



FINAL

Natural Heritage Evaluation

Seven Parcels of Land, Southwest Corner of Yonge Street and
Mapleview Drive East, Barrie, Ontario

Prepared for:

Sobeys Inc.

498 Tahoe Boulevard
Mississauga, ON L4W 0C7

Attn: Phil Busby, MCIP, RPP
Director of National Development, Real Estate

April 8, 2022

Pinchin File: 298298.001



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1.0 INTRODUCTION

Pinchin Ltd. (Pinchin) was retained by Sobeys Inc. (Client) to conduct a Natural Heritage Evaluation (NHE) for the subject property that includes seven parcels of land located at the southwest corner of Yonge Street and Mapleview Drive East, Barrie, Ontario (Site). The location of the Site with general surrounding area is shown on Figure 1 in **Appendix A**. The NHE was required as part of the Zoning By-law Amendment and Site Plan Applications of the proposed commercial development. The Client intends to maintain the existing mixed-use status and to develop a plaza consisting of a grocery and retail stores as a Phase 1 development.

The Site and its immediate surrounding area as the identified Study Area for this NHE can be seen on Figure 2 in **Appendix A**. The Site consists of an approximately 3.35-ha parcel of undeveloped land. It is surrounded by Mapleview Drive East to the north, Yonge Street to the east, and agricultural land to the west and south. The Client is proposing to develop a commercial development within the Hewitt's Secondary Plan Area. As shown on Figure 2, the Study Area can be visualized as primarily woodlands with portions of meadow and thickets throughout the Site. The vegetation throughout the Site is a mix of native and early successional species, as well as large portions of invasive or exotic species. The Site has a history of multiple land-uses, which likely contributes to the irregular species diversity observed throughout the Site.

This NHE report was prepared to: identify key natural heritage features present on or immediately adjacent to the Site and characterize their ecological functions; evaluate the environmental effects of the development proposal that might reasonably be expected to have an impact on the natural features; and provide recommendations of mitigation measures to avoid or minimize the potential impacts. This NHE report will be prepared in general accordance with the City of Barrie's Official Plan and LSRCA's Watershed Development Guidelines. Agency consultations through a design charette and subsequent scoping exercise with the City of Barrie and LSRCA established the basis of this NHE.

2.0 POLICY CONTEXT

The following provincial, regional, and municipal legislation and policies were reviewed prior to an evaluation of the natural heritage features and functions of the Site and adjacent area was undertaken:

- Provincial Policy Statement (2020);
- City of Barrie Official Plan (2018 Consolidation);
- Ontario Regulation 179/06 (1990);

The sections below provide a summary of the above legislation and policies applicable to the development planning of the Site.

2.1 Provincial Policy Statement

The Provincial Policy Statement 2020 (PPS) sets a policy foundation for regulating development and land use in the Province of Ontario. It sets out guidelines for development while protecting resources of interest to the province, public health and safety and the quality of the natural environment (Ministry of Municipal Affairs and Housing, 2020). The PPS does support development and improved land use for planning, management and growth, but it does so in ways to enhance communities through efficient land use and environmental management and protection. The PPS states that Site alteration shall not be permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions (MMAH, 2020).

2.2 City of Barrie Official Plan

The City of Barrie Official Plan (CBOP) recognizes the Site as 'Mixed Use Nodes and Corridors'. Additionally, the Hewitt's Secondary Plan also recognizes the Site as 'Yonge Street Mixed Use Corridor'. The Mixed Use Nodes and Corridors are an important component as they provide for some of the most dense developments. Development within this area is encouraged to specifically take place along Yonge Street (City of Barrie, 2018a). As stated in the CBOP, an application for development or site alteration must be accompanied with a natural heritage evaluation in order to ensure that the appropriate buffers are implemented for the natural heritage features with the proposed development (City of Barrie, 2018a). The maps referenced from the CBOP and reviewed for this NHE can be found in **Appendix B**.

2.2.1 Tree Preservation By-law

The Corporation of the City of Barrie Tree Preservation By-law 2014-115 is intended to prohibit and regulate the destruction of trees (City of Barrie, 2018b). It sets out restrictions on tree destruction or removal in order to achieve the objectives of the City's Official Plan by protecting woodlands (City of Barrie, 2018b). All woodlands greater than 0.2-ha shall be protected by the City's Tree Preservation By-law, as a result of this the City will control development adjacent to woodlands; additionally, ecological offsetting must be completed to the satisfaction of the City and LSRCA, this includes the replacement of woodland features to a ratio of 2:1 (replacement : loss) (City of Barrie, 2018b). As the proposed development will require vegetation alteration and removal, an assessment of the woodland and a permit may be required in order to continue development and ensure that the appropriate buffers are in place.

2.3 Lake Simcoe Region Conservation Authority

Section 28 of the Conservation Authorities Act, 1990 states that LSRCA is authorized to implement and enforce the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation (Ontario Regulation 179/06). This Regulation states that development in or on areas defined in the regulation area (e.g. river or stream valleys, hazardous land, wetlands) requires permission from the LSRCA. The LSRCA may grant permission for development in or on these areas if the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development. In accordance with the Watershed Development Guidelines (2020) put forward by LSRCA, an environmental impact study, or in this case an NHE, may be required for approval of large scale developments. It should be noted that the Site contains no wetlands or watercourses but is located within the LSRCA regulated Hewitt's Creek subwatershed.

3.0 STUDY METHODOLOGY

3.1 Background Review and Agency Consultation

A desktop background review of the natural heritage features present on and around the Site, including woodland, wetland, watercourses, valleyland, and other natural areas, as well as other available information sources relating to the Study Area was conducted prior to a site assessment. Included in the review were natural heritage features present on the Site and in the surrounding area, historical species occurrences available from the Natural Heritage Information Centre (NHIC), existing wildlife data records, Species of Conservation Concern lists and other relevant information. Information and documents available from the Client including site history and Site plan were also reviewed for this Site. This document references the Ministry of Northern Development, Mines, Natural Resources and Forestry's (NDMNRF) Natural Heritage Reference Manual (NDMNRF, 2010) and the PPS which were reviewed for this report.

As mentioned above based on the Client's pre-consultation with the City of Barrie, an NHE for the Site is required for a Zoning By-law Amendment and Site Plan Application of the proposed commercial development. A design charrette and subsequent scoping exercise with the City of Barrie and LSRCA was conducted through a Terms of Reference (TOR) checklist for the NHE completed on December 22, 2021, prior to the completion of this report and comments were received from the LSRCA for establishing the basis of this NHE. A record of the agency consultation record is included in **Appendix C**. Due to the seasonal restrictions of additionally requested surveys as recommended, an update to this NHE will be completed based on the results from those additional surveys to be submitted in an updated submission.

Natural heritage features including aquatic and terrestrial resources with the potential to be present on the Study Area were identified through the following information sources:

- An assessment of habitat through aerial photographs and online mapping:
 - o Land Information Ontario (MNR, 2020a); and
 - o Google Earth.
- A review of historical occurrence records for Species of Conservation Concern within or adjacent to the Study Area:
 - o Natural Heritage Information Centre (MNR, 2020b);
 - o Atlas of the Breeding Birds of Ontario (BSC, 2020);
 - o Atlas of the Mammals of Ontario (Dobbyn, 1994);
 - o Ontario Reptile and Amphibian Atlas (ON, 2020);
 - o Ontario Butterfly Atlas (TEA, 2020);
 - o Ontario Regulation 230/08 Species at Risk in Ontario List (COSSARO, 2020); and
 - o Provincial and federal assessments, recovery strategies, and management plans.

3.2 Field Assessment

Pinchin conducted field studies to characterize the natural heritage features present on the Site and in the surrounding landscape. A summary of methodologies for the field work completed by Pinchin is provided below for reference.

3.2.1 Vegetation Surveys

Vegetation communities within the Study Area were assessed and described using the provincial Ecological Land Classification system. The *Ecological Land Classification for Southern Ontario: First Approximation and its Application* (Lee et al., 1998) was referenced to classify the habitats to ecosite. Ecosites classified within the Study Area were then applied to Ecological Land Classification (ELC) polygons mapped using aerial imagery.

The vegetation communities for fall were sampled for their structure, species composition and habitat characteristics. This information was supplemented by floristic surveys at the time of each visit. Species names generally follow the nomenclature of Flora Ontario (Newmaster and Ragupathy, 2012) and the NHIC.

3.2.2 Woodland Assessment

The woodlands present on Site are assessed based on ecological importance, species composition, age and history of woodland, and contributions to the surrounding landscape. Other factors which are considered are the size, location, and proximity to other natural heritage features in the surrounding area. These factors are assessed based on the observations made in the field and literature reviewed during the desktop background review.

3.2.3 Species at Risk

The *Endangered Species Act* (ESA) 2007 provides protection from harm, harassment, or captures to species listed as extirpated, endangered, or threatened on the Species at Risk Ontario List. Additional protection is provided to the habitat of endangered or threatened species on the Species at Risk Ontario List. Species habitat includes anywhere the species depends on for reproduction, rearing, hibernation, migration, or feeding; or prescribed habitat as defined in Ontario Regulation 242/08 of the General Regulation.

The likelihood of occurrence for Species at Risk was assessed qualitatively based on the ability of the habitat to meet one or more life requisites for each Species at Risk identified during the desktop assessment. If habitat suitable for Species at Risk was identified, additional survey effort was applied in that area. If incidental Species at Risk were observed, they were recorded throughout the field assessment within and adjacent to the Site.

3.2.4 Incidental Wildlife Observations

Wildlife was surveyed as part of general wildlife surveys during the Site visit. These surveys involved general coverage recording all species observations and signs, including tracks / trails, scat, burrows, dens, browse, and vocalizations. The wildlife surveys occurred during the coincident surveys for vegetation communities and vascular plants. Significant wildlife habitat was assessed according to the MNRF Natural Heritage Reference Manual (MNRF 2010) and the MNRF Significant Wildlife Habitat Technical Guide (MNRF 2000).

4.0 EXISTING CONDITIONS

4.1 Landform, Physiography, and Geology

The Site is bounded by Yonge Street to the east, Mapleview Drive East to the north, agricultural land to the west and mixed meadow, business and rural residential to the south. The surrounding area is primarily residential, agricultural lands and to the east there is a greenspace area. The Ontario Geological Survey classifies the bedrock of the Study Area as being of Middle Ordovician origin (Limestone) (Ontario Geological Survey, 1991).

The elevation is fairly level throughout the Site. The Site varies slightly within a metre of two of 270 m. As a result of this there is no clear indication of where any runoff or drainage flows. There is some minor microtopography throughout the Site as a result of Site alteration over the course of the past years to decades. This is indicated as the altered sites, or previously inhabited areas, have a slight slope towards the road where the remains of driveways are.

The Study Area is situated on the boundary of Ecodistrict 6E – 6, also known as the Barrie Ecodistrict. This ecodistrict reaches from Collingwood in the west to Bolsover in the east. The landscape throughout this ecodistrict consists of rolling topography with cropland, pasture and extensive areas of lake beds and shorelines. The soils in the Study Area are classified by Agriculture Canada and the Ministry of Agriculture and Food as primarily luvisol soils with a very small amount of organics (Soils of Canada, 2021).

A detailed review and analysis on the vegetation communities and potential natural heritage features on and surrounding the Site are provided below.

4.2 Vegetation Surveys

4.2.1 Vascular Plants

A Site assessment was conducted in the Fall season on October 28, 2021 on the Site and within the Study Area. The weather was sunny with a high of 18° degrees Celsius. A total of 74 plant species were identified within the Study Area from the vegetation survey. A full vascular plant species inventories as observed on the Study Area during the field assessment program surrounding the Site is catalogued in Table 1 in **Appendix D**. Two additional Site visits will also be conducted in the spring and summer of 2022 as requested by LSRCA through consultation comments, in order to complete additional surveys. Although no major changes are anticipated, these results presented below are subject to be updated based on the forthcoming Site assessment.

4.2.2 Vegetation Communities

In total, six vegetation communities were identified on the Site, including Dry – Fresh Red Pine Naturalized Coniferous Plantation, Dry – Fresh Mixed Meadow, Dry – Fresh Black Locust Deciduous Forest, Prickly Ash Deciduous Shrub Thicket, Dry – Fresh Sugar Maple – Oak Deciduous Forest and Sugar Maple – White Birch – Poplar Deciduous Woodland. These vegetation communities with their ELC polygons surveyed and the surrounding area are mapped on Figure 3 in **Appendix A**. Selected site photographs of the vegetation communities are included in **Appendix E** for reference.

Dry – Fresh Red Pine Naturalized Coniferous Plantation (FOCM6-2): This vegetation community is found in two large portions on the west and east sides of the Site. The western portion runs along the length of the west side of the Site, while the eastern portion runs along the east side. This community is primarily dominated by Red Pine (*Pinus resinosa*). The subcanopy is composed of saplings and immature trees, those observed include Manitoba Maple (*Acer negundo*), Common Buckthorn (*Rhamnus cathartica*), Eastern Hop-hornbeam (*Ostrya virginiana*), Black Cherry (*Prunus serotina*), Black Walnut (*Juglans nigra*), White Ash (*Fraxinus americana*) and Sugar Maple (*Acer saccharum*). The ground cover throughout this community is primarily composed of Canada Goldenrod (*Solidago canadensis*), Smooth Brome (*Bromus inermis*), Wild Red Raspberry (*Rubus idaeus ssp. Strigosus*), and Bittersweet Nightshade (*Solanum dulcamara*). On the eastern portion of this community, the vegetation is mostly the same with the addition of American Beech (*Fagus grandifolia*), Red Maple (*Acer rubrum*), Choke Cherry (*Prunus virginiana*) and Tartarian Honeysuckle (*Lonicera tatarica*).

Dry – Fresh Mixed Meadow (MEMM3): This vegetation community is found on the west side of the Site and composes a good portion of the Site and continues south. This vegetated community is dominated by graminoids and forbs. The dominant species include Canada Goldenrod, Smooth Brome, Orchard Grass (*Dactylis glomerata*), and to a lesser extent, Panicked Aster (*Symphyotrichum lanceolatum*). Shrubs and immature trees in this community include Norway Spruce (*Picea abies*), Scots Pine (*Pinus sylvestris*) and Eastern White Pine (*Pinus strobus*). Other immature trees observed are representative of the surrounding vegetation communities such as Black Locust (*Robinia pseudoacacia*) saplings to the east and immature conifers to the west.

Dry – Fresh Black Locust Deciduous Forest (FODM4-11): This vegetation community is the largest within the Site and is found in the center of the Site. It is bounded by Sugar Maple – White Birch – Poplar Deciduous Woodland to the northwest, Mixed Meadow to the west, and the Naturalized Red Pine Plantation to the east and south. This vegetated community is almost entirely dominated by Black Locust which is an invasive or exotic species in Ontario. Some other trees that are observed on the edges of this community include Manitoba Maple, Large-toothed Aspen (*Populus grandidentata*), Black Walnut and White Mulberry (*Morus alba*). The subcanopy is composed of Tartarian Honeysuckle and Prairie Willow (*Salix humilis*) along the edges of the community. The ground cover species include Common Crown-vetch (*Securigera varia*), Canada Goldenrod, Common Burdock (*Arctium minus*), Common Evening Primrose (*Oenothera biennis*) and Wild Red Raspberry.

Prickly Ash Deciduous Shrub Thicket (THDM2-7): This thicket community is found on the east side of the Site and is bounded by the Black Locust Deciduous Forest to the west, Naturalized Red Pine Plantation to the south and Sugar Maple – Oak Forest to the east. This community is dominated by dense groupings of Common Pricklyash (*Zanthoxylum americanum*) and American Mountain-ash (*Sorbus americana*). Some trees found along the edges of this community and sparsely within the thicket are American Basswood (*Tilia americana*), Black Cherry, Sugar Maple, and Red Oak (*Quercus rubra*). The ground cover is composed of Allegheny Blackberry (*Rubus allegheniensis*). As a result of the dense canopy there is varied amounts of ground cover vegetation.

Dry – Fresh Sugar Maple – Oak Deciduous Forest (FODM5-3): This community is also found on the east side of the Site and is bounded by the Pricklyash Thicket described above to the southwest, Naturalized Red Pine Plantation to the east, and Black Locust Deciduous Forest to the west. This community is dominated by Sugar Maple and Red Oak. It appears to be a young successional forest and also contains American Beech, Red Maple, and White Ash. The subcanopy is composed of Choke Cherry and Tartarian Honeysuckle. Very few groundcover species were observed.

Sugar Maple – White Birch – Poplar Deciduous Woodland (WODM4-1): This vegetated community is found on the northern edge of the Site. It is bounded by Maplevue Drive East to the north, Black Locust Deciduous Forest to the east and southeast, and rural residential areas to the west. Historical imagery from Google Earth shows that the northwest corner of this community was previously a single-dwelling residence but was demolished and removed at some point since 2015. The driveway is still partially there but the area has since naturalized. The dominant vegetation in this community is composed of Sugar Maple, Paper Birch (*Betula papyrifera*), White Poplar (*Populus alba*) and Large-toothed Aspen. A variety of other trees were observed throughout this community, namely Silver Maple (*Acer saccharinum*), Eastern White Cedar (*Thuja occidentalis*), Eastern Red Cedar (*Juniperus virginiana*), Eastern White Pine, Red Oak, Manitoba Maple, and Northern Catalpa (*Catalpa speciosa*). There is little subcanopy as the area is historically maintained but the groundcover includes Canada Goldenrod, Curly Dock (*Rumex crispus*), Wild Carrot (*Daucus carota*), Wild Red Raspberry, Periwinkle (*Vinca minor*) and Common Motherwort (*Leonurus cardiaca*). Sections where there is no vascular plants or canopy cover are composed of overgrown Kentucky Bluegrass (*Poa pratensis*).

4.3 Woodland Assessment

The woodlands within the Site include Dry – Fresh Red Pine Naturalized Coniferous Plantation (**FOCM6-2**), Dry – Fresh Black Locust Deciduous Forest (**FODM4-11**), Dry – Fresh Sugar Maple – Oak Deciduous Forest (**FODM5-3**) and Sugar Maple – White Birch – Poplar Deciduous Woodland (**WODM4-1**). However, NHIC mapping only designates the Dry – Fresh Red Pine Naturalized Coniferous Plantation (**FODM6-2**) as woodland.

The City of Barrie Official Plan (2018) doesn't specify criteria for determining 'significant' woodlands, it is likely that they defer to the NDMNRF's evaluation criteria. As a result of this, the woodland will be assessed based on common aspects of ecological importance. These include species composition, age and history of woodland, and contributions to the surrounding landscape. Other factors which are considered are the size, location, and proximity to other natural heritage features in the surrounding area. These factors are assessed based on the observations made in the field and literature reviewed during the desktop background review.

The woodlands in the surrounding area are fragmented and separated by major roads. The woodland within the Study Area is composed of common native successional species and large portions of invasives. The Site is approximately 3.35-ha with a majority of it being dominated by woodlands. The widest section of woodland is approximately 230 m long and 120 m wide. Thus, due to its shape and size, this woodland has a minimal amount of interior habitat. The nearest hydrologic corridor to the woodlands on Site is Hewitt's Creek, which is approximately 420 m to the east as shown on **Appendix B**. A majority of the mature trees throughout the plantations have a diameter at breast height (DBH) of 6 to 12-in, while most of the invasive and successional woodlands have diameters of ≤ 6 -in. With these diameters it is anticipated that the plantations are approximately 60-70 years old while the successional and invasive woodlands are closer to 15-20 years old. As a result of this, the woodlands do not appear to qualify as 'Old Growth' by age.

Due to the age, size of the woodland, and fragmentation from other natural heritage features, this woodland should not be considered significant. Additionally, both NHIC and CBOP's maps highlight woodlands as significant natural features respectively, and the woodlands throughout the Site are not highlighted, further supporting it is not considered a significant woodland. Although the woodland does offer ecological value, it should not be considered significant.

4.4 Incidental Wildlife Observations

The following incidental wildlife were observed based on their sound, sight and/or scat during the Site survey for vegetation: American Crow (*Corvus brachyrhynchos*), American Pipit (*Anthus rubescens*), Black-capped Chickadee (*Poecile atricapillus*), Blue Jay (*Cyanocitta cristata*), Brown Creeper (*Certhia americana*), Eastern Cottontail (*Sylvilagus floridanus*), Golden-crowned Kinglet (*Regulus satrapa*), Gray Squirrel (*Sciurus carolinensis*), Mourning Dove (*Zenaidura macroura*), Red-tailed Hawk (*Buteo jamaicensis*), Ring-billed Gull (*Larus delawarensis*), and White-tailed Deer (*Odocoileus virginianus*).

All of these species are common given the variety of ecosites in the area and have adapted to various habitats.

4.5 Species at Risk Screening

Upon a comprehensive Species at Risk (SAR) screening, a total of 20 SAR was identified as having potential occurrence on the Study Area, resulting from the background review of the NHIC records and other available data sources for the Study Area surrounding the Site. The details on these 20 species screened, including the listing status, last observed date and sources used to identify their presence in the Study Area, and their habitat requirements are all summarized in the Species at Risk Screening Table in **Appendix F**. Based on the background review and field assessment, 12 of the 20 SAR were determined to have suitable habitat within the Study Area, with none of these species having confirmed observations. Although none of the species discussed below were observed, targeted surveys will be completed and included in an updated NHE forthcoming.

The Mixed Meadow on the Site provides suitable habitat for three avian SAR, including the Bobolink (*Dolichonyx oryzivorus*), Common Nighthawk (*Chordeiles minor*) and Eastern Meadowlark (*Sturnella magna*). These birds all utilize habitats in grasslands, fields and meadows to breed and nest in. Although targeted surveys were not completed for birds, none of these species were observed during the Site assessment.

Residential buildings and barns in the Study Area act as suitable habitat for two more avian SAR, including the Barn Swallow (*Hirundo rustica*) and Chimney Swift (*Chaetura pelagica*). These species utilize structures for nesting. The surrounding residential area provides suitable habitat within the Study Area, but none were observed (birds, nests, etc.) during the vegetation surveys.

The deciduous woodlands on the Site could provide suitable habitat to another four avian SAR, including the Eastern Wood-pewee (*Contopus virens*), Red-headed Woodpecker (*Melanerpes erythrocephalus*), Whip-poor-will (*Caprimulgus vociferus*), and Wood Thrush (*Hylocichla mustelina*). These species utilize the upper and mid canopy forested areas and forest edges. None of these species were observed during the vegetation survey. However, breeding bird surveys as requested will be conducted in the breeding window in 2022; therefore, a more detailed review of potential avian species and associated habitats will be discussed in an updated NHE forthcoming.

Three species of endangered bats have potential to occur on the Site. During the day, bats roost in trees, and in buildings. These include the Little Brown Bat (*Myotis lucifugus*), Tricoloured Bat (*Pipistrellus subflavus*) and Northern Myotis (*Myotis septentrionalis*). They often will roost in attics, abandoned buildings, barns and dead trees/snags where they can raise their young. The residential and forested area could allow for suitable habitat with openings in attics and crevices in trees. None of these species were observed during the vegetation survey on the Site and no further studies for bats were currently undertaken. Presence/absence surveys for bat habitats including roost trees will be conducted in conjunction with the breeding bird surveys. Potential impacts to these species from the proposed development can be avoided or minimized by timing restrictions of tree removals.

4.6 Significant Wildlife Habitat Screening

The Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015) was consulted to screen the wildlife habitat for significance in the Study Area. Field assessments were also undertaken to assess the quality of the habitat in relation to Significant Wildlife Habitat. Based on observations during the vegetation surveys and during the desktop background review, Significant Wildlife Habitat may be present within the Study Area until further surveys conducted and assessed for Significant Wildlife Habitat.

Assessment results from additional surveys requested will aid the determination of potential Significant Wildlife Habitat. Breeding Bird surveys will be conducted in the appropriate seasons to determine presence of avian significant wildlife habitat on the Site. Additional bat habitat surveys as requested will review the potential for bat habitats on the Site. A detailed Significant Wildlife Habitat screening for the Study Area will be conducted according to the Significant Wildlife Habitat Criteria and will be available for reference in the forthcoming updated NHE.

4.7 Natural Heritage System and Ecological Connectivity

The Site within the Study Area is surrounded by residential areas to the east and west, and agricultural lands and fields to the north and south. The Site consists of Dry – Fresh Red Pine Naturalized Coniferous Plantation, Dry – Fresh Mixed Meadow, Dry – Fresh Black Locust Deciduous Forest, Prickly Ash Deciduous Shrub Thicket, Dry – Fresh Sugar Maple – Oak Deciduous Forest and Sugar Maple – White Birch – Poplar Deciduous Woodland.

Looking at the surrounding landscape, the Site is separated from nearby natural corridors, the nearest being Hewitt's Creek and associated riparian zone which is approximately 420 m to the east. Aside from that the surrounding area is composed of businesses, agricultural fields, residences and meadows. As a result of this, the natural heritage features found on the Site within the Study Area likely act as a means of habitat and foraging for nearby wildlife while in transit to the natural areas within the Natural Heritage System.

The woodlands and meadow found on the Site act as a source of habitat for a variety of species within the surrounding area. It also provides a source of foraging and traversal for plant and wildlife dispersal. This fragmented woodland and meadow provide some ecological benefits to surrounding wildlife. For these reasons it is recognized that the woodland and meadow throughout the Site and within the Study Area has low to moderate ecological values to plants and wildlife, as well as human residents in this region. The large portions of invasive species and past anthropogenic influences on the Site, however, have degraded their ecological values to a lower level.

5.0 PROPOSED DEVELOPMENT

The Site consists of an approximately 3.35-hectare parcel of undeveloped land. Natural Heritage features on the Site include woodlands, meadows and plantations. As mentioned above, the Client has proposed a commercial development, consisting of retail and grocery stores with associated amenities such as parking areas and roadways. A Site Plan depicting the proposed commercial development is available for reference in **Appendix G**. The entirety of this development will take place throughout the Site as a Phase 1 development. The proposed development will include the development of five retail stores and one grocery store.

The purpose of this NHE is to understand the current constraints on the Site and within the Study Area for the proposed commercial development, as well as the impacts from development in those areas. The following impact assessment in Section 6.0 is based on the proposed Site Plan brought forth by the Client.

5.1 Development Constraints

Based on the size of the proposed development and the diversity of ecosystems, the Site is subject to the submittal of an environmental impact study, or in this case an NHE, that states the development plans and an assessment of the natural heritage features and impacts on the Site and the surrounding Study Area.

It is anticipated that the entire Site will be impacted in order to accommodate the proposed development. There are natural heritage constraints on the Site and within the Study Area, however the history of the Site shows that portions are already disturbed with previous developments, and the abundant presence of invasive and successional forests provide lower ecological diversity and benefits. A number of direct and indirect impacts have been identified below as a result of the proposed development and associated roadways.

6.0 IMPACT ASSESSEMENT

There are potential direct and indirect impacts to the natural heritage features on and adjacent to the Site from the development proposal, as described in Sections 6.1 and 6.2 below.

6.1 Direct Impacts

The proposed development will be contained within the existing footprint of the Site Plan. The potential direct impacts from Site construction on the natural heritage features (i.e. meadow, thicket, plantation and woodlands) as a result of the proposed development on the Site will include the following:

- Stripping of vegetation and topsoil throughout the Site;
- Removal of trees and shrubs on the Site; and

- Displacement of wildlife on the Site

To accommodate the proposed development, the stripping of vegetation and topsoil will take place throughout the Site. Birds and wildlife likely use these areas for foraging and feeding as part of their life cycle processes. They will be displaced from the woodlands and meadow and immediately surrounding areas as a result of construction and Site alteration. The impact to wildlife can be avoided by properly timing the vegetation and topsoil removal.

The trees and shrubs will need to be removed throughout the Site in order to accommodate the proposed development. As such, an Arborist Report has been conducted by IBI Group to assess the woodlands throughout the Site and determine the species and amount of vegetation required for removal. As summarized in this report, the removal of 3 woodlot compartments, 18 tree groupings and 31 individual trees will need to be removed in order to accommodate the proposed development, totalling over 900 trees (IBI Group, 2022a). The majority of the trees included are either exotic or introduced species such as those included in the plantations throughout the Site and the Black Locust woodland. Also included in the report is preservation and protection strategies for the remaining trees, namely the designation of Tree Protection Zones and the use of tree preservation fencing.

Additionally, it should be noted that a Landscape Plan was also completed by IBI Group and includes the planting of shrubs and trees around the perimeter of the proposed development. Also included in this plan are raised planter beds, deciduous trees in grates, a meadow feature, and grove planting (IBI Group, 2022b). This planting will include native species and will act as landscape features to the perimeter of the proposed development.

6.2 Indirect Impacts

The potential indirect impacts to the natural heritage features (i.e. meadow, thicket, plantation and woodlands) based on the development proposals may include the following:

- Effects on plants and wildlife by construction noise, dust and vibration;
- Sedimentation of the adjacent meadow and woodlands by construction activities; and.

Indirect impacts on the Site and its associated plants and wildlife are likely limited to the species located within the Site. It is likely that during the construction periods, wildlife including birds, mammals and amphibians that seasonally use the woodland for foraging and breeding may be disrupted and are likely to abandon the disturbed edges due to indirect impacts of noise and vibration. The wildlife living in the woodland and meadow habitats will be disturbed temporarily, while over time the wildlife will likely relocate to other nearby meadows and woodlands.

Stormwater runoff from the construction, if uncontrolled, is likely to have potential impacts to the meadow and remaining woodlands south of the Site from surface runoffs during construction due to their close proximity to construction activities. The successful establishment of Erosion and Sediment Control (ESC) measures may act as a sufficient barrier to protect these adjacent natural heritage features. To this end, a Stormwater Management Report was conducted by R.J. Burnside and Associates Limited (2022) to address stormwater concerns including water quality and water quantity controls. Stormwater quality control measures will be required to ensure that the receiving drainage system will not be negatively impacted. These will include the installation of filtration units capable of achieving the required 80% TSS removal and minimizing Total Phosphorus Loading (R.J. Burnside, 2022). Stormwater quantity control will be provided by an internal storm sewer system and stored using parking lot ponding and Low Impact Development (LID) techniques across the Site to ensure that flows do not exceed the limits of the existing system. The ESC Plan will include sediment control fences, gravel mud mats, and sediment traps in order to mitigate potential impacts associated with Site construction. Recommendations and mitigation measures for the potential impacts are detailed in Section 7.0 below.

6.3 Residual and Cumulative Effects Assessment

Residual environmental effects are any permanent, non-mitigable change in an identified valued ecosystem component. As residual environmental effects on the natural environment cannot be completely addressed through mitigation, they are likely to persist following project completion. Residual effects may result in cumulative effects through the interaction between residual effects of the project and those associated with other identified project and/or activities. Due to the short-term, local construction of the proposed commercial development and associated amenities within the Site surrounded by roadways, residential developments, and agricultural lands and fields, the residual effects from the Site construction are projected to be low significance in magnitude, geographic extent, duration and frequency. Residual adverse effects are not expected from the proposed development on the Site as all of the direct and indirect impacts identified above can be addressed through appropriate mitigation.

With sufficient mitigation measures implemented prior to the construction activities, no cumulative impacts are anticipated as a result of the proposed commercial development and associated amenities.

This further supports the Provincial Policy Statement rule regarding no negative impacts to the existing features present on the Site. Recommendations and mitigation measures for the potential impacts are detailed in Section 7.0 below.

7.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

Based upon the above impact assessment according to the LSRCA's guidelines and consultation comments provided by the City of Barrie and LSRCA, there are identified direct and indirect impacts on the natural environment, including the meadow, woodlands, and thicket present on the Site and within the Study Area. Proposed mitigation measures, including recommendations for timing windows or other specifications for implementation, for all potential negative impacts will need to be included in the NHE. Furthermore, mitigation measures relating to the protection of setbacks and buffers during onsite works (such as fencing) must be implemented prior to the commencement of those works. Therefore, exclusion fencing to the sensitive natural features should be established and protected from the proposed development.

A minimum 10 m setback with exclusion fencing installed is recommended to protect the adjacent meadow and woodlands to the south and west prior to tree removals. Protective ESC fencing and/or tree barriers should be established so that no development activities including Site grading and construction will take place.

The meadow, thicket, and woodlands provide low ecological value for plant and wildlife based on the early successional species and abundance of invasive species. It is recommended that along with the removal of vegetation for the proposed development, that a detailed Landscape Plan be provided in order to mitigate impacts to the natural heritage system and enhance species diversity. The following recommendations are provided for the mitigation of the above features prior to construction or site alteration.

Additionally, restoration and enhancement plans must be timely developed and effectively implemented on the Site to ensure that no negative impacts will occur to the adjacent meadow and woodlands post construction.

Tree and vegetation removal:

- The extent of potential tree and vegetation removal within the Site is restricted to the construction footprint as necessary.
- To minimize or avoid impacts to breeding and nesting birds, the removal of vegetation will be outside of the active breeding period between April 15 and August 15. If tree removal needs to occur within this timing constraint window, a qualified Avian Biologist should be deployed to conduct bird nest surveys and ongoing monitoring prior to any tree removal.
- An Arborist Report with preservation and protection measures has been developed for the Site and will need to be approved by the regulatory agencies prior to construction and site alteration.

- The removal of non-native or invasive plants should be conducted by a Professional Landscaper who is familiar with the procedures of invasive plant control and removal.
- The movement of weed-infested soil should be limited. Construction vehicles and equipment arriving and leaving the Site should be clean of invasive plants and seeds.

Erosion and sediment control:

- A Stormwater Management Report has been completed including ecological protection measures.
- An Erosion and Sediment Control Plan as part of the Stormwater Management Report prior to the construction of the plaza will be implemented with protection measures of natural features for the construction on the Site.
- Prior to construction and site alteration, adequate erosion and sediment control (ESC) measures including a sediment fencing should be established around the Site upgradient from the natural heritage features until the disturbed area is restored upon construction completion. Sufficient buffers to the adjacent natural features through protection zones will be established.
- If required, repairs and maintenance of the installed ESC measures are conducted regularly until construction completion. Disturbed areas should be stabilized immediately post construction to prevent site erosion and/or sedimentation.

Wildlife and Species at Risk encounter protocol:

- If wildlife are encountered during construction, work should cease immediately and allow the animal to naturally move out of the construction zone. If the animal does not leave the area for a prolonged period of time, please consult with a qualified Biologist for possible response or mitigation measures.
- If an animal is injured or deceased or if a Species at Risk is found on the Site, the Ministry of Environment, Conservation and Parks will be contacted for guidance and handling.

Restoration and enhancement:

- A detailed Landscape Plan with planting details of trees and shrubs prior to the construction of the new development should be developed for the restoration and enhancement on the Site.

- The removed trees will be restored with the planting of native deciduous tree and shrub species on the Site to provide for enhanced natural habitats and vegetative buffer to the adjacent natural heritage features.

Additional supporting studies required:

- Additional Spring/Summer vegetation surveys as recommended by LSRCA will be conducted in 2022 to update the NHE. Breeding bird surveys and of SAR and SWH screening surveys will be conducted in conjunction in the timing windows required under appropriate conditions; and
- Staking exercise with LSRCA in order to delineate the boundaries of the woodland on Site, as well as completing an Ecological Offsetting Strategy if determined to be applicable in the updated submission, in order to maintain the ecological functions and health of the watershed and natural heritage features.

