



**Natural Heritage Evaluation**  
**Part of Lot 19, 20 Concession 12**  
**Hewitt's Secondary Plan Area**  
**City of Barrie**

Prepared for:  
Blue Sky Private Equity Inc.

Prepared by:  
Azimuth Environmental  
Consulting, Inc.

November 2016

AEC 11-076h



Environmental Assessments & Approvals

November 8, 2016

AEC 11-076h

Blue Sky Private Equity Inc.  
199 Bay Street, Suite 2900  
PO Box 459  
Toronto ON  
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ATTN: Jamie Shapiro, Landowner

Re: **Scoped Natural Heritage Evaluation**  
**Blue Sky Private Equity Inc.**  
**Part of Lot 19, 20, Concession 12**  
**Hewitt's Secondary Plan Area, City of Barrie**

Dear Mr. Shapiro:

Azimuth Environmental Consulting, Inc. was retained to complete a Scoped Natural Heritage Evaluation (NHE) on the property identified above. The property contains lands contained within the City of Barrie's Natural Core Area which has triggered the need for a NHE. The NHE forms a portion of the submission to acquire draft plan approval to permit a proposed residential subdivision.

This NHE Report summarizes investigations undertaken in 2014, 2015 and 2016. The NHE provides an assessment of the potential for the presence of Species at Risk and habitats of Endangered or Threatened Species, Significant Wildlife Habitat and other significant natural heritage features and functions for the property and adjacent lands.

Mitigation measures have been recommended to avoid any potential impacts to key natural heritage features and functions. Assuming appropriate mitigation measures and recommendations are implemented, the proposed development is not expected to impact negatively any identified features. Thus, the proposed work is consistent with the policies set out within the Hewitt's Secondary Plan and regulations set out within Ontario's *Endangered Species Act*, 2007.



If you have any questions or concerns regarding this matter please do not hesitate to contact me.

Yours truly,

**AZIMUTH ENVIRONMENTAL CONSULTING, INC.**

Lisa Morán B.Sc.Env.  
Terrestrial Ecologist



## Table of Contents

	page
LETTER OF TRANSMITTAL	I
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
<b>2.0 PLANNING CONTEXT .....</b>	<b>1</b>
2.1 Provincial Policy Statement (2014).....	1
2.2 Endangered Species Act (Ontario) .....	3
2.3 Lake Simcoe Protection Plan .....	3
2.4 Hewitt's Secondary Plan .....	3
2.5 Lake Simcoe Region Conservation Authority .....	3
<b>3.0 STUDY APPROACH .....</b>	<b>4</b>
3.1 Background Data .....	4
3.2 Methodology and Surveys .....	4
3.2.1 Background Studies .....	4
3.2.2 Vegetation Community Mapping and Surveys .....	4
3.2.3 Wildlife Surveys .....	5
<b>4.0 EXISTING CONDITIONS .....</b>	<b>6</b>
4.1 Land Use .....	6
4.1.1 On-site Land Use .....	6
4.2 Adjacent Land Use.....	6
4.3 Vegetation .....	6
4.4 Woodland.....	6
4.4.1 Core Feature Staking .....	7
4.5 Wildlife Habitat.....	7
4.5.1 Mammals .....	7
4.5.2 Birds.....	7
4.5.3 Aquatic Habitat.....	8
4.6 Species at Risk .....	8
<b>5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS .....</b>	<b>8</b>
5.1 Wetlands .....	8
5.2 Woodlands .....	8
5.3 Valleylands.....	9
5.4 Candidate Significant Wildlife Habitat .....	9





5.4.1	Bat Maternity Colony .....	9
5.4.2	Special Concern & Rare Wildlife Species.....	9
<b>5.5</b>	<b>Endangered &amp; Threatened Species .....</b>	<b>9</b>
5.5.1	Butternut .....	9
5.5.2	Endangered Bat Species .....	10
<b>5.6</b>	<b>Area of Natural and Scientific Interest (ANSI).....</b>	<b>10</b>
<b>5.7</b>	<b>Fish Habitat .....</b>	<b>10</b>
<b>5.8</b>	<b>Significant Natural Heritage Features .....</b>	<b>10</b>
<b>6.0</b>	<b>PROPOSED DEVELOPMENT .....</b>	<b>10</b>
<b>7.0</b>	<b>IMPACT ASSESSMENT .....</b>	<b>11</b>
<b>7.1</b>	<b>Significant Woodland .....</b>	<b>11</b>
7.1.1	Buffer Analysis.....	11
<b>7.2</b>	<b>Candidate Significant Wildlife Habitat .....</b>	<b>12</b>
7.2.1	Bat Maternity Colony .....	12
7.2.2	Special Concern & Rare Wildlife Species.....	12
<b>7.3</b>	<b>Habitat of Endangered and Threatened Species.....</b>	<b>13</b>
<b>8.0</b>	<b>RECOMMENDATIONS .....</b>	<b>13</b>
<b>8.1</b>	<b>Core Woodland .....</b>	<b>13</b>
8.1.1	Setbacks .....	13
8.1.2	General.....	14
<b>8.2</b>	<b>Species at Risk .....</b>	<b>14</b>
8.2.1	Non-detected Species of Concern.....	14
8.2.2	Worker Training .....	14
8.2.3	Endangered Bat Species .....	14
8.2.4	MNRF Information Gathering Form .....	15
<b>8.3</b>	<b>Migratory Breeding Birds.....</b>	<b>15</b>
<b>9.0</b>	<b>CONCLUSIONS .....</b>	<b>15</b>
<b>10.0</b>	<b>REFERENCES .....</b>	<b>15</b>

## List of Figures

- Figure 1: Property Location  
Figure 2: Environmental Features  
Figure 3: Proposed Site Plan



## **List of Tables**

- Table 1: Ecological Land Classification
- Table 2: Vegetation List
- Table 3: Bird List
- Table 4: Species at Risk Habitat Assessment
- Table 5: Significant Wildlife Habitat Assessment

## **List of Appendices**

- Appendix A: Municipal Background Information
- Appendix B: LSRCA Information
- Appendix C: Provincial Background Information



## **1.0 INTRODUCTION**

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Blue Sky Private Equity Inc. to prepare a Scoped Natural Heritage Evaluation (NHE) for a property located on Part of Lot 19 and 20, Concession 12, City of Barrie (City) (Figure 1). The NHE is a component of submission to the City to obtain draft plan approval for the proposed subdivision development on the aforementioned property. The study area is located within the Hewitt's Secondary Plan Area (SPA) as a result; the development concept is part of a larger overall concept that extends onto adjacent lands within the SPA. A portion of the property and adjacent lands have been identified within the Natural Core Area according to the Hewitt's Secondary Plan, which has triggered the need for this NHE. The NHE is also a requirement according to the Lake Simcoe Protection Plan (LSPP).

## **2.0 PLANNING CONTEXT**

### **2.1 Provincial Policy Statement (2014)**

The *Planning Act* requires that planning decisions shall be consistent with the Provincial Policy Statement, 2014 (PPS). According to the PPS development and site alteration shall not be permitted in:

- Significant wetlands in Ecoregions 5E, 6E and 7E; and
- Significant coastal wetlands.

Similarly, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

- Significant woodlands in Ecoregions 6E and 7E;
- Significant valleylands in Ecoregions 6E and 7E;
- Significant wildlife habitat;
- Significant areas of natural and scientific interest; and
- Coastal wetlands in Ecoregions 5E, 6E and 7E that are not considered to be significant.

Section 2.1.6 of the PPS states that development and site alteration is not permitted in fish habitat except in accordance with federal and provincial requirements.



Section 2.1.7 of the PPS states that development and site alteration shall not be permitted in habitat of endangered (END) or threatened (THR) species, except in accordance with provincial and federal requirements.

Furthermore, under Section 2.1.8 of the PPS, no development and site alteration will be permitted on lands adjacent to natural heritage features and areas defined above unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and ecological functions.

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 of the PPS as significant. Through the development and creation of the Hewitt's Secondary Plan, the Natural Heritage System (NHS) has been defined within the Hewitt's SPA. The NHS was identified within a Natural Heritage System report prepared by Natural Resource Solutions Inc. (NRSI). Using a combination of field studies, the review of published background studies, and analysis of the applicable provincial natural heritage planning policies and guidelines (e.g., PPS, LSPP, Natural Heritage Guidelines) NRSI developed their approach to defining the NHS. Components of the NHS, in general, are large contiguous tracts of natural features that contain a variety of key features including Significant Woodland, Significant Wetland, cultural meadow and thicket communities contiguous within the NHS and watercourses. The staking of the core natural heritage features took place in July 2015 for all the participating landowners in the Hewitt's Secondary Plan Area. The staking was undertaken with staff from the Lake Simcoe Region Conservation Authority (LSRCA), NRSI, City of Barrie, Azimuth, R.J. Burnside, The Jones Consulting Group and the affected landowners. The feature limits were defined, agreed to by all parties and staked. Each stake location was georeferenced and the final survey of the features was circulated to all participants. The buffer width as approved by the Ontario Municipal Board (OMB) was added to the feature limit to define the development limit for the preparation of the draft plans of subdivision. Therefore, our assessment will identify the significant features as approved by the province, City and LSRCA. For completeness, an assessment of Candidate Significant Wildlife Habitat has been conducted within this NHE. The Natural Heritage Reference Manual (OMNR, 2010) and Ecoregion 6E Significant Wildlife Habitat Criterion Schedule were used to identify candidate features considered applicable to the property and adjacent lands.



