you some relevant feedback pertaining to your proposal. All comments can be found attached hereto.

In summary, the proposed development will require a Zoning By-law amendment to request that 'Vehicle Sales Establishment', 'Shopping Centre' and 'Dwelling, Apartment' be included as permitted uses on the property. Depending on the ownership and tenure arrangements planned for the development, a Draft Plan of Subdivision/Condominium may be required to appropriately divide the lands into development blocks.

A complete application will require the studies/reports /plans listed in Schedule 'A'.
Prior to starting the noted studies/reports please provide the Development Team (including the City's Planning & Heritage Division and Engineering Services Division and Grey Sauble Conservation Authority)

with a detailed Terms of Reference for each study/plan to assist in appropriate scoping and inclusions.

In accordance with the City's Site Plan Control By-law 2011-034 the proposed development is classified as development requiring Site Plan Approval. These applications may be submitted concurrently to the Zoning Amendment.

As noted in the Pre-Consultation application and Schedule 'A' Issue Summary, the proposed development will require an access easement from the adjacent property to the west. The easement will provide access to the site via a private internal road that extends south from the 16th Street East and 22nd Avenue East intersection. The easement will need to be in place prior to the development of the parcel. If you decide not to subdivide the parcel via a Plan of Subdivision you will need to apply for a Consent Application at the time of formal Planning Application submission.

Please review the enclosed attachment closely.

Schedule 'A' is a summary of the issues identified through the pre-consultation process along with a list of the studies and reports that will be required as part of a formal Planning Act application.

Schedule 'C' contains the comments provided by our circulated agencies for the proposed development. It is imperative that you review these comments thoroughly and include the recommendations in your formal Planning Act applications.

Schedule 'E' sets out the Application Fee estimates (including fixed capital contributions) and more information regarding applicable Development Charges.

If you wish to discuss development on the subject property further, we would recommend that you prepare conceptual site plans grounded in the comments attached for discussion with the City of Owen Sound Development Team, and the Grey Sauble Conservation Authority. You would be strongly encouraged to bring a consulting Engineer, consulting Planner, and any other members of your project team to such a meeting. Please contact the undersigned to arrange a meeting if you wish.

Sincerely,



Sabine Robart, MSc (Plan)
Intermediate Planner

PRE-CONSULTATION REVIEW SCHEDULE 'A'



ISSUE SUMMARY & COMPLETENESS REQUIREMENTS

The following table outlines a high-level summary of the issues identified as part of your Pre-Consultation Review and the studies and plans that are required to accompany a formal Planning Act application as part of a complete submission. **The Planning & Heritage Division will review a Terms of Reference for each study/plan to assist in appropriate scoping and inclusions.** Note that the formal review process may reveal the need for additional plans/studies. Please review the original staff and agency comments included in the Pre-consultation package. **Refer to the City of Owen Sound Official Plan Section 8.4 for more information about the studies/plans required herein.**

Issue		Studies/Plans Required for Completeness
A.	Hazard / Natural Heritage	
1.	<p>The City of Owen Sound Official Plan and the County of Grey Official Plan designate a portion of the property as 'Hazard Lands'. The Hazard Lands designation identify lands that are subject to flood and erosion potential associated with Telfer Creek. These lands are also regulated under Ontario Regulation 151/06.</p> <p>Based on recent downstream restrictions and an increase in modelled flow volumes there is the potential for an increase in the flood plain area on the parcel.</p> <p>Natural Heritage features identified on the property include fish habitat (Telfer Creek is considered cold water fish habitat), potential for significant wildlife habitat and</p>	<p>A Flood Hazard Study is to be completed by a qualified Engineer to confirm the extent of the regional flood plan affecting the property.</p> <p>A Stormwater Management Report and Plan is to be completed by a qualified Engineer to the satisfaction of the GSCA and the City of Owen Sound (see C-3 for further details regarding the Stormwater Management Plan).</p> <p>An Environmental Impact Study is to be completed by a qualified professional to address the natural heritage policies of the Provincial Policy Statement and relevant local policies to</p>

PRE-CONSULTATION REVIEW SCHEDULE 'A'



	<p style="text-align: center;">Issue</p>	<p style="text-align: center;">Studies/Plans Required for Completeness</p>
	<p>the potential for threatened or endangered species and their habitat.</p>	<p>the satisfaction of the Grey Sauble Conservation Authority and the City of Owen Sound.</p>
<p>2.</p>	<p>Section 4.12.2.8 of the City's Official Plan requires that lands designated as Hazard Lands be set aside for environmental protection purposes. The City will encourage public conveyance of these lands through the development approval process, land trusts, easements, development agreements or other means at its disposal. This land is not considered part of the required parkland dedication.</p>	
<p>B.</p>	<p>Traffic, Access and Roads</p>	
<p>1.</p>	<p>The property has frontage onto 16th Street East. 16th Street East is designated as Connecting Link (Highway 26). Direct access from the site to 16th Street East / Highway 26 will not be permitted. Access to the site is proposed via an access easement from the adjacent property to the west (2125 16th Street</p>	<p>A scoped Traffic Impact Study is required as per Section 5.8.3 and Appendix 'H' of the City's Site Development Engineering Standards (SDES).</p>



237897 Inglis Falls Road, R.R.#4, Owen Sound, ON N4K 5N6
Telephone: 519.376.3076 Fax: 519.371.0437
www.greysauble.on.ca

May 27, 2019

Ms. Sabine Robart, Intermediate Planner
City of Owen Sound
808 2nd Ave E
Owen Sound, ON
N4K 2H4

Dear Ms. Robart:

**RE: Pre-Circulation Application PC2019-004
2275 16th Street East
Roll No. 42-59-040-060-140-00
City of Owen Sound
Our File: P19175**

The Grey Sauble Conservation Authority (GSCA) has reviewed this application in accordance with our mandate and policies for natural hazards, for natural heritage issues as per the Memorandum of Agreement with the City of Owen Sound and relative to our policies for the implementation of Ontario Regulation 151/06. We offer the following comments.

Subject Proposal

The subject proposal is for a conceptual site plan related to a three phased development. Phase 1 would involve the construction of a car dealership with approximately 1843 square metres of building area and 134 stall vehicle sale parking lot. Phase 2 would be comprised of a 2000 square metre shopping centre and a 3-storey (24-units) multi-residential building including covered parking. Phase 3 is currently reserved for future development.

Site Description

The site is located on the south side of 16th Street East in the City of Owen Sound. The property currently contains a single residential dwelling and two accessory structures. The land appears to have previously been agricultural, but it has been left to regenerate. Tree species on the property appear to include species typically found in regenerating agricultural fields such as ash, elm, Hawthorn, among others. Telfer Creek crosses the property from the south west up to the north east corner.



1 of 5

Watershed Municipalities

Arran-Elderslie, Chatsworth, Georgian Bluffs, Grey Highlands
Meaford, Owen Sound, South Bruce Peninsula, Blue Mountains

GSCA Regulations

A portion of the subject property is regulated under Ontario Regulation 151/06: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses. The regulated area is associated with the flood and erosion potential of Telfer Creek and a 15-metre regulated allowance from the hazard.

Under this regulation a permit is required from this office prior to the construction, reconstruction, erection or placing of a building or structure of any kind; any change to a building or structure that would have the effect of altering the use or potential use of the building or structures, increasing the size of the building or structure, or increasing the number of dwelling units in the building or structure; site grading; or, the temporary or permanent placing, dumping or removal of any material originating on the site or elsewhere, if occurring within the regulated area. Also, a permit is required for interference with a wetland, and/or the straightening, changing, diverting or in any way interfering with an existing channel of a river, lake, creek stream or watercourse.

Provincial Policy Statement (2014)

3.1 Natural Hazards

The natural hazards identified on the property is related to the flood and erosion potential associated with Telfer Creek. These hazard lands are identified on the attached mapping. These lands are currently zoned hazard (ZH-3) land under Owen Sound's zoning by-law. We note that the flood plain analysis used to delineate the current hazard zone, was completed by Henderson Paddon and Associates Limited (HPA) in 1993 and since that time, a new hydrology model was created as part of the "City of Owen Sound East Master Servicing Study" (2008) by RJ Burnside & Associates Limited (Burnside). The new hydrology model identified the regional event storm flows as almost double those originally identified by HPA. There were also changes to the control structures located at 16th Street East that could have an impact on the floodplain analysis for the subject lands. Based on the combination of downstream flow restriction and an increase in modelled flow volumes, there is the potential for an increase in the flood plain area on this property. This possibility will need to be addressed by the applicant's engineering consultant prior to any approvals for OPA, ZBA, or draft plan of subdivision.

2.1 Natural Heritage

The natural heritage features identified on the property include fish habitat, the potential for significant wildlife habitat, and the potential for threatened or endangered species and their habitat. The following policies under the provincial policy statement would need to be considered. We have provided comments on the applicable policies based on our preliminary review of the proposal.

2.1.1 Natural features and areas shall be protected for the long term.

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

2.1.3 *Natural heritage systems* shall be identified in Ecoregions 6E & 7E₁, recognizing that *natural heritage systems* will vary in size and form in *settlement areas, rural areas, and prime agricultural areas*.

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

- a) *significant wetlands* in Ecoregions 5E, 6E and 7E₁; and
- b) *significant coastal wetlands*.

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

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

₁ Ecoregions 5E, 6E and 7E are shown on Figure 1.

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

GSCA Comment: There is the potential for significant wildlife habitat to exist on the property.

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

GSCA Comment: Telfer Creek is considered cold water fish habitat.

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

GSCA Comment: The property to the west of the subject lands was observed as containing butter-nut trees (*juglans cinerea*); this species is considered endangered under the Endangered Species Act (ESA) and there is the potential for this species to exist on the subject lands. There is also the potential for other species at risk to occur on the property.

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

2.1.9 Nothing in policy 2.1 is intended to limit the ability of *agricultural uses* to continue.

Stormwater Management

Based on our review of the proposal and the current concept, it appears as though stormwater quantity and quality will be addressed through the construction of a stormwater pond. A complete stormwater management report should be completed for the proposal. The GSCA requires the following stormwater controls:

1. Post-development water quantity must be controlled to pre-development levels for all storm events up to and including the regional (Timmins) storm event;
2. Water quality must be controlled to provide an enhanced level of treatment.
3. Thermal controls will be required to reduce the thermal impacts on the stream system;
4. Stormwater controls must be located outside of the floodplain area.

Recommendations

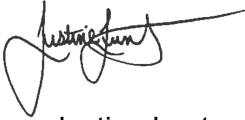
Based on our preliminary review of the subject proposal, we recommend that a complete application should include the following:

1. A stormwater management report prepared by a qualified professional engineer to the satisfaction of the GSCA and the City of Owen Sound. A detailed Terms of Reference should be established to the satisfaction of the GSCA and the City of Owen Sound prior to the commencement of such a study;
2. A detailed floodplain mapping report, prepared by a qualified professional engineer to the satisfaction of the GSCA. A detailed Terms of Reference must be established to the satisfaction of the GSCA prior to the commencement of such a study;
3. A scoped Environmental Impact Study. This study should consist of a vegetation inventory and fauna surveys in accordance with established protocols (i.e. Breeding birds, amphibians/reptiles and other wildlife) completed during the appropriate time of year. A detailed Terms of Reference must be established to the satisfaction of the GSCA and the City of Owen Sound prior to the commencement of such a study.

We request that our office be notified of any further information, circulations and/or decisions regarding this application, and we can be available for further discussion through a pre-consultation meeting if required.

If any questions should arise, please contact our office.

Regards,



Justine Lunt
Environmental Planner

enclosure

cc Ms. Pam Coulter, Director of Community Services, City of Owen Sound

APPENDIX 6

- **Approved EIS-Terms of Reference**



AWS Environmental Consulting Inc.
(Operating as Aquatic and Wildlife Services)

242090 Concession Rd. 3 Keppel,
R.R. # 1, Shallow Lake, Ontario, Canada, N0H 2K0

Office: 519-372-2303, Email: aws@gbtel.ca

Web site: www.awsenvironmental.ca

March 16, 2020

Grey Sauble Conservation Authority (By Email Only)
237897 Inglis Falls Road
R.R. # 4
Owen Sound, ON
N4K 5N6

Attention: Justine Lunt, Environmental Planning Coordinator

Re: EIS-Terms of Reference
Telfer Creek Square Developments Ltd.
2275 16th Street East
City of Owen Sound, ON
Assess. Roll No. 425904006014000

Dear Justine

AWS Environmental Consulting Inc. has been retained to provide you a 'Terms of Reference' (ToR) for a Natural Heritage Environmental Impact Study on the aforementioned property as per your request within the May 27, 2019 pre-circulation letter (File No. P19175). This ToR outlines the proposed EIS field investigation and seasonal timelines specifically for this land parcel in relation to air photo review of habitat types, personnel knowledge of lands and review of historical provincial flora/fauna records within the surrounding landscape.

Outlined in red below are the EIS Field Study Lands and tentative development lands. Technical reporting will also include a literature review and desk-top assessment of the 120m 'Adjacent Lands'.



Environmental Impact Study (EIS) field timelines are outlined below to address the Natural Heritage policies of the Provincial Policy Statement, Official Plans for the City of Owen Sound and County of Grey and technical review by the Grey Sauble Conservation Authority.

EIS field investigations shall follow accepted natural heritage study methodologies, protocols and guidelines to provincially required standards for the following inventory aspects:

- Tree cavity and Snag habitat assessment prior to leaf-out for bat habitat survey.
- Three breeding bird surveys during the active breeding season.
- Minimum of one survey during the snake hibernation emergence period and one survey during the snake gestation period.
- Two night time Anuran calling surveys (dependent upon habitat conditions) during the active early & mid season breeding periods. Given site terrain and through air photo interpretation no late season amphibian breeding habitat is identifiable.
- Spring and summer season flora and fauna inventory.
- Hydrology functions & Fish Habitat assessment during the spring run-off period and base flow summer periods.
- Vegetation community mapping to Southern Ontario Ecological Land Classification system
- Flora and Fauna listings with current status and rankings, including vascular plant floristic quality scores for Southern Ontario.
- Mapping of any habitat, colony locations, sightings etc for flora & fauna: species of conservation concern

A background review of historical records and AWS knowledge has identified the following species of conservation concern within the surrounding landscape, with potential suitable habitat within the subject Study Lands for: Eastern Meadowlark, Bobolink, Butternut, Barn Swallow, Hart's-tongue Fern, Snapping Turtle, Northern Brook Lamprey, Monarch Butterfly and Rusty-patched Bumble Bee.

EIS Field Inventory Work Investigation/Monitoring Schedule

1) Field Period: April 15th to April 30th (+/- 2 weeks depending on weather-snow melt)

- Day time site visit for:
 - Preliminary habitat feature review and characterization
 - Hydrology, Fish Habitat & Amphibian breeding habitat assessment
 - General Fauna
 - Reptile hibernation emergence activity period
- Night time site visit for:
 - Amphibian calling- breeding activity survey, early season egg-laying period
 - Bat foraging activity, presence/absence

2) Field Period: May 15th to May 30th

- Day time site visit for:
 - Tree cavity and Snag habitat assessment for bat roosting
 - Reptile egg laying activity period
- Night time site visit for:
 - Amphibian calling- breeding activity survey, early season egg-laying period
 - Bat foraging activity, presence/absence

3) Field Period: May 25th to July 7th

- Day time site visits for:
 - Two breeding Bird activity survey's within the woodland/treed habitat, in accordance to Bird Studies Canada protocols for Woodlands
 - Three breeding Bird activity surveys within the semi-open scrub land / grasslands, in accordance to Provincial protocols for Grassland SAR birds (Bobolink/Eastern Meadowlark).
 - Spring season Flora inventory
 - General Fauna inventory
 - Bumble Bee, Butterfly & Dragonfly investigations during the spring flowering season

4) Field Period: July 20th to August 15th

- Daytime site visits for:
 - General Fauna and Summer season Flora survey
 - Snake gestation survey
 - Hydrology & Fish Habitat
 - Vegetation communities/Ecological Land Classification mapping
 - Bumble Bee, Butterfly & Dragonfly investigations during the summer season
 - Butternut Health Assessment, if any identified

5) Field Period: August 15th to September 10th

- Daytime site visit for:
 - Late Summer season Flora survey (focus on Grasses, Asters and Goldenrod identification)
 - General Fauna

Given the site location, past site disturbances, terrain/elevation and identifiable vegetation community types it is anticipated the above recommended field investigative works will be sufficient to address potential natural heritage features and development impact assessments. If you feel additional natural heritage field inventory works are required please email the undersigned to discuss further or if this ToR is acceptable please email the undersigned for approval of this ToR.

Thank you

Respectfully Submitted



John Morton, President
AWS Environmental Consulting Inc.

All By Email

cc Sabine Robart, City of Owen Sound Planner
Hiba Hussain, Grey County Planner
Dave Moyer, Project Co-Ordinator, Chestnut Park Real Estate Limited
Muzammil A. Dewan, Exquisite Developers Inc. (Proponent)
Ian Erickson, GM BluePlan Engineering (Consulting Engineer)

APPENDIX 7

- **ESA confirmation/clearance for Butternut**



CONFIRMATION OF REGISTRATION

Form Name: Notice of Butternut Impact

Date Registration Filed: 02/02/2021

Confirmation ID: M-103-1406600170

Version Number: 001

Update Date:

EXQUISITE REAL ESTATE HOLDINGS LTD

13182 Britannia RD
MILTON, ON L9E0V5

Dear Sir/Madam,

You have registered under section 23.7 of Ontario Regulation Reg. 242/08 of the Endangered Species Act, 2007 and your Notice of Butternut Impact Form has been received by the Ministry of Natural Resources and Forestry for activities impacting Butternut located at:

2275 16th ST E
Owen Sound, ON N4K6A8

This confirmation applies to the 1 Category 2 (retainable) butternut trees identified in the information provided to the Ministry through the Registry and as referenced in the Butternut Health Assessor's Report # 507719.

Please note, you may only kill, harm or take those Category 2 (retainable) butternut trees from the above-referenced report that you have identified in the information provided to the Ministry through the Registry with the following tree number (s): 001.

A copy of this Confirmation of Registration must be kept on the site where the impacts to Butternut are occurring and you are required to show this Confirmation of Registration upon the request of the Ministry. Please refer to Ontario Regulation 242/08 for requirements that apply to your activity.

Any questions related to this registration and/or the Natural Resources Registry should be directed to:

Registry and Approval Services Centre
Ministry of Natural Resources and Forestry
300 Water Street
Peterborough, ON, K9J8M5
Toll-free: 1-855-613-4256
E-mail: mnr.rasc@ontario.ca

APPENDIX 8

- **Ontario Regulation 242/08 requirements under ESA for
Butternut planting, records and monitoring**

Endangered Species Act, 2007

ONTARIO REGULATION 242/08

GENERAL

Consolidation Period: From June 29, 2020 to the e-Laws currency date.

Last amendment: 328/20.

Butternut

23.7 (1) In this section,

“butternut health assessor” means a person or member of a class of persons designated by the Minister for the purpose of assessing whether, and the extent to which, butternut trees are affected by butternut canker; (“évaluateur de la santé des noyers cendrés”)

“seed zone” means a seed zone identified in the document entitled “Southern Ontario Tree Seed Zone Atlas” that is published by the Ministry of Natural Resources, dated 2011, as amended from time to time, and that is available to the public at the Ministry’s district offices, at the Ministry’s corporate library in Peterborough or on the Ministry’s website. (“zone de semences”) O. Reg. 176/13, s. 14.

(2) The following classes of butternut trees are established for the purposes of this section:

1. Category 1 tree — the butternut tree is affected by butternut canker to such an advanced degree that retaining the tree would not support the protection or recovery of butternut trees in the area in which the tree is located.
2. Category 2 tree — the butternut tree is not affected by butternut canker or the butternut tree is affected by butternut canker but the degree to which it is affected is not too advanced and retaining the tree could support the protection or recovery of butternut trees in the area in which the tree is located.
3. Category 3 tree — the butternut tree may be useful in determining sources of resistance to butternut canker. O. Reg. 176/13, s. 14.

(3) This section does not apply to a butternut tree if a butternut health assessor has conducted an assessment of the tree in accordance with the practices and requirements referred to in subparagraph 1 ii of subsection (4) and determined that the tree is a category 3 tree. O. Reg. 176/13, s. 14.

(4) Subject to subsection (5), clause 9 (1) (a) of the Act does not apply to a person who kills, harms or takes butternut trees if the following conditions are satisfied:

1. The following events must be completed at least 30 days before the person kills, harms or takes the butternut trees,
 - i. the person must request a butternut health assessor to conduct an assessment of the health of the butternut trees,

- ii. the butternut health assessor must conduct an assessment of the health of the butternut trees in accordance with the practices and requirements for such assessments set out in the document entitled “Butternut Assessment Guidelines: Assessment of Butternut Tree Health for the Purposes of the *Endangered Species Act, 2007*”, published by the Ministry of Natural Resources, dated May 2011, as amended from time to time, and available to the public on the Ministry’s website,
- iii. the butternut health assessor must provide a written report in respect of the butternut trees that is completed in accordance with the guidelines set out in the document referred to in subparagraph ii and that meets the requirements of subsection (6),
- iv. the person must give the butternut health assessor’s report to the district manager of the Ministry for the district in which the butternut trees are located.
 - 2. The butternut health assessor’s report must indicate that, in the opinion of the butternut health assessor, the butternut trees are either category 1 trees or category 2 trees and are not category 3 trees.
 - 3. During the 30-day period that follows the day the person gives the report of the butternut health assessor to a district manager, the person must give permission to enter the property on which the trees are located for the purpose of examining the trees to the district manager or any employee of the Ministry who request the permission to do so.
 - 4. If the butternut health assessor’s report indicates that one or more of the butternut trees are category 2 trees, the person must satisfy the following additional conditions with respect to those trees after the 30-day period described in paragraph 3 has elapsed:
 - i. before killing, harming or taking the category 2 trees, the person must give the Minister notice of the activity by submitting a notice of butternut impact form available on the Registry to the Minister through the Registry,
 - ii. the person must ensure that the notice of butternut impact form includes,
 - A. the number of category 2 trees that the person proposes to kill, harm or take,
 - B. whether the category 2 trees will be killed, harmed or taken,
 - C. the location of each category 2 tree and the diameter of each tree at breast height, and
 - D. the date and report number of the butternut health assessor’s report prepared in respect of the butternut trees in question,
 - iii. the person must follow the requirements of subsections (7) and (8) with respect to the completion of the notice of butternut impact form, the keeping of records relating to the notice of butternut impact form and the updating of the information on the Registry, and
 - iv. the person must comply with the requirements set out in subsection (10) for planting seedlings to replace butternut trees that are killed, harmed or taken and for monitoring and tending to those seedlings, and keeping records in relation to the seedlings. O. Reg. 176/13, s. 14.

(5) The exemption from clause 9 (1) (a) of the Act provided in subsection (4) is subject to the following limitations:

1. If the report of a butternut health assessor identifies more than 10 butternut trees as category 2 trees among the butternut trees that a person proposes to kill, harm or take, the exemption shall not apply with respect to more than 10 such trees.
2. The exemption shall not apply if,
 - i. the person has previously been exempted, pursuant to subsection (4), from clause 9 (1) (a) of the Act with respect to 10 butternut trees that were identified by a butternut health assessor as category 2 trees,
 - ii. the butternut trees that the person is proposing to kill, harm or take are located in the same area as the 10 butternut trees with respect to which the person was previously exempted from clause 9 (1) (a) of the Act, or in an area situated in close proximity to that area, and
 - iii. the reasons for which the person is proposing to kill, harm or take butternut trees are the same as, or similar to, the reasons for which the person previously killed, harmed or took butternut trees. O. Reg. 176/13, s. 14.

(6) A butternut health assessor's report shall, for each butternut tree that a person is proposing to kill, harm or take,

- (a) identify the precise location of the tree;
- (b) set out the diameter of the tree at breast height or indicate that the tree is shorter than breast height;
- (c) state whether, in the opinion of the butternut health assessor, the tree is affected by butternut canker, describe the extent of the canker and classify the tree as a category 1 or 2 tree depending on the extent of the butternut canker;
- (d) determine if, in the opinion of the butternut health assessor, the tree may be useful in determining sources of resistance to butternut canker and should be categorized as a category 3 tree; and
- (e) identify the reason the person is proposing to kill, harm or take the butternut tree, if known to the butternut health assessor. O. Reg. 176/13, s. 14.

(7) Before submitting a notice of butternut impact form to the Minister, the person must ensure that,

- (a) all mandatory information requested on the form, including the person's contact information, has been provided; and
- (b) the information provided on the form is complete and accurate. O. Reg. 176/13, s. 14.

(8) After submitting a notice of butternut impact form to the Minister, the person must,

- (a) promptly upon obtaining from the Ministry confirmation that a notice of butternut impact form submitted through the Registry has been received by the Minister, make a record of the confirmation;
- (b) for as long as the activity is being carried out,

- (i) keep the record of the confirmation and, if applicable, ensure that a copy of the record is kept at the site where the activity is being carried out, and
 - (ii) make the record of the confirmation available to the Ministry upon receiving a request for it; and
- (c) if there is a change in the contact information for the person who submitted the notice of butternut impact form, update the information on the Registry within 10 business days of the change. O. Reg. 176/13, s. 14.

(9) A person who provides incomplete, false or misleading information on a notice of butternut impact form or when updating information on the Registry shall be deemed to have not submitted the notice of butternut impact form. O. Reg. 176/13, s. 14.

(10) A person who kills, harms or takes one or more butternut trees that are category 2 trees and who, pursuant to subsection (4), is exempt from clause 9 (1) (a) of the Act shall comply with the following requirements:

1. For each tree that is killed or taken, the person shall plant butternut seedlings in accordance with the following rules:
 - i. at least two butternut seedlings, if the tree that is killed or taken is described in the butternut health assessor's report as shorter than breast height or less than three centimetres in diameter at breast height,
 - ii. at least five butternut seedlings, if the tree that is killed or taken is described in the butternut health assessor's report as at least three centimetres but less than 15 centimetres in diameter at breast height, and
 - iii. at least 20 butternut seedlings, if the tree that is killed or taken is described in the butternut health assessor's report as 15 centimetres or greater in diameter at breast height.
2. For each tree that is harmed, the person shall plant butternut seedlings in accordance with the following rules:
 - i. at least one butternut seedling, if the tree that is harmed is described in the butternut health assessor's report as shorter than breast height or less than three centimetres in diameter at breast height,
 - ii. at least three butternut seedlings, if the tree that is harmed is described in the butternut health assessor's report as at least three centimetres but less than 15 centimetres in diameter at breast height, and
 - iii. at least 10 butternut seedlings, if the tree that is harmed is described in the butternut health assessor's report as 15 centimetres or greater in diameter at breast height.
3. Every butternut seedling that is planted must have been grown from seed that originated from the seed zone in which it is planted.
4. All butternut seedlings must be planted within three years of the person submitting the relevant notice of butternut impact form under subparagraph 4 i of subsection (4).
5. Butternut seedlings must be planted in an area with the following characteristics:
 - i. the soil must be greater than one metre deep, moist but well-drained and have a fine to medium texture with a recognizable organic layer and with a pH ranging from 6.8 to 7.2, and

ii. the area must provide full sunlight conditions to the butternut seedlings.

6. In order to avoid a monoculture of butternut, the person shall plant deciduous trees and shrubs that are not butternut seedlings and that are native to the area in which the seedlings are planted in such numbers to ensure that there are an equal number of butternut trees and other native Ontario species in the area.

7. Every butternut seedling and companion tree or shrub referred to in paragraph 6 must be planted either between March 1 and May 15 or between September 20 and October 30 of any year, except for a butternut seedling or companion tree or shrub that was grown in a container which may be planted between May 16 and May 25 of any year.

8. No more than 200 butternut seedlings shall be planted in a hectare.

9. Butternut seedlings must be planted at least,

i. three metres from other planted butternut seedlings,

ii. two metres from other trees or shrubs that are likely to be the same height or shorter than the butternut tree at full growth,

iii. four metres from other trees or shrubs that are likely to be taller than the butternut tree at full growth,

iv. five metres from the canopy drip line of trees that are greater than four metres in heights at the time of planting, and

v. 100 metres from a highway consisting of two or more lanes in either direction.

10. Every butternut seedling that is planted under this subsection must be monitored once annually between May 15 and September 20 for two years after it is planted to assess the health of the tree and its habitat conditions.

11. In order to ensure the good growth and health of the butternut tree, every butternut seedling that is planted under this subsection must be tended to in accordance with the following rules:

i. tending activities shall take place once a week from May 15 to September 20 during the first growing season after the butternut seedling is planted,

ii. tending activities during the first growing season after the butternut seedling is planted will include,

A. maintenance of tree guards to protect the lower stem from rodents,

B. vegetation control 60 centimetres around the base of the tree until the tree is above the herbaceous vegetation, and

C. watering during drought or low rainfall periods, and

iii. tending activities shall take place during the second growing season after the butternut seedling is planted as required to ensure that,

A. vegetation is controlled 60 centimetres around the base of the tree until the tree is above the herbaceous vegetation, and

B. the tree is watered during drought or low rainfall periods.

12. The person must plant a butternut seedling to replace any butternut seedling planted under this subsection that dies within two years of the planting of the seedling and must do so in accordance with the planting requirements of this subsection.

13. For each butternut seedling planted under this subsection, the person must maintain a record of the planting, monitoring and tending activities required under this subsection, which record shall include,

i. the date the butternut seedling was planted,

ii. the date of each time a person attended to monitor or tend to the butternut tree,

iii. a description of every monitoring and tending activity,

iv. an assessment of the health status of the butternut seedling every time it is monitored or tended to to indicate if its health is good, poor or whether it is dead, and

v. whether the butternut tree shows evidence of butternut canker and, if so, a description of the extent to which the tree is affected by butternut canker.

14. Within 14 days of receiving a request from the Ministry, the person shall provide the record maintained under paragraph 13. O. Reg. 176/13, s. 14; O. Reg. 323/13, s. 4.

(11) Clause 9 (1) (a) of the Act does not apply to a person who kills, harms or takes a butternut tree that was cultivated if the person is the owner or occupier of the land on which the tree is located or is acting on behalf of the owner or occupier of such land. O. Reg. 176/13, s. 14.

(12) The exemption from clause 9 (1) (a) of the Act provided under subsection (11) does not apply in respect of a butternut tree that was cultivated as a result of the requirements for an exemption under subsection (4) or of a condition of a permit issued under section 17 of the Act. O. Reg. 176/13, s. 14.

(13) Clause 9 (1) (b) of the Act does not apply with respect to butternut. O. Reg. 176/13, s. 14.

(14) Subsection 10 (1) of the Act does not apply with respect to the damage or destruction of the habitat of a butternut tree that occurs when a person kills, harms or takes a butternut tree if the person is exempt from clause 9 (1) (a) of the Act pursuant to an exemption under subsection (4) or (11). O. Reg. 176/13, s. 14; O. Reg. 308/16, s. 6.

(15) Subsection 9 (1) of the Act does not apply to nuts from a butternut tree. O. Reg. 176/13, s. 14.

(16) Section 12 of this Regulation does not apply to the commercial cultivation of butternut trees. O. Reg. 176/13, s. 14.

APPENDIX 9

- **Site Photos**



Photo No. 1: Vegetation community 1 (foreground) , June 2021

Photo No. 2: Vegetation community 2 & seasonal flooded Fish Habitat, April 2021





Photo No. 3: Vegetation community 3 , June 2021

Photo No. 4: Agricultural barn on-site, June 2021





Photo No. 5: 2013 ESA Butternut Planting Site, June 2021

Photo No. 6: Butternut sapling, June 2021, under 2021 ESA Confirmation





Photo No. 7: Groundwater upwelling-Spring, with past agricultural activity boxing in feature for livestock, April 2021

Photo No. 8: Groundwater upwelling feature, July 2021 with discharge waters





Photo No. 9: Development Land area, April 2021

Photo No. 10: Development Land area, January 2021 overwintering survey



APPENDIX 10

➤ AWS Qualifications & EIS Experience



AWS Environmental Consulting Inc.
(Operating as Aquatic and Wildlife Services)

242090 Concession Rd. 3 Keppel,
R.R. # 1, Shallow Lake, Ontario, Canada, N0H 2K0

Office: 519-372-2303, Email: aws@gbteel.ca

Web site: www.awsenvironmental.ca

C.V. Summary: John D. Morton

Education

- 1985: Graduate Sault College, Forestry Technician
- 1986: Honors Graduate Sault College, Fish & Wildlife Technologist
- 15 years training and experience with Ontario Ministry of Natural Resources as a contract & full time employee for Natural Heritage Programs and Biology/Ecology

Work Experience Summary

- 1997 to Present: Sole Proprietorship of **Aquatic and Wildlife Services**, specializing in Natural Heritage
 - Studies and Development Impact Assessments:
 - Over 250 Natural Heritage and Natural Environment Impact Study Reports for Land Use development proposals throughout Southwestern and Central Ontario in accordance to Legislation and Regulation for Federal and Provincial Agencies, Government and Niagara Escarpment Plan Policies and Conservation Authority Regulatory Lands.
 - Impact assessment technical reports ranging from: Single Residential Lot creations to Plan of Subdivisions for 100+ Lots, and Aggregate applications ranging from 5ha Wayside Gravel Pits to 120 ha Quarry Operations for both above and below groundwater table.
 - Design and Monitoring technical reports for Marina Development, , Water Crossings, Recreational Pond designs, Fish & Wildlife Habitat Restoration Plans and Managed Forest Plans.
 - Species At Risk Surveys for flora and fauna with study areas encompassing 20ha to 7000ha
 - Ontario Municipal Board expert witness testimony on Natural Heritage Features, Ecology, Development Impacts and Mitigation Techniques.
 - 1986 to 1997 : Resource Technician with the Ontario Ministry of Natural Resources, responsibilities included:
 - Backfill positions for Owen Sound Area Office District Biologist (Fisheries and Wildlife), and District Fish & Wildlife Management Officer.
 - Review and commenting on Provincial interests through Planning Review for development proposals.
 - Deputy Conservation Officer with completion of 5-week Enforcement Training Program, Provincial Offences charges, court evidence presentation and convictions.
 - Fish & Wildlife Population and Habitat surveys and Rehabilitation Designs.

- Midhurst District Administrator and Program Coordinator of Wetlands and CFWIP Programs with annual budgeting and auditing roles.
- Fisheries Research Technician and Fish Culture Technician, Chatsworth Fish Culture Station.
- 1982 to 1986 : Contract Resource Technician With Ontario Ministry of Natural Resources, Grey-Sauble and Saugeen Conservation Authorities, responsibilities included:
 - Wetland Inventory Technician, Fish and Wildlife Population and Habitat Surveys.

Project Related Experience Summary

- Fauna population and habitat surveys:
 - Salmonid biomass surveys through seining and Electrofishing.
 - Stream/Watershed surveys for habitat quality/conditions, fish passage/barriers, water quality assessment including Benthic Macro Invertebrate sampling.
 - Genetic research survey work on Chinook Salmon, Saugeen Muskellunge, Backcross Lake Trout.
 - Inland Lake surveys for water quality, thermal regimes, fisheries qualitative assessments through seining, trap netting, creel survey.
 - Stream/River/Lake Fisheries habitat enhancement and rehabilitation Plans.
 - Wintering Deer Yard mapping, quality assessment, carrying capacity calculations, herd health monitoring and natural reproduction rates.
 - Genetic research work on Bruce Peninsula Eastern Massassagua Rattlesnake and Black Bears including radio telemetry.
 - Breeding Bird surveys including waterfowl nesting surveys and natural recruitment success, Bald Eagle monitoring and banding, mapping of Owen Sound area significant production/staging areas.
 - Amphibian qualitative assessment within sensitive environments and monitoring population trends for wetland habitat conditions.
 - Species At Risk Surveys with habitat mapping and Ecological Land Classification community mapping for Copeland Forest, Shallow Lake Wetland, Meaford National Defense Training Centre, Grey County Pretty River Forest Tract and Oliphant Fens
- Flora species and habitat surveys:
 - Provincially Certified Wetland evaluator to Book 2 and 3 standards, with over 150 wetland evaluations and desktop upgrades completed. Wetland Evaluation instructor to former book 2 standards with successful training of 30+ candidates.
 - Southern Ontario Ecological Land Classification- Vegetation Community Mapping for sensitive and/or rare habitat types including fens, bogs, natural beaches, and alvars plus common woodland community types.
 - Botanical qualitative inventory works including identification, mapping of species of conservation concern with status levels and habitat types/condition assessments.
 - Tree marking for sustainable harvesting and rotational management of fuel wood and/or saw logs.
 - Native tree and shrub nursery operation with annual seedling production and retail sales of deciduous and conifer seedlings and saplings.

Certification & Training Courses:

- Provincially Certified Wetland Evaluator to Book 2 and Book 3 Standards
- Provincial Class 1 Electrofishing Certification
- Provincial workshop training for Natural Heritage Environmental Impact Studies, Natural Hazard Studies and Non-Renewable (Aggregates) Impact Studies
- Level '1' OMNR Law Enforcement training
- Advanced Fish Habitat training and Habitat Impact Assessment
- Fluvial Geomorphology Workshop
- Stream Bioengineering Restoration training
- Cyprinidae Identification Workshop
- Wetland Restoration Techniques Training
- Provincial Managed Forest Tax Incentive Plan Approver
- Species-At-Risk Ontario Mussel Identification
- Bruce Peninsula Eastern Massassagua Rattlesnake Habitat Identification Training through Radio Telemetry work with Parks Canada
- Ecological Land Classification System for Southern Ontario
- Provincial Tree Making Course
- WHMIS
- Ontario Courts Evidence Collection and Presentation Training
- Department of Fisheries and Oceans South Georgian Bay Fish Habitat Issues Workshop
- Provincial Butternut Health Assessor
- Biotechnical Slope Stabilization Workshop.

Recipient of Provincial -OMNR Award for Fish Habitat Restoration Works & Stewardship

P.O Box 278, Manitowaning, Ontario P0P 1N0 Canada (705) 859-1027 or (416) 268-0993 cell
<winterspider@eastlink.ca>

M.S. Cell Biology, University of Illinois, Chicago 1983

B.S. Botany, University of Michigan, Ann Arbor 1980

Ontario provincial wetland evaluator--certified 1999

Canadian Environmental Assessment Agency—screening training, 2007

Certificate of Proficiency in Spanish, Ryerson University, 2012

I have been an independent biological consultant since 1995. My work supports conservation as well as intelligent development and sustainable resource use. It is my conviction that sustainable growth requires all of these. My experience covers a broad range, including environmental assessments (EIS, NETR, CEA) for private development and First Nations; biological inventories and vegetation mapping; recovery and monitoring of Species-At-Risk (SAR); management and conservation planning for natural areas and parks; working with First Nations on land use planning and conservation; alvar ecology; gathering traditional ecological knowledge (TEK), and teaching the general public. I am the author of more than 30 federal or provincial recovery strategies and 9 COSEWIC status reports for endangered/threatened species.

SELECTED CONSULTING ACTIVITIES 2000-2020

Ecosystem Restoration

2016-present • Coordinator, Manitoulin Phragmites Project. A \$100k / year funded project to control Invasive Phragmites across Manitoulin Island, (Ontario SAR-SP, Gosling Foundation, and other partners).

Environmental Assessment

2005-present • Field surveys for EIS and NETR for proposed developments and new aggregate licences (AWS Environmental Inc.; WSP Canada; Robin Craig Consulting)

2014-present • Field surveys and assessments for SAR for private landowners and real estate agents on Manitoulin Island (Rolston Realty, Hugh McLaughlin Realtor)

2015 • Background work, field surveys, and oversight to fulfill federal environmental requirements for SAR during oil well remediation (Wiikwemkoong Unceded Territory)

2006-2007 • CEA screenings for new subdivision, fuel storage, ambulance base (Beausoleil FN)

Selected Inventories of Natural Areas with Management and Conservation Planning

2013-2015 • Rankin Management Area (Rankin Resources Group/OMNRF)

2014 • 58 acres on Manitoulin Island for a Species at Risk farm plan (private owner)

2011-12 • Measuring 50 years of forest change (Niagara Escarpment Commission)

2011 • Ecological values of a property for an ecogift transaction (Orland Conservation)
• Copeland Forest (Couchiching Conservancy)

2009-2010 • Oliphant Shoreline (Lake Huron Centre for Coastal Conservation)

2009 • Degrassi Point Prairie Remnant ANSI (OMNRF Midhurst)

2004 • Carden Alvar ANSI (OMNRF Bancroft)

• Trent-Severn Waterway (Parks Canada, Peterborough)

2003 • 20 candidate ANSIs on Manitoulin Island (Escarpment Biosphere Cons.)

• Wawashkesh - Naiscoot Conservation Reserve (OMNRF Parry Sound)

• Freeman Twp. Old Growth Conservation Res. (OMNRF Parry Sound)

- 2001-2002 • Field work Ontario's Living Legacy/Georgian Bay Coast (NCC/OMNRF)
- 2000 • Niagara Escarpment of Manitoulin Island (Escarpment Biosphere Cons.)
- Misery Bay Provincial Nature Reserve (Ontario Parks Northeast Zone)
- Queen Mother-M'Nidoo M'Nissing Prov. Park (Ontario Parks Northeast Zone)
- Blue Jay Creek Provincial Park (Ontario Parks Northeast Zone)

Species-At-Risk: General Surveys, Threats Reduction, Conservation Planning

- 2007-present • Wiikwemkoong First Nation
- 2010 • United Chiefs and Councils of M'Nidoo M'Nissing (Manitoulin Island)
- 2009 • Shallow Lake SAR survey (AWS Environmental Inc., Owen Sound)
- 2009 • Serpent River First Nation
- 2004-5 • North Channel and Manitoulin Island alvars (Parks Canada)

Species-At-Risk: Monitoring Design and Implementation

- 2010-present • Hill's Thistle (Thr.) at Wiikwemkoong Unceded Territory, Bruce Peninsula NP, Ontario Parks, and NCC properties
- 2015 • Prairie ecosystem habitat improvement: project and monitoring design (CWS)
- 2009-present • Eastern Massasauga Rattlesnake in Wiikwemkoong Unceded Territory
- 2003-present • Pitcher's Thistle (Thr./SC) in the Manitoulin Island region
- 2004-present • Coordination of volunteers who monitor Pitcher's Thistle
- 2008 • Forked Three-awned Grass at Georgian Bay Islands NP (Parks Canada)

Species-At-Risk: Habitat Delineation, Field Mapping, and Protection

- 2016 • Aweme Borer Moth (End.) (CWS and Ontario SAR-SF funding)
- 2015-2017 • Habitat management for Pitcher's Thistle (Ontario SAR-SF funding)
- 2014 • Colicroot distribution and habitat study (CWS)
- 2005-6, 2010 • Forked Three-awned Grass (End.) (Canadian Wildlife Service)
- 2006- 2008 • Dwarf Lake Iris (Thr.) and Hill's Thistle's (Thr.) (Parks Canada, Ottawa)
- 2007 • Critical habitat design for Pitcher's Thistle (End.) in Pukaskwa National Park
- 2001-2004 • Pitcher's Thistle populations and initial habitat characteristics
- 2002 & 1999 • Loggerhead Shrike & habitat on Manitoulin Island (OMNRF Kempsville)

Species-At-Risk: Recovery Strategies, Action and Management Plans, Status Reports

Summary 2007 – 2020 (details on request). Author of more than 30 recovery strategies, management plans, and COSEWIC reports on SAR. These are legal federal or provincial government documents for the recovery and protection of SAR. Species include: American Hart's-tongue Fern, Aweme Borer Moth, Blue Ash, Cherry Birch, Climbing Prairie Rose, Colicroot, Crooked-stem Aster, Dense Blazing Star, Dwarf Lake Iris, Forked Three-awned Grass, Gattinger's Agalinis, Hill's Pondweed, Hill's Thistle, Houghton's Goldenrod, Illinois Tick-trefoil, Lake Huron Grasshopper, Lakeside Daisy, Large Whorled Pogonia, Nodding Pogonia, Pitcher's Thistle, Queensnake, Round-leaved Greenbrier, Slender Bush-clover, and Willowleaf Aster.

Species-At-Risk: Research, Outreach, Education

- 1992 – present • Spring flora classes for the Manitoulin Island community, weekly, casual basis.
- 2016 – present • Workshops for school and community members (Wiikwemkoong)
- 2017 • Population viability analyses for Pitcher's Thistle [with Parks Canada]
- 2010 • Demographic trends in Pitcher's Thistle at Pukaskwa National Park

References and Publications

Gladly supplied on request.

Natural Heritage Environmental Impact Studies and Experience 1997-2020

Residential Subdivisions & Commercial Development

Grey County (18)	Bruce County (31)
Andpet 16th Ave Comm Deve.-Owen Sound	Pegasus Trails-Saugeen
Loucks Subdivision- Chatsworth	Lorne Beach Development- Kincardine
Langen Subdivision-Shallow Lake	Muholland Division St-Southampton
Boulter Subdivision- Keppel	Chippewa Golf & Country Club-Saugeen
Hilton Head Subdivision- Meaford	Leslie Subdivision-Saugeen
Oak Meadows Subdivision-Meaford	McMillan Subdivision-Saugen
Mannerow Estates- Owen Sound	Peacock's Meats and Groceries Inc-Tobermory
Georgian Shores Subdivision-Sarawak	John Webster-Southampton
Sutacriti Park Phase III- Sarawak	John Innes-Southampton
Debrincat Subdivision- Holland	Moravian Subdivision-Southampton
Ferraro Subdivision- McCullough Lake	Barry's Construction-Walkerton
Andpet Bothwells Corner Comm.- Owen Sound	Innes Subdivision-Southampton
HSC Alvanley Comm. Cement Plant-Keppel	Sauble Sunset Residence-Subdivision
MacKinnon-Smart Subdivision-Francis Lake	Sabbagh: Southampton Subdivision
Saugeen Cedar Heights-Hanover	
Sunvale Homes-Durham	Manitoulin Island (1)
Barry's Construction-Kilsyth	Barrie Island 300ac Cottage Subdivision
Georgian Escapes-Owen Sound Bay	

Infrastructure Projects & Industrial Development

Bruce County (20)	Grey County (20)
Barrow Bay North Shore Road	Town of Hanover Business Park
Bruce Road 21-Stoney Creek	Viking-Cives Ltd - Mount Forest
Bruce Rd 25 and Bruce Rd 23 and Shipley Creek	Sydenham Heights-Owen Sound Servicing
Kincardine-Park Street	Georgian Bluffs-Ingllis Falls Road
Bruce Road 12 and Bruce Rd 9	
Hwy 6 Culverts-Northern Bruce Peninsula	Wellington County (2)
Southampton Sanitary Sewers	Murphy Subdivision - Mount Forest
Arran Landfill Expansion	South Saugeen Development-Mount Forest
Calhoun Drain	Perth County (1)
Bruce County Line Road Upgrades	Maitland River Estates - Listowel
Offer Creek-Dam Removal	Huron County (2)
McClure's Bridge	Wingham Force main
Silver Creek Bridges-Walkerton	Goderich Pier Stabilization
Saugeen Shores 10th Line Drain	Wellington County (2)
Mildmay Elora Street Dam Removal	Town of Minto-Coon Creek 5-Year Monitoring
South Bruce Carrick-Normanby Meux Cr Bridge	Town of Minto-Palmerston Industrial Park
Mildmay Adam Street Dam Removal	

Natural Heritage Environmental Impact Studies and Experience 1997-2020

Recreational and Energy Land Use Development

Grey County (31)	Bruce County (13)	Simcoe County (4)
<p>Monterra Plateau Stream Realignment Devils Glen Ski Hill Expansion Morris Wetland Creation Rocky Saugeen Campground Expansion Sobiski Property Shoreline Stabilization Pesnail Property Shoreline Stabilization Carmicheal Pond Cleanout Overton Pond Design Beaver River Bank Stabilization Andrews Pond Design Hrodzicki Storage Building Klages Tree Retention Plan Cedar Run Horse Park Expansion Osler Bluff Shi Club-Storage Building Osler Bluff Ski Club-Water Reservoir Blue Mount. Orchard Run Ski Hill Expansion Walters Falls Hydro Facility Proposal Blue Mount Resort-Roller Blue Mount. Resort Stream Monitoring AndPet Commercial Development East West Exchange Retreat Camp Lahman Comm. Development Blue Mount. Resort SWMP Outlet Monitoring Lee Pond Design Morrison Marina Meaford-Cemetery Creek Realignment Goodyear-Effluent Monitoring Miller Group Ltd, -Owen Sound Indus. Park Parker-Nature Retreat Resort Bayou Cable Park Inc.-Thornbury Georgian Escapes Ltd- Retreat</p>	<p>Blue Heron Parking Lot Home Hardware-Sauble Beach Mystic Cove Stream Realignment Casey Property-Bank Stabilization Wells Trucking-Mildmay MacKenzie Marina Dredging Pike Bay Marina Dredging Chesley Lake Cottagers Assoc. Dredging Miller Property Shoreline Dredging Hood Property Shoreline Dredging Smith Com. Expansion LEED Tree Retention Plan Mildmay-Hamel's Pond and Elora Street Dam</p>	<p>Hamilton Brothers Ltd.-Stream Restoration Devils Glen Stream Realignment Devils Glen Club House Expansion Robitaille Wind Farm-Cedar Point</p> <p>Dufferin County (2)</p> <p>Bowman Comm. Development Cedar Highlands Ski Club</p> <p>Wellington County (1)</p> <p>White's Creek Restoration</p> <p>Manitoulin Island (2)</p> <p>Manitoulin Streams Association Municipality Official Plan</p>

Natural Heritage Environmental Impact Studies and Experience 1997-2020

Lot Severances & Building Envelopes

Grey County (98) and NEC		
Zaferis Building Envelope	Hughes Building Envelope	Wiley Severance
Clancy- 20th Street Building Envelope	Wilson Building Envelope	Davies Severance
Emmerson Building Envelope	Smith Severance	Stewart Severances
Shantz Building Envelope	Currie Building Envelope	Irwin Building Envelope
Fligg Building Envelope	Valette Building Envelope	Valent Building Envelope
Todd Severance	Robinson Severance	Barfoot Building Envelope
Underwood Building Envelope	Taylor Building Envelope	Voisin Building Envelope
Klages Severances	Low Building Envelope	Colborne Building Envelope
Beacock Building Envelope	Donavon Building Envelope	Tengler Building Envelope
McNeil Building Envelope	Lupia Building Envelope	Langerap Building Envelope
Gilbert Severances	Zeggil Severances	Wattie Building Envelope
Dillman Severance	McNeil Severance	Hall Severance
Thom Severances	Byers Building Envelope	Hrodzicki Building Envelope
DiFranco Severances	Gilmour Building Envelope	Nicholls Dwelling Expansion
Farnenhorst Building Envelope	Martindill Severance	NEC-Caframo Tree Preservation Plan
Biesinger Severances	Peach Severance	Elliott Building Envelope
Love Building Envelope	Ryan Severance	Spaleta Building Envelope
Braun Severances	J. Martin Building Envelope	Haslam Severance
Legge Building Envelope	Shrek Building Envelope	Bethune Severance
Wilcox Building Envelope	James Severance	O'Sullivan Building Envelope
HSC Clavering Severances	Maxwell Severance	McGlynn Building Envelope
Holmes Building Envelope	Harris Severance	Edgar Lot Severances
Brulette Severances	R. Martin Building Envelope	Moore Building Envelope
Philipp Severances	Philipp Building Envelope	Dr. Bond Lot Severance
Sheppard Severance	Bauman Building Envelope	Craig Building Envelope
Pfaff Building Envelope	Berg Building Envelope	Godwin Building Envelope
Wilmer Severances	Shrek Severance	Weber Envelope
Doherty Building Envelope	Yoder Severance	Value Stream Prod. Severances
Menaul Severance	Hollingshead Severance	Cameron Building Envelope
McNabb Building Envelope	McKay Building Envelope	Kopp Laneway-Wetland Corridor
Toombs Building Envelope	Molner Severance	Maddill Lot Development
McGowan Building Envelope	Detzler Severance	Wilkie Lot Development
Lobban Severance	Baragar Building Envelope	