8.0 CONCLUSION

There are environmental opportunities and constraints identified on the Site as outlined in this NHE report. The assessed impacts, including direct and indirect impacts, can be avoided or mitigated through effective stormwater and environmental management measures. With the implementation of the environmental plans sought out in this NHE and the Landscape Plan post construction on the Site, the proposed development would preserve the ecological functions of the adjacent natural features and enhance natural landscape on the Site through the installation of planned restoration and enhancement measures on the Site post construction.

With the above recommendations taken into account and diligently implemented on the Site, no adverse negative impacts to the ecological integrity of the adjacent natural features south and east of the Site will result from the proposed development with associated roadways.

9.0 CLOSURE

The enclosed Natural Heritage Evaluation report has been prepared to assess the natural heritage features including the terrestrial and aquatic conditions on the Site within the Study Area. The information contained herein as a result of the Scoped NHE regarding the proposed development is solely provided to the Client and approval agencies as a reference only.

In the event that clarifications or further information is required by the Client and approval agencies, please do not hesitate to contact the primary Pinchin contact indicated in the contact page of this document.

10.0 REFERENCES

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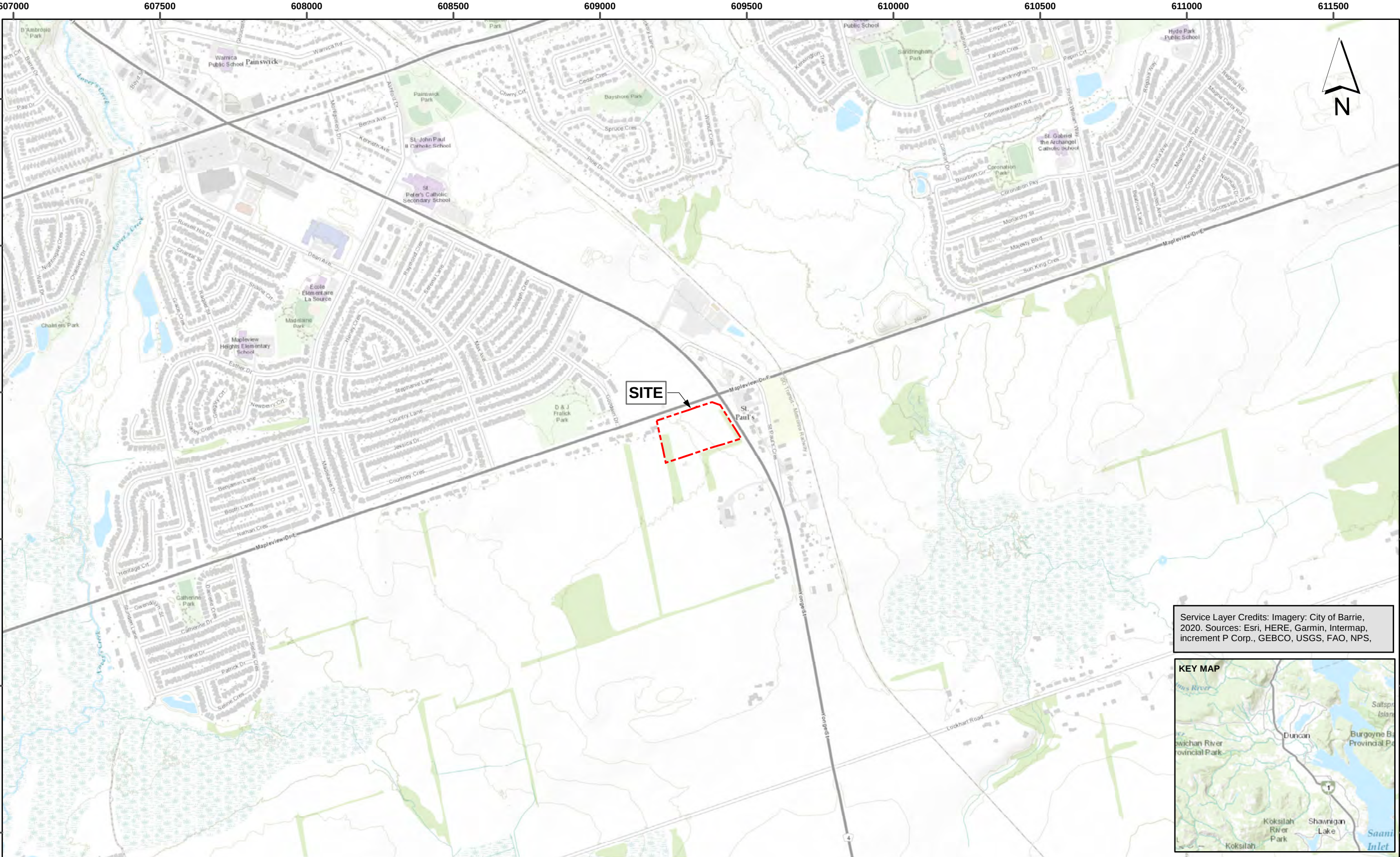
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- R.J. Burnside & Associates Limited, 2022. Functional Servicing and Stormwater Management Report: Sobeys – Yonge Street and Mapleview Drive East. Report Format – April 2022.

11.0 LIMITATIONS

This work was performed subject to the Terms and Limitations presented or referenced in the proposal for this project. Information provided by Pinchin is intended for Client and agency use only. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law. Any use by a third party of reports or documents authored by Pinchin or any reliance by a third party on or decisions made by a third party based on the findings described in said documents, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted. No other warranties are implied or expressed.

298298.001 Revised FINAL Natural Heritage Evaluation Yonge and Mapleview Drive Barrie ON April 8 2022.docx

APPENDIX A
FIGURES



Service Layer Credits: Imagery: City of Barrie, 2020. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS,

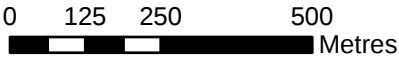


PROJECT NAME: Natural Heritage Evaluation
CLIENT NAME: Sobeys
PROJECT LOCATION: 2229 Maplevue Drive East, Barrie, Ontario
FIGURE NAME: Site Location

PROJECT NO. 298298.001
DATE: March 2022
SCALE: 1:12,500
FIGURE NO. 1

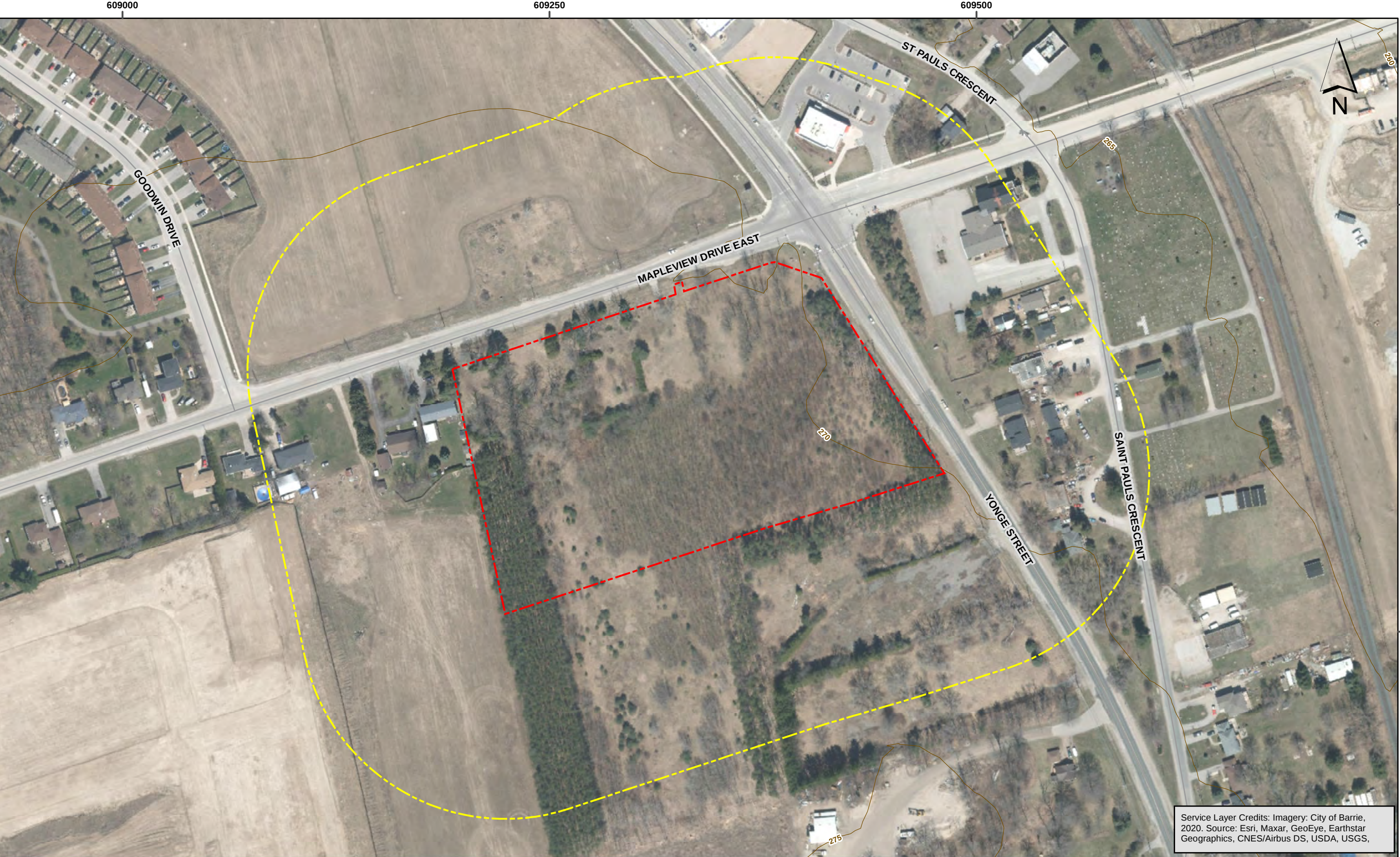
LEGEND
[Red dashed line] Site Boundary

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only.



Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: SR REVISION: 1



Service Layer Credits: Imagery: City of Barrie, 2020. Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

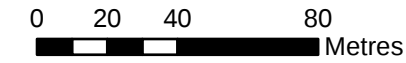


PROJECT NAME: Natural Heritage Evaluation
CLIENT NAME: Sobeys
PROJECT LOCATION: 651, 659, 665, 669 and 673 Mapleview Drive East; and 892 and 900 Yonge Street, Barrie, Ontario
FIGURE NAME: Study Area

PROJECT NO. 298298.001
DATE: March 2022
SCALE: 1:2,150
FIGURE NO. 2

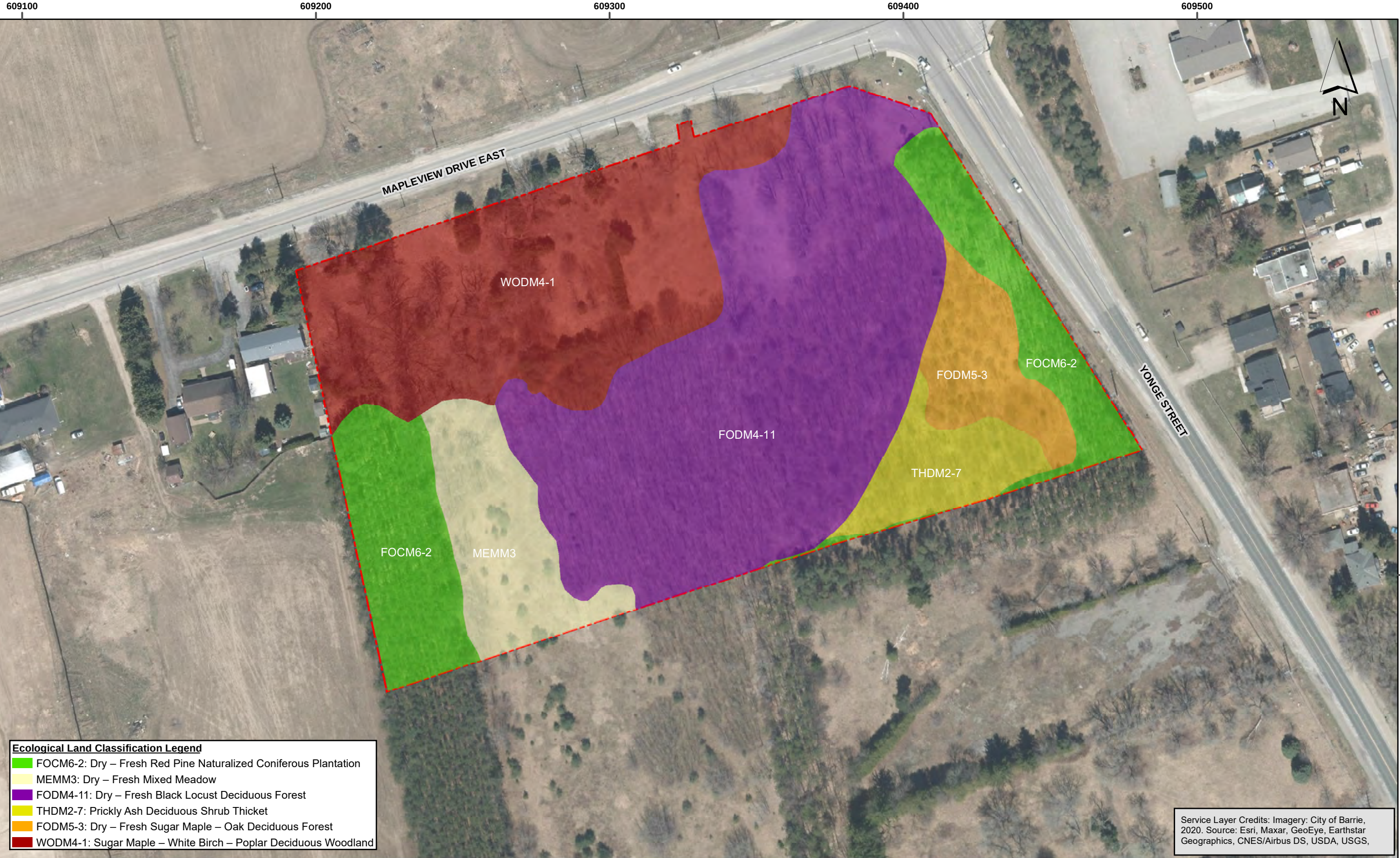
LEGEND
[Red dashed line] Site Boundary
[Yellow dashed line] Study Area (120 m)
[Grey line] Roadway
[Brown line] Topography Contours (5 m)

NOTES
1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only.



Coordinate System: NAD 1983 CSRS UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983 CSRS

DRAWN BY: MH REVIEWED BY: SR REVISION: 1

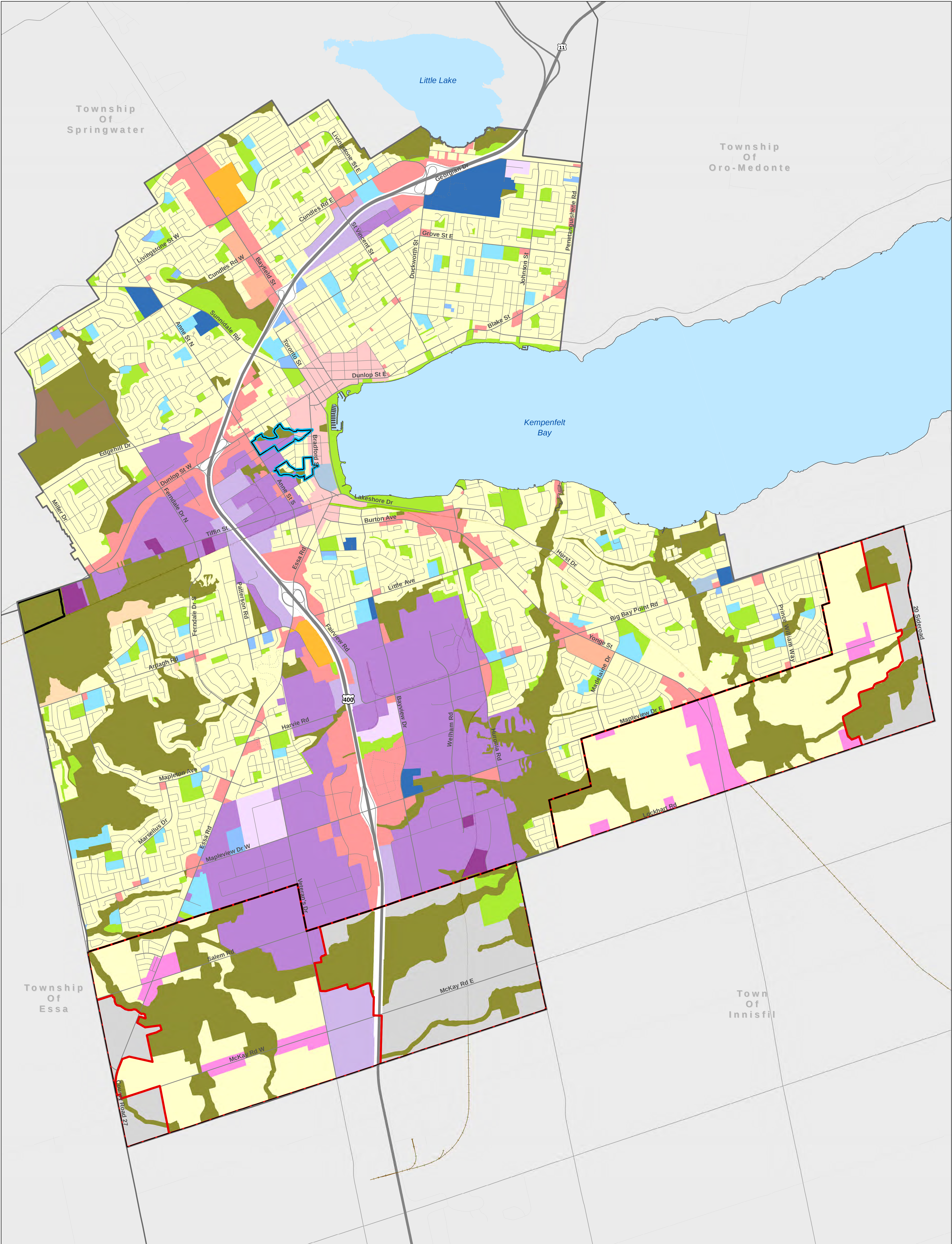


Ecological Land Classification Legend	
	FOCM6-2: Dry – Fresh Red Pine Naturalized Coniferous Plantation
	MEMM3: Dry – Fresh Mixed Meadow
	FODM4-11: Dry – Fresh Black Locust Deciduous Forest
	THDM2-7: Prickly Ash Deciduous Shrub Thicket
	FODM5-3: Dry – Fresh Sugar Maple – Oak Deciduous Forest
	WODM4-1: Sugar Maple – White Birch – Poplar Deciduous Woodland

Service Layer Credits: Imagery: City of Barrie, 2020. Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

	PROJECT NAME:	Natural Heritage Evaluation	PROJECT NO.	298298.001	LEGEND Site Boundary Roadway	NOTES 1. All features and measurements are approximate and subject to field verification. This map is for planning purposes only 2. Use dimensions as shown, do not scale drawing 3. This map is not to be used for legal purposes	0102040 Metres Coordinate System: NAD 1983 CSRS UTM Zone 17N Projection: Transverse Mercator Datum: North American 1983 CSRS
	CLIENT NAME:	Sobeys	DATE:	March 2022			
	PROJECT LOCATION:	651, 659, 665, 669 and 673 Mapleview Drive East; and 892 and 900 Yonge Street, Barrie, Ontario	SCALE:	1:1,250			
	FIGURE NAME:	Ecological Land Classification	FIGURE NO.	3			
			DRAWN BY: MH			REVIEWED BY: SR	

APPENDIX B
SUPPLEMENTARY INFORMATION



OFFICIAL PLAN
Schedule A
Land Use
Office Consolidation
January 2018

Residential	Institutional	Waste Disposal Assessment Area
City Centre	Educational Institutional	City Boundary
General Commercial	Major Institutional	Application Before the Ontario Municipal Board (OMB)
Community Centre Commercial	Open Space	Secondary Plan Boundary
Regional Centre Commercial	Environmental Protection Area	Settlement Area Boundary
Mixed Use Nodes and Corridors	Special Rural Area	
Business Park	Water Treatment Centre	
Highway 400 Industrial	Waste Management Facility	
General Industrial	Future Urban	
Restricted Industrial		



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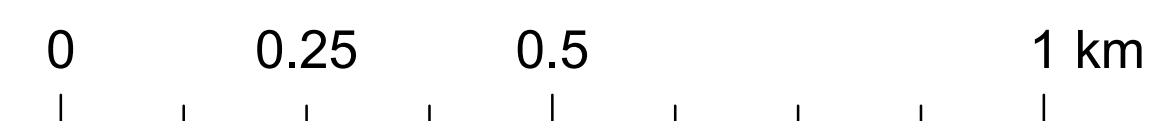
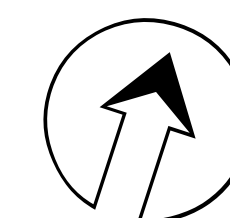
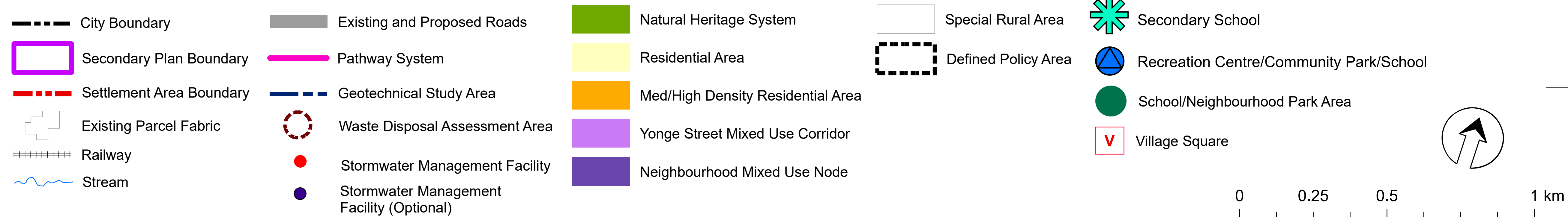
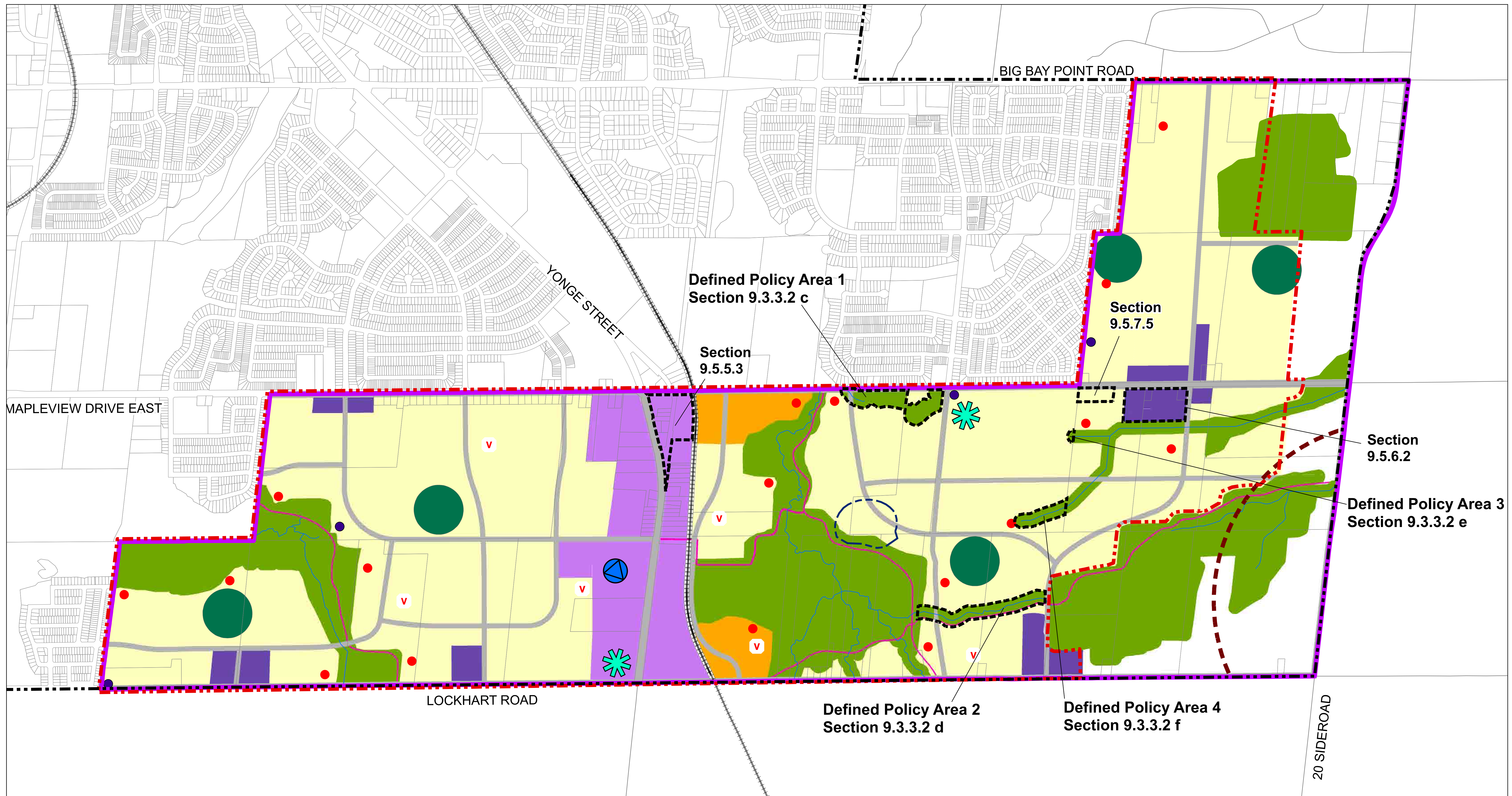
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For information please contact Service Barrie at 705-726-4242 or ServiceBarrie@barrie.ca

GIS Branch 2/4/2020



Schedule 9C Land Use

City of Barrie
Hewitt's Secondary Plan

November 2016

APPENDIX C
AGENCY CONSULTATION

Rocky Yao

From: Erin Fitzpatrick <E.Fitzpatrick@lsrca.on.ca>
Sent: Monday, January 24, 2022 3:23 PM
To: Rocky Yao
Cc: Melinda Bessey
Subject: EIS TOR for Mapleview and Yonge Street, Barrie
Attachments: TOR checklist - PDFfillableform_673 Mapleview Rd E.pdf; 2811-Report-4836.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

You don't often get email from e.fitzpatrick@lsrca.on.ca. [Learn why this is important](#)

This Email is from an **EXTERNAL** source. Ensure you trust this sender before clicking on any links or attachments.

Hi Rocky,

Thank you for your patience while I completed my review of the submitted TOR (attached) for the seven parcels of land at the southwest corner of Yonge Street and Mapleview Drive East (attached). LSRCA has a standard EIS Checklist that we use to establish the Terms of Reference for NHE/EIS studies. Using your proposed TOR as a baseline, I have filled out the LSRCA EIS Checklist and have included some additional seasonal surveys that should be included to confirm that the existing conditions and ecological functions of the subject site are fully documented and understood. Please see the attached EIS checklist with the full approved scope of work.

Specific changes include:

- A comprehensive species at risk screening that considers all potential SAR that could occur based on habitats on and adjacent to the site (i.e., not only those for which records occur in the general area in NHIC).
- Spring and summer vegetation surveys and confirmation of ELC mapping
- Feature staking with LSRCA staff to confirm the boundary of the woodland feature
- Breeding bird surveys to help inform assessments of SWH and SAR habitat potential
- The NHE/EIS should include an ecological offsetting strategy, based on the LSRCA's Ecological Offsetting Policy (2021) available here: <https://www.lsrca.on.ca/Pages/Ecological-Offsetting.aspx>

I would be happy to discuss this scope if you have any questions or concerns.

Kind Regards,
Erin

Erin Fitzpatrick, M.Sc.
Natural Heritage Ecologist

Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3

905-895-1281 ext. 286 | 1-800-465-0437 | Mobile: 289-716-5840
e.fitzpatrick@LSRCA.on.ca | www.LSRCA.on.ca

Twitter: @LSRCA

Facebook: LakeSimcoeConservation

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From: Rocky Yao <ryao@Pinchin.com>
Sent: January 10, 2022 1:51 PM
To: Erin Fitzpatrick <E.Fitzpatrick@lsrca.on.ca>
Subject: ELC for Mapleview and Yonge Street, Barrie

CAUTION: This email originated outside of LSRCA. DO NOT click links or open attachments unless you recognize the sender and trusted content. If in doubt, contact the IT Helpdesk at ITHelpdesk@lsrca.on.ca

Hi Erin,

It was a pleasure discussing with you on the design charette call earlier. As requested, attached is the ELC map from our fall survey for your review.

Feel free to contact me if you have any questions on this ELC or the TOR.

Kind regards,

Rocky Yao, M.Sc, CISEC, EP

Senior Project Manager and Regional Practice Leader, Environmental Science
Pinchin Ltd. | T: 365.873.0355 | C: 289.971.7821

This email and any files transmitted with it are confidential and are intended solely for the use of the individual or entity to which they are addressed. The communication may contain material protected by the attorney-client privilege. If you are not the intended recipient, be advised that you have received this email in error and that any use, dissemination, forwarding, printing, or copying of this email is strictly prohibited. If you received this email in error, please notify the sender.

1. General Information:

Date: _____

Address: _____

Name of consulting firm: _____

Contact information: _____

2. Identify all potential natural heritage and hydrologic features in the study area (check all that apply):

**The LSRCA recognizes that this is a preliminary assessment to determine what studies may be suitable for the property. A site visit may be required to verify the presence/absence of features.*

- | | |
|---|---|
| ☐ Wetland | ☐ Drainage feature/watercourse |
| ☐ Woodland | ☐ Kettle lake |
| ☐ Valleyland | ☐ Seepage area or spring |
| ☐ Grassland or meadow | ☐ Lake or pond (and their littoral zone) |
| ☐ Wildlife habitat | ☐ Lake Simcoe shoreline |
| ☐ Area of natural and scientific interest (ANSI) | ☐ Natural areas abutting Lake Simcoe |
| ☐ Sand barren, savannah or tallgrass prairie | ☐ Habitat of endangered and threatened species |
| ☐ Alvar | ☐ Fish habitat |

3. Activities to be undertaken and studies required for a complete NHE/EIS submission**:

*** Some activities/studies are pre-selected (☑) as they are a minimum requirement for NHE/EIS submissions.*

- ☒ Consult with the appropriate Municipal and Conservation Authority staff, as required, to establish the required scope of study.
- ☒ Identify an appropriate study area - generally the area of anticipated disturbance plus 120 m.
- ☒ Collect and include applicable background information and current environmental mapping for natural heritage and hydrologic features, and the natural heritage system within and surrounding the study area.
- ☒ Identify and provide detailed descriptions of natural heritage and hydrologic features in the study area, their function, and the broader natural heritage system that they are within. Determine the significance of these natural heritage and hydrologic features under applicable policy.
- ☒ Evaluate existing vegetation communities using Ecological Land Classification (ELC) for Southern Ontario (Lee et al. 1998. Ecological Land Classification for Southern Ontario: first approximation and its applications. SCSS Field Guide FG-02). Provide a description of ELC communities in the study area and include completed ELC field sheets as an appendix.
- ☒ Conduct a _____-season vegetation inventory in the **late spring/summer/fall**. Include the inventory categorized by ELC community as an appendix and denote any Species at Risk and/or provincially/locally rare species.
- ☐ Conduct three (3) breeding amphibian surveys as per the Marsh Monitoring Program protocol (Bird Studies Canada). Observational salamander surveys may be required if potential habitat exists in the study area. Include completed field sheets as an appendix.

- ☐ Conduct two (2) dawn breeding bird surveys between May 24 and July 15, under appropriate conditions, with a minimum of 10 days between surveys, and record all occurrences and breeding behaviors. Point counts, wandering transects or a combination of the two must be used according to features present and site conditions. Include completed field sheets as an appendix. A third survey will be required if suitable grassland bird habitat is present.
- ☒ Record observations of all wildlife occurrences and behaviours and assess wildlife habitat function.
- ☒ Screen for Species at Risk (SAR), listed under the *Endangered Species Act, 2007*, based on existing or potential habitat. Additional species-specific surveys may be required if SAR habitat is present (e.g. butternut health assessments, snag surveys, bat acoustic monitoring surveys, evening whip-poor-will surveys, etc.), please contact the Ministry of Environment, Conservation and Parks (MECP) for further direction. Include any relevant correspondence with the MECP as an appendix
- ☒ Assess for Significant Wildlife Habitat (e.g. turtle nesting or wintering area, reptile hibernaculum, woodland raptor nesting habitat, seeps, springs, etc.) as per the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR, January 2015).
- ☒ Identify any ecological linkages or movement corridors within the study area. Demonstrate how connectivity within and between natural heritage and hydrologic features will be maintained and, where possible, improved or restored to allow for the effective dispersal and movement of plants and animals.
- ☒ Provide a general description of the methodology, dates, timing, and locations of completed field surveys.
- ☐ Confirm the boundaries of any wetland and/or woodland features on the property through a staking exercise with the LSRCA. Boundary points must be surveyed with a high-accuracy GPS device (accurate to within 10 cm). A professional Ontario Land Surveyor (OLS) may be required to attend. Wetland staking exercises must be completed between June 15 and September 30 (exceptions may apply). Note that a site visit fee may apply.
- ☐ Complete an aquatic habitat assessment for all drainage features/watercourses in the study area, including characterization of hydrologic features (i.e. permanent, intermittent, ephemeral, headwater drainage feature) and suitability as fish habitat. Include a description of instream and riparian cover, bank stability, substrate composition, stream morphology, dimensions and gradient, thermal regime indicators, potential barriers, woody debris distribution, aquatic vegetation, groundwater seepage areas, etc.
- ☐ Complete a catchment-based water balance for the study area to assess how existing drainage conditions and moisture regimes that support sensitive hydrologic features (e.g. wetland, woodlands, watercourse) may be impacted by the proposed development. Demonstrate how current hydrologic inputs will be maintained post-development. Please note, the water balance assessment may also be a requirement under other provincial policies, therefore the NHE/EIS should coordinate with/summarize the water balance work undertaken by others.
- ☐ Recommend the dimensions of an appropriate vegetation protection zone (VPZ)/buffer to natural heritage and hydrologic features required to mitigate impacts from the proposed development. Recommendations for restoration/plantings should be provided for all buffers.
- ☒ Provide a detailed description of the proposed development.

- ☒ Map the following information separately on current high quality ortho-air photos:
 - 1) ELC vegetation communities, natural heritage and hydrologic features and their associated VPZs, and the proposed development and anticipated limit of disturbance (e.g. grading limits); and,
 - 2) ELC vegetation communities, survey locations, other environmental features (e.g. linkages, wildlife corridors, seeps, springs, stick nests, wildlife habitat, rare species, invasive species, etc.), and existing structures and/or trails.
- ☒ Assess the potential direct, indirect, and cumulative impacts of the proposed development on natural heritage and hydrologic features, the natural heritage system, and related ecological and hydrologic functions.
- ☒ Develop and provide an appropriate avoidance/mitigation/restoration strategy to address the potential impacts of the proposed development.
- ☒ Demonstrate how the proposed development is in conformity with all federal, provincial, regional, and municipal natural heritage policies applicable in the Lake Simcoe watershed.
- ☒ Complete one final report for circulation and approval, prepared by qualified professionals, in an electronic format as well as one (1) hard copy.

4. Additional studies or plans that may be required include:

- ☐ Landscape/Restoration/Planting Plan
- ☐ Edge Management Plan
- ☐ Tree Inventory/Arborist Report/Tree Preservation Plan
- ☐ Trails Impact Study
- ☐ Ecological Offsetting Strategy (please refer to [LSRCA's Ecological Offsetting Policy](#))
- ☐ Environmental Monitoring Plan/Report
- ☐ Fluvial Geomorphological Assessment
- ☐ Natural Channel Design

5. Additional notes and/or requirements:

Please note that changes to the study area, the proposed development, and/or policy changes may require additional information/studies.

Please provide current field survey data in the NHE/EIS submission. Field survey data will be considered valid for five (5) years from the date the survey was conducted, except for Species at Risk screenings, which are valid for one (1) year. If outdated field data is provided, additional surveys may be required.

APPENDIX D
VEGETATION INVENTORY

Table 1: Vegetation Inventory for the Study Area

Scientific Name	Common Name	S-Rank	CC	CW
<i>Rubus allegheniensis</i>	Allegheny Blackberry	S5	2	3
<i>Tilia americana</i>	American Basswood	S5	4	3
<i>Fagus grandifolia</i>	American Beech	S4	6	3
<i>Sorbus americana</i>	American Mountain-ash	S5	8	0
<i>Solanum dulcamara</i>	Bittersweet Nightshade	SNA		0
<i>Prunus serotina</i>	Black Cherry	S5	3	3
<i>Robinia pseudoacacia</i>	Black Locust	SNA		3
<i>Juglans nigra</i>	Black Walnut	S4?	5	3
<i>Picea pungens</i>	Blue Spruce	SNA		3
<i>Cirsium vulgare</i>	Bull Thistle	SNA		3
<i>Solidago canadensis</i>	Canada Goldenrod	S5	1	3
<i>Cirsium arvense</i>	Canada Thistle	SNA		3
<i>Miscanthus sinensis</i>	Chinese Silver Grass	SNA		5
<i>Prunus virginiana</i>	Choke Cherry	S5	2	3
<i>Tussilago farfara</i>	Colt's-foot	SNA		3
<i>Rhamnus cathartica</i>	Common Buckthorn	SNA		0
<i>Arctium minus</i>	Common Burdock	SNA		3
<i>Securigera varia</i>	Common Crown-vetch	SNA		5
<i>Oenothera biennis</i>	Common Evening Primrose	S5	0	3
<i>Juniperus communis</i>	Common Juniper	S5	4	3
<i>Syringa vulgaris</i>	Common Lilac	SNA		5
<i>Leonurus cardiaca</i>	Common Motherwort	SNA		5
<i>Verbascum thapsus</i>	Common Mullein	SNA		5
<i>Zanthoxylum americanum</i>	Common Prickly-ash	S5	3	3
<i>Dipsacus fullonum</i>	Common Teasel	SNA		3
<i>Heracleum maximum</i>	Cow-parsnip	S5	3	-3
<i>Rumex crispus</i>	Curly Dock	SNA		0
<i>Hesperis matronalis</i>	Dame's Rocket	SNA		3
<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	S5	4	3
<i>Juniperus virginiana</i>	Eastern Red Cedar	S5	4	3
<i>Thuja occidentalis</i>	Eastern White Cedar	S5	4	-3
<i>Pinus strobus</i>	Eastern White Pine	S5	4	3
<i>Convallaria majalis</i>	European Lily-of-the-valley	SNA		5
<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil	SNA		3
<i>Alliaria petiolata</i>	Garlic Mustard	SNA		0
<i>Reynoutria japonica</i>	Japanese Knotweed	SNA		3
<i>Spiraea japonica</i>	Japanese Spiraea	SNA		5
<i>Populus grandidentata</i>	Large-toothed Aspen	S5	5	5
<i>Acer negundo</i>	Manitoba Maple	S5	0	0
<i>Catalpa speciosa</i>	Northern Catalpa	SNA		3
<i>Quercus rubra</i>	Northern Red Oak	S5	6	3
<i>Acer platanoides</i>	Norway Maple	SNA		5
<i>Picea abies</i>	Norway Spruce	SNA		5
<i>Dactylis glomerata</i>	Orchard Grass	SNA		3

Table 1: Vegetation Inventory for the Study Area

Scientific Name	Common Name	S-Rank	CC	CW
<i>Leucanthemum vulgare</i>	Oxeye Daisy	SNA		5
<i>Symphyotrichum lanceolatum</i>	Panicked Aster	S5	3	-3
<i>Betula papyrifera</i>	Paper Birch	S5	2	3
<i>Salix amygdaloides</i>	Peach-leaved Willow	S5	6	-3
<i>Vinca minor</i>	Periwinkle	SNA		5
<i>Salix humilis</i>	Prairie Willow	S5	7	3
<i>Acer rubrum</i>	Red Maple	S5	4	0
<i>Pinus resinosa</i>	Red Pine	S5	8	3
<i>Galium asprellum</i>	Rough Bedstraw	S5	6	-5
<i>Salix interior</i>	Sandbar Willow	S5	1	-3
<i>Pinus sylvestris</i>	Scots Pine	SNA		3
<i>Onoclea sensibilis</i>	Sensitive Fern	S5	4	-3
<i>Ulmus pumila</i>	Siberian Elm	SNA		3
<i>Acer saccharinum</i>	Silver Maple	S5	5	-3
<i>Bromus inermis</i>	Smooth Brome	SNA		5
<i>Rhus typhina</i>	Staghorn Sumac	S5	1	3
<i>Acer saccharum</i>	Sugar Maple	S5	4	3
<i>Potentilla recta</i>	Sulphur Cinquefoil	SNA		5
<i>Lonicera tatarica</i>	Tartarian Honeysuckle	SNA		3
<i>Populus tremuloides</i>	Trembling Aspen	S5	2	0
<i>Viburnum lantana</i>	Wayfaring-tree	SNA		5
<i>Fraxinus americana</i>	White Ash	S4	4	3
<i>Morus alba</i>	White Mulberry	SNA		0
<i>Populus alba</i>	White Poplar	SNA		5
<i>Picea glauca</i>	White Spruce	S5	6	3
<i>Vincetoxicum hirundinaria</i>	White Swallow-wort	SNA		
<i>Daucus carota</i>	Wild Carrot	SNA		5
<i>Rubus idaeus ssp. strigosus</i>	Wild Red Raspberry	S5	2	3
<i>Fragaria vesca</i>	Woodland Strawberry	S5	4	3
<i>Solidago flexicaulis</i>	Zigzag Goldenrod	S5	6	3

APPENDIX E
SELECTED SITE PHOTOGRAPHS

SELECTED SITE PHOTOGRAPHS

(All photos captured on October 28, 2021)



Photo 1 – View of Sugar Maple – White Birch – Poplar Deciduous Woodland on the north side of the Site.



Photo 2 – Looking south at the western portion of Dry – Fresh Red Pine Naturalized Coniferous Plantation.



Photo 3 – Looking north at the Dry – Fresh Mixed Meadow on the west side of the Site.



Photo 4 – A view of the Dry – Fresh Black Locust Deciduous Forest in the center of the Site.

APPENDIX F
SPECIES AT RISK SCREENING

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Suitable Habitat on Site	Confirmed observation on Site
							NHIC Grid 17PK0911	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Butterfly Atlas (Macnoughton 2018)	Rare Vascular Plants of Ontario (Oldham & Brinker 2009)			
BIRD	Bank Swallow	<i>Riparia riparia</i>	S4B	---	THR	2001-2005			•			Can be found in burrows throughout natural or man-made vertical faces of mineral deposits. Such as bluffs, cliffs or banks of rivers.	No, suitable habitat not present on Site.	No
	Barn Swallow	<i>Hirundo rustica</i>	S4B	---	THR	2001-2005	•		•			Nest along human-made structures such as open barns, under bridges and in culverts. Attracted to open structures to build their nests, including ledges. They prefer rough-cut wood structures as the mud nests adheres better.	Yes, suitable habitat may be present in man-made structures around Site.	No
	Bobolink	<i>Dolichonyx oryzivorus</i>	S4B	---	THR	2001-2005			•			Can be found in tallgrass prairie, open meadows, hayfields, and dense grasses. They build their nests on the ground amongst the dense vegetation .	Yes, suitable habitat may be present in meadow or fields surrounding Site.	No
	Chimney Swift	<i>Chaetura pelagica</i>	S4B, S4N	THR	THR	2001-2005			•			Historically have nested on cave walls and in hollow trees, but are more likely to be found in urban settlements nesting in chimneys and manmade structures. They tend to stay close to water where flying insects congregate for foraging.	Yes, suitable habitat may be present in man-made structures around Site.	No
	Common Nighthawk*	<i>Chordeiles minor</i>	S4B	THR	SC	2001-2005			•			Rocky areas with little vegetation and clearings. Can use gravel roads, flat roofs, and fields. ¹	Yes, suitable habitat may be present in man-made structures or in fields surrounding the Site.	No
	Eastern Meadowlark	<i>Sturnella magna</i>	S4B	---	THR	2001-2005			•			Breed primarily in moderately tall grasslands such as pastures, hayfields and weedy borders of croplands, roadsides and other open areas.	Yes, suitable habitat may be present in meadow or fields surrounding Site.	No
	Eastern Wood-pewee	<i>Contopus virens</i>	S4B	---	SC	2001-2005			•			Live in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundantly found in intermediate-age mature forest stands with little understory vegetation.	Yes, suitable habitat may be found in woodlands present on Site.	No
	Peregrine Falcon*	<i>Falco peregrinus</i>	S2S3B, ZN	THR	SC	2001-2005			•			Live on tall ledges, usually close to a body of water. Can be found in urban or rural environments.	No, suitable habitat not present on Site.	No

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Suitable Habitat on Site	Confirmed observation on Site
							NHIC Grid 17PK0911	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Butterfly Atlas (Macnaughton 2018)	Rare Vascular Plants of Ontario (Oldham & Brinker 2009)			
BIRD	Red-headed Woodpecker*	<i>Melanerpes erythrocephalus</i>	S4B	THR	SC	2001-2005			•			Can be found in open woodland and along woodland edges. Prefers open areas near forests with many dead standing trees.	Yes, suitable habitat may be present in woodlands throughout the Site.	No
	Whip-poor-will	<i>Caprimulgus vociferus</i>	S4B	---	THR	2001-2005			•			Can often be found in mixed areas of open and woodland areas, preferably in mature woodlands.	Yes, suitable habitat may be present in woodlands throughout the Site.	No
	Wood Thrush	<i>Hylocichla mustelina</i>	S4B	SC	THR	2001-2005			•			Prefers to live in mature deciduous and mixed forests with a moist and developed undergrowth.	Yes, suitable habitat may be present in woodlands throughout the Site.	No
REPTILE	Blanding's turtle	<i>Emydoidea blandingii</i>	S3	THR	THR	2018				•		Can be found in shallow water in large wetlands and shallow lakes with abundant water vegetation. During nesting season they can be found utilizing sandy and gravelly areas.	No, suitable habitat not present on Site.	No
	Common Snapping Turtle*	<i>Chelydra serpentina</i>	S4	SC	SC	2019	•			•		Prefer shallow, slow-moving waters with abundant vegetation, but can also live in deeper water habitats. During the nesting season June-July, they can be found on gravel or sandy areas on land.	No, suitable habitat not present on Site.	No
	Five-Lined Skink* (Great Lakes St. Lawrence/Southern Shield Population)	<i>Eumeces fasciatus</i>	S3	SC	SC	2016				•		Prefer sunny areas with basking logs and rocks. In the Southern Shield population, they can be found underneath rocks within bedrock forests.	No, suitable habitat not present on Site.	No
	Map Turtle*	<i>Graptemys geographica</i>	S3	SC	SC	2016				•		Inhabits rivers and lakeshore, bask on emergent rocks and felled trees in the spring and summer. They will hibernate in the winter months on the bottom of slow-moving sections of river. High quality water is preferred as they prey on molluscs.	No, suitable habitat not present on Site.	No
AMPHIBIAN	Western Chorus Frog* (Great Lakes-St. Lawrence Population)	<i>Pseudacris triseriata</i>	S3	THR	---	2012				•		Inhabits forest openings around woodland ponds but can also be found in or near damp meadows, marshes, bottomland swamps and temporary ponds in open rural or urban areas.	No, suitable habitat not present on Site.	No

Table 1. Species at Risk Screening for the Study Area

Type	Common Name	Scientific Name	Srank	SARO Status	COSEWIC Status	Last Obs Date	Background Information Source					Notes on Preferred Habitat ¹	Suitable Habitat on Site	Confirmed observation on Site
							NHIC Grid 17PK0911	Atlas of Ontario Mammals (Dobbyn 1994)	Atlas of the Breeding Bird of Ontario (Cadman 2009)	Ontario Butterfly Atlas (Macnaghton 2018)	Rare Vascular Plants of Ontario (Oldham & Brinker 2009)			
INSECT	Monarch	<i>Danaus plexippus</i>	S2N,S4B	SC	SC	2021				•		Caterpillars feed on milkweed plants and are confined to meadows and open areas where milkweed grows. Adults forage on a variety of wildflowers and milkweed.	No, suitable habitat not present on Site as no milkweed was observed.	No
MAMMAL	Little Brown Myotis	<i>Myotis lucifugus</i>	S4	END	END			•				Roosts in trees and buildings. Often found in attics, abandoned barns and crevices in trees.	Yes, suitable habitat may be present in structures surrounding Site and within crevices of trees.	No
	Northern Myotis	<i>Myotis septentrionalis</i>	S3	END	END			•				Can be found in boreal forests, often under loose bark strips and in tree cavities.	Yes, suitable habitat may be present in structures surrounding Site and within crevices of trees.	No
	Eastern Pipistrelle*	<i>Pipistrellus subflavus</i>	S3?	END	---			•				Can be found in forested habitats. Makes maternity colonies in older forests and occasionally in barns and other structures.	Yes, suitable habitat may be present in structures surrounding Site and within crevices of trees.	No

SARO

COSEWIC

Definitions

Endangered (END)

Threatened (THR)

Special Concern (SC)

Extirpated (EXR)

DD

Not at Risk (NAR)

References

Species at Risk Ontario (O. Reg. 230/08)

Committee on the Status of Endangered Wildlife in Canada

Species facing imminent extirpation or extinction

Species likely to become endangered if nothing is done to reverse the factors leading to their extirpation or extinction

Species that may become threatened or endangered because of a combination of biological characteristics and identified threats

Species which no longer exist in the wild in Ontario, but exist elsewhere in the world

Data deficient

Not at risk

Ministry of Natural Resources (MNR). 2000. Significant Wildlife Habitat Technical Guide. Peterborough: Queen's Printer for Ontario.

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Government of Canada. 2011. Species at Risk Public Registry: A to Z Species Index. Ottawa: Government of Canada. Accessed February 2019. http://sararegistry.gc.ca/sar/Index/default_e.cfm.

Ministry of the Environment, Conservation and Parks. 2018. Species at Risk in Ontario. Accessed February 2019. <https://www.ontario.ca/page/species-risk-ontario#section-3>.

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Butterflies and Moths of North America. 2018. Red-disked Alpine. Accessed February 2019. https://www.butterfliesandmoths.org/sighting_details/1053970.

Oldham, M. J. and S. R. Brinker. 2009. Rare Vascular Plants of Ontario, Fourth Edition. Natural Heritage Information Centre, Ontario Ministry of Natural Resources. Peterborough, Ontario. 188 pp.

NHIC Srank (Subnational) Legend

S1

S2

S3

S4

S5

B

N

Critically imperiled, at very high risk of extirpation.

Imperiled, at high risk of extirpation.

Vulnerable, at moderate risk of extirpation.

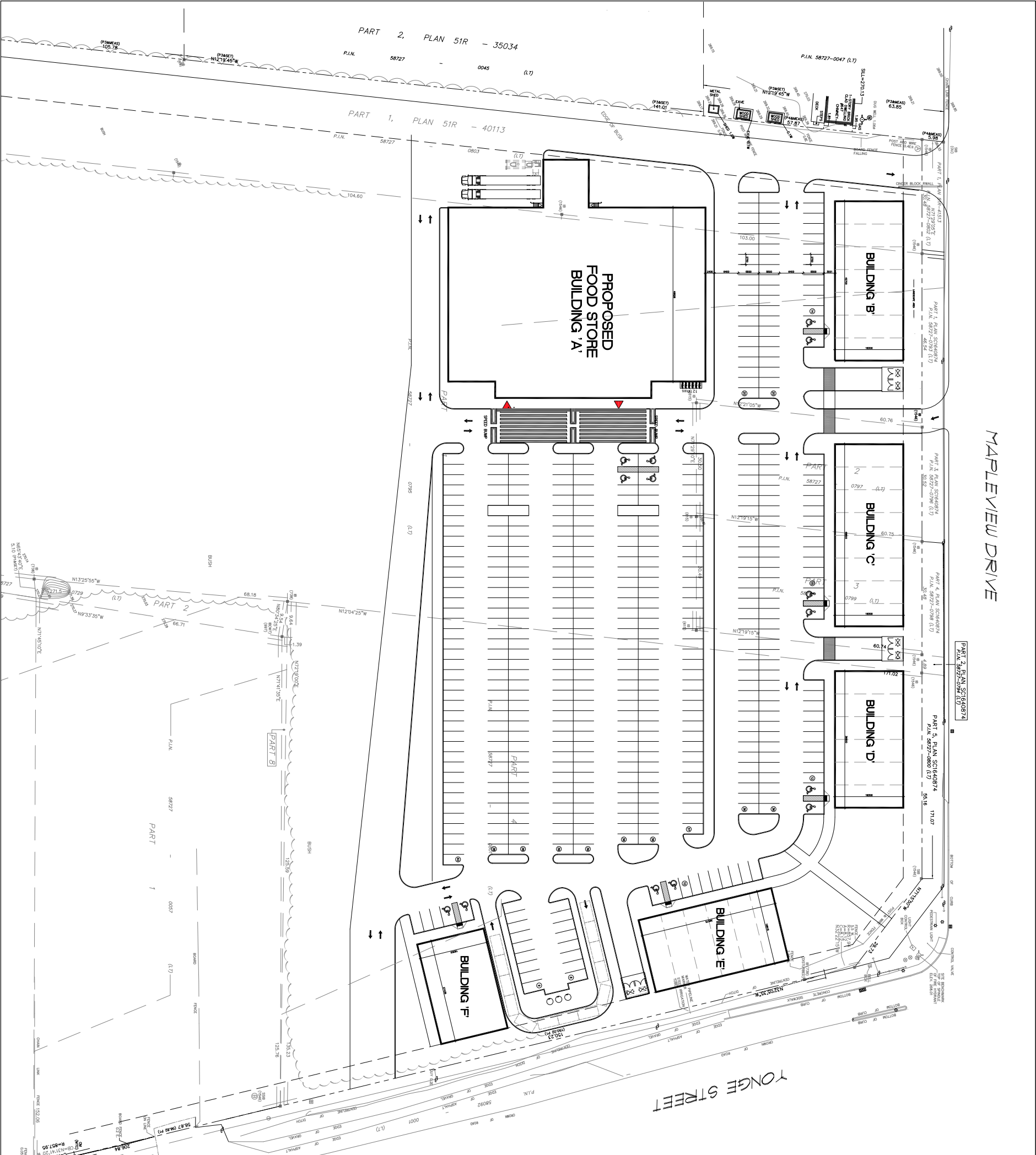
Apparently secure, at fairly low risk of extirpation.

Secure, at low or no risk of extirpation.

Conservation status refers to breeding population.

Conservation status refers to non-breeding population.

APPENDIX G
PROPOSED SITE PLAN



SITE AREA (+/- S.M.)

PROPOSED BUILDING STATISTICS

SITE COVERAGE	XX %
BUILDING 'A' FOOD STORE	
GROUND FLOOR	3654.08 S.M., 38,255.77 S.F.
MEZZANINE	XX S.M., XX S.F.
TOTAL BUILDING 'A'	XX S.M., XX S.F.
BUILDING 'B'	781.47 S.M., 8411.02 S.F.
BUILDING 'C'	893.04 S.M., 9612.60 S.F.
BUILDING 'D'	669.78 S.M., 7209.45 S.F.
BUILDING 'E'	724.73 S.M., 7800.29 S.F.
BUILDING 'F'	502.06 S.M., 5404.12 S.F.
TOTAL GFA	(XX S.M.), 76,693.90 S.F.

SITE COVERAGE

PARKING REQUIRED (1 / 30 S.M.)
XX SPACES

TOTAL PARKING REQUIRED

PARKING PROVIDED	XX SPACES
------------------	-----------

PARKING PROVIDED

BARRIER FREE SPACES PROVIDED 12 SPACES

BARIER FREE SPACES PROVIDED

BICYCLE PARKING PROVIDED EACH BICYCLE SPACE	mm X mm	XX SPACE
PAVED AREA		XX S.M.
PAVED AREA		

PAVED AREA

LOADING SPACES PROVIDED	LOADING SPACES	LANDSCAPE AREA	XX S.M.
1 LOADING SPACE (2.75m X 6m	(3.6m X 12m		

[illegible]

ALL DIMENSIONS ARE GIVEN IN MILLIMETRES UNLESS OTHERWISE INDICATED.
DO NOT SCALE DRAWINGS.

LEGEND	
	PROPOSED 100'00' GRAD
	EXISTING GRADE TOP OF CATCH BASIN
	MAN DOOR LOCATIONS
	DRAINAGE THRU LOCATIONS
	LOADING DOCK PR LOCATION
	CATCH BASIN
	SANITARY MANHOLE
	STORM SEWER MANHOLE
	FIRE HYDRANT
	R.O. DITCH
	NEW LIGHT STANDARDS
	HEAVY DUTY ASPHALT PAVING
	WOKLOAD CONTAINER
	SEALING

LEGAL DESCRIPTION

SURVEY INFORMATION SHOWN ON THIS PLAN
TAKEN FROM
PLAN SHOWING TOPOGRAPHICAL SURVEY OF
PART OF LOT 15
CONCESSION 11
CITY OF BARRIE
COUNTY OF SIMCOE

AS PREPARED BY
MAK SURVEYING LTD.
TEL: (705) 722-3845



Seed:

247 Spadina Avenue, 4th floor
Toronto, Ontario
M5T 3A8
www.cnnwatch.com
T 416.506.1600 F 416.506.0956

PROPOSED RETAIL DEVELOPMENT

YONGE STREET & MAPLEVIEW DRIVE

BARRIE
ONTARIO

SITE PLAN

Drawn By:	Checked By:	Date Checked:	Project No.
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Dec 14, 2021 - 5:37pm

Drawing No.: _____

SP-01

No. 10