## **2.2 Endangered Species Act (Ontario)**

Ontario's *Endangered Species Act*, 2007 (ESA) provides regulatory protection to END and THR species, prohibiting harassment, harm and/or killing of individuals and destruction of their habitats. Habitat is broadly characterized within the ESA as the area prescribed by a regulation as the habitat of the species or an area on which the species depends, directly or indirectly, to carry on its life processes including reproduction, rearing of young, hibernation, migration or feeding.

The various schedules of the ESA identify SAR in Ontario. These include species listed as Extirpated, END, THR and special concern (SC). Only species listed as END or THR receive protection from harm and destruction to habitat on which they depend.

Species listed under O. Reg. 230/08 of the ESA are addressed in this report.

## **2.3 Lake Simcoe Protection Plan**

The LSPP (LSPP, 2009) identifies Key Natural Heritage Features (KNHF) and Key Hydrologic Features (KHF). KNHFs include *wetlands, significant woodlands, significant valleylands* and natural areas abutting Lake Simcoe. KHFs include *wetlands, permanent and intermittent streams* and *lakes* other than Lake Simcoe.

## **2.4 Hewitt's Secondary Plan**

According to Hewitt's Secondary Plan Schedule 9A: Community Structure, The southeast portion of the property has been identified within the NHS. Schedule 9B: Natural Heritage System Components further identifies the southeast portion of the property as a Natural Core Area (Appendix A). Typically, development and site alteration within such areas are prohibited with the exception of those uses outlined in Section 9.3.4 of the Secondary Plan.

The remainder of the property is Residential Area (Appendix A).

As a part of the Hewitt's Secondary Plan process, a buffer of 30m from the edge of wetlands and forests adjacent to wetland, 5m from the edge of core woodlands has been approved by the OMB for the SPA and has been accepted by the City and LSRCA.

## **2.5 Lake Simcoe Region Conservation Authority**

The property is located within the Lake Simcoe Watershed but does not contain lands regulated by the LSRCA (Appendix B). Therefore, the property is not subject to Ontario Regulation 179/06 "*Regulation of Development Interference with Wetlands and*



*Alterations to Shorelines and Watercourses*". Development or site alteration proposed within these lands will not require an LSRCA-issued permit.

### **3.0 STUDY APPROACH**

The following outlines the activities undertaken to satisfy informational requirements of the LSRCA in the production of the Scoped NHE.

#### **3.1 Background Data**

A review of background documents provided information on site characteristics, habitat, wildlife, rare species and communities, and general cultural/historic aspects of the study area. This background data review included:

- Aerial images (Google, VuMap);
- Atlas of the Breeding Birds of Ontario (OBBA) [website];
- The Ministry of Natural Resources and Forestry (MNR)ʼs Natural Heritage Information Centre (NHIC) Make-A-Map: Natural Heritage Areas application [website];
- Ontario Nature – Ontario Reptile and Amphibian Atlas [website];
- MNRʼs Species at Risk Ontario list; and
- Dobbyn, J. (1994) – Atlas of the Mammals of Ontario.

#### **3.2 Methodology and Surveys**

##### **3.2.1 Background Studies**

As indicated above, the property is located within the Barrie Annexed Lands, specifically, the Hewittʼs SPA (Appendix A). The Natural Heritage Characterization Report and NHS Report for the Hewittʼs SPA served to provide background information for our NHE report and was consulted as a part of our Species at Risk (SAR) analysis.

##### **3.2.2 Vegetation Community Mapping and Surveys**

The ELC (Lee *et al.*, 1998) was used as a general guide to the classification of vegetation community types. Azimuth reviewed the existing ELC data prepared by NRSI and utilized them as a ‘base’ for our mapping. Prior to undertaking field studies, Azimuth reviewed the existing ELC data and classified habitats using recent aerial photo imagery for the study area. General vegetation community types were confirmed and refined through on-site surveys conducted during 2014 and 2016. Data regarding the ELC classification and vegetation are presented in Tables 1 and 2.



### 3.2.3 Wildlife Surveys

#### *General*

Incidental observations of mammals, birds, amphibians and reptiles were recorded during all field investigations.

#### *Birds*

Two dawn breeding bird surveys were conducted on June 7th and June 23, 2014. Surveys were comprised of a combination of the point count protocol based on the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001) and a roving survey methodology. Six point count stations were established to cover all habitat types on the property and all birds identified through visual or auditory confirmation were recorded at each station during a 5 minute period (Figure 2). Any species observed while on-route to the next station were also recorded and included within our results. Breeding evidence was assessed based on the criteria of the OBBA (2001). The dates and conditions of Azimuth's 2014 dawn breeding bird surveys can be found in Table 3.

Whip-poor-will (*Antrostomus vociferus*) is a SAR that has the potential to occur within the general area and can be found within open woodlands. Based on the presence of Woodland (CUW) habitat on site, it was determined that Whip-poor-will surveys would be conducted on site. Three evening Whip-poor-will (THR) surveys were conducted on-site at survey station "W" (Figure 2). The first survey occurred on May 16, 2014 (Temperature 4°C, Beaufort Wind Scale=1, no precipitation, no cloud cover, survey time: 22:56 – 23:06, surveyors: LM and BB) the second on June 15, 2014 (Temperature: 17°C, Beaufort Wind Scale 1, no precipitation, 5% cloud cover, survey time: 21:56 – 22:06, surveyors: LM).

#### *Species at Risk*

The SAR screening prepared as a part of the NHE includes an analysis of habitat requirements for SAR reported to occur in the Midhurst District MNRF planning area to identify those having potential to occur on or adjacent to the property based on habitats present. Background information obtained from the NHC Report whereby MNRF provided a list of species that have the potential to occur within the Barrie Annex Lands which includes Hewitt's SPA. These species have been incorporated into our assessment. Dawn breeding bird surveys helped determine if any SAR birds are utilizing the property and/or adjacent lands. A search for Butternut (END) was conducted on site. Habitat requirements and appropriate designations (END, THR, SC) for all species included in the screening are outlined in Table 4.



## **4.0 EXISTING CONDITIONS**

### **4.1 Land Use**

#### **4.1.1 On-site Land Use**

The land use on the property is composed of agricultural lands dominated by row crops within the central and southern portions of the property and different stages of naturalization exist along the northern and eastern limits of the site (Figure 2). A mature deciduous forest is present mid- property. There are currently no structures on the property.

### **4.2 Adjacent Land Use**

Land use to the west of the property, is urbanized and composed of residential homes. Adjacent lands to the east of the property include those within the Natural Core Area and are composed of a mosaic of woodland, rural residential properties, wetland and watercourses. Agricultural lands are currently also a dominant land use within the general area.

### **4.3 Vegetation**

ELC mapping and vegetation surveys were completed during site visits on June 7, 2014, July 31, 2014, October 29, 2014, May 18, 2016 and October 26, 2016. Table 1 describes the vegetation communities identified and Figure 2 depicts their relative locations. A complete list of the vegetation species observed on the property is presented in Table 2.

Two LSRCA (regionally) rare trees were documented on-site: Red Pine (*Pinus resinosa*) and Black Walnut (*Juglans nigra*). See Figure 2 for the ELC vegetation community in which these two tree species were found. There were no additional regionally rare trees or vascular plants documented on the property.

A single Butternut (*Juglans cinerea*) (END) was observed mid-property within the Cultural Woodland Community in October 2014 (Figure 2). The single Butternut was not assessed according to the Butternut Health Assessment Guideline. The Butternut was not present on the property in 2016. Except for the one Butternut tree (END), none of the other vegetative species documented are of provincial conservation concern.

### **4.4 Woodland**

Core woodland community has been identified on-site and extends beyond the limits of the property (Figure 2). This feature has been identified as a Natural Core Area during the feature analysis work for Hewitt's SPA and is approximately 4.7 ha in size (Appendix A).





#### 4.4.1 Core Feature Staking

As indicated above, Significant Woodland has, in part, been identified on the property. This feature has been identified to be part of the Hewitt's Secondary Plan Core Area (Appendix A). The staking of the Core Natural Heritage Features took place in July 2015 for all the participating landowners in the Hewitt's Secondary Plan Area, including the subject property. Staking was undertaken with staff from LSRCA, NRS, the City, Azimuth, R.J. Burnside & Associates, The Jones Consulting Group and landowners with properties within the SPA that contained Core Areas. The limits of the features within the NHS were defined and staked (Figure 2). Stake locations were geo-referenced by a qualified surveyor in the field and the digital file transferred to all participants.

### 4.5 Wildlife Habitat

#### 4.5.1 Mammals

Mammal species utilizing the property included: Coyote (*Canis latrans*), Eastern Chipmunk (*Tamias striatus*), Eastern Cottontail (*Sylvilagus floridanus*), Grey Squirrel (*Sciurus carolinensis*), Red Squirrel (*Tamiasciurus hudsonicus*) and White-tailed Deer (*Odocoileus virginianus*). None of the species observed are of provincial conservation concern.

#### 4.5.2 Birds

Point count data showed 30 bird species on the property (Table 3). Of these species, five area-sensitive birds – Savannah Sparrow (*Passerculus sandwichensis*) (also regional concern), Ovenbird (*Seiurus aurocapilla*), Pine Warbler (*Setophaga pinus*), White-breasted Nuthatch (*Sitta carolinensis*) and Hairy Woodpecker (*Picoides villosus*) were recorded. Savannah Sparrow is a grassland bird while Ovenbird, Pine Warbler, White-breasted Nuthatch and Hairy Woodpecker are forest birds. 'Area-sensitive' indicates that a species requires a large area of suitable habitat to sustain their populations. There is no protection status provided for 'area-sensitive' individuals.

Azimuth reviewed the priority Land Bird species list for ON and determined that four of the birds documented during Azimuth's breeding bird surveys are of regional concern (OPF, 2008) - Brown Thrasher (*Toxostoma rufum*), Eastern Kingbird (*Tyrannus tyrannus*), Field Sparrow (*Spizella pusilla*) Savannah Sparrow (*Passerculus sandwichensis*) - (Figure 2). There is no protection status provided for land birds deemed to be of regional concern.

One SAR was observed, the Eastern Wood-pewee (*Contopus virens*) (SC). The Eastern Wood-pewee (SC) was observed within the FOD5-2 vegetation community type located along the eastern limit of the property and within the CUW at the northern end of the



property. SAR listed as SC are currently not afforded protection according to *Ontario's ESA*. No other bird species documented on-site are of provincial conservation concern. No Whip-poor Wills were documented during nocturnal bird surveys.

#### 4.5.3 Aquatic Habitat

There is no fish habitat on the property and no mapped water courses or aquatic features were identified within 400m of property limits.

### 4.6 Species at Risk

SAR and their preferred habitat were screened to determine whether there is potentially suitable habitat on or adjacent to the property (Table 4) for SAR having the potential to occur within the general area. Of the SAR species identified with potential to occur within the general area, the following were identified based on habitat requirements to have potential to be found on-site.

- Mammals: Little Brown Myotis (*Myotis lucifugus*) (END), Northern Myotis (*Myotis septentrionalis*) (END) and Tri-colored Bat (*Perimyotis subflavus*) (END);
- Birds: Eastern Wood-pewee (SC), Red-headed Woodpecker (*Melanerpes erythrocephalus*) (SC) and Wood Thrush (*Hylocichla mustelina*) (SC); and
- Plants: American Ginseng (*Panax quinquefolius*) (END), Butternut (END) and Purple Twayblade (*Liparis lilifolia*) (THR).

The results of breeding bird surveys indicated presence of the following SAR only: Eastern Wood-pewee (SC). A single Butternut (END) was documented on-site. No other SAR were documented on the property.

## 5.0 NATURAL HERITAGE FEATURES AND FUNCTIONS

### 5.1 Wetlands

There is no wetland on or adjacent (120m) to the property (Appendix C).

### 5.2 Woodlands

The Woodland (FOD 5-2) and a small portion of CUP3 present on the property was identified during the NHS exercise. These woodlands are included within the City's approved Natural Heritage System Core Area and are considered to be significant.

Remaining woodland communities on the property, comprised of hedge rows, conifer plantations, coniferous and mixed forest are small, isolated features that have not been



included within the City's Natural Core Area/ Natural Heritage System due to their size and lack of habitat connectivity.

### **5.3 Valleylands**

There are no valleylands on or adjacent (120m) of the property.

### **5.4 Candidate Significant Wildlife Habitat**

As a part of NRSI's NHS Report (2012), SWH was assessed within the Core Areas. Table 5 provides an assessment of candidate Significant Wildlife Habitat (SWH) functions based on NRSI's assessment and the results of our site specific field studies. Our findings indicate two potential candidate SWH related to the property including:

- Bat Maternity Colony; and
- Special Concern & Rare Wildlife Species.

#### **5.4.1 Bat Maternity Colony**

The Natural Core Area of the property is comprised of deciduous forest (FOD5-2) habitat. This forest, in addition to adjoining adjacent forested lands, has the potential to provide habitat for bat maternity colonies.

#### **5.4.2 Special Concern & Rare Wildlife Species**

According to the Significant Wildlife Habitat Technical Guide Ecoregion 6E Criteria Schedules (MNRF, 2015), SWH for Rare and SC Species is characterized by the presence of any species considered provincially rare (ranked S1-S3) or designated SC under the ESA. Species of SC identified on the property and those with potential to be present on the property are addressed in Table 4 of this report and considered on an individual basis.

### **5.5 Endangered & Threatened Species**

Potential habitat for species listed as THR or END was identified on and adjacent to the property. Our preliminary screening, considered in combination with data acquired through species-specific surveys, has identified habitat potential as follows:

- Confirmed presence of a Butternut (END); and
- Potential habitat for END bat species.

#### **5.5.1 Butternut**

A single Butternut tree was observed on the property in 2014 (Figure 2).



#### 5.5.2 Endangered Bat Species

Brown Myotis (END), Northern Myotis (END) and Tri-colored Bat (END) use a wide variety of habitats for summer roosting including rock crevices, buildings, bridges, caves, mines and large snags (> 25cm diameter at breast height, DBH) in the early stages of decay (MNR 2014, COSEWIC 2013). Large snag trees within the second-growth forest communities on the property (FOD, SWM, SWD, SWC, Figure 2) may provide suitable roosting habitat for END bat species.

### 5.6 Area of Natural and Scientific Interest (ANSI)

There are no ANSI's on or adjacent (120m) of the property (Appendix C).

### 5.7 Fish Habitat

There is no fish habitat on or adjacent (120m)

### 5.8 Significant Natural Heritage Features

These Natural Heritage Features and Candidate Features are included within our Impact Assessment:

- Significant Woodland;
- Candidate SWH (Bat Maternity Colony, and Special Concern & Rare Wildlife Species); and
- Habitat for Endangered or Threatened Species (Butternut (END), and potential habitat for END Bat Species).

## 6.0 PROPOSED DEVELOPMENT

The proposed development consists of a combination of lots for detached residential dwellings and commercial development (commercial-residential) (Figure 3). The subdivision will include a connection to Big Bay Point Rd. and an internal road network interconnected with development proposed on adjacent lands to the south, west and east. The proposed development will be serviced with municipal water and sewer.

The Stormwater Management facilities will be located in proximity to Big Bay Point Road and mid-property.



## **7.0 IMPACT ASSESSMENT**

### **7.1 Significant Woodland**

The Significant Woodland on the property is contained within the NHS of Hewitt's Secondary Plan. There will be no development within any of the Natural Core Areas. A 30m buffer will remain adjacent to the Core Woodland. Therefore, the Core Woodland and its associated functions will be protected from direct and indirect impacts related to the proposed development on the property. To minimize potential indirect impact to the feature of the proposed residential development, appropriate fencing should be installed along the lots backing onto the Natural Core Area to ensure that the residential development will not encroach into the feature and ecological functions are maintained within this Significant Woodland feature.

#### **7.1.1 Buffer Analysis**

As described above, the NHS incorporated the large contiguous forested areas into the NHS. This included all the woodlands that would be considered Significant In accordance with the OMB approvals for the SPA a 30m buffer was applied to all woodlands (FOD, FOM, FOC) as defined in the NHS.

In assessing the suitability of the buffer we assessed its ability to protect the critical root zone of the treed edge. According to Johnson (1999), the critical root zone can be estimated through measuring the tree's Diameter Breast Height (DBH) in inches. This number is then multiplied by 1 or 1.5 for sensitive or tolerant species respectively. The resulting number is expressed in feet which defines the critical root radius from the base of the tree. In general, the trees located within the study area largely range from whip size to 20 inches (50cm) with potential for some to be greater than 50 cm. The critical root radius is  $20 \times 1.5 = 30$  feet (9.1m). Therefore, a 10m setback from the trunk of the tree would be sufficient to ensure protection of the critical rooting zone for the majority of the trees.

Currently, active agricultural lands dominate the landscape outside of the core natural heritage features. The approved 30m buffer is well in excess of the protection requirements of the critical root zones for the existing treed edge of the NHS. The buffer will also help to prevent access and encroachment into the established woodlands. The current features of the woodland and its associated functions will remain post-development.



## 7.2 Candidate Significant Wildlife Habitat

Typically, development and site alteration are not permitted within SWH and adjacent lands unless the ecological function of the features has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. Within the PPS (2014), negative impact is defined as “degradation that threatens the health and integrity of the natural features or ecological functions for which the area is identified due to single, multiple or successive development or site alteration activities”. The Natural Heritage Reference Manual (MNR, 2010) defines ecological integrity as “the condition of an ecosystem in which (a) the structure, composition and function are unimpaired by stresses from human activity, (b) natural ecological processes are intact and self-sustaining and (c) ecosystem evolution is occurring naturally and that ecological integrity includes hydrological integrity. Candidate SWH identified on site includes potential Bat Maternity Colony and confirmed habitat for Eastern Wood-pewee (SC). Below highlights how each of these features will be impacted post-development.

### 7.2.1 Bat Maternity Colony

There is no development proposed within the woodland habitat contained within the Natural Core Area. Any potential function associated with maternal bat usage will be maintained post-development.

### 7.2.2 Special Concern & Rare Wildlife Species

The following species of SC was observed to be utilizing the property, and could conceivably be encountered during construction activities:

- Eastern Wood-Pewee (SC) – possible breeding identified on property

#### *Eastern Wood-pewee*

Eastern Wood-Pewee (SC) was observed within the FOD5-2/CUW1 communities (Figure 2). The FOD5-2 community is contained within the NHS and will be retained post-development. Therefore, habitat for the species will persist in this location.

Impacts to the FOD5-2 community resulting from construction activities will be limited to temporary disturbance associated with the noise of construction whereby wildlife may move away from the disturbance.

The CUW1 community will be lost as a result of the proposed development. Given the open nature of this community and its proximity to agricultural lands, it does not represent a feature utilized by a large number of forest breeding birds. This conclusion was evident through the relatively small number of primarily urban adept/edge bird



species documented within this community during field surveys. There is no expectation that the removal of this vegetation community as outlined within the Concept Plan would significantly impact habitat availability for Eastern Wood-pewee (SC) populations, given the abundance of mature woodland on the property itself and adjacent land. Thus, the proposed development is not anticipated to have a negative impact on the habitat for Special Concern Bird Species as defined by the PPS.

### **7.3 Habitat of Endangered and Threatened Species**

*Endangered Bat Species (Northern Myotis, Little Brown Myotis and Tri-colored Bat)*

According to the MNRF's Ecoregion 6E Criterion Schedule (MNRF, 2015), deciduous (FOD) and mixed (FOM) woodlands have the potential to function as bat maternity habitat if they provide an abundance of wildlife cavity trees (*i.e.*, > 10 trees measuring 25cm DBH or greater providing holes, loose bark, *etc.* potentially utilized by bats/ha). Maternity roost habitat may also include coniferous forest (FOC), and forested swamp (SW) habitat (MNRF, 2015). The FOD5-2 community within the Natural Core Area will be maintained post-development. The 30m buffer provided is adequate and will preserve any potential function as END bat habitat.

The smaller coniferous and mixed forests located outside of the NHS are small (ranging from 0.5ha – 1.8ha in size), isolated features and do not represent high quality potentially suitable habitat for the species. These features will be lost as a result of the proposed development. Given their relatively small size, location within an agricultural setting and the fact that they are not located in proximity to foraging habitat (*i.e.* wetland/open water), this feature does not represent ideal habitat for large bat maternity colonies.

*Butternut*

The Butternut (END) was not present on the property in 2016.

## **8.0 RECOMMENDATIONS**

### **8.1 Core Woodland**

#### **8.1.1 Setbacks**

A 30m setback should be maintained from the limit of the Natural Heritage Core Woodland. This buffer should remain vegetated and be delineated with a fence to prevent access from residents. This mitigation measure is important to limit potential disturbance to the woodland resulting from residents within the proposed community dumping or otherwise disturbing the woodland post-development.



### 8.1.2 General

The Natural Heritage Core Woodland is to be protected at all times from any excavated and erodible soils from entering the feature by properly placed, installed and maintained sediment controls (*e.g.* sediment barriers, *etc.*).

## 8.2 Species at Risk

### 8.2.1 Non-detected Species of Concern

It should be noted that the absence of a protected species at this time does not indicate they will never occur on the property and/or adjacent lands. Habitat occupancy and use by animals is dynamic and can vary over time. Also, SAR lists are subject to change with species being up-listed or down-listed. This report is intended as a point-in-time assessment of the potential to impact SAR; it does not provide long term 'clearance' for SAR. While there is no expectation that our assessment should change significantly, it is the responsibility of the proponent to ensure they are not in contravention of the ESA at the time site works are undertaken. A review of the assessment provided in this report by a qualified person should be sufficient to provide appropriate advice at the time of the onset of future site works.

### 8.2.2 Worker Training

Worker training could be beneficial to assist on-site workers in identification of the SAR with potential to occur in the development area. Workers should be instructed to stop work immediately and contact the local MNRF office if any SAR are encountered within the work area. Individuals working on-site should ensure that SAR are not harmed during construction and related activities or killed by heavy machinery, vehicles or other equipment.

A silt fence should be placed along the buffer of the Core Woodland feature to prevent encroachment into the feature and ensure its protection.

### 8.2.3 Endangered Bat Species

Given the size and location of the FOC/FOM within the landscape, we would recommend that mitigation be limited to limiting vegetation removal on the property to the timing window for Migratory Breeding Birds, however, this should be confirmed by MNRF. Construction activities involving the removal of the woodlot should be restricted from occurring between the beginning of April to the end of August. This will ensure that no bats actively roosting in structures (or in trees) will be killed or harmed as a result of clearing activities.





#### 8.2.4 MNRF Information Gathering Form

Based on preliminary discussions with the MNRF, it is our understanding that MNRF wishes to deal with SAR for the entire Hewitt's SPA rather than on a property by property basis. Based on this information, it has been determined that the best route to convey the SAR information to MNRF is through an Information Gathering Form (IGF) for the entire Hewitt's SPA. Therefore, we recommend that the information obtained during field surveys on the subject property be included within the IGF submission to MNRF for the Hewitt's SPA. Completing and submitting this form will allow Azimuth to initiate discussions with MNRF so they can advise us how to proceed in compliance with Ontario's ESA.

### 8.3 Migratory Breeding Birds

Future construction activities involving the removal or disturbance of woody or herbaceous vegetation should be restricted from occurring during the avian breeding season. Migratory birds, nests, and eggs are protected by the *Migratory Birds Convention Act*, 1994 and the *Fish and Wildlife Conservation Act*, 1997. Environment Canada outlines dates when activities in any region have potential to impact nests at the Environment Canada Website ([http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1#\\_03](http://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=4F39A78F-1#_03)).

## 9.0 CONCLUSIONS

The results of this NHE, including recommended mitigation measures, demonstrate that the proposed development will not negatively impact natural heritage features or their ecological functions present on or adjacent to the proposed property development – including habitat of Endangered or Threatened species. Based on the information and the site-specific conditions for the subject property related to potential habitat for the species, it is the position of Azimuth staff that the draft plan design and the associated buffers as proposed will result in a development which is consistent with the policies set out within the Hewitt's Secondary Plan, PPS as well as the regulations defined within Ontario's ESA.

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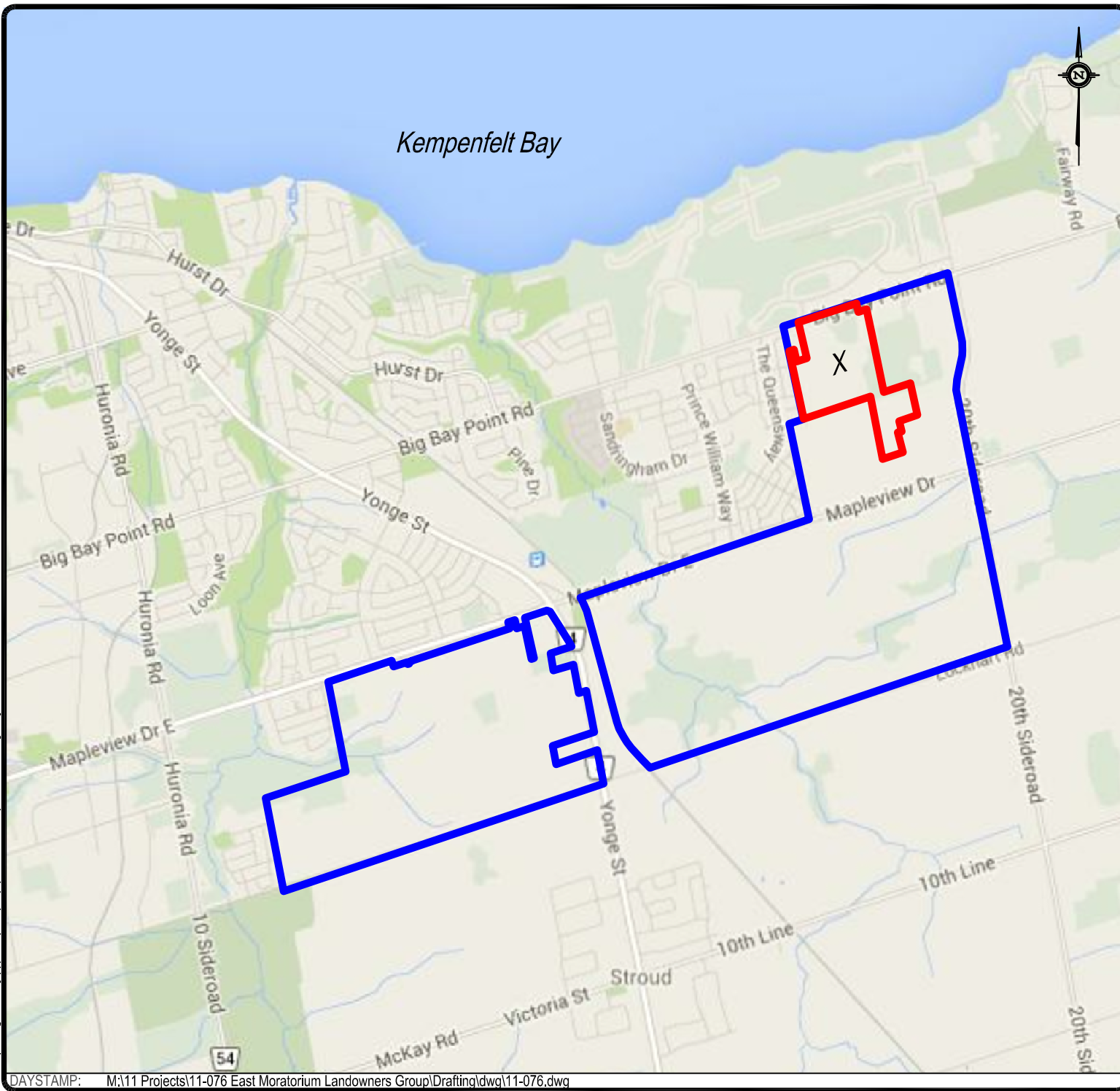
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LEGEND:

— Approx. Property Boundary

600m 0 1200m  
HORIZONTAL SCALE 1:40,000



Study Area Location  
Blue Sky Private Equity Inc.

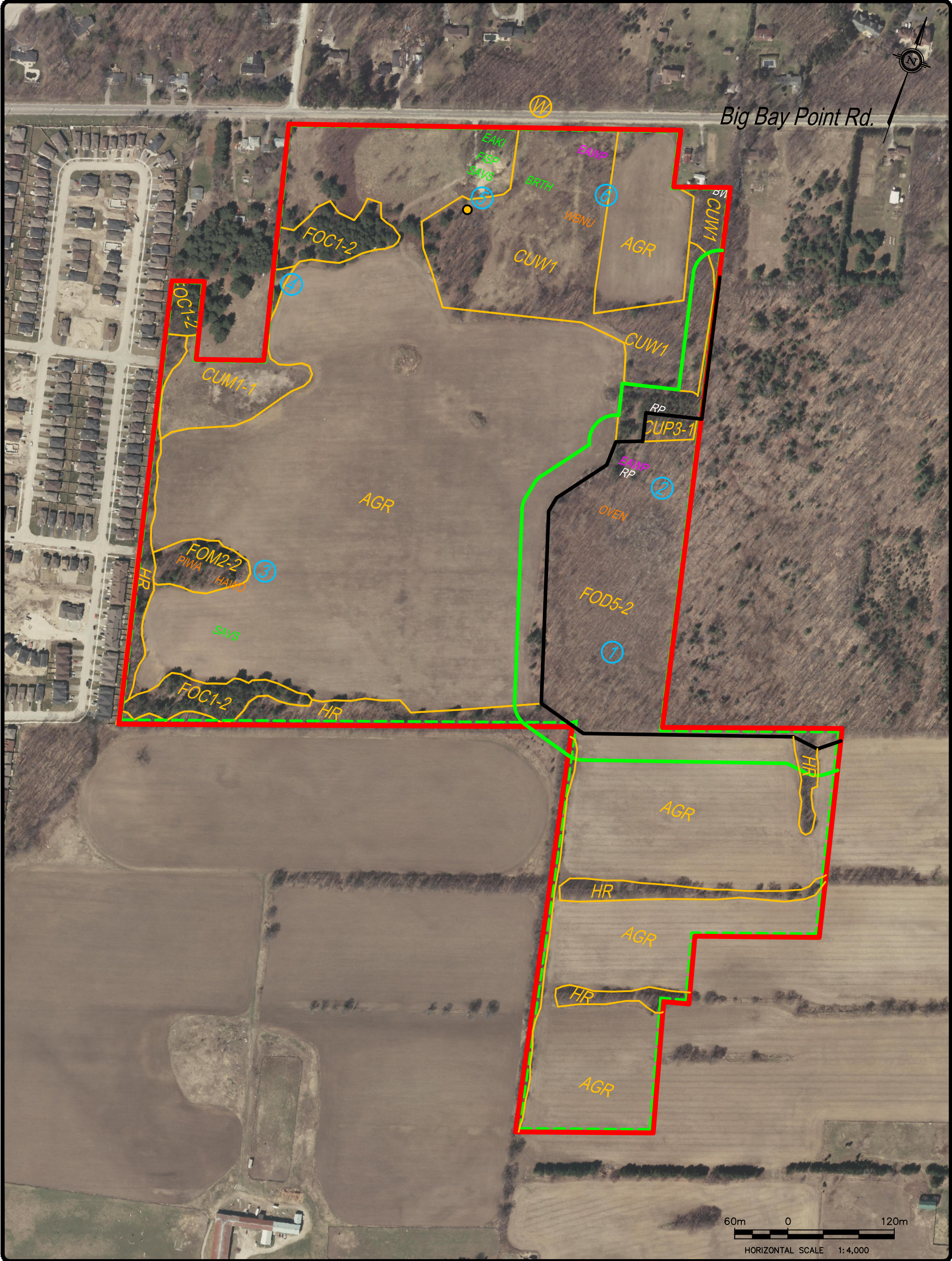
Hewitt's Secondary Plan  
Maplevue Dr. East, Barrie, ON

DATE ISSUED: April 2014  
CREATED BY: JLM  
PROJECT NO.: 11-076h  
REFERENCE: Google Maps

Figure No.

1





**LEGEND:**

- Property Boundary/Study Area
- Bird Survey Stations
- Whip-poor-will Survey Station
- Butternut (END)
- 3 Season Surveys
- Natural Heritage Core
- 30m Buffer to Natural Heritage Core Areas

**Vegetation Communities**

- FOC1-2 Dry-Fresh White Pine-Red Pine Coniferous Forest
- FOD5-2 Dry - Fresh Sugar Maple-Beech Deciduous Forest Type
- FOM2-2 Dry-Fresh White Pine-Sugar Maple Mixed Forest Type
- CUP3-1 Red Pine Coniferous Plantation Type
- CUM1-1 Dry-Fresh Old Field Meadow Type

**Area-Sensitive Birds**

- OVEN - Ovenbird
- HAWO - Hairy Woodpecker
- PIWA - Pine Warbler
- WBNU - White-breasted Nuthatch

**Birds of Regional Concern**

- BRTH - Brown Thrasher
- SAVS - Savannah Sparrow
- FISP - Field Sparrow
- EAK1 - Eastern Kingbird

**Species at Risk**

- EAWP - Eastern Wood-pewee (SC)

**Regionally Rare Plants (white)**

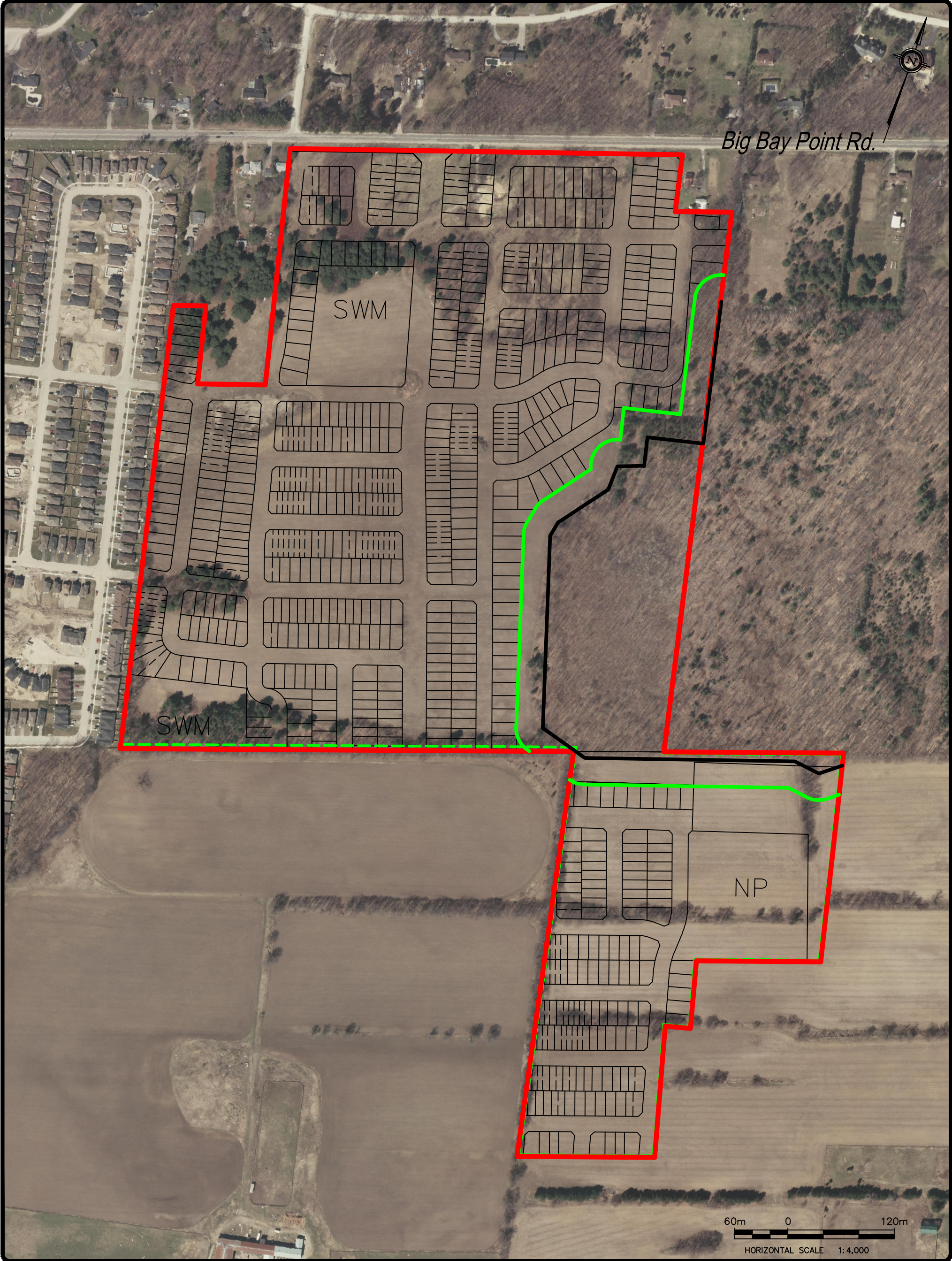
- RP - Red Pine
- BW - Black Walnut

**Environmental Features**

Blue Sky Private Equity Inc.  
Hewitt's Secondary Plan, Barrie, ON

DATE ISSUED:	July 2016	Figure No.  2
CREATED BY:	JLM	
PROJECT NO.:	11-076h	
REFERENCE:	First Base Solutions	





**LEGEND:**

- Property Boundary/Study Area
- Natural Heritage Core
- 30m Buffer to Natural Heritage Core Areas

**Proposed Development**

Blue Sky Private Equity Inc.  
Hewitt's Secondary Plan, Barrie, ON

DATE ISSUED: July 2016	Figure No. 3
CREATED BY: JLM	
PROJECT NO.: 11-076h	
REFERENCE: First Base Solutions	



Table 1 - Ecological Land Classification for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.

Ecological Land Classification						
System	Community Class	Community Series	Ecosite	Vegetation Type	Composition	Ground Cover
Terrestrial	FO, Forest	FOC, Coniferous Forest	FOC2, Dry-Fresh Cedar Coniferous Forest	FOC1-2, Dry-Fresh White Pine-Red Pine Coniferous Forest	Canopy dominated by Eastern White Pine, with occurrence of Scotch Pine. Occasional Sugar Maple, Manitoba Maple, Red Oak, White Cedar, White Birch and White Ash. Occurrence of Canada Fly Honeysuckle, Red Elderberry, Highbush Cranberry and Prickly Gooseberry.	Occurrence of Sharp-lobed Hepatica, Woodland Strawberry, Canada Mayflower, Herb-robert, Field Horsetail, Graceful Sedge, Black Sedge and Canada Goldenrod.
Terrestrial	FO, Forest	FOM, Mixed Forest	FOM2, Dry - Fresh white Pine - Maple - Oak Mixed Forest Ecosite	FOM2-2, Dry - Fresh White Pine - Sugar Maple Mixed Forest Type	Canopy dominated by Sugar Maple, with occurrence of White Pine. Occasional Red Oak, White Ash and Black Cherry.	Occurance of Bracken Fern, Motherwort and Strawberry.
Terrestrial	FO, Forest	FOD, Deciduous Forest	FOD5, Dry-Fresh Sugar Maple Deciduous Forest	FOD5-2, Dry-Fresh Sugar Maple-Beech Deciduous Forest	Canopy dominated by Sugar Maple, with occurrence of American Beech and Ironwood. Occasional Trembling Aspen, White Ash, White Birch, Red Oak, Basswood, Black Locust and Red Pine.	Occurrence of Graceful Sedge, Bristly Currant, Bloodroot, Virginia Waterleaf, Mountain Rice Grass, Helleborine, Blue-stemmed Goldenrod, Sharp-lobed Hepatica and Drooping Woodland Sedge.
Terrestrial	CU, Cultural	CUM, Cultural Meadow	CUM1, Mineral Cultural Meadow	CUM1-1 Dry-Moist Old Field Meadow	Occasional Black Cherry, Black Locust and Sumac	Dominated by Awnless Brome with occurence of Wild Carrot, Common Mullein, Sulphur Cinquefoil, White Sweet Clover, Kansas Milkweed and Grass-leaved Goldenrod.
Terrestrial	CU, Cultural	CUP, Cultural Plantation	CUP3-1, Coniferous Plantations	CUP3-1, Red Pine Coniferous Plantation Type	Canopy dominated by Red Pine, with occurrence of White Pine. Occurrence of American beech, White Ash, Sugar Maple, Red Oak, Red Raspberry and Staghorn Sumac.	Occurrence of Herb-robert, Garlic Mustard, Sharp-lobbed Hepatica, Bracken Fern, Yellow Violet, Graceful Sedge, Canada Mayflower, Black Raspberry, Poison Ivy, Virginia Waterleaf.
Terrestrial	CU, Cultural	CUW, Cultural Woodland	CUW1, Mineral Cultural Woodland	CUW1	Deciduous forest resultant from anthropogenic disturbance/management. Dominated by Black Locust, with sparce occurrence of Sugar Maple, White Ash, Basswood and Red Oak. Understory with abundance of Black and Red Raspberry, and rare occurrence of Tartarian Honeysuckle.	Abundance of Tall Goldenrod. Occasional Dog-strangling Vine. Occurrence of Common Mullein, Milkweed, Strawberry, Riverbank Grape, Poison Ivy.



Table 2 - Vascular Plants List for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.

Family	Scientific Name	Common Name	ELC Units							Conservation Status			
			HR	CUW1	CUM1-1	CUP3-1	FOC1-2	FOM2-2	FOD5-2	LSRCA	SRANK	GRANK	MNRF
Aceraceae	<i>Acer negundo</i>	Manitoba Maple			X		X			+	S5	G5	
Aceraceae	<i>Acer saccharum</i>	Sugar Maple	X		X	X	X	X	X		S5	G5	
Anacardiaceae	<i>Rhus typhina</i>	Staghorn Sumac	X	X	X	X		X			S5	G5	
Anacardiaceae	<i>Toxicodendron radicans</i>	Climbing Poison Ivy				X					S5	G5	
Apiaceae	<i>Daucus carota</i>	Wild Carrot		X	X					+	SE5	GNR	
Araliaceae	<i>Aralia nudicaulis</i>	Wild Sarsaparilla							X		S5	G5	
Asclepiadaceae	<i>Asclepias syriaca</i>	Common Milkweed			X						S5	G5	
Asteraceae	<i>Achillea millefolium</i>	Common Yarrow	X		X					+	SE	G5	
Asteraceae	<i>Arctium minus</i>	Common Burdock	X	X	X					+	SE5	GNR	
Asteraceae	<i>Cirsium vulgare</i>	Bull Thistle	X		X					+	SE5	GNR	
Asteraceae	<i>Erigeron canadensis</i>	Canada Horseweed			X						S5	G5	
Asteraceae	<i>Erigeron philadelphicus</i>	Philadelphia Fleabane	X	X	X						S5	G5	
Asteraceae	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod			X						S5	G5	
Asteraceae	<i>Lactuca canadensis</i>	Canada Lettuce					X				S5	G5	
Asteraceae	<i>Pilosella aurantiaca</i>	Orange Hawkweed			X					+	SE5	GNR	
Asteraceae	<i>Solidago caesia</i>	Blue-stemmed Goldenrod							X		S5	G5	
Asteraceae	<i>Solidago canadensis</i>	Canada Goldenrod	X		X		X				S5	G5T5	
Asteraceae	<i>Symphyotrichum cordifolium</i>	Heart-leaved Aster							X		S5	G5	
Asteraceae	<i>Symphyotrichum lateriflorum</i>	Starved Aster	X		X				X		S5	G5	
Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion					X				SE5	G5	
Berberidaceae	<i>Caulophyllum thalictroides</i>	Blue Cohosh							X		S5	G4G5	
Betulaceae	<i>Betula papyrifera</i>	Paper Birch	X				X	X	X		S5	G5	
Betulaceae	<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	X		X		X		X		S5	G5	
Brassicaceae	<i>Alliaria petiolata</i>	Garlic Mustard		X		X				+	SE5	GNR	
Caprifoliaceae	<i>Lonicera canadensis</i>	Canada Fly Honeysuckle					X		X		S5	G5	
Caprifoliaceae	<i>Sambucus racemosa</i>	Red Elderberry					X				S5	G5	
Caprifoliaceae	<i>Viburnum opulus</i>	Highbush Cranberry					X			+	S5	GNR	
Clusiaceae	<i>Hypericum punctatum</i>	Common St. John's-wort	X		X					+	S5	G5	
Cupressaceae	<i>Juniperus virginiana</i>	Eastern Red Cedar			X						S5	G5	
Cyperaceae	<i>Carex arctata</i>	Black Sedge					X		X		S5	G5	
Cyperaceae	<i>Carex blanda</i>	Woodland Sedge				X			X		S5	G5?	
Cyperaceae	<i>Carex gracillima</i>	Graceful Sedge					X		X		S5	G5	
Dennstaedtiaceae	<i>Pteridium aquilinum</i>	Bracken Fern	X				X	X			S5	G5	
Dryopteridaceae	<i>Dryopteris sp.</i>	Wood Fern							X				
Dryopteridaceae	<i>Dryopteris intermedia</i>	Evergreen Wood Fern	X					X			S5	G5	
Equisetaceae	<i>Equisetum arvense</i>	Field Horsetail					X				S5	G5	
Equisetaceae	<i>Equisetum hyemale</i>	Common Scouring-rush	X					X			S5	G5	
Fabaceae	<i>Melilotus albus</i>	White Sweet-clover	X		X					+	SE5	G5	
Fabaceae	<i>Robinia pseudoacacia</i>	Black Locust		X	X				X	+	SE5	G5	
Fabaceae	<i>Trifolium repens</i>	White Clover	X		X					+	SE5	GNR	
Fagaceae	<i>Fagus grandifolia</i>	American Beech	X			X			X		S4	G5	
Fagaceae	<i>Quercus rubra</i>	Northern Red Oak	X		X	X	X	X	X		S5	G5	
Geraniaceae	<i>Geranium robertianum</i>	Herb-Robert		X		X	X			+	S5	G5	
Grossulariaceae	<i>Ribes cynosbati</i>	Prickly Gooseberry		X			X		X		S5	G5	
Hydrophyllaceae	<i>Hydrophyllum virginianum</i>	Virginia Waterleaf				X			X		S5	G5	

Table 2 - Vascular Plants List for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.

Family	Scientific Name	Common Name	ELC Units							Conservation Status			
			HR	CUW1	CUM1-1	CUP3-1	FOC1-2	FOM2-2	FOD5-2	LSRCA	SRANK	GRANK	MNRF
Juglandaceae	<i>Juglans cinerea</i>	Butternut		X							S3?	G4	END
Juglandaceae	<i>Juglans nigra</i>	Black Walnut		X						W	S4	G5	
Lamiaceae	<i>Leonurus cardiaca</i>	Common Motherwort	X	X				X	X	+	SE5	GNR	
Lamiaceae	<i>Nepeta cataria</i>	Catnip			X					+	SE5	GNR	
Lamiaceae	<i>Prunella vulgaris</i>	Self-heal	X		X					(+)	S5	G5T5	
Liliaceae	<i>Clintonia borealis</i>	Blue Bead-lily							X		S5	G5	
Liliaceae	<i>Maianthemum canadense</i>	Wild Lily-of-the-Valley				X	X				S5	G5	
Liliaceae	<i>Trilium grandiflorum</i>	White Trilium							X		S5	G5	
Oleaceae	<i>Fraxinus americana</i>	White Ash	X	X		X	X	X	X		S4	G5	
Onagraceae	<i>Oenothera biennis</i>	Common Evening Primrose	X		X						S5	G5	
Orchidaceae	<i>Epipactis helleborine</i>	Eastern Helleborine							X	+	SE5	GNR	
Papaveraceae	<i>Sanguinaria canadensis</i>	Blodroot							X		S5	G5	
Pinaceae	<i>Pinus resinosa</i>	Red Pine				X			X	W	S5	G5	
Pinaceae	<i>Pinus strobus</i>	Eastern White Pine	X			X	X	X			S5	G5	
Pinaceae	<i>Pinus sylvestris</i>	Scotch Pine					X				SE5	GNR	
Pinaceae	<i>Tsuga canadensis</i>	Eastern Hemlock				X					S5	G5	
Poaceae	<i>Bromus inermis</i>	Awnless Brome			X					+	SE5	G5TNR	
Poaceae	<i>Dactylis glomerata</i>	Orchard Grass	X	X	X					+	SE5	GNR	
Poaceae	<i>Elymus repens</i>	Creeping Wildrye			X					+	SE5	GNR	
Poaceae	<i>Oryzopsis asperifolia</i>	White-grained Mountain-ricegrass							X		S5	G5	
Poaceae	<i>Poa compressa</i>	Canada Bluegrass			X					(+)	SE5	GNR	
Poaceae	<i>Poa pratensis</i>	Kentucky Bluegrass			X					+	S5	G5T5	
Ranunculaceae	<i>Actaea pachypoda</i>	White Baneberry							X		S5	G5	
Ranunculaceae	<i>Actaea rubra</i>	Red Baneberry					X				S5	G5	
Ranunculaceae	<i>Anemone acutiloba</i>	Sharp-lobed Hepatica				X	X		X		S5	G5	
Ranunculaceae	<i>Anemone virginiana</i>	Virginia Anemone	X		X						S5	G5T5	
Rhamnaceae	<i>Rhamnus cathartica</i>	Common Buckthorn	X								SE5	GNR	
Rosaceae	<i>Amelanchier arborea</i>	Downy Serviceberry					X				S5	G5	
Rosaceae	<i>Fragaria vesca</i>	Woodland Strawberry					X	X			S5	G5	
Rosaceae	<i>Fragaria virginiana</i>	Wild Strawberry	X		X						S5	G5	
Rosaceae	<i>Malus pumila</i>	Common Apple	X		X		X			+	SE4	G5	
Rosaceae	<i>Potentilla recta</i>	Sulphur Cinquefoil	X		X					+	SE5	GNR	
Rosaceae	<i>Prunus pensylvanica</i>	Pin Cherry							X		S5	G5	
Rosaceae	<i>Prunus serotina</i>	Wild Black Cherry	X		X		X	X	X		S5	G5	
Rosaceae	<i>Prunus virginiana</i>	Choke Cherry					X				S5	G5	
Rosaceae	<i>Rubus idaeus</i>	Common Red Raspberry	X		X	X				+	SE1	G5T5	
Rosaceae	<i>Rubus occidentalis</i>	Black Raspberry		X		X	X				S5	G5	
Rosaceae	<i>Sorbus aucuparia</i>	European Mountain-ash	X		X			X		+	SE4	G5	
Salicaceae	<i>Populus alba</i>	White Poplar		X						+	SE5	G5	
Salicaceae	<i>Populus grandidentata</i>	Large-tooth Aspen		X					X		S5	G5	
Salicaceae	<i>Populus tremuloides</i>	Trembling Aspen	X		X				X		S5	G5	
Saxifragaceae	<i>Mitella diphylla</i>	Two-leaf Bishop's-cap		X							S5	G5	
Scrophulariaceae	<i>Verbascum thapsus</i>	Common Mullein		X	X					+	SE5	GNR	
Smilacaceae	<i>Smilax ecirrata</i>	Upright Carrionflower					X		X		S3?	G5?	
Tiliaceae	<i>Tilia americana</i>	American Basswood	X		X			X	X		S5	G5	

Table 2 - Vascular Plants List for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.

			ELC Units							Conservation Status			
Family	Scientific Name	Common Name	HR	CUW1	CUM1-1	CUP3-1	FOC1-2	FOM2-2	FOD5-2	LSRCA	SRANK	GRANK	MNRF
Ulmaceae	<i>Ulmus americana</i>	American Elm					X		X		S5	G5?	
Violaceae	<i>Viola pubescens</i> var. <i>pubescens</i>	Downy Yellow Violet					X				S5	G5T5	

Table 3 - Birds List for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.

			Point Count Stations <sup>A,B</sup>									Conservation Ranks <sup>D</sup>			
Family	Scientific Name	English Common Name	1	2	3	4	5	6	Incidental	Breeding Evidence <sup>C</sup>	Area-sensitive?*	RCC	S-Rank	G-Rank	SARO Status
Cardinalidae	<i>Cardinalis cardinalis</i>	Northern Cardinal		S,		S,S	,S	S,		Probable			S5	G5	
Cardinalidae	<i>Passerina cyanea</i>	Indigo Bunting		S,S	S,S	S,S	S,S	S,H	S <sup>B</sup>	Probable			S4B	G5	
Columbidae	<i>Zenaida macroura</i>	Mourning Dove		S,		S,	S,			Possible			S5	G5	
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow	H,H	H	H,	H,	H,	,H	H <sup>B</sup>	Probable			S5B	G5	
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	S,S/H		,S			H,S		Probable			S5	G5	
Emberizidae	<i>Melospiza melodia</i>	Song Sparrow		H,S	S,S		S,S	,S/P	S <sup>B</sup>	Probable			S5B	G5	
Emberizidae	<i>Passerculus sandwichensis</i>	Savannah Sparrow		S,S	H,		,S		S <sup>A,B,C</sup>	Probable	Yes	Yes	S4B	G5	
Emberizidae	<i>Spizella passerina</i>	Chipping Sparrow		S,	,S	S,S	S,S	S,S	S <sup>B</sup>	Probable			S5B	G5	
Emberizidae	<i>Spizella pusilla</i>	Field Sparrow					,S			Possible		Yes	S4B	G5	
Fringillidae	<i>Carduelis tristis</i>	American Goldfinch	H,	H,H	H,H	H,S/H	H,H	,H	H/S <sup>B</sup>	Probable			S5B	G5	
Icteridae	<i>Agelaius phoeniceus</i>	Red-winged Blackbird				FO,				Observed			S4	G5	
Icteridae	<i>Molothrus ater</i>	Brown-headed Cowbird					,S/H	,S/H	S <sup>A</sup> ,H <sup>B</sup>	Probable			S4B	G5	
Mimidae	<i>Dumetella carolinensis</i>	Gray Catbird		S,			,S/P	S,H/S		Probable			S4B	G5	
Mimidae	<i>Toxostoma rufum</i>	Brown Thrasher					,S			Possible		Yes	S4B	G5	
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee		H,	S,S/H	S,S	S,	S,	H <sup>B</sup>	Probable			S5	G5	
Parulidae	<i>Geothlypis trichas</i>	Common Yellowthroat					S,	S,		Possible			S5B	G5	
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird		,S						Possible	Yes		S4B	G5	
Parulidae	<i>Setophaga pensylvanica</i>	Chestnut-sided Warbler					,S	,S		Possible			S5B	G5	
Parulidae	<i>Setophaga pinus</i>	Pine Warbler			S,S					Probable	Yes		S5B	G5	
Phasianidae	<i>Meleagris gallopavo</i>	Wild Turkey	,S				S,	,H/S		Possible			S5	G5	
Picidae	<i>Picoides pubescens</i>	Downy Woodpecker							H <sup>B</sup>	Possible			S5	G5	
Picidae	<i>Picoides villosus</i>	Hairy Woodpecker			,S					Possible	Yes		S5	G5	
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch						,S/H		Possible	Yes		S5	G5	
Sturnidae	<i>Sturnus vulgaris</i>	European Starling			S,	,S/H		H,H		Probable			SNA	G5	
Troglodytidae	<i>Troglodytes aedon</i>	House Wren						,S		Possible			S5B	G5	
Turdidae	<i>Turdus migratorius</i>	American Robin	H,		,H	H,S/H	S,S		FO <sup>A</sup>	Probable			S5B	G5	
Tyrannidae	<i>Contopus virens</i>	Eastern Wood-pewee		S,				S,S		Probable		Yes	S4B	G5	SC
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher		,S						Possible			S4B	G5	
Tyrannidae	<i>Tyrannus tyrannus</i>	Eastern Kingbird					,S			Possible		Yes	S4B	G5	
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	S,S	S,S	S,S	S,S	S,S			Probable			S5B	G5	

\* According to Appendix C of the Significant Wildlife Habitat Technical Guide (MNRF, 2000)

Surveys Conditions: <sup>A</sup> June 07, 2014; Start Time 0520hr/ End Time 0635hr; Temperature Start +8°C/ End +10°C; Wind B0; Cloud Cover < 5%; Precipitation Nil; Observer J. Broadfoot <sup>B</sup> June 23, 2014; Start Time 0625hr/ End Time 0735hr; Temperature Start +14°C/End +15°C; Wind B0; Cloud Cover 5%; Precipitation Nil; Observer J. Broadfoot
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<sup>C</sup> OBBA Breeding Evidence Codes: OBSERVED FO - Fly Over X - Species observed in its breeding season (no breeding evidence) POSSIBLE H - Species observed in its breeding season in suitable nesting habitat
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**Table 3 - Birds List for Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON.**

S - Singing male present, or breeding calls heard, in suitable nesting habitat in nesting season.  
PROBABLE  
A - Agitated behaviour or anxiety calls of an adult.  
N - Nest building or excavation of nest hole.  
P -Pair observed in suitable nesting habitat in nesting season.  
T - Permanent territory presumed through registration of territorial behaviour (e.g. song) on at least two days, a week or more apart, at the same place.

<sup>D</sup>Conservation Rank - from OMNRF, NHIC and SARO Lists 2014  
RCC - Regional Conservation Concern according to Ontario Partners in Flight (2008)\*\*  
S-rank - S1 - Extremely Rare, S2 - Very Rare, S3 - Rare to Uncommon, S4 - Common, S5 - Very Common  
G-Rank - G1 - Critically Imperiled, G2 - Imperiled, G3 - Vulnerable, G4 - Apparently Secure, G5 - Secure  
SARO - EXP (Extirpated), END (Endangered), THR (Threatened), SC (Special Concern)

\*\*Ontario Partners in Flight. 2008. Ontario Landbird Conservation Plan: Lower Great Lakes/St. Lawrence Plain, North American Bird Conservation Region 13. Ontario Ministry of Natural Resources, Bird Studies Canada, Environment Canada.Draft Version 2.0

Table 4: Species at Risk Habitat Summary.

AEC11-076h Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON

Common Name	Species Name	MNR	Key Habitats Used By Species <sup>1</sup>	Initial Assessment
American Ginseng	<i>Panax quinquefolius</i>	END	It typically grows in rich, moist, but well-drained, and relatively mature, deciduous woods dominated by Sugar Maple ( <i>Acer saccharum</i> ), White Ash ( <i>Fraxinus americana</i> ) and American Basswood ( <i>Tilia americana</i> ). ESA Protection: Species and general habitat protection	No American Ginseng was observed during vegetation surveys.
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC	They nest in a variety of habitats and forest types, almost always near a major lake or river. They usually nest in large trees such as pine and poplar. ESA Protection: none	No critical habitat, no evidence of nesting present within the study area.
Bank Swallow	<i>Riparia riparia</i>	THR	Nests in burrows excavated in natural and human-made settings with vertical sand and silt faces. Colonies commonly found in sand or gravel pits, lakeshores, and along river banks ESA Protection: Species and general habitat protection	No critical habitat, no evidence of nesting present within the study area.
Barn Swallow	<i>Hirundo rustica</i>	THR	Ledges and walls of man-made structures such as buildings, barns, boathouses Cliffs or caves ESA Protection: Species and general habitat protection	No suitable nesting habitat present for species ( <i>i.e.</i> no structures). No Barn Swallow were observed during Azimuth's field investigations.
Black Tern	<i>Chlidonias niger</i>	SC	Colonial nesters typically within cattail marshes and other shallow marsh types. Floating nests. ESA Protection: N/A	Habitat within study area is not representative of key habitat.
Blanding's Turtle	<i>Emydoidea blandingii</i>	THR	Blanding's Turtles are a primarily aquatic species that prefer wetland habitats, lakes, ponds, slow-moving streams, etc., however they may utilize upland areas to search for suitable basking and nesting sites. In general, preferred wetland sites are eutrