Environmental Impact Study-
Gilwood Property

Final Report

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Acronyms and Abbreviations

ANSI	Area of Natural and Scientific Interest
BBS	Breeding Bird Survey
bgs	below ground surface
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
DBH	Diameter (of a tree) at breast height
EIS	Environmental Impact Study
ELC	Ecological Land Classification
ESA	Endangered Species Act (Ontario)
ha	hectare(s)
masl	meters above sea level
MECP	Ministry of Environment Conservation and Parks
MNRF	Ministry of Natural Resources and Forestry
NHS	Natural Heritage System
NHIC	Natural Heritage Information Centre
OBBA	Ontario Breeding Bird Atlas
OARA	Ontario Amphibian and Reptile Atlas
OP	Official Plan
SAR	Species at Risk
SARA	Species at Risk Act (Canada)
SOCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
VaSL	Vasey Sandy Loam

1.0 INTRODUCTION

1.1 Background

1.1.1 Property Description

This Environmental Impact Study (EIS) report is in reference to the ~25-ha property at 1290 Sandy Bay Road, in the Town of Penetanguishene, County of Simcoe. The property is legally known as part of Lots 14 and 15, Concession 3 in the geographic Township of Tay, Town of Penetanguishene. The property is bounded in part by frontage along both Sandy Bay Road and Gilwood Park Drive, and is surrounded on three sides by existing residential developments. The EIS focuses on a small portion of the property bordering Gilwood Park drive, and the property is thus referred to herein as the "Gilwood Property", or simply the "Property". The property location and layout are depicted in Figure 1.

At present, the Property is occupied almost entirely by woody vegetation, primarily in the form of deciduous forest. In the Simcoe County Official Plan (OP), the land-use designation for the Property is "Rural". Under the Town of Penetanguishene OP, the Property is also primarily designated as "rural" with the exception of a small stream corridor across the north half of the Property that is zoned "Environmental Protection".

1.1.2 Environmental Constraints

The current understanding of potential environmental constraints of relevance to the Property is based in part on review of formal feature delineations and descriptions available from several sources, including:

- the Simcoe County and Penetanguishene OPs and supporting on-line mapping resources,
- Natural Heritage mapping available from the Ministry of Natural Resources and Forestry (MNRF) or Land Information Ontario (LIO), and
- Environmental Impact Studies previously completed for the Property or immediately adjacent lands (e.g. Morris, 2022 and 2024)

Copies of relevant natural heritage constraint maps are provided in Appendix A.

In review of existing information, there are a few key features identified within or near the Property which could generally trigger the need for an EIS in the event that development of some form and extent was proposed for the Property. These are;

- the presence of Significant Woodlands, mapped as Environmental Protection Overlay in Schedule B1 of the Town OP, throughout almost the entirety of the Property,
- the presence of a small "unevaluated wetland" in the north half of the Property, as mapped by the County and MNRF, and
- the presence of a small watercourse, also as mapped by the County and MNRF, in the north half of the Property.

Any development proposed that extends within these features or is within their respective adjacent lands would be subject to a requirement for an EIS. In regard to Significant Wildlife Habitat (SWH) or critical habitat for Species at Risk (SAR), comprehensive mapping of these features has not been compiled, but their presence is a possibility to consider at any site at the outset of an EIS. The presence of forest cover throughout the majority of the Property generally increases the potential for SAR or SWH presence.

There are no Provincially Significant Wetlands (PSWs) or Areas of Natural and Scientific Interest (ANSIs) within 120 m of the Gilwood Property. The St. Andrews PSW complex lies about 500 m southwest of Property at the closest point, and there is no discernable hydrological connectivity between this wetland complex and the Property. The PSW complex also encompasses St. Andrews Lake (also known as Penetang Lake) which is about 900 m southwest of the Property. This lake also represents the closest ANSI to the Gilwood Property. In absence of any ANSI or PSW any closer than 500 m from the Property, there is no anticipated need to assess any potential impacts on such features.

1.1.3 Severance Proposal

A Severance Plan has been developed for the Gilwood Property that would create five (5) new residential lots on the west edge of the Property, with frontage and access on Gilwoood Park Drive. The total combined lot area is about 1.25 ha, and about 24 ha (i.e., 95% of the Property) is to be encompassed within the retained lot. Each of the five new lots would eventually be the site of new single-family residential development with private septic service and municipal water supply. A copy of the Severance Plan is attached as Appendix B.

1.1.4 EIS Rationale and Objectives

With the proposed severance, the newly created lots would overlap with some of the identified natural heritage features, and/or their adjacent lands. The confines of the new lots are such that eventual development would be expected to trigger one or more policies pertaining to natural heritage protection. This EIS has been undertaken with the overall objective of determining whether the proposed severance and subsequent residential development within the newly created lots can generally occur without adverse impacts on the relevant natural heritage features. The findings and recommendations of this EIS are provided as a basis for modifications to development plans if such modifications are warranted to mitigate potential adverse effects on natural heritage features.

This EIS report has been prepared in support of a pending application for consent for severance. In absence of a final detailed Site Plan, the findings of the EIS are primarily focused on general severance feasibility and compliance with relevant natural heritage policies. However, the general implications of eventual residential development within the lots is also taken into account in the assessment. It is understood that additional assessment may be required in support of any subsequent planning applications.

1.2 Scope of Work

The scope and content of this EIS were developed with the intent of being consistent with the requirements specified in Section 3.10.8 of the Penetanguishene OP (2018). The EIS is in support of an application for consent for only five residential lots within a confined portion of the Property. In such a case, the level of detail necessary to demonstrate conformity with relevant policies is less than typically required for higher level approvals (e.g. approval of a plan of subdivision). Accordingly, this EIS has been conducted as a "Scoped" EIS, with primary focus on the area of the proposed lots and lands within about 150 m of those lots. Figure 2 depicts the area of the proposed lots and key features within this approximate Study Area. The EIS gives secondary consideration to adjacent lands and features within a radius of about 1 km (see Figure 1). The details of the approach and methodology adopted for this EIS are discussed in Section 2.

The scope and content of this EIS are site-specific and have been developed to address possible concerns related to the natural heritage features that have been identified for the Gilwood Property. This EIS focuses on the potential impacts of future development on the features and functions within and immediately adjacent to the proposed new lots. The coverage and level of detail of on-site surveillance are intended to allow focused assessment of the area of the new lots, and also to be able to consider the general natural environment throughout the rest of the Property.

As outlined in Section 1.1.2 above, initial review has determined that the proposed new lots encompass natural heritage features that could function as constraints to eventual residential development within the Gilwood Property. In regard to potentially constraining natural heritage features, all five if the proposed lots directly occupy forested areas that are mapped as Significant Woodland. The wetland and watercourse features that are present within the Property are separated from the proposed lots by a minimum distance of 170 m.

The characterization of the Property and relevant features and functions is based primarily on direct on-site surveillance. To effectively address the identified EIS requirements, this field surveillance has included:

- Direct examination of slope/topography, conveyance features (ditches, swales, streams), and overburden characteristics within and adjacent to the Property, to understand hydrological processes and potential connectivity between the area of potential development and associated aquatic features.

- Inventory of terrestrial biota with a focus on identification of SAR or species of conservation concern (SOCC) that may be present. This includes a botanical survey, a breeding bird survey (BBS), and incidental surveillance of other fauna (amphibians, reptiles, mammals).
- Direct assessment of forest communities within and near the proposed new lots, including community composition (e.g. species, age/size class, relative density), forest strata characteristic, soil characteristics, and wildlife presence and utilization.

The information acquired through the on-site monitoring has been combined with existing information from other sources to complete the required site characterization. Further details of monitoring methods are provided in Section 2.

2.0 METHODOLOGY

The work undertaken to allow the preparation of this EIS Report has included two main components;

1. a desktop review of previously recorded information regarding the characteristics of the Gilwood Property and adjacent lands, and
2. focused on-site monitoring of the Property, with a focus on the confines of the proposed new lots.

The assessment herein collectively considers the findings of the desktop review and the on-site monitoring in a weight-of-evidence manner, with primary emphasis on site-specific data.

The following sections describe the methods employed in conducting the various components of environmental monitoring for the purposes of this EIS. In summary, the methodology adopted for the monitoring documented herein was developed to provide results appropriate to the stated objectives, and is based on standard accepted protocol where such protocol have been established.

A handheld GPS unit (Garmin model "GPSmap 76") was used to delineate key features, to measure areas of features, and to provide the geographic coordinates of any key natural heritage features of relevance. All coordinates have been obtained and reported using the Universal Transverse Mercator (UTM) coordinate system and NAD83 datum.

2.1 Review of Existing Information

A review of existing information of relevance to the Gilwood Property was completed prior to completion of on-site monitoring. Several sources of information have been consulted for this purpose, including:

- Simcoe County's web-based interactive GIS mapping tool,
- the Natural Heritage Information Centre (NHIC) on-line database,
- on-line natural feature mapping available from Land Information Ontario (LIO),
- the Ontario Breeding Bird Atlas (OBBA) (Cadman et al, 2007) and associated database (Bird Studies Canada (BSC) *et al*., 2021),
- the Ontario Reptile and Amphibian Atlas on-line database (Ontario Nature),
- the Soil Survey of Simcoe County (Hoffman, Wicklund and Richards, 1962), and
- the iNaturalist on-line database.

The information obtained in this review has served in part to determine certain characteristics of the Property, and also in part to identify possible features to receive focused attention during the on-site monitoring efforts.

Information from several of the sources noted above was also used to complete initial screening in regard to the possible presence of Species at Risk (SAR). The available information of relevance has ultimately been combined with results of direct surveillance of the Property to assess SAR presence (see Section 4.7).

2.2 On-Site Monitoring

The on-site surveillance reported herein was conducted during a total of six visits to the Property and/or adjacent lands over the period of 2019 to 2024. The timing of series of site visits was broadly intended to allow for adequate seasonal coverage of the various specific monitoring efforts. Timing was also determined in consideration of appropriate weather conditions for specific monitoring efforts.

2.2.1 Avian Monitoring

A focused breeding bird survey (BBS) was completed at the Gilwood Property following a wandering surveillance approach. BBS surveillance was completed over the full extent of the days on which the Property was visited during the months of June and July. Those visits were conducted during daylight hours, including the period of 7:00 a.m. to 10:00 a.m.. All surveillance activity was completed during periods when there was no active precipitation and wind conditions were rated either 0 or 1 on the beaufort scale.

The BBS gave focused attention to any indications of the possible presence of SOCC or SAR, particularly within the area of the proposed new lots. Wandering surveillance was conducted throughout the Property, noting all individual bird occurrences and breeding evidence while traversing the Property throughout day and evening hours. The habitat and location of each bird observed during surveillance was noted, along with notes regarding activity (foraging, in flight, singing, etc.). Wandering surveillance was completed on all days on which the Property was visited, and gave coverage to all vegetation communities identified within the Property.

2.2.2 Surveillance of Other Fauna

During all site visits, all observations of amphibians, reptiles and mammals on or near the Property were recorded, along with any other evidence of faunal presence (e.g. foot prints, scat, skin sheds, and burrows).

2.2.3 Botanical Inventory

Surveillance of terrestrial vascular plant species was completed on each day the Property was visited following a basic “wandering transect” approach to determine the presence

and general distribution of plant species within the Gilwood Property. The vascular plant inventory was conducted to provide coverage of each of the proposed lots, and also each distinct ecological community delineated within the Property (see Section 4.2). Focused attention was given to the possible presence of any plant SAR or SOCC that have been identified as possibly present within or near the Property (see Section 4.7).

2.2.4 Ecological Land Classification

The vegetation communities within the Gilwood Property have been assessed following the Ecological Land Classification (ELC) methodology described by Lee *et al*. (1998). This approach generates classification and mapping of ecological communities down to a size of approximately 0.5 hectares or less. ELC of the Property was completed through the following general task sequence:

- initial site reconnaissance to ascertain major community types, topography, and soil characteristics,
- subsequent delineation of community distribution using satellite imagery and aerial photos for a first approximation of ELC, and
- further detailed site monitoring to refine initial ELC approximation. Each distinct community was examined to determine soil characteristics and to determine the major woody and non-woody plant species present.

To facilitate characterizations of soil conditions (texture, moisture regimes) vertical soil profiles were completed in multiple locations within each distinct community type. Soil profiles were completed to a depth of 0.5 to 1 m below ground surface (bgs) using a hand-auger.

The detailed site monitoring included examination of physiographic attributes such as topography/slope, surface soil profiles, and the possible presence of elevated water table. Within each identified unit, the following information regarding vegetation cover was recorded:

- Relative species composition and percent cover of trees and shrubs, where present
- Caliper and height range of trees in wooded units, and
- General under-storey characteristics and non-woody species composition.

Through other specific monitoring efforts, the habitat function of each unit was also assessed and recorded.

2.2.5 Aquatic Features and Wetlands

The on-site surveillance of the Gilwood Property included direct examination of aquatic features within the Study Area (i.e. within about 150 m of the area of the proposed lots). The primary aquatic features of interest included the small watercourse that flows across the north half of the Property and the associated riparian wetland (see Figure 2). Examination of the watercourse included the visual assessment of several standard habitat variables (substrate type, in-water and riparian vegetation, flow characteristics), and visual surveillance for the presence of aquatic biota (macrophytes, invertebrates, fish, amphibians).

The wetland feature was examined in regard to core attributes of hydrology and ecology. Wetland characteristics were determined following the principles described in the OWES manual (MNR, 2014). Hydrological characterization included the identification of any discernable sources of hydrological input, observations of relative flow volume, direct observations of standing water presence or indicators thereof (e.g. high water marks on trees), and examination of drainage characteristics of the overburden within the wetland and surrounding lands. The main focus of these efforts was to determine the hydrological connectivity between the upland portions of the Property and the wetland and watercourse features. The examination of hydrological connectivity was particularly focused on the area of the newly proposed lots.

3.0 PHYSICAL CHARACTERISTICS

3.1 Topography

Elevation within the Gilwood Property ranges from about 228 meters above sea level (masl) in the southwest corner adjacent to Sandy Bay Raod to a low of about 215 masl in northeast corner. The overall average grade of about 5% exhibits relatively uniform distribution over the diagonal axis of the Property. Each of the proposed lots exhibits a slope of this general magnitude away from their respective frontages to some degree. In the front half of Lots 3 and 4, there is a localized shallow depression which also exhibits a minor degree of complex microtopography. Otherwise, the lots are generally devoid of any abrupt and/or localized changes in elevation and slopes are generally gradual and uniform.

3.2 Soils and Geology

Overburden in the area of the Gilwood Property consists of well-sorted outwash materials developed primarily on calcareous bedrock. The Simcoe County soil survey (Hoffman et al., 1962) indicates the presence of Vasey Sandy Loam (VaSL) throughout the Property. This is a calcareous and non-calcareous sandy loam till with good drainage. The Vasey soils are somewhat prone to erosion but soil loss can be prevented if relatively steep areas remain vegetated.

Direct examination of soils within the Property as part of this EIS has confirmed the general presence of the VaSL soil profile throughout the Property. In addition, examination of soil profiles within wetland features identified the presence of a surface layer of organic soil to a depth of up to 30 cm below ground surface (bgs), underlain by saturated sandy loam. No organic soil was identified within or near the proposed lots.

3.3 Hydrology

The overall hydraulic gradient in the area around the Property is generally toward the northeast, more or less following the small watercourse. The watercourse is a first-order feature that is about 800 m long, effectively originating just west of Gilwood Park Drive and eventually discharging to Penetang Harbour. About 500 m (~60%) of the complete length of the watercourse lies within the Property. The watercourse and wetland are the only meaningful surface features with direct hydrological connectivity to the Property. Over the period of monitoring, flow within the watercourse was observed to be intermittent within the Property and standing water was generally absent within the wetland during the growing season.

The initial direction of drainage within the proposed new lots is generally eastward in the general direction of the wetland feature. Within all lots, there is very limited evidence of

concentrated surface runoff conveyance in any direction. In the presence of well-drained sandy loam soils, stormwater is likely subject to relatively rapid infiltration, and the extent to which lot drainage would be in the form of surface flow is expected to be low. During surveillance of the Property, there were several indicators of shallow groundwater movement within the Property. In parts of the wetland bordering the watercourse, water table elevation appeared to be slightly above the water level in the adjacent stream channel. The stream channel also had scattered patches of watercress, which is generally an indicator of groundwater inflows. In addition, groundwater seepage zones were observed in the lower portions of the retained parcel. Overall, it appears that shallow groundwater discharge originating within or upgradient (west) of the Property is likely a meaningful component of the hydrological input to the upper reaches of the watercourse and also possibly to the wetland.

The un-named intermittent watercourse that traverses the Property is about 200 m away from the proposed lots at the most proximate point (i.e., at the rear boundary of Lot 5). Similarly, the unevaluated wetland in the core of the retained parcel is separated from the nearest lot (Lot 4) by a minimum distance of 170 m.

Overall, the available information suggests that the area of the proposed new lots may be the source of some level of hydrological input (mainly as groundwater) to the wetland and/or watercourse. However, given the small scale of development and even smaller area of built surface, it is not expected that any changes associated with the eventual development of the lots will have a measurable influence on the hydrological balance of either feature.

4.0 ECOLOGICAL CHARACTERISTICS

The following sections describe the ecological characteristics of the Gilwood Property. Results of on-site monitoring and review of existing information are summarized in Tables 1 to 8. Figures 2, 3 and 4 depict various relevant features discussed herein.

4.1 Vegetation Communities

The delineation of vegetation communities within the Gilwood Property is intended to identify communities at a scale that has meaning and relevance to the overall objectives of the EIS. To facilitate the delineation, vegetation communities within the Property have been delineated following the ELC system of Lee *et al.* (1998). ELC mapping generally identifies distinct community patches of 0.5 ha or larger, with patches measuring less than 0.2 ha typically not delineated. For the purpose of this EIS, some patches ≤0.2 ha in size have been delineated and described to ensure that all features and functions of possible relevance are considered in the assessment.

Under the ELC system, a total of five distinct community types have been identified within or near the proposed lots (see Figure 3). Each community type and its ecological functions are briefly described in the following sections, with a summary of main attributes provided in Table 1. Representative photos of these community types are provided in Appendix C.

4.1.1 Forest Communities

Fresh-Moist Oak Sugar Maple Deciduous Forest (FOD9-1)

The elevated portions of proposed Lots 1 and 2 bordering Gilwood Park drive are occupied by a forest community that is consistent with Fresh-Moist Oak Sugar Maple Deciduous Forest (FOD9-1) under the ELC system. In this area, Red Oak is a dominant canopy constituent, with Sugar Maple, Trembling Aspen and White Ash exhibiting a secondary presence, often as subcanopy specimens. In a previous EIS (Azimuth, 2003), the forest cover in the area surrounding the Property was identified as being largely consistent with the FOD9-1 community type. Within the Gilwood Property, this forest community is somewhat mixed age and exhibits some degree of structural layering. There is a general absence of late maturity tree specimens, with canopy specimens are mostly 20 to 30 cm diameter at breast height (DBH). Some specimens in the range of 30 to 60 cm DBH are present, most notably in the most elevated portion of the proposed lots near Gilwood Park Drive.

In terms of ecological function, the patch of FOD9-1 community appears to support a modest diversity of birds, including several species with forest habitat preferences, but no *interior* forest species (see Table 3). Regionally common mammals are also present, but

there is no indication of significant habitat function for fauna of any type. No Priority Species have been observed in this forest patch.

Dry-Fresh Poplar Deciduous forest (FOD3-1)

With the slight decline in elevation moving east from the road toward the wetland and watercourse, there is decline in the dominance of Maple and Oak and an increase in the presence of Trembling Aspen and White Birch. Approaching the watercourse, the forest community is generally consistent with the Dry-Fresh Poplar Deciduous forest (FOD3-1) community type. Secondary species include White Ash, Sugar Maple and also scattered Manitoba Maple, mostly encountered as sub-canopy constituents. Compared to the other forest communities in the Study Area, structural layering is less well developed and the shrub layer is slightly more dense.

This community types occupies around 20% of proposed Lots 1 and 2. Its ecological functions are effectively the same as those of the adjoining FOD9-1 community.

Dry Fresh Sugar Maple Deciduous Forest Ecosite (FOD5)

Over a large portion of the Property, including much of Lots 1 and 2 and also much of the retained parcel, Sugar Maple is a dominant canopy constituent. The Maples are variable in size and density, and occur with a varying mix of other deciduous tree species. In the more elevated portions of the Property, including most of the confines of the proposed Lots, the Sugar Maples occur with White Ash, scattered Red Oak, Basswood and Trembling Aspen. This forest cover is consistent with the Dry Fresh Sugar Maple Deciduous Forest Ecosite (FOD5) ELC community type. In lower elevations away from the road frontages, the Sugar Maples are still dominant but there is a greater presence of Aspen and Birch, and in some lower spots there are also Red Maple and some White Elm. In these lower areas, the community characteristics are generally consistent with the Fresh-Moist Sugar Maple - Hardwood Deciduous Forest (FOD6-5) ELC category.

Throughout this community type, there is variability in tree size and the canopy characteristics. Overall, a majority of canopy specimens are < 30 cm DBH, but there are scattered clusters and individual specimens in the range of 30 to 60 cm DBH.

Based on available information, the ecological function of the forest cover within the FOD5 community is expected to be largely similar to that of the FOD9-1 and FOD3-1 communities. The FOD5 community differs in that it includes some forest within the retained parcel that would generally be considered *"interior"* (i.e., forest that is more than 100 m from the outer forest edge). Outside of the Study Area, the FOD5 and FOD6 communities also encompass a few groundwater seepage locations which can support specific habitat functions.

Fresh Moist Lowland Deciduous Forest (FOD7)

There is a small (<0.2 ha) pocket abutting Gilwood Park Drive where slightly hummocky moist soils occupy a discernable depression. Within this depression, tree cover consists of a mix of species common to moist soils (e.g. Black and Green Ash, Red Maple) interspersed with upland tree species (Sugar Maple, Ironwood, Basswood) on elevated hummocks. Shrubs and groundcover also comprise a variable mix of upland and lowland species. This forest patch is generally consistent with the Fresh Moist Lowland Deciduous Forest (FOD7) community type under the ELC system. Because of its small size, this community is identified as an inclusion among the surrounding forest types (FOD3, FOD9. This inclusion is centered on the front half of Lot4 and also overlaps Lots 3 and 5, accounting for about 30% - 40% of the area of each of these lots.

In terms of ecological function, this forest cover generally does not support any ecological function uniquely associated with lowland conditions, partly as a result of its small size and also a general absence of standing water during the growing season. Available information indicates that the associated function of this patch is generally consistent with that of the surrounding forest communities. The primary exception is the presence of Black Ash, which is listed as a Species at Risk (see discussion in Section 4.7)

4.1.2 Wetland Communities

The unevaluated wetland feature in the core of the retained parcel measures about 1 ha and, as noted in Section 3.2, is separated from the proposed lots by a minimum distance of about 170 m. Detailed assessment of the plant community within this feature has not been completed. However, the tree cover has been observed to consist primarily of a few deciduous tree species (e.g. Red and Green Ash, Red and Silver Maple). For the purposes of this EIS, this wetland feature is described simply as a Deciduous Swamp (SWD) community under the ELC system. It is conservatively assumed that this community might support ecological functions typically associated with an SWD community (e.g. amphibian breeding habitat, nesting habitat for wetland birds).

4.2 Vascular Plants

The detailed plant species list for the Gilwood Property is provided in Table 2. This list reflects monitoring across the full property and immediately adjacent lands over the full period of study.

A total of 118 vascular plant species have been identified within the Property. Of those that are native to Ontario, all are ranked as “Secure” (S5) or “Apparently Secure” (S4) in the Province. Black Ash is the only plant species observed within the Property that has been subject to assessment by either COSEWIC or COSSARO as a possible Species at Risk (SAR). COSSARO has recently assessed Black Ash as *Endangered* and it has been added to Schedule 2 of Ontario Regulation 230/08 as of 26 January 2022. The Provincial Ranking of this relatively common species is “Apparently Secure” (S4). The presence of this tree as a *Priority Species* is discussed further in Section 4.7.

The terrestrial plants found within the Property consist of a mix of native and non-native species. A total of 33 (28%) of the plant species identified within the Property are non-native, and 17 of these are considered by various sources to be invasive in Ontario. Non-native and/or invasive species are encountered in all vegetation communities within the Study Area, but are notably more prevalent in proposed Lots 3, 4 and 5 and also in closer proximity to the frontage along Gilwood Park Drive. The invasive species within the Property include substantial patches of several that are considered highly invasive and which generally warrant management efforts (e.g. Dog-strangling Vine, European Buckthorn).

About 16% of the vascular plant species encountered within the Property are species which grow primarily in wet conditions (i.e., coefficient of wetness is -3 or lower). These plants are generally limited in distribution, associated primarily with the identified watercourse and wetland within the proposed retained lot. These specie are present to a lesser extent in the FOD7 community overlapping Lots 3, 4 and 5. There are a few herbaceous hydrophilic species which are more widely distributed within the Property, mostly in the areas that are set back at least 100 m from the road in the area that will be the retained lot. Otherwise, the general lack of hydrophytes in the area of the proposed five new lots reflects the relatively well-drained nature of the Property.

Only nine of the plant species recorded within the Property have a Coefficient of Conservatism of 7 or higher. These species were encountered mostly within pockets of relatively mature forest (mostly FOD5) or within wetland areas. None of these species were abundant or widespread. The implications are that the Property is generally occupied by plant species that are not typical of long-standing communities. Even within the most mature forest cover, most species are not indicative of communities that are long-standing or reflective of later stages of succession.

There are only a few plant species that exhibit relatively high abundance and/or distribution within the Gilwood Property. This includes primarily a few deciduous tree species (Sugar Maple, Trembling Aspen, Red Oak) and also various ferns (e.g. Sensitive Fern and Ostrich Fern) to a lesser extent.

4.3 Birds and Bird Habitat

A full list of all bird species that have been observed at or near the Property is provided in Table 3. The species listed in Table 3 include those observed over the period of 2019 to 2024 within the Gilwood Property and also within immediately adjacent properties.

In total, 49 species of bird have been observed within or near the Property. This includes 45 species observed immediately within the confines of the full Gilwood Property, and four which have been observed only during surveillance of adjacent lands during separate studies. Only three species were confirmed as breeding within the Gilwood Property boundary, and another seven species were indicated as "probable" breeders.

The Provincial ranking of 38 of the species observed at or near the Property is "secure" (S5), and the remaining 11 species are ranked as "apparently secure" (S4). In terms of breeding habitat preference, 22 of the species observed are considered forest species and 23 are habitat generalists or early succession species. Seven of the species on record are recognized as area-sensitive and/or a forest interior species. Of these, only one (Red-breasted Nuthatch) was indicated as present within the immediate confines of the proposed lots. The occurrences of these species were generally confined to the area of the retained parcel, which does encompass forest cover that meets the standard criterion for interior forest (i.e., more than 100 m from forest edge). The potential presence of interior habitat and area-sensitive bird communities is discussed as a candidate Significant Wildlife Habitat (SWH) function in Section 4.8.

The Gilwood Property lies within Ontario Breeding Bird Atlas (OBBA) square 17NK86. Data have been obtained for this square and considered as regional context for the Property. The local breeding status determined through the OBBA is included as context in Table 3. The OBBA surveillance of square 17NK86 has identified 123 species of bird with some evidence of breeding within the 100-km^2 area of this square. Of these species, 20 have been subject to assessment by COSEWIC and/or COSSARO. As of the date of this report, eight of the 20 have been deemed to be *Not at Risk*. The 12 species on record for the area in question that are currently identified as Endangered, *Threatened* or *Special Concern* are summarized in Table 4. The OBBA data indicate most of these species are either “possible’ or “probable” breeders in square 17NK86, with the Barn Swallow being the only "confirmed" breeder during the last atlas period (2001-2005). The Eastern Wood-pewee was the only species that was observed over the period of monitoring, and only on adjacent properties. This species is considered to be a "probable" breeder within the area of Property. Further discussion of the Eastern Wood-pewee as a Priority Species is provided in Section 4.7.

4.4 Amphibians and Reptiles

A review of the Ontario Amphibian and Reptile Atlas (OARA) indicates the presence of number of species or amphibian and reptile within NHIC square 17NK86. Table 5 summarizes the species that are indicated as present in this area (*i.e.*, within 10 km of the Gilwood Property). No amphibian species were observed within or near the Property during the period of study. A single specimen of Eastern Gartersnake was observed in 2022 in lands that will be part of the retained parcel. This constitutes the only reptile occurrence recorded during surveillance of the Property and adjacent lands.

The area of five proposed lots is occupied by deciduous forest communities, but there is an absence of vernal pools or other areas of relatively persistent standing water. Accordingly, the conditions within these forest communities are generally not supportive for most of the reptile and amphibian species reported for the area. The wetland area within the core of the Property does not exhibit standing water of depth or duration that would be conducive to the meaningful presence of turtles, but could be supportive of some amphibians.

Overall, available information suggests a modest presence of some amphibian and reptile species within the property, particularly in association with the wetland feature in the property's core. However, there is no expectation of the presence of amphibians or reptiles in significant number during critical life-cycle processes (e.g. reproduction) within or near the area of the proposed lots.

4.5 Mammals

Monitoring of the Gilwood Property has revealed direct evidence of the presence of only five mammal species within the immediate confines of the Property. This includes White-tailed Deer (*Odocoileus virginianus*), Porcupine (*Procyon lotor*), Eastern Chipmunk (*Tamias striatus*), Red Squirrel (*Tamiasciurus hudsonicus*) and Grey Squirrel (*Sciurus carolinensis*). All of these mammal species are ranked as "secure" (S5) in the province of Ontario and are common in Simcoe County. It is considered likely that several other regionally common species of mammal (e.g. raccoon, skunk, coyote) are occasionally present within the Property. None of the mammals evidenced in the general vicinity of the Property are considered to be SOCC or SAR.

In regard to bats, there are several species which are regionally present and which include a number of SAR. The vegetation communities found within and around the proposed lots are relatively young, and there is a general absence of larger dead or dying trees that might contain hollows, cavities, large bark flakes and crevices that could function as roosting or hibernation sites. The density of large (>25 cm DBH) snag trees is estimated as less than 10 per hectare, which is considered a threshold for potential function as maternal roosting habitat for local bat species. Rock outcrops, caves or other sites that could serve as hibernation sites are not found on or near the Property. The presence of bats is discussed further as potential Priority Species (Section 4.7).

Overall, the likelihood of presence within the Property of mammal species that are of conversation concern is considered to be low, and not likely to be meaningful to the viability of the local or regional populations.

4.6 Aquatic Ecology

The watercourse within the north half of the Property is largely characterized by a meandering channel that is also partly braided within a relatively broad riparian wetland. The meander belt is approximately 5 m wide on average. The stream channel itself is about 0.5 m wide on average, with substrates that are about 60% sand, 30% gravel and 10% small cobble. The depth of the active channel is generally in the range of 5 to 10 cm, and the flow is predominantly riffle flow. There is a minor presence of in-stream cover with the exception of small patches of aquatic macrophytes, primarily watercress. The surrounding forest habitat provides considerable high over-head cover. The watercourse exhibits an intermittent flow regime within Property, with very minimal residual pooling during periods of no flow.

Between the Property and the point of discharge to Penetang Harbour, there does not appear to be any barriers to fish movement. The average grade over the length of the watercourse is about 5%. No fish were observed in the watercourse at the times of surveillance. Overall, it appears that the watercourse could directly support the presence of fish during protracted periods of flow. At a minimum, the watercourse can be assumed to function as *indirect* fish habitat.

4.7 Priority Species

For the purpose of this EIS, the term "Priority Species" includes:

1. any species with a provincial (sub-national) conservation status rank (SRank) of S1, S2, S3 or SH, or otherwise considered rare in Ontario, and
2. any species that has been designated as either *Endangered*, *Threatened*, or *Special Concern* by either the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) or the Committee on the Status of Species at Risk in Ontario (COSSARO).

The term "Species at Risk" (SAR) is applied to those included in regulatory listings as *Threatened* or *Endangered*, and thus subject to certain regulatory prohibitions. The term "Species of Conservation Concern" (SOCC) is generally applied to species other than those legally designated as *Threatened* and *Endangered.* Species of any of the noted designations are all tracked by the Natural Heritage Information Centre (NHIC).

The potential presence of SAR within or near the Property was initially examined in a manner consistent with guidance prepared by the Ministry of Environment, Conservation and Parks (MECP, 2019). Several sources of existing information were consulted to identify SAR that are on record for the area within a few km of the Property. This includes:

- the most recent results of the Ontario Breeding Bird Atlas (OBBA) for the 10-km x 10-km Square 17NK86, which encompasses the Property, as summarized in Table 4,
- the results of the Ontario Amphibian and Reptile Atlas (OARA) for Square 17NK86 as summarized in Table 5,
- the NHIC Element Occurrences (EO) for the area within 3 km of the Property, as summarized in Table 6,
- occurrences of Priority Species on record in the iNaturalist database within about 1 km of the Property, as summarized in Table 7.

The likelihood of occurrence of identified Priority Species within or in very close proximity to the Property has been assessed in consideration of the specific habitat requirements of each species. Direct surveillance of the Property was also conducted

with focused attention on the possible presence of the Priority Species known to be present in the general area of the Property.

The NHIC Element Occurrence (EO) records include any species that are considered herein as Priority Species. NHIC EO records were obtained for the 1-km grid segments within 2 - 3 km of the Property (12 grid squares in total). A summary of the EO listings for these squares is provided in Table 6. A total of nine species are listed. As discussed in Section 4.4, data from the OBBA for Square 17NK86 indicate the presence of a total of 12 Priority Species in the area of the Property. This includes four species also included in the NHIC records for the area. Data from the OARA (Table 5) indicate a total of eight Priority Species of reptile or amphibian in the area of the Gilwood Property, including four species that are also on record in the NHIC EO. The iNaturalist database (Table 7) contains records of only five Priority species, and only one of these (Evening Grosbeak) is not identified in the other databases that have been considered.

In total, the existing information sources that have been consulted indicate the presence of 25 Priority Species in relatively close proximity to the Gilwood Property. Direct surveillance of the Property has included a series of specific monitoring efforts that address the possible presence of these and any other Priority Species. Through site surveillance, the presence of only one of the 25 species on record was indicated within the Property; the Eastern Wood-pewee. The Eastern Wood-pewee may nest in many types of wooded habitats, but it is most commonly associated with the mid-canopy layer in forest stands of intermediate age and in mature stands with little under-story vegetation. The Wood Thrush will nest in woodlands as small as 3 ha, but it is reported to be area-sensitive and prefers forest stands with tall trees and thick under story. The forest cover within the area of the proposed lots is not ideal for the Wood Thrush but is somewhat suitable for the Eastern Wood-pewee. The Eastern Wood-pewee was observed in the vicinity of the proposed lots during surveillance, and it is generally possible that it could nest in the area in the future. Otherwise, the habitat requirements of the 24 other species included in Tables 4 through 7 are generally not met to any significant extent within the Gilwood Property.

In addition to the species identified in existing databases, on-site monitoring identified the presence of two other Priority Species within or near the Property. Black Ash is a common species in Ontario that was listed as *Endangered* in 2022*,* but subject to a 2-year postponement of the onset of regulatory prohibitions. New regulations came into effect early in 2024, establishing the required protections for this species. About 25 specimens of Black Ash were found in the Lowland Forest (FOD7) area, largely within proposed Lot 4. The specimens were all relatively young, all measuring <10 cm DBH and most being saplings measuring <5 cm DBH. Black Ash is a hydrophilic tree species that is found in wetland or lowland areas. Suitable conditions for Black Ash are not found elsewhere within the proposed lots and specimens of this tree were not found during surveillance of the upland portions of the lots.

A few adult specimens of the Monarch Butterfly, listed as *Special Concern* in Ontario, were also observed foraging along the roadside frontage of the proposed lots. Within the

lot interiors, there is a general absence of open habitat conducive to similar foraging, and also an absence of Milkweed plants required for Monarch reproduction. Overall, there is no expectation of meaningful presence of this species within the proposed lots.

In regard to general concerns regarding species-at-risk bats, there are several bat species that can be found, at least on occasion, in Simcoe County. This includes four that are listed as Endangered: Tricolored Bat (*Perimyotis subflavus*), Little Brown Myotis bat (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), and the Eastern Small-footed Myotis (*Myotis leibii*). The Northern Myotis is generally encountered in coniferous forest, while the three other species-at-risk bats are each common to deciduous or mixed forest habitat. All four species could theoretically be found within or immediately adjacent to the Property. The likelihood of presence of maternal colonies is dependent on the local abundance of large **(**≥25 cm DBH) snags/cavity trees. Within and adjacent to the proposed lots, there are few tree specimens that could be regarded as favorable snag trees. The density of snag trees does not meet the density requirement for high quality maternity roost habitat (i.e., >10 snags/hectare). The Property does not encompass or border any occurrences of Cliff-Cave ecosites and does not contain any features (caves, crevices) that could serve as hibernacula. Overall, there is some possibility of occasional and intermittent presence of species-at-risk bats within or near the Property, but there is no reason to expect the concentrated presence of bats for hibernation or maternal roosting purposes.

Other than the three noted Priority Species (Eastern Wood-pewee, Black Ash, Monarch), all flora and fauna observed on or near the Gilwood Property are from relatively secure populations and do not warrant any consideration as conservation concerns. The other Priority Species on record within the general area have not been observed within the Property, and the preferred habitats of most of these species are generally not present to any meaningful extent within the Property. The implications of the noted Priority species are further assessed and discussed in Section 5.1.

4.8 Significant Wildlife Habitat

The information available for the purpose of this EIS has been reviewed in specific consideration of the potential presence and implications of Significant Wildlife Habitat (SWH) within the Gilwood Property. The analysis of potential SWH presence and impacts is based on guidance provided by the MNRF (MNR 2000, MNRF 2015). There are several categories and specific types of designated SWH. These various SWH types each have generally recognized associations with specific ELC community types, indicator species, and other specified criteria (often related to patch size). The determination of SWH habitat is ultimately based on direct evidence of presence of the class of wildlife in question.

The Deciduous Forest (FOD) community types that occupy almost the entirety of the Gilwood Property (see Section 4.1) can generally support a number of SWH functions, as follows:

- *Seasonal Concentration Areas* (four categories of possible relevance to FOD),
- *Rare Vegetation Communities* (one category of possible relevance to FOD - i.e., *old growth forest*),
- *Habitat for SOCC* (one category of possible relevance)
- *Animal Movement Corridors* (one category of possible relevance), and
- *Specialized Habitat for Wildlife* (five categories of possible relevance to FOD).

The characteristics (age, tree species types, canopy configuration, etc.) of the forest cover within and around the proposed lots, and the wildlife species that have been recorded within or near the Property, have been reviewed in context of the specifications for each of these SWH functions. In consideration of this information and various defining criteria, the full Gilwood Property has the potential to support the following specific SWH functions;

- bat maternity colonies,
- area-sensitive bird breeding habitat,
- habitat for Special Concern and rare wildlife species, and
- seeps and springs.

Each of these candidate SWH functions potentially supported in the FOD communities within the Gilwood Property is discussed below.

The SWD community encountered within the wetland feature in the core of retained lot is also expected to have the potential to support a number of the candidate SWH functions noted above for FOD communities. As noted in Section 4.1.2, it can be assumed that the SWD community might also support other SWH specifically associated with wetland communities (e.g. amphibian breeding habitat, nesting habitat for wetland birds). In consideration of the spatial separation of the SWD community from the proposed area of severance, and also the lack of hydrological connectivity between these areas, it is reasonable to conclude that there is no meaningful risk of impacts on any SWH function supported within the wetland feature. For this reason, those SWH functions are not discussed in further detail.

4.8.1 Bat Maternity Colonies

The Gilwood property is occupied by forest communities that have some potential to provide quality sites for maternal roosting of several bat species. Within and near the proposed lots, the density of large (>25 cm DBH) snag trees was estimated to be well below the reported SWH threshold of 10 per hectare. Over the period of surveillance, no trees with obvious crevices, cavities are large bark flakes were observed within the area of the lots. Overall, the conditions within the lots are not consistent with those described

for this from of SWH. It is still conservatively assumed that maternal roosting sites might be present within the Property, particularly within the retained parcel.

4.8.2 Area-Sensitive Bird Breeding Habitat

The blocks of forest that overlap the Property exhibit dimensions such that the majority of woodland within the confines of the Property, including the newly proposed lot, does NOT meet the specific SWH criterion for forest interior habitat (i.e., >200 m from forest edges).

Forest cover within the area of the proposed lots is also generally not fully mature, which is a secondary defining characteristic of interior forest. During breeding bird surveillance of the Property, the presence of only two of the listed indicator species was evidenced immediately within the Gilwood Property. This consisted of limited evidence of possible breeding of the Ovenbird and the Red-breasted Nuthatch outside of the area of the proposed lots. The criterion for this form of SWH is the confirmed nesting presence of three of the indicator species. Overall, this form of SWH is not considered to be present within the proposed new lots, but it may be supported in a very limited area in the core of the retained parcel.

4.8.3 Special Concern and Rare Wildlife Species

As discussed in Section 4.7, there is only one species Provincially designated as *Special Concern* and/or with a Provincial Rank of S3 that is confirmed as being present within the Property. The Eastern Wood-pewee was observed within or near the area of the proposed lots. This species was present in very low abundance and there was no evidence to confirm nesting activity within the Property, and specifically within the proposed lots. The Eastern Wood-pewee is not considered to be present within the area of the proposed lots to an extent that consideration of this specific category of SWH might be warranted. Regardless, mitigation measures are provided to mitigate any risk of impact to any individual of this or other bird species that might nest in the area (see Section 6.3).

4.8.4 Seeps and Springs

Several groundwater seeps were observed within the area of the retained parcel, at least 200 m away from the proposed lots. Two of the relevant wildlife species (i.e., White-tailed Deer, Ruffed Grouse) have been observed within or near the Property. The seeps are all located below a discernable plateau edge that runs along a southeast-to-northwest diagonal through the retained parcel. It is conservatively assumed that the portion of the retained parcel below the plateau supports seep-associated SWH function to some extent. However, the area of the proposed lots is relatively small and well separated from the known seeps, and there is no expectation of meaningful functional connectivity between the lots and the seeps.

5.0 ANALYSIS OF POTENTIAL IMPACTS

The current proposal for the Gilwood Property calls for the creation of five new lots for the eventual establishment of a single-family residences and associated infrastructure. Detailed plans for the residential development have not been prepared at this time, but it can be conservatively assumed that site alteration of a significant portion of each new lot would be required to facilitate such development.

In general consideration of eventual development within the new lots, and without accounting for any planning adjustments or other mitigating measures, an initial high-level assessment identifies several potential natural heritage implications, as follows;

- direct loss or impairment of ~1.2 ha of forest communities and their ecological functions, including area mapped as Significant Woodlands,
- possible impacts on the watercourse and wetland that area hydrologically down-gradient of the area of the proposed new lots,
- possible direct harm or indirect disturbance of two Priority Species that have been observed within or near the proposed lots, and
- possible impairment of four SWH functions associated with the Property.

The following analysis further examines the potential impacts listed above. For each of the specific natural features of concern, the likelihood and significance of adverse effects due to potential development of the Property are qualitatively assessed. The assessed potential for adverse effects is based in part on the characteristics and functions of the features themselves. The assessment considers various aspects of potential future development following severance, including the extent of site alteration and various conditions that might be encountered within the Property both during and after construction. A conceptual site plan has been developed (see Appendix B), illustrating general lot layouts and areas of disturbance.

Conclusions and recommendations drawn from this analysis, including mitigation recommendations, are provided in Section 6.

5.1 Priority Species

In summary, there are a total of 27 Priority Species (*i.e.*, SOCC or SAR) on recent record in the general vicinity of the Gilwood Property that have been assessed for the purpose of this EIS. Table 8 summarizes the status of each of these species in regard to possible presence within the Property. The Property generally does not exhibit the characteristics or specific habitat elements that would support local populations of most of the Priority Species that have been observed in the area. When considering habitat limitations and the findings of direct surveillance of the Property, only the Eastern Wood-pewee and

Black Ash have some reasonable potential to be present in or near the proposed new lots and be subject to risk of direct or indirect impacts of eventual residential development.

The Eastern Wood-pewee was observed in very limited abundance and there is no evidence to confirm use of the area of the proposed lots for breeding purposes. It is still possible that future nesting may occur in the area of the lots. The potential for direct impacts on adult birds or nests within the ~1.2 ha combined area of the new lots is inherently limited in terms of frequency and numbers affected. Any such impacts would not be meaningful from a population perspective, either regional or local. Overall, the risk associated with potential impacts to these Priority Species is considered to be low, and mitigation measures are available to further reduce the low level of risk (see Section 6.3).

Black Ash are also present within the Gilwood Property. Their distribution is confined to a localized lowland area centred on the front half of Lot 4 and slightly overlapping Lots 3 and 5. This area is part of the FOD7 community (see Figure 3) which is an upland deciduous forest with moist microsites. The area where Black Ash have been found exhibits subtle hummocks interspersed with shallow depressions. The Black Ash tend to grow in the low pockets, and are accompanied by upland tree species on the raised hummocks. The well-defined area where Black Ash occur measures approximately 0.1 ha, including a small area within the road allowance that is outside of the front lot boundaries. The large majority of the recorded Black Ash specimens are within the bounds of what would be Lot 4 (see Figure 4). In total, about 30 specimens have been identified in this area. All specimens measure <10 cm DBH, and the majority are saplings which measure <5 cm DBH. There are only a couple of specimens that were measured in the range of 8 to 10 cm DBH.

Black Ash was listed as *Endangered* under the Endangered Species Act, 2007 (ESA) in 2022, but formal protections were delayed for a two year period. This delay was to allow time for development of a balanced approach to support protection and recovery of a species that is still abundant and widely encountered. In January 2024 Ontario Regulations (O.Reg.) 6/24 and 7/24 came into effect, protecting Black Ash species and habitat. O. Reg. 6/24 identifies exceptions to ESA prohibitions against direct harm that consider both the health and size of the tree. O. Reg. 7/24 specifies Black Ash habitat as a radial distance of 30 m from the stem of every Black Ash not exempt under O. Reg. 6/24. The province has also very recently released guidance for the assessment of health of Black Ash in context of O. Reg. 6/24 (MECP, 2024).

In August 2024, the Black Ash within the area of the proposed new lots were subject to formal assessment in accordance the Assessment Guidelines to determine their status in context of O. Reg. 6/24. The assessment revealed that the vast majority of Black Ash are smaller than the regulatory size threshold of 8 cm DBH. There were only two specimens measuring between 8 and 9 cm DBH identified within the proposed lots. Both had suffered full decline as a result of EAB infestation, with a canopy condition rating of 5 and indications of High Severity EAB infestation (multiple exit holes, extensive larval galleries). It is also noted that a significant percentage of Black Ash measuring 5 to 8 cm

DBH also exhibited signs of high to medium EAB infestation, and that majority of the many specimens of White Ash throughout the Property were also in severe decline due to EAB.

The eventual residential development within proposed Lots 3, 4 and 5 creates a high likelihood of direct or indirect impacts on the Black Ash specimens that are present. The risk of impact on Black Ash habitat is associated with the majority (~60%) of the confines of both Lots 4 and 5, and a minority portion (~20%) of Lot 3. Based on current information, all of the Black Ash that might be affected are exempt from regulatory prohibitions under the ESA. To account for possible changes in the size and/or condition of trees, it is advised that Black Ash within the proposed lots be re-assessed prior to eventual onset of any activities that may have adverse effects (i.e., clearance, grading, construction), and that consultation with MECP be completed if warranted.

Aside from the Wood-pewee and Black Ash, there is no expectation of meaningful presence of any Priority Species within the Gilwood Property, and thus there is effectively no risk of adverse effects on any such species.

5.2 Significant Wildlife Habitat

Surveillance of the Property for potential SWH (see Section 4.8), indicates that there are four candidate SWH categories that may be supported to some extent within the Property. These SWH functions are associated almost entirely with the retained parcel, and there are no confirmed SWH functions associated with the area of the proposed lots. As a result, no direct impacts on SWH functions are expected.

In regard to groundwater seeps that have been observed within the retained parcel, there is a theoretical potential for adverse effects if there is any substantial impairment of the groundwater sources of these seeps. Theoretically, significant land alteration over a large portion of the source recharge zone could ultimately affect the volume or duration of groundwater discharge at the seeps. There is no expectation that single-family residential development in limited portions of the proposed lots would substantially alter groundwater infiltration or movement patterns such that the seepage sources would be negatively affected.

Despite the low risk to seeps and other possible SWH functions within the Property, there are general recommendations that serve to further reduce the already negligible risk (see Section 6.3).

5.3 Wetlands

The small wetland feature within the core of the retained lot is separated from proposed lots by at least 170 m, eliminating any risk of any direct impacts as a result of eventual lot development. The hydrological balance of the wetland is maintained in part by the surface flow of the small watercourse, and in part by groundwater discharge. There is no evidence that the portion of the proposed lots that could be altered for development

purposes would be the origin of significant hydrological inputs to the wetland feature. The risk of indirect impacts on the wetland as a result of impairment of hydrological balance is considered to be very low.

Overall, there is no expectation of any direct or indirect impacts of development within the proposed lots on the wetland feature or its functions. Measures are available to further mitigate the low risk (see Section 6.3).

5.4 Watercourse

The intermittent watercourse that traverses the Property is a first order watercourse exhibiting intermittent flow. The Plan of Severance (see Appendix B) maintains a 200 m setback from the watercourse. In absence of any direct hydrological connectivity, a set-back of this magnitude is well more than sufficient to prevent any measurable impacts, direct or indirect, on the watercourse as a result of lot development.

5.5 Significant Woodlands

The Provincial Policy Statement (PPS) defines significant woodland as "an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history". Regional assessments are undertaken by various agencies using criteria derived from this general definition to identify woodland areas for initial designation as "significant". The Natural Heritage Reference Manual (MNR, 2010) provides detailed recommendations for criteria and standards to be used in the assessment of woodland significance.

The current assessment of potential impacts on the woodlands found within the Gilwood Property is conducted in consideration of several of the core functional categories identified in the MNR's Natural Heritage Reference Manual. These categories overlap with the stated criteria for designation of "Significance" in the PPS and the County OP. This includes woodland size, forest cover characteristics, the presence of SAR or SOCC, ecological functions and linkages, and water protection functions.

5.5.1 Woodland Size

For the purpose of this EIS, it is not possible to make firm determinations of the implications of any development-related woodland loss in regard to size. Only general statements of the magnitude of loss can be made.

The forest cover within the Gilwood Property is part of a larger, more-or-less continuous block of Significant Woodland that is bounded by Gilwood Park Drive and Sandy Bay Road. The larger block measures about 30 ha, and it is effectively contiguous with a woodland block of almost 300 ha that extends eastward from the Property. The forest

cover within the entire Gilwood Property represents less than 2% of this larger Significant Woodland area that envelopes the Property. The proposed lots themselves have a combined area of about 1.2 ha, and the conceptual lot layout would allow for preservation of at least 20% of the wooded area within the lots. The implications of the possible loss of up to 1 ha of forest cover can be considered in a relative context. This would represent about 3% of the total existing forest cover bounded by Gilwood Park Drive, and less than 0.5% of the larger continuous area of Significant Woodland that overlaps the Property. Reductions of this magnitude would not have substantial implications in regard to woodland size as a key determinant of Significance.

As a general guiding principle, this EIS adopts the premise that any reduction of total forest cover (Significant Woodlands or otherwise), should be avoided if feasible, regardless of any considerations of size-related criteria. Mitigation recommendations are provided in Section 6.3 which reflect this premise. Notwithstanding this general principle, the loss of 1 ha or less of woodlands within the Property will not adversely impact the Significant Woodland areas within and around the Property in terms of size.

5.5.2 Forest Stand Characteristics

The forested areas throughout the Gilwood Property are comprised of early to mid-successional forest cover, with a modest diversity of tree species in assemblages that are typical of the region. Through most of the wooded portions of the Property, the forest communities exhibit modest development of structural layering.

Overall, the available information does not indicate any uncommon or highly valued characteristics of the forest stands within or near the proposed lots. Any loss or impairment of any of the forest cover would not translate to loss or impairment of forests with such characteristics.

5.5.3 Ecological Characteristics

The assemblages of plants and animals that have been observed within and around the Property's forest communities are relatively common to the region and the Province, and many are typical of forests influenced by some level of human disturbance. Almost all of these species are not considered to be particularly sensitive or of conservation concern. The available information does not indicate that the presence of Priority Species would be a major contributing factor to a designation as *Significant* of the forested areas within the Gilwood Property. Loss or impairment of forest cover within the lots would not have meaningful implications in regard to SOCC or SAR. The only possible exceptions relate to the limited presence of Easter Wood-pewee (an SOCC) and a localized cluster of Black Ash (an SAR). As discussed in Section 5.1, eventual development of the Property is not expected to negatively impact the local populations of the Wood-pewee, and the Black Ash specimens are such that they would be exempt from ESA prohibitions.

General ecological linkage functions are also a consideration in the assessment of Significant Woodlands. The woodland habitat within the Property does likely facilitate some level of ecological connectivity within the larger Significant Woodland block that overlaps the Property. However, there is no evidence indicating that the Property lies within established and/or significant wildlife corridors. The proposed lots represent a small fraction of total woodland area, and occupy the outer margins of the larger woodland block. The area within the lots expected to play only a limited role in whatever linkage function is attributable to the wooded area that overlaps the Property.

Overall, the Significant Woodland areas within the Property do provide some ecological function within the local landscape. As site alteration is to be limited to a relatively small area (approximately 1 ha), and woodlands in this area do not appear to contribute significantly to local linkage functions, the risk of loss or impairment of such functions is considered to be low.

5.5.4 Water Protection

Forest cover generally leads to improved quality of runoff (e.g. reduced erosion and sediment loads, reduced thermal loading), which can have a beneficial effect on down-gradient features. The Gilwood Property envelops a small watercourse that flows through the wooded areas within the confines of the Property. There is no evidence to indicate that the area within the lots is a source of significant hydrological inputs to the watercourse. The total wooded area within the proposed lots is also relatively small (~1 ha) and any water protection function that may be associated with this area would be proportionally limited.

Overall, the water protection function that might be served by the forested areas within the proposed lots is not considered to be significant.

5.5.5 Woodlands Summary

The deciduous forest communities within the Property are expected to serve and/or support various ecological functions, but analysis indicates that these functions would not be adversely affected by development within the proposed lots. In consideration of size alone, the maximum possible loss of ~1 ha (or less) would not constitute a meaningful reduction of the larger block of woodland that overlaps the Property. Overall, the proposed severance is not expected to adversely affect the overall integrity and function of Significant Woodlands within and surrounding the Property. Various mitigation measures are provided in Section 6.3 which would further reduce the already minimal risk of adverse effects on Significant Woodlands or their functions.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of Existing Conditions

Almost the entirety of the Gilwood Property is occupied by deciduous forest. These forests are mid-aged with modest structural development, and support moderately diverse assemblages of fauna that are common and typical of the region. These wildlife species are generally from secure populations and almost all are not considered to be of conservation concern. One Species of Conservation Concern (SOCC) was encountered within the Property, along with one Species at Risk (SAR). There is no expectation of meaningful presence of other Priority Species within the Property. There are four possible SWH functions which are associated with the retained parcel. Otherwise, the forest communities within the Property do not support species or functions which would be considered as sensitive or as conservation priorities.

There is a small watercourse and wetland feature found within the Property. The watercourse is a first order watercourse with intermittent flow, and is assumed to function as indirect fish habitat. The wetland is small (<0.2 ha) and its ecological function is limited by both size and an absence of persistent standing water.

6.2 Summary of Potential Impacts

An understanding of the risk of potential impacts potentially associated with the proposed severance of the Gilwood Property is derived in part from the analysis presented in Section 5. Table 9 summarizes the various risks that have been identified and assessed. The likelihood and significance of each category of potential impact are relatively ranked as either low, medium or high. The likelihood and significance of any possible impacts of proposed development are dependent on the natural heritage characteristics of the Property and also the specific aspects of the proposed development. For each environmental feature of interest, the overall risk is a function of both *likelihood* and *significance*.

Priority Species

Based on information obtained and reviewed in this EIS, the only Priority Species that warrant some consideration of their presence are the Eastern Wood-pewee and Black Ash. For the Eastern Wood-pewee (an SOCC), there is a low likelihood of occurrence of within the Property in meaningful number, for meaningful duration, or for critical aspects of its life cycle. The risk of loss or disturbance of the Wood-pewee is deemed to be very low, and can be effectively mitigated. There is no expectation of impacts that would have significant implications in context of the local population of this species or in regard to the functional integrity of the local Natural Heritage System.

In regard to Black Ash, there are relatively high risks of direct harm or killing of multiple specimens, primarily within Lot 4, and also high risks of negative effects on defined habitat in Lots 3, 4 and 5. However, recent assessment following MECP guidance has determined that all Black Ash specimens are currently exempt from ESA prohibitions, as per O. Reg 6/24. To ensure future regulatory compliance, re-assessment and consultation with the MECP may be required prior to any development-related activity within these lots.

Significant Wildlife Habitat

There is only one instance of confirmed characteristics that could support SWH function, associated with the seepage areas within the retained parcel The proposed lots do not overlap with this area, and there is no significant functional connectivity between the lots and the seepage features in question. The overall risk of the proposed severance in regard to this SWH element is deemed to be very low.

Wetlands

The unevaluated wetland feature located within the core of the retained lot is well separated from the proposed new lots and does not appear to have any meaningful hydrological connectivity to those lots. Overall, there is no expectation of any direct or indirect impacts of eventual residential development within the lots on the wetland feature or its functions.

Significant Woodlands

The Property encompasses about 25 ha of woodlands that are broadly considered to be Significant Woodlands, including the entirety of each the proposed new lots. Eventual residential development plans may require alteration of a limited area (1 ha or less) of these woodlands. This is not anticipated to have meaningful adverse effect on the overall integrity and function of Significant Woodlands within and surrounding the Property.

6.3 Mitigation and Enhancement Recommendations

Regardless of the overall low level of risk, there should be efforts to further mitigate the risk of any impacts potentially associated with the eventual development of the lots that are being proposed for the Gilwood Property. Recommendations are provided herein to avoid, limit or otherwise mitigate the potential impacts that have been identified.

6.3.1 Priority Species

Site monitoring has revealed the potential presence of two Priority Species within or in close proximity to areas of future development within the proposed lots. Eastern Wood-pewee may be present within or near forest communities that are within the lots. The removal of some areas of tree cover within the lot could directly affect individual nests of Eastern Wood-pewee. For the eventual residential development within the lots,

development of a Tree Preservation Plan (TPP) is recommended to reduce the extent of potential tree removal, and thus lower the risk of adverse effects on the Eastern Wood-pewee and other nesting woodland birds.

To reduce the risk of impacts on the Wood-pewee or any other breeding birds which would be subject to prohibitions of the Migratory Bird Convention Act, any clearing of forested areas should be timed to avoid the active bird nesting period (i.e., from May to August, inclusive). In similar consideration of the theoretical presence of SAR bats, site clearance activities should be timed to avoid the period of active bat presence (i.e., from April to September, inclusive).

In regard to Black Ash, recent assessment of the size and condition of the identified specimens has determined that all trees are currently exempt from ESA prohibitions. Nonetheless, efforts to minimize impacts on these trees or their supporting habitat would still have merit. It is recommended that Black Ash retention and protection, as reasonably feasible, be established as an objective in determining the layout for lots 3, 4 and 5. Black Ash could also be prioritized in the development of a Tree Protection Plan (TPP), as discussed in Section 6.3.2 below.

6.3.2 Woodlands

As noted in Section 5.4, the potential loss or impairment of woodlands within the Gilwood Property is not expected to result in meaningful loss of ecological function at the local or regional level. Regardless of functional implications, the loss or impairment of any woodland should be minimized simply owing to the fact that there is a general absence of woodlands in the region and the Province, and any further reductions exacerbate this situation. Accordingly, the Gilwood Property should eventually be developed with considerations to minimize loss of tree cover within the Property. In this effort, it is recommended that the eventual lot layouts allow for meaningful retention of existing tree cover within each lot. Considering a total combined area of about 1.2 ha, it is recommended that a minimum total area of 0.3 ha (i.e. 25% of the total area) of retained forest cover within the 5 new lots be considered as an objective. A Tree Preservation Plan (TPP) should be developed in advance of eventual development to specify tree retention objectives.

Aside from measures related to building envelope size and position, there are various standard measures that should be adopted at the time of construction to protect trees and forest cover that are to be retained. This includes installation of protective barriers and management of construction traffic to avoid inadvertent damage to trees or their root systems. A TPP should be developed to include an implementation plan for these and other relevant measures.

Any measures aimed a tree preservation can also be designed and implemented to mitigate any of the identified or potential risks to Priority Species (particulalry Black Ash), SWH (e.g. potential bat roosting sites), watercourses or wetlands. As such, a TPP

should be a high priority in the planning for eventual development of the proposed lots within the Gilwood Property.

6.3.3 Significant Wildlife Habitat

There are several mitigation measures that can be implemented to reduce the potential for adverse effects on the minor seeps that are found in the retained parcel. To reduce the risk of disruption or impairment of groundwater sources, the mitigation measures include the following;

- direct residential downspouts onto lawns or other permeable surfaces, and avoid direct connection to artificial stormwater conveyance infrastructure,
- maximize the incorporation of vegetated swales and ditches in SWM plans, and minimize paved curbs and drains, and
- maximize the use of permeable paver materials where appropriate and feasible.

In addition to these measures to prevent effects on seepage, avoid any aspect of development (e.g. fencing) that may restrict access by wildlife to the area where seeps are located.

6.3.4 Watercourse

An Erosion and Sediment Control (ESC) Program should be developed and implemented as a standard measure for the construction phase to mitigate the potential for adverse effects on the watercourse and the wetland feature within the Gilwood property.

The development of a stormwater management (SWM) plan in later stages of planning and development should give consideration to measures to ensure protection of the watercourse. Low Impact Development (LID) controls should be considered and included in the SWM plan to the extent feasible.

6.3.5 Restoration and Enhancement

There are a number of invasive species present within the Gilwood Property, include substantial patches of several species that are considered highly invasive and which generally warrant management efforts (e.g. European Buckthorn and Dog-strangling Vine). Efforts to control or remove these species would be beneficial.

6.4 Policy Interpretation

The Provincial Policy Statement (PPS) serves as the foundation for the various policies contained in the County and Municipal OPs, including those that are intended to protect and maintain the natural environment and its functions. The following summaries address the PPS and OP natural heritage policy elements that are of relevance to the Property.

Significant Woodlands

No development or site alteration may occur within Significant Woodlands or their adjacent lands (within 120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions. In addition, fragmentation of significant woodlands is generally discouraged.

Eventual development within the proposed new lots will result in some loss or impairment of existing woodland that is part of the area mapped as Significant Woodland. The total area of affected woodland is assumed to be about 1 ha or less. This EIS concludes that development will not fragment or otherwise result in adverse impacts on Significant Woodlands as a functional component of the NHS that overlaps the Property and surrounding lands.

Habitat of Threatened/Endangered Species

The PPS states that no development or site alteration will be permitted within the habitat of Threatened or Endangered species except in accordance with provincial and federal requirements. No development or site alteration will be permitted within the adjacent lands to these areas unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

There only presence of provincially *Threatened* or *Endangered* Species or their habitat within the Gilwood Property consists of the isolated cluster of Black Ash occupying a portion of Lots 4 and 5. Eventual residential development poses a high risk of negative impacts on these Black Ash specimens and their respective habitat. However, as per new regulatory specifications (O. Reg. 6/24), all Black Ash specimens are exempt from ESA prohibitions.

Significant Wildlife Habitat

In the PPS, development and site alteration is not permitted within Significant Wildlife Habitat (SWH) and adjacent lands (120 m) unless it has been demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions.

The EIS has identified the presence of potential SWH function associated with the retained parcel. There is no expectation that development within the proposed lots will have any direct or indirect impacts on the retained parcel or the habitat functions therein. No impacts on SWH function are expected.

Fish Habitat

The PPS states that development and site alteration are not permitted in Fish Habitat except in accordance with relevant provincial and federal requirements. No development

will be permitted within 30 m of the banks of a stream, river, or lake unless an EIS, or the Conservation Authority, concludes setbacks may be reduced.

The small watercourse that traverses the property is an intermittent first order watercourse that is assumed to function as indirect fish habitat. Development will not occur within 200 m of the watercourse, and there is no evidence of significant hydrological connectivity between the area of future development and the watercourse. There is no expectation that the creation and eventual development of the 5 new lots will have any effect on fish habitat function.

Natural Heritage System (NHS)

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

The Gilwood Property encompasses woodlands that facilitate a limited level of ecological connectivity in the area around the Property. The creation of new lots on the outer edge of the Gilwood Property is not expected to result in development opportunities that would cause any meaningful loss or impairment of ecological or hydrological connectivity, or the overall integrity of the NHS.

Summary

Overall, the proposed severance to create five new lots within the Gilwood Property meets policy requirements and there is no expectation of any policy non-compliance pertaining to the several specific features of interest or the NHS that they comprise.

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TABLES

Table 1: Summary of Woodland Community Characteristics

Community Type[1]	Woody Vegetation Characteristics			Tree Size (DBH) Distribution[4]			Summary of Functions[5]
	Woody Cover[2]	Composition[3]	Age and Structure	<15 cm	15 to 30 cm	>30 cm	
Dry-Fresh Poplar Deciduous Forest (FOD3-1)	90%	Aspen>Birch>Sugar Maple	Slightly mixed age, limited structural layering	50%	40%	10%	Modest diversity and abundance of relatively common species. No evidence of SAR, SOCC or SWH
Dry Fresh Sugar Maple Deciduous Forest (FOD5)	95%	Sugar Maple>>White Ash>Basswood	Mixed age, relatively young, moderate structural layering	30%	55%	15%	Modest diversity and abundance of relatively common species. Possible presence of Eastern Wood-pewee (SOCC).
Fresh-Moist Sugar Maple Deciduous Forest (FOD6)	95%	Sugar Maple>Aspen>Red Maple	Mixed age, relatively young, moderate structural layering	40%	50%	10%	Modest diversity and abundance of relatively common species. Possible presence of Eastern Wood-pewee (SOCC). Confirmed presence of groundwater seepage areas (candidate SWH) in retained lot
Fresh-Moist Lowland Deciduous Forest (FOD7)	80%	Ash (White and Black)>Aspen=Maple (Sugar and Red)	Slightly mixed age, relatively young, limited structural layering	65%	30%	5%	Low diversity and abundance of relatively common species. Confirmed presence of Black Ash (SAR). Small patch size (<0.2 ha) - considered as an inclusion within other identified forest communities.
Fresh-Moist Oak Sugar Maple Deciduous Forest (FOD9-1)	95%	Red Oak>Sugar Maple>Aspen	Mixed age, relatively young, moderate structural layering	30%	50%	20%	Modest diversity and abundance of relatively common species. Possible presence of Eastern Wood-pewee (SOCC)

1 - Community type as determined through ELC following Lee et al., 1998.

2 - estimate of average absolute cover of upper layer, as per Lee et al. 1998

3 - estimate of relative abundance of woody species, as per Lee et al., 1998

4 - estimated percentage of trees in the noted range of diameter at breast height (DBH)

5 - SOCC = Species of Conservation Concern, SWH = Significant Wildlife Habitat

Table 2: Plant Species Observed at the Gilwood Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Field Horsetail	*Equisetum arvense*	S5	Native	0	0
Wild Grape	*Vitis riparia*	S5	Native	0	0
Common Ragweed	*Ambrosia artemisiifolia*	S5	Native	0	3
Daisy Fleabane	*Erigeron annuus*	S5	Native	0	3
Common Milkweed	*Asclepias syriaca*	S5	Native	0	5
Rough-fruited Cinquefoil	*Potentilla recta*	NA	Non-native	0	5
Canada Goldenrod	*Solidago canadensis*	S5	Native	1	3
Staghorn Sumac	*Rhus typhina*	S5	Native	1	3
Red-osier Dogwood	*Cornus sericea*	S5	Native	2	-3
Common Scouring Rush	*Equisetum hyemale*	S5	Native	2	-2
Lance-leaved Goldenrod	*Euthamia graminifolia*	S5	Native	2	0
Poison Ivy	*Toxicodendron radicans*	S5	Native	2	0
Trembling Aspen	*Populus tremuloides*	S5	Native	2	0
Yellow Avens	*Geum aleppicum*	S5	Native	2	0
Choke Cherry	*Prunus virginiana*	S5	Native	2	3
Common Strawberry	*Fragaria virginiana*	S5	Native	2	3
Enchanter's Nightshade	*Circaea lutetiana ssp. canadensis*	S5	Native	2	3
Herb-Robert	*Geranium robertianum*	S5	Native	2	3
White Birch	*Betula papyrifera*	S5	Native	2	3
Black Raspberry	*Rubus occidentalis*	S5	Native	2	5
Smooth Blackberry	*Rubus canadensis*	S5	Native	2	5
Wild Raspberry	*Rubus idaeus*	S5	Native	2	5
Canada Anemone	*Aneomone canadensis*	S5	Native	3	-3
Green Ash	*Fraxinus pennsylvanica*	S4	Native	3	-3
White Elm	*Ulmus americana*	S5	Native	3	-3
Calico Aster	*Symphyotrichum lateriflorum*	S5	Native	3	0
Dog Violet	*Viola conspersa*	S5	Native	3	0
White Avens	*Geum canadense*	S5	Native	3	0
Common Cinquefoil	*Potentilla simplex*	S5	Native	3	3
Woodland Agrimony	*Agrimonia striata*	S4	Native	3	3
Spreading Dogbane	*Apocynum androsaemifolium*	S5	Native	3	5
Balsam Poplar	*Populus balsamifera*	S5	Native	4	-3
Eastern White Cedar	*Thuja occidentalis*	S5	Native	4	-3
Sensitive Fern	*Onoclea sensibilis*	S5	Native	4	-3
Spotted Jewelweed	*Impatiens capensis*	S5	Native	4	-3
Red Maple	*Acer rubrum*	S5	Native	4	0
Rough-stemmed Goldenrod	*Solidago rugosa*	S5	Native	4	0
White Vervain	*Verbena urticifolia*	S5	Native	4	0
American Basswood	*Tilia americana*	S5	Native	4	3
Eastern White Pine	*Pinus strobus*	S5	Native	4	3
False Solomon's-seal	*Maianthemum racemosum*	S5	Native	4	3
Ironwood	*Ostrya virginiana*	S5	Native	4	3
Prickly Gooseberry	*Ribes cynosbati*	S5	Native	4	3
Sarsaparilla	*Aralia nudicaulis*	S5	Native	4	3
Sugar Maple	*Acer saccharum*	S5	Native	4	3
White Ash	*Fraxinus americana*	S4	Native	4	3
Woodland Strawberry	*Fragaria vesca*	S5	Native	4	3
Common Elderberry	*Sambucus nigra*	S5	Native	5	-3
Jack-in-the-pulpit	*Arisaema triphyllum*	S5	Native	5	-3
Silver Maple	*Acer saccharuinum*	S5	Native	5	-3
Spinulose Wood Fern	*Dryopteris carthusiana*	S5	Native	5	-3
Canada Mayflower	*Maianthemum canadense*	S5	Native	5	0
Ostrich Fern	*Matteuccia struthiopteris*	S5	Native	5	0
Black Walnut	*Juglans nigra*	S4	Native	5	3

Table 2: Plant Species Observed at the Gilwood Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Columbine	*Aquilegia canadensis*	S5	Native	5	3
Lance-leaved Coreopsis	*Coreopsis lanceolata*	S4	Native	5	3
Marginal Wood Fern	*Dryopteris marginalis*	S5	Native	5	3
Serviceberry	*Amelanchier arborea*	S5	Native	5	3
Tall Rattlesnakeroot	*Nabalus altissimus*	S5	Native	5	3
White Trillium	*Trillium grandiflorum*	S5	Native	5	3
Blue Cohosh	*Caulophyllum thalictroides*	S5	Native	5	5
Large-leaved Aster	*Eurybia macrophylla*	S5	Native	5	5
Large-tooth Aspen	*Populus grandidentata*	S5	Native	5	5
Swamp Aster	*Symphyotrichum puniceum*	S5	Native	6	-5
Flat-topped White Aster	*Doellingeria umbellata*	S5	Native	6	-3
Starflower	*Lysimachia borealis*	S5	Native	6	0
Yellow Birch	*Betula alleghaniensis*	S5	Native	6	0
Starry False Solomon's-seal	*Maianthemum stellatum*	S5	Native	6	1
Alternate-leaved Dogwood	*Cornus alternafolia*	S5	Native	6	3
American Beech	*Fagus grandifolia*	S4	Native	6	3
Mountain Maple	*Acer spicatum*	S5	Native	6	3
Partridge Berry	*Mitchella repens*	S5	Native	6	3
Red Oak	*Quercus rubra*	S5	Native	6	3
Red Trillium	*Trillium erectum*	S5	Native	6	3
Virginia Creeper	*Parthenocissus quinquefolia*	S4	Native	6	3
White Rattlesnake-root	*Nabalus albus*	S5	Native	6	3
White Spruce	*Picea glauca*	S5	Native	6	3
Round-leaved Dogwood	*Cornus rugosa*	S5	Native	6	5
White Baneberry	*Actaea pachypoda*	S5	Native	6	5
Black Ash	*Fraxinus nigra*	S4	Native	7	-3
Woodland Horsetail	*Equisetum sylvaticum*	S5	Native	7	-3
Round-leaved Pyrola	*Pyrola americana*	S4	Native	7	0
Eastern Hemlock	*Tsuga canadensis*	S5	Native	7	3
Wood Sorrel	*Oxalis montana*	S5	Native	7	3
Meadow Horsetail	*Equisetum pratense*	S5	Native	8	-3
Hobblebush	*Viburnum lantanoides*	S5	Native	8	0
Solomon's-seal	*Polygonatum biflorum*	S4	Native	8	3
Squawroot	*Conopholis americana*	S4	Native	9	5
Bitter Dock*	*Rumex obtusifolius*	NA	Non-native	NA	-3
Small White Aster	*Symphyotrichum lateriflorum*	S5	Native	NA	-3
Climbing Nightshade	*Solanum dulcamara*	NA	Non-native	NA	0
Common Buttercup	*Ranunculus acris*	NA	Non-native	NA	0
European Buckthorn*	*Rhamnus cathartica*	NA	Non-native	NA	0
Garlic Mustard*	*Alliaria petiolata*	NA	Non-native	NA	0
Self-heal	*Prunella vulgaris*	NA	Non-native	NA	0
Black Medic	*Medicago lupulina*	NA	Non-native	NA	3
Coltsfoot	*Tussilago farfara*	NA	Non-native	NA	3
Common Dandelion	*Taraxacum officinale*	NA	Non-native	NA	3
Common Plantain	*Plantago major*	NA	Non-native	NA	3
Common Yarrow	*Achillea millefolium*	NA	Non-native	NA	3
European Vervain	*Verbena officinalis*	NA	Non-native	NA	3
Lamb's Quarter*	*Chenopodium album*	NA	Non-native	NA	3
Red Baneberry	*Actaea rubra*	S5	Native	NA	3
Red Clover*	*Trifolium pratense*	NA	Non-native	NA	3
Wild Parsnip*	*Pastinaca sativa*	NA	Non-native	NA	3
Yellow Wood-sorrel	*Oxalis europaea*	NA	Non-native	NA	3
Zigzag Goldenrod	*Solidago flexicaulis*	NA	Non-native	NA	3
Bladder Campion	*Silene cucubalus*	NA	Non-native	NA	5

Table 2: Plant Species Observed at the Gilwood Property

Common Name	Scientific Name	Provincial Status (S-RANK)[1]	Native vs Non-Native Status	Coefficient of Conservatism[2]	Wetness Coefficient[2]
Celandine*	*Chelidonium majus*	NA	Non-native	NA	5
Chicory	*Chicorium intybus*	NA	Non-native	NA	5
Common Mullein*	*Verbascum thapsis*	NA	Non-native	NA	5
Dog-strangling vine*	*Vincetoxicum nigrum*	NA	Non-native	NA	5
Domestic Apple	*Malus pumila*	NA	Non-native	NA	5
Horse-Chestnut	*Aesculus hippocastanum*	NA	Non-native	NA	5
Oxeye Daisy*	*Leucanthemum vulgare*	NA	Non-native	NA	5
Tufted Vetch*	*Vicia cracca*	NA	Non-native	NA	5
Viper's Bugloss	*Echium vulgare*	NA	Non-native	NA	5
Wild Carrot*	*Daucus carota*	NA	Non-native	NA	5

* - species marked with an asterisk are considered by various sources to be invasive in Ontario

1. Provincial Rank: S4 - Apparently Secure, S5 - Secure, NA = not applicable (non-native species)

2. Coefficients as reported by Oldham et al., 1995

Table 3: Bird Species Observed at or near the Gilwood Property

Species		Breeding Status		Conservation Status			Breeding Habitat Preference[6]
Common name	Scientific name	Site[1]	OBBA[2]	SRANK[3]	COSEWIC[4]	COSSARO[5]	
American Crow	*Corvus brachyrhynchos*	Possible	Confirmed	S5	-	-	general
American Goldfinch	*Carduelis tristis*	Possible	Confirmed	S5	-	-	general
American Redstart	*Setophaga ruticilla*	Possible	Confirmed	S5	-	-	early succession
American Robin	*Turdus migratorius*	Confirmed	Confirmed	S5	-	-	general
American Woodcock	*Scolopax minor*	Possible	Possible	S4	-	-	early succession
Barred Owl	*Strix varia*	Possible	Probable	S5	-	-	forest
Black-capped Chickadee	*Poecile atricapillus*	Confirmed	Confirmed	S5	-	-	general
Black-throated Blue Warbler	*Setophaga caerulescens*	Possible	Probable	S5	-	-	forest
Black-throated Green Warbler	*Setophaga virens*	Possible	Probable	S5	-	-	forest
Blue Jay	*Cyanocitta cristata*	Probable	Probable	S5	-	-	forest
Broad-winged Hawk	*Buteo platypterus*	Possible	Confirmed	S5	-	-	forest
Brown-headed Cowbird	*Molothrus ater*	Possible	Confirmed	S4	-	-	general
Chestnut-sided Warbler	*Setophaga pensylvanica*	Possible	Probable	S5	-	-	early succession
Chipping Sparrow	*Spizella passerina*	Probable	Confirmed	S5	-	-	general
Common Grackle	*Quiscalus quiscula*	Possible	Confirmed	S5	-	-	general
Common Raven	*Corvus corax*	Possible	Probable	S5	-	-	forest
Common Yellowthroat	*Geothlypis trichas*	Possible	Probable	S5	-	-	early succession or wetland
Dark-eyed Junco	*Junco hyemalis*	Observed	Possible	S5	-	-	early succession
Downy Woodpecker	*Dryobates pubescens*	Possible	Probable	S5	-	-	forest
Eastern Bluebird	*Sialia sialis*	Observed	Confirmed	S5	-	-	open habitat
Eastern Phoebe	*Sayornis phoebe*	Possible	Confirmed	S5	-	-	general
Eastern Towhee	*Pipilo erythrophthalmus*	Possible	Possible	S4	-	-	early succession
Eastern Wood-pewee	*Contopus virens*	Possible	Confirmed	S4	SC	SC	forest
Golden-crowned Kinglet	*Regulus satrapa*	Possible	Possible	S5	-	-	forest
Great Crested Flycatcher	*Myiarchus crinitus*	Possible	Confirmed	S5	-	-	forest
Hairy Woodpecker	*Dryobates villosus*	Observed	Confirmed	S5	-	-	forest
Mourning Dove	*Zenaida macroura*	Possible	Probable	S5	-	-	general
Mourning Warbler	*Geothlypis philadelphia*	Possible	Confirmed	S4			forest
Northern Cardinal	*Cardinalis cardinalis*	Possible	Probable	S5	-	-	early succession
Northern Flicker	*Colaptes auratus*	Confirmed	Confirmed	S4	-	-	general
Northern Oriole	*Icterus galbula*	Possible	Confirmed	S5	-	-	general
Ovenbird	*Seiurus aurocapilla*	Probable	Probable	S4	-	-	forest
Pileated Woodpecker	*Dryocopus pileatus*	Possible	Probable	S5	-	-	forest
Red-bellied Woodpecker	*Melanerpes carolinus*	Possible	Probable	S4	-	-	forest
Red-breasted Nuthatch	*Sitta canadensis*	Probable	Probable	S5	-	-	forest
Red-eyed Vireo	*Vireo olivaceus*	Probable	Probable	S5	-	-	forest
Red-tailed Hawk	*Buteo jamaicensis*	Observed	Possible	S5	NAR	NAR	open habitat
Ruby-throated Hummingbird	*Archilochus colubris*	Possible	Confirmed	S5	-	-	early succession
Ruffed Grouse	*Bonasa umbellus*	Possible	Possible	S4	-	-	forest
Song Sparrow	*Melospiza melodia*	Probable	Confirmed	S5	-	-	general
Veery	*Catharus fuscescens*	Possible	Probable	S4	-	-	woodlands
Warbling Vireo	*Vireo gilvus*	Possible	Probable	S5	-	-	early succession
White-breasted Nuthatch	*Sitta carolinensis*	Possible	Probable	S5	-	-	forest
Wild Turkey	*Meleagris gallopavo*	Observed	Probable	S5	-	-	forest
Winter Wren	*Troglodytes hiemalis*	Possible	Confirmed	S5	-	-	forest
Yellow Warbler	*Setophaga petechia*	Possible	Probable	S5	-	-	early succession
Yellow-bellied sapsucker	*Sphyrapicus varius*	Probable	Confirmed	S5	-	-	forest
Yellow-billed Cuckoo	*Coccyzus americanus*	Possible	Not reported	S4	-	-	early succession
Yellow-rumped Warbler	*Setophaga coronata*	Possible	Possible	S5	-	-	forest

1. includes adjacent lands within 100 m of property perimeter
2. the highest breeding status reported in the OBBA for Square 17NK86
3. Provincial Rank: S4 = Apparently Secure, S5 = Secure
4. Federal Status: NAR = Not at Risk, SC = Special Concern
5. Provincial Status: NAR = Not at Risk, SC = Special Concern
6. based on the Ontario Breeding Bird Atlas (OBBA)

Table 4: Priority Bird Species Reported for OBBA Square 17NK86

Species		SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat Association[4]
Common Name	**Scientific Name**				
Barn Swallow	*Hirundo rustica*	S4	SC	SC	manmade structures
Bobolink	*Dolichonyx oryzivorus*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Canada Warbler	*Wilsonia canadensis*	S4	THR	SC	moist coniferous-deciduous forest (typcially >10 ha) with well-developed understory
Cerulean Warbler	*Setophaga cerulea*	S3	THR	END	canopy of mature deciduous interior forest (>10 ha)
Chimney Swift	*Chaetura pelagica*	S4	THR	THR	manmade structures
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Eastern Wood-pewee	*Contopus virens*	S4	SC	SC	deciduous and mixed forest with edges/openings
Golden-winged Warbler	*Vermivora chrysoptera*	S4	SC	THR	early successional habitat patches within forest
Grasshopper Sparrow	*Ammodramus savannarum*	S4	SC	SC	sparesly vegetated grasslands >30 ha
Least Bittern	*Ixobrychus exilis*	S4	THR	THR	expansive marsh habitat
Olive-sided Flycatcher	*Contopus cooperi*	S4	SC	THR	boreal forest, nesting mainly in coniferous trees
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	mature deciduous or conifer-deciduous forests

1 - Provincial Rank - S3 = Vulnerable, S4 = Apparently Secure
2 - Species at Risk in Ontario - SC = Special Concern, THR = Threatened
3 - Species at Risk Act (Canada) - SC = Special Concern, THR = Threatened, END = Endangered
4 - as reported in the Ontario Breeding Bird Atlas (OBBA)

Table 5: Reptile and Amphibian Species Reported for OARA Square 17NK86

Reported Species[1]		SRank[2]	SARO Status[3]	SARA Status[4]	Primary Habitat Association[5]
Common Name	**Scientific Name**				
American Bullfrog	*Lithobates catesbeianus*	S5	-	-	large permanent waterbodies
American Toad	*Anaxyrus americanus*	S5	-	-	variety of habitats, including heavily forested areas - breed in warm shallow waters
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	END	shallow lakes, ponds and wetlands with clean water and mucky bottoms
Blue-spotted Salamander	*Ambystoma laterale*	S4	-	-	variety of woodland habitats as well as swamps
Dekay's Brownsnake	*Storeria dekayi*	S5	NAR	NAR	diverse habitats, including forests, wetlands, forest clearings, edge habitats
Eastern Foxsnake (Georgian Bay population)	*Pantherophis gloydi*	S3	THR	END	shorelines, prairies, savannahs, rock barrens and wetlands (most commonly on shoreline edges)
Eastern Gartersnake	*Thamnophis sirtalis sirtalis*	S5	-	-	habitat generalist (forests, shrublands, wetlands, fields, rocky areas, urban areas).
Eastern Hog-nosed Snake	*Heterodon platirhinos*	S3	THR	THR	fields, forests, shrubland, beaches and old dune habitat - prefers sandy, well-drained soils
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	SC	open habitats - rocky outcrops, fields and forest edge
Eastern Musk Turtle	*Sternotherus odoratus*	S3	SC	SC	rivers, lakes and ponds with a slow current and soft bottom
Eastern Red-backed Salamander	*Plethodon cinereus*	S5	-	-	mature woodlands with lots of fallen logs, coarse woody debris and leaf litter
Five-lined Skink (Southern Shield population)	*Plestiodon fasciatus*	S3	SC	SC	found close to water (wetlands and the shorelines of lakes and rivers), generally near forests
Four-toed Salamander	Hemidactylium scutatum	S4	NAR	NAR	sphagnum bogs, bog-based streams and flood plains in woodland areas - forage in nearby forests
Gray Treefrog	*Hyla versicolor*	S5	-	-	various plant communities near permanent water
Green Frog	*Lithobates clamitans*	S5	-	-	shallow permanent waterbodies
Massasauga (Great Lakes / St. Lawrence population)	Sistrurus catenatus	S3	THR	THR	habitat generalist (forests, meadows, shoreline habitats, wetlands, rock barrens, grasslands and old fields) generally associated with water
Midland Painted Turtle	*Chrysemys picta marginata*	S4	-	-[6]	ponds, marshes, lakes, or slow moving creeks with soft substrates and basking sites
Mink Frog	*Lithobates septentrionalis*	S5	-	-	large, cold, permanent ponds, lakes and slow-moving rivers with abundant vegetation
Northern Leopard Frog	*Lithobates pipiens*	S5	NAR	NAR	relatively permanent ponds without fish
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	large rivers and lakes with slow-moving water and a soft bottom
Northern Ring-necked Snake	*Diadophis punctatus*	S4	-	-	forested areas, most common in areas with shallow soil and surface bedrock
Northern Watersnake	*Nerodia sipedon sipedon*	S5	NAR	NAR	in or near permanent bodies fresh water (lakes, rivers and wetlands)
Red-bellied Snake	*Storeria occipitomaculata*	S5	-	-	forest edge and fields with abundant ground cover (logs, rocks, scrap piles and building foundations)
Red-spotted Newt	*Notophthalmus viridescens*	S5	-	-	ponds and lakes, and surrounding damp woodlands
Smooth Greensnake	*Opheodrys vernalis*	S4	-	-	various open habitatst (fields, wetland edges, forest clearings and open woodlands) most often in habitats with dense herbaceous vegetation
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	most freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation
Spotted Salamander	*Ambystoma maculatum*	S4	-	-	forest openings, specifically large rock outcrops
Spring Peeper	*Pseudacris crucifer*	S5	-	-	temporary woodland ponds, or swamps
Wood Frog	*Lithobates sylvaticus*	S5	-	-	vernal woodland pools

1 - Includes only those species with more than one reported occurrence since 2000
2 - Provincial Rank - S3 = Vulnerable, S4 = Apparently Secure, S5 = Secure
3 - Species at Risk in Ontario - NAR = Not at Risk, SC = Special Concern
4 - Species at Risk Act (Canada) - NAR = Not at Risk, SC = Special Concern
5 - as reported in the Ontario Amphibian and Reptile Atlas
6 - recently recommended as Special Concern by COSEWIC, but not yet listed under SARA

Table 6: NHIC Element Occurrences (EO) near the Gilwood Property

Common Name	Scientific Name	SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat
Speckled Giant Lacewing	*Polystoechotes punctata*	SH	-	-	stream-side vegetation, especiallyin woodlands
Massasauga (Great Lakes / St. Lawrence population)	*Sistrurus catenatus (pop. 1)*	S3	THR	THR	habitat generalist, typically in areas associated with water
Snapping Turtle	*Chelydra serpentina*	S4	SC	SC	various freshwater habitats, most often with slow-moving water, soft substrates and abundant vegetation
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	END	shallow lakes, ponds and wetlands with clean water and mucky bottoms
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	large rivers and lakes with slow-moving water and a soft bottom
Bobolink	Dolichonyx oryzivorus	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Eastern Wood-pewee	Contopus virens	S4	SC	SC	deciduous and mixed forest with edges/openings
Eastern Meadowlark	*Sturnella magna*	S4	THR	THR	grasslands, hayfields (usually > 5 ha)
Wood Thrush	*Hylocichla mustelina*	S4	SC	THR	mature deciduous or conifer-deciduous forests

1 - Provincial Rank - SH = Extirpated, S3 = Vulnerable, S4 = Apparently Secure
2 - Species at Risk in Ontario - SC = Special Concern, END = Endangered, THR = Threatened
3 - Species at Risk Act (Canada) - SC = Special Concern, END - Endangered, THR = Threatened
EO records obtained for NHIC 1-km squares within ~ 2-km of the Property (12 squares total)

Table 7: Priority Species Records near the Gilwood Property from iNaturalist

Common Name	Scientific Name	SRank[1]	SARO Status[2]	SARA Status[3]	Primary Habitat
Massasauga (Great Lakes / St. Lawrence population)	*Sistrurus catenatus (pop. 1)*	S3	THR	THR	habitat generalist, typically in areas associated with water
Eastern Hog-nosed Snake	*Heterodon platirhinos*	S3	THR	THR	fields, forests, shrubland, beaches and old dune habitat - prefers sandy, well-drained soils
Five-lined Skink	*Plestiodon fasciatus*	S3	SC	SC	found close to water (wetlands and the shorelines of lakes and rivers), generally near forests
Northern Map Turtle	*Graptemys geographica*	S3	SC	SC	large rivers and lakes with slow-moving water and a soft bottom
Evening Grosbeak	*Coccothraustes vespertinus*	S4	SC	SC	open, mixed forest (mature or second growth)

1 - Provincial Rank - S3 = Vulnerable, S4 = Apparently Secure
2 - Species at Risk in Ontario - SC = Special Concern, THR = Threatened
3 - Species at Risk Act (Canada) - SC = Special Concern, THR = Threatened
Records obtained within a radius of 1 km from PBS

Table 8: Summary of Priority Species Status

Candidate Species[1]		Status in Ontario		Status within/near Property		
Common Name	**Scientific Name**	**SRank[2]**	**ESA Status[3]**	**Habitat Available[4]**	**Presence Confirmed[5]**	**Notes**
Blanding's Turtle	*Emydoidea blandingii*	S3	THR	No	No	Absence of waterbodies or wetlands suitable for turtle habitat within or near (within 120 m) the proposed lots
Eastern Musk Turtle	*Sternotherus odoratus*	S3	SC	No	No	
Northern Map Turtle	*Graptemys geographica*	S3	SC	No	No	
Midland Painted Turtle	*Chrysemys picta marginata*	S4	NA	No	No	
Snapping Turtle	*Chelydra serpentina*	S4	SC	No	No	
Eastern Foxsnake (Georgian Bay population)	*Pantherophis gloydi*	S3	THR	No	No	Absence of preferred conditions (shorelines, barrens) within or near proposed lots
Eastern Hog-nosed Snake	*Heterodon platirhinos*	S3	THR	No	No	Absence of preferred conditions (sandy, well drained soils) within Property.
Eastern Milksnake	*Lampropeltis triangulum*	S4	NAR	No	No	Preferred open habitat not present to any meaningful extent within or near proposed lots
Five-lined Skink (Southern Shield population)	*Plestiodon fasciatus*	S3	SC	No	No	Absence of preferred habitat (shorelines and wetland edges) within or near proposed lots
Massasauga (Great Lakes / St. Lawrence population)	*Sistrurus catenatus*	S3	THR	No	No	Theoretical habitat potential for this generalist species within or near proposed lots
Barn Swallow	*Hirundo rustica*	S4	SC	No	No	No suitable nesting habitat (man-made structures) within property
Bobolink	*Dolichonyx oryzivorus*	S4	THR	No	No	Adequately sized patches of grassland habitat not available within Property
Canada Warbler	*Wilsonia canadensis*	S5	SC	No	No	No suitable habitat (swamp) within or near proposed lots
Cerulean Warbler	*Setophaga cerulea*	S3	THR	No	No	Mature interior forest not present within or near proposed lots
Chimney Swift	*Chaetura pelagica*	S3	THR	No	No	No suitable nesting habitat (man-made structures) within property
Eastern Meadowlark	*Sturnella magna*	S4	THR	No	No	Adequately sized patches of grassland habitat not available within or near proposed lots
Eastern Wood-pewee	*Contopus virens*	S4	SC	Yes	Yes	General nesting habitat available, but only isolated occurrences within retained Property. Breeding within Property not confirmed.
Evening Grosbeak	*Coccothraustes vespertinus*	S4	SC	Yes	No	Species not typically present in area during breeding season. Only record of occurrence reported during winter.
Golden-winged Warbler	*Vermivora chrysoptera*	S3	SC	Yes	No	General nesting habitat (i.e., forest opening) present, but species not observed within or near proposed lots
Grasshopper Sparrow	*Ammodramus savannarum*	S4	SC	No	No	Adequately sized patches of grassland habitat not available within or near proposed lots
Least Bittern	*Ixobrychus exilis*	S4	THR	No	No	No suitable wetland habitat within or near proposed lots
Olive-sided Flycatcher	*Contopus cooperi*	S4	SC	No	No	Absence of suitable boreal/coniferous forest within or near (within 120 m) the proposed lots
Red-headed Woodpecker	*Melanerpes erythrocephalus*	S3	END	Yes	No	Potentially suitable habitat (woodland edge) available along frontage of proposed lots
Wood Thrush	*Hylocichla mustelina*	S4	SC	No	No	Preferred habitat (mature interior forest) not found within or near proposed lots
Black Ash	*Fraxinus nigra*	S4	END	Yes	Yes	Young specimens located in isolated depression within lowland forest (FOD7) community, mostly within proposed Lot 4. Not found in other forest communities.
Monarch Butterfly	*Danaus plexippus*	S2/S4	SC	No	Yes	Isolated specimens observed along frontage. General absence of open habitat within or near proposed lots that could support Monarchs. Very limited presence of milkweed.
Speckled Giant Lacewing	*Polystoechotes punctata*	SH	NA	Yes	No	This species not on record for the region for several decades. Presence within Property not expected.

1 - Species has been identified in existing databses (NHIC, OBBA, OARA) or through direct site surveillance as present within or near the Property
2 - Provincial Status (S-Rank) - S1 = Extirpated, S2 = Imperiled, S3 = Vulnerable, S4 = Apparently Secure
3 - END = Endangered, THR = Threatened, SC = Special Concern, NA = Not Assessed
4 - sufficient quantity of preferred habitat is present within Property or in adjacent areas potentially affected by development
5 - species has been observed during monitoring of the Property or immediatley adjacent lands

Table 9: Overview of Environmental Risks Associated with Proposed Severance

Affected Feature	Potential Impact	Likelihood	Potential Significance	Limiting and Mitigating Factors
Woodlands	Direct loss of forest cover	High	Low	Loss of tree cover in the order of 0.5 ha or less is expected. Woodland communities within area of propsoed lots support limited ecological function
	Indirect impairment of ecological function	Low	Very Low	Plant and animal communities are not rare or sensitive. No expectation of significant functional connectivity and reliance between new lots and larger area of retained woodlands
Wetlands and Watercourses	Direct harm	None	Very Low	Area of proposed lots seperated from wetland and watercourse features by at least 150 m.
	Indirect impacts on Habitat	Very Low	Very Low	No meaningful hydrological connectivity between proposed lots and wetland or watercourse
Priority Species	Direct harm	High	Medium	Limited expectation of Priority Species within and adjacent to the Property, especially within area of proposed lots. Black Ash present in Lots 4 and 5, but all specimnes are exempt from ESA regulations.
	Indirect impacts on Habitat	High	Medium	Potential habitat for Priority Species, aside from Black Ash, is potentially present only within retained lot. Limited connectivity between proposed new lots and retained lot.
Significant Wildlfie Habitat	Loss or impairment of habitat function	Very Low	Very Low	Candidate SWH elements not confirmed in association with proposed lots. Limited functional connectivity between proposed new lots and retained lot where there is a greater likelihood for SWH function.

FIGURES

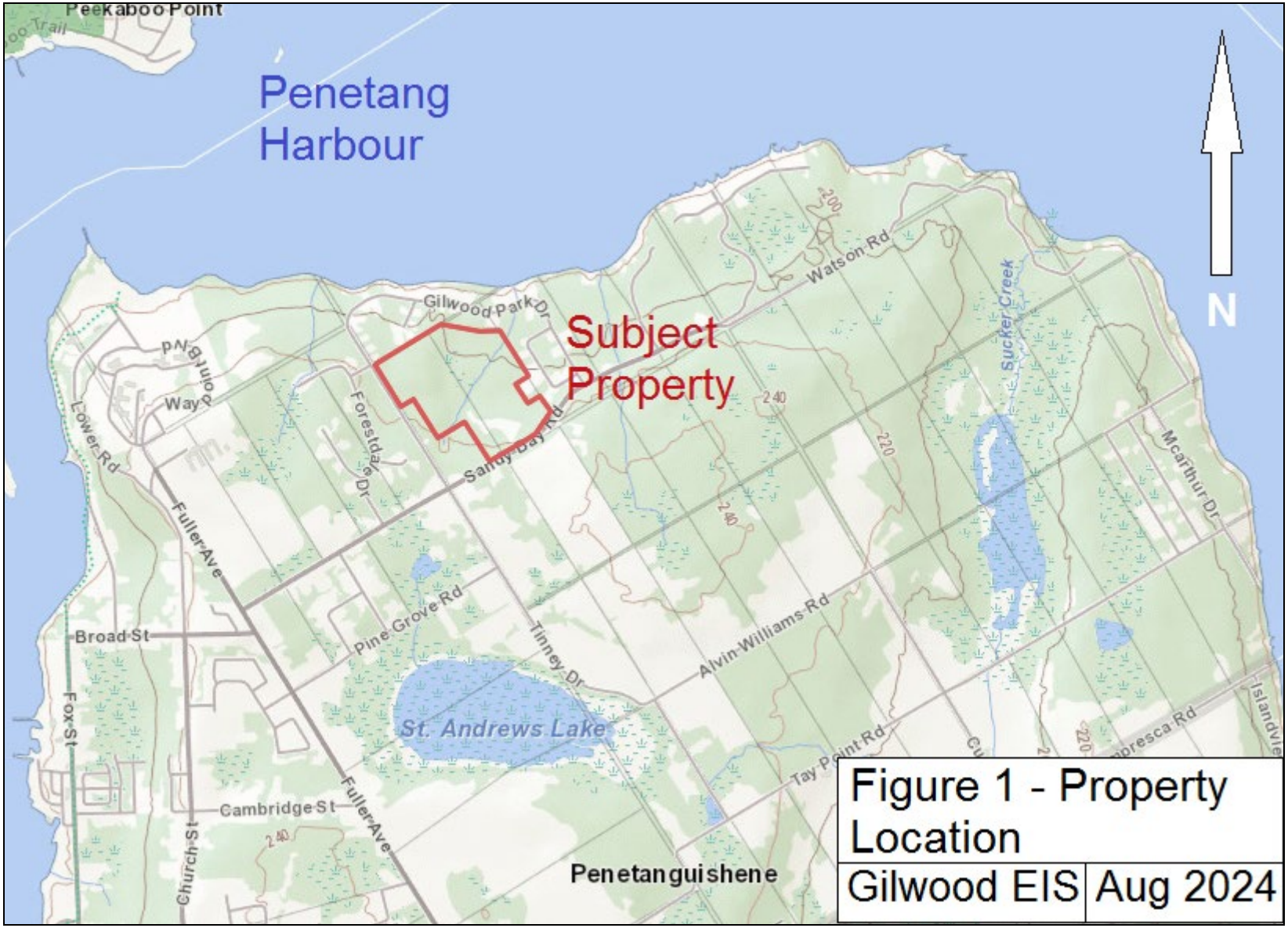


Figure 1 - Property Location

Gilwood EIS	Aug 2024

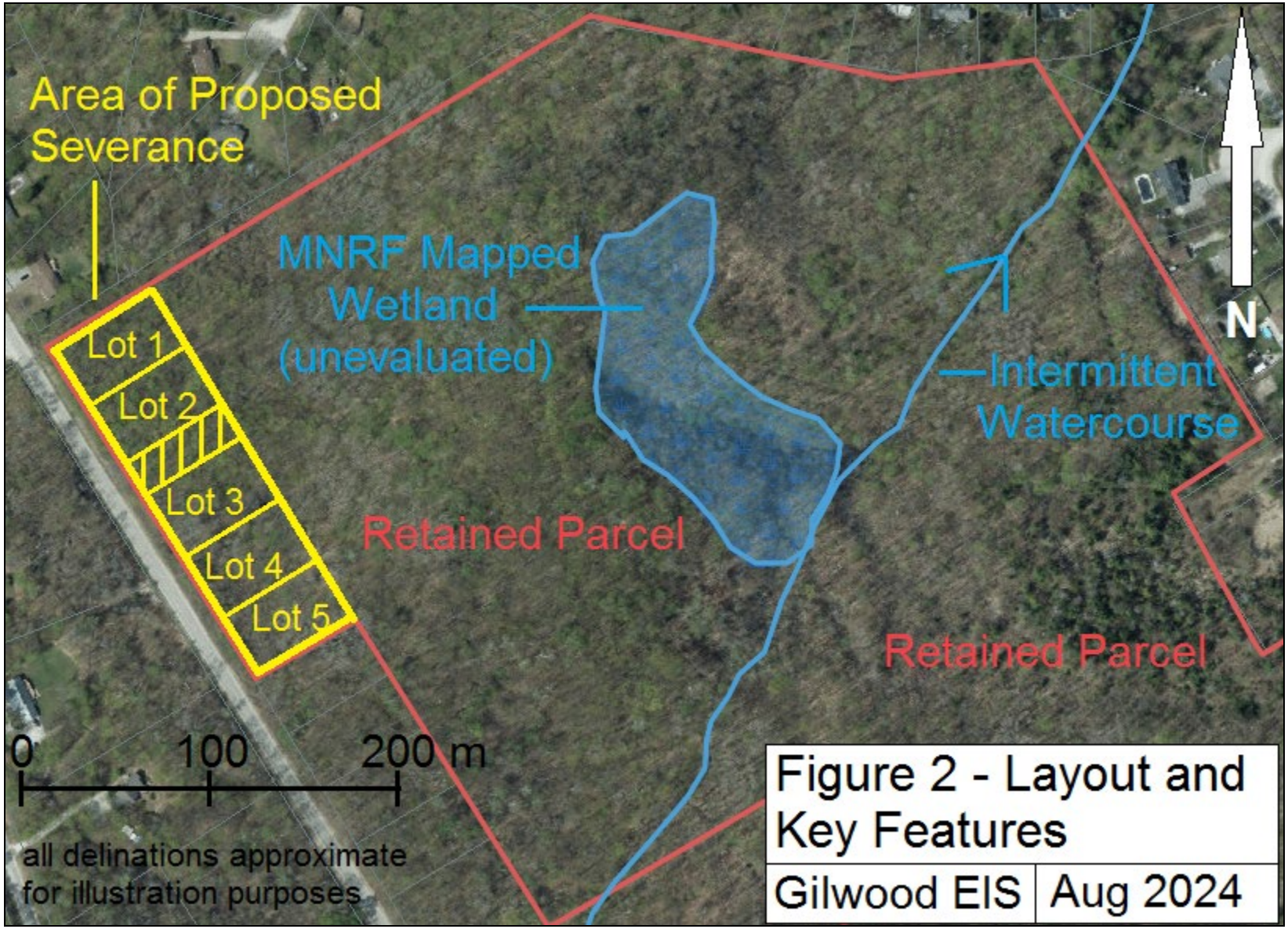


Figure 2 - Layout and Key Features

Gilwood EIS	Aug 2024

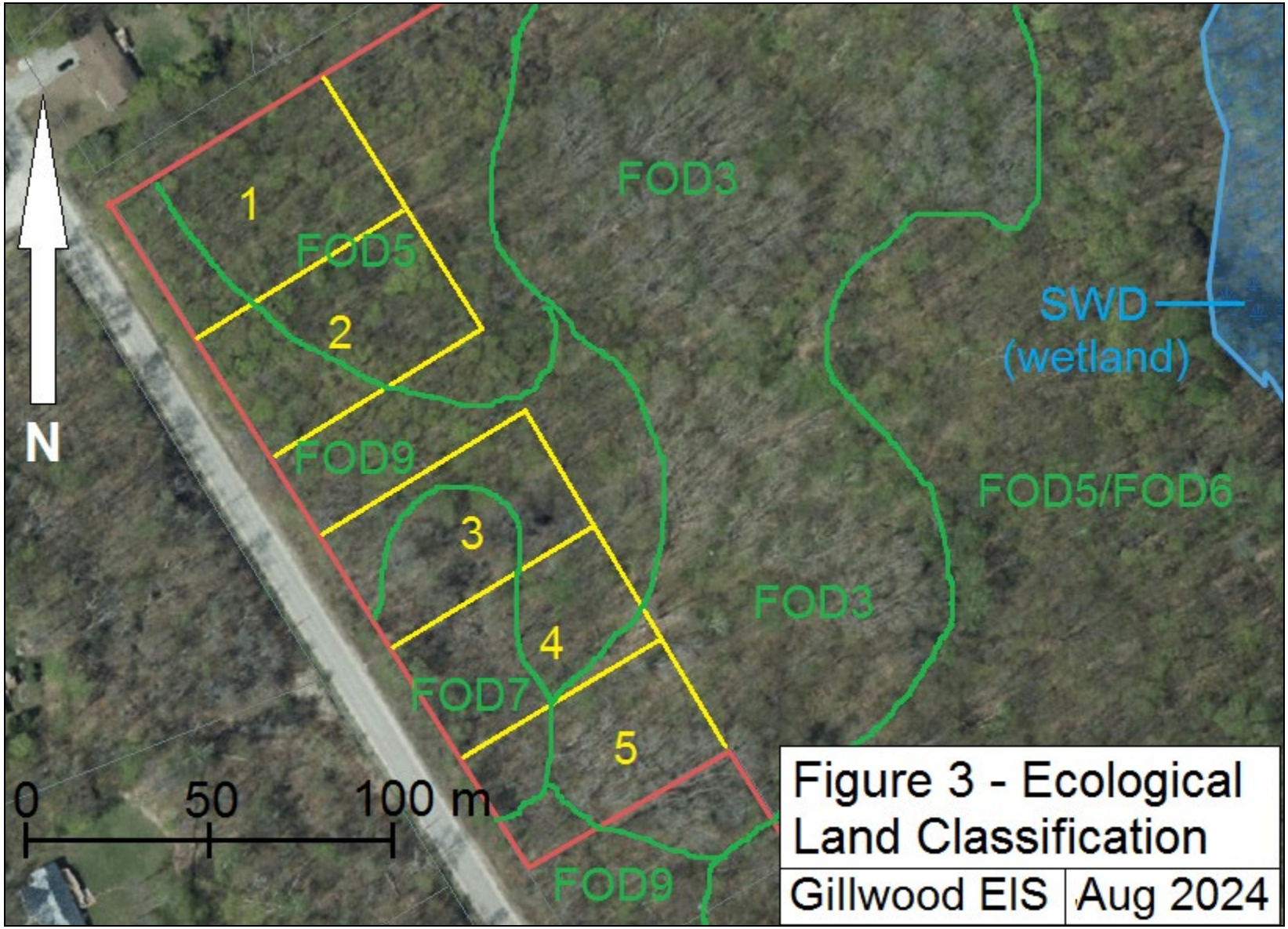


Figure 3 - Ecological Land Classification

Gillwood EIS | Aug 2024

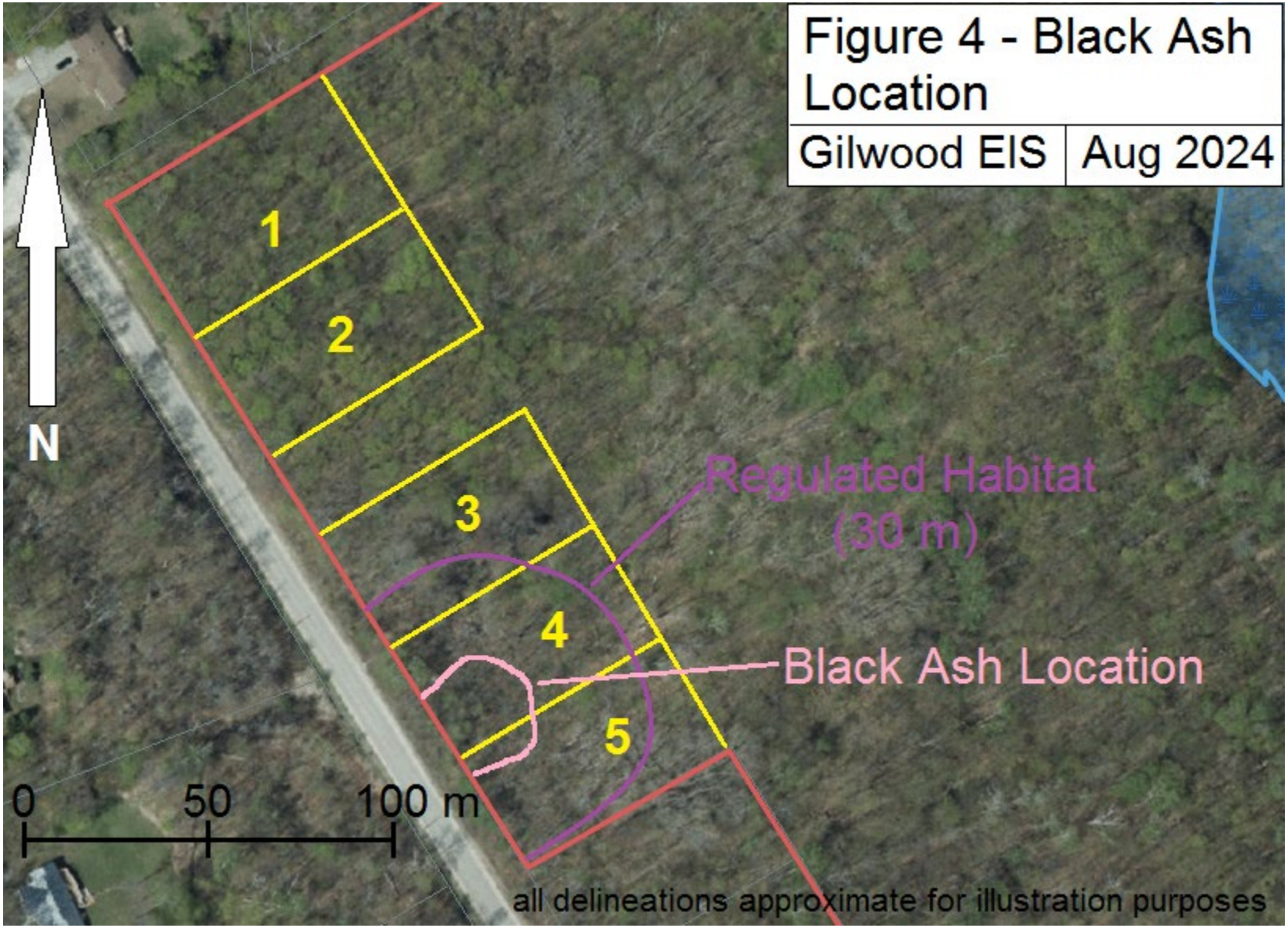
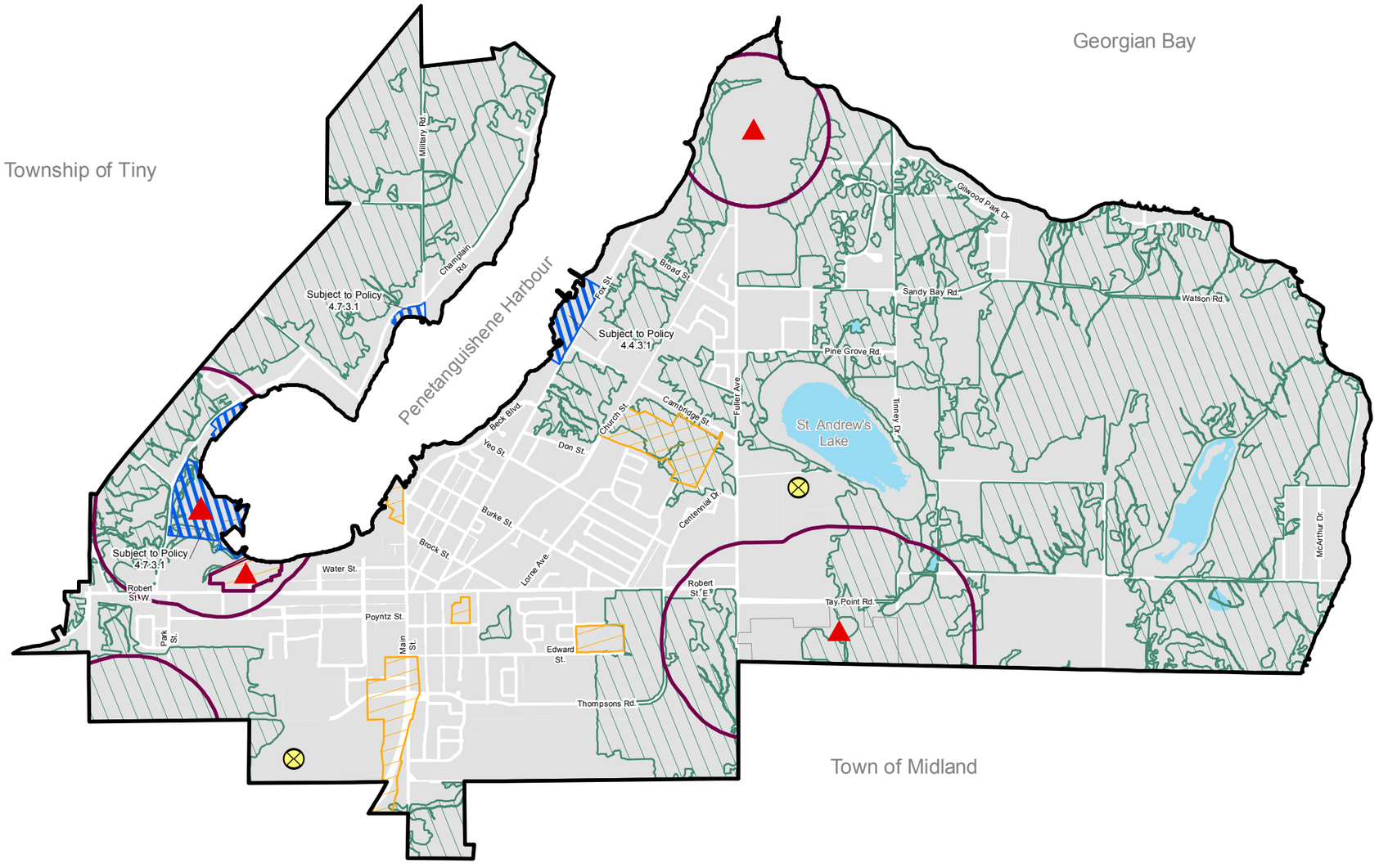


Figure 4 - Black Ash Location
Gilwood EIS
Aug 2024
1
2
3
4
5
N
Regulated Habitat (30 m)
Black Ash Location
0
50
100 m
all delineations approximate for illustration purposes

APPENDICES

Appendix A – Existing Constraint Mapping



Town of / Ville de Penetanguishene

OFFICIAL PLAN
Schedule B1: Policy Overlays

- Environmental Protection
- Future Study Areas
- Site Specific Policy Areas
- Waste Disposal Influence Area
- Waste Disposal Site
- Pits and Quarries

Interpretation Note:
This Schedule shall be read and interpreted in conjunction with the Official Plan.

wsp

0 1 2 km

Date: February 2019
Consolidated with County Modifications

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

MNRF Mapped Features

Map created:12/10/2023

Notes:

Enter map notes

Legend

- Assessment Parcel
- ANSI
- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale
- Evaluated Wetland
- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale
- Unevaluated Wetland
- Woodland

0.3 0 0.16 0.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

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.

Ontario

Ministry of Natural Resources and Forestry

Make-a-Map: Natural Heritage Areas

MNRF Mapped Natural Heritage Features

Map created:7/22/2024

Legend

ANSI

- Earth Science Provincially Significant/sciences de la terre d'importance provinciale
- Earth Science Regionally Significant/sciences de la terre d'importance régionale
- Life Science Provincially Significant/sciences de la vie d'importance provinciale
- Life Science Regionally Significant/sciences de la vie d'importance régionale

Evaluated Wetland

- Provincially Significant/considérée d'importance provinciale
- Non-Provincially Significant/non considérée d'importance provinciale

- Unevaluated Wetland
- Woodland
- Natural Heritage System

Notes:

Enter map notes

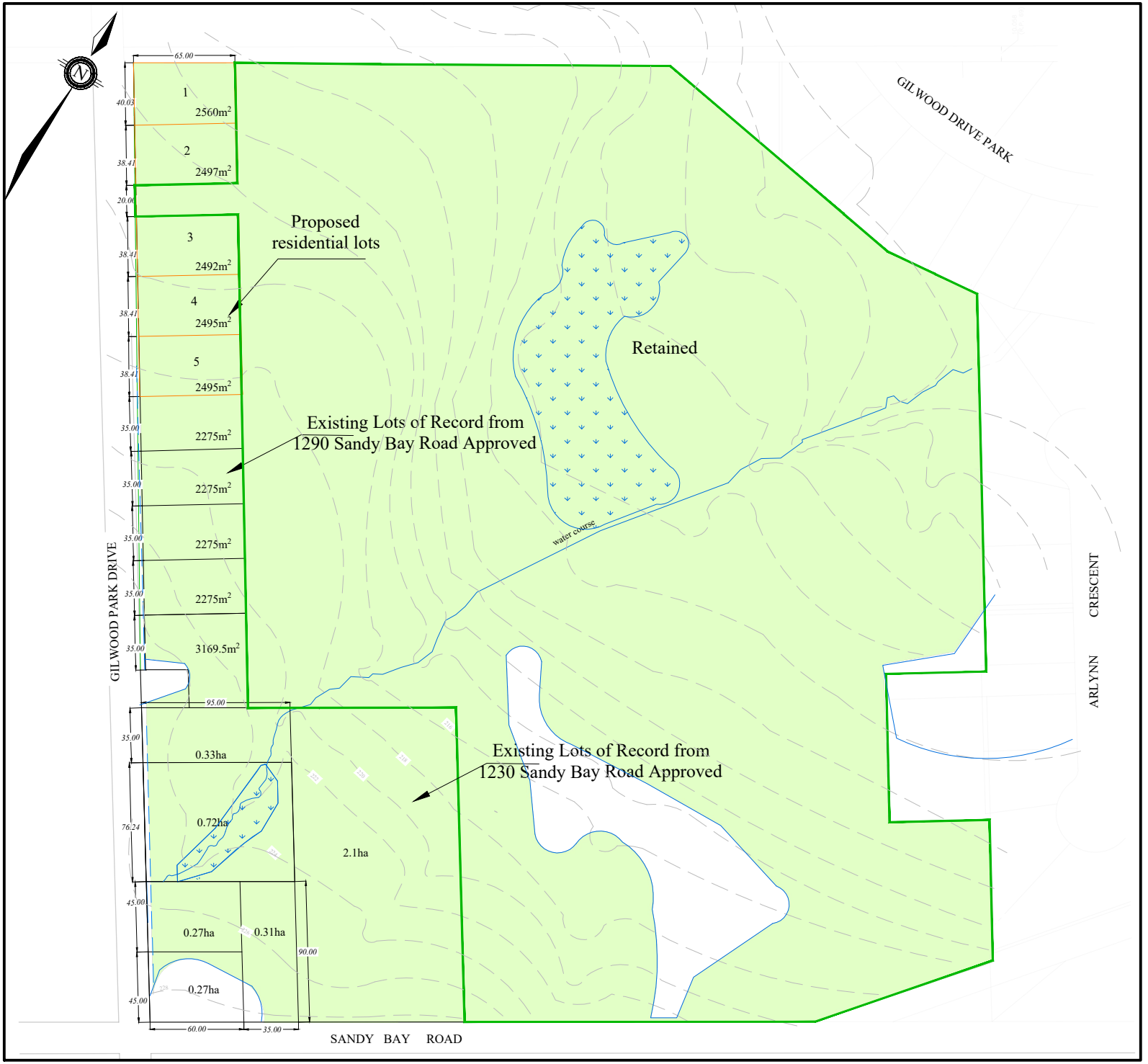
1.3 0 0.65 1.3 Kilometres

Absence of a feature in the map does not mean they do not exist in this area.

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.

Appendix B – Plan of Severance

Severance Plan 1290 Sandy Bay Road, Lot 14, Concession 3, Town of Penetanguishene Ontario



Severed lots 1-5

Retained Parcel

Woodland

Wetland

[GPG] GOODREID PLANNING GROUP

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Appendix C – Site Photos

Photo 1 - Typical presentation of Aspen forest (FOD3) - Lot 5

Photo 2 -.Typical presentation of Maple forest (FOD5)

Photo 3 - Typical presentation of Oak-Maple forest (FOD9) - Lot 2

Photo 4 -Typical presentation of Lowland Forest (FOD7) at front of Lot 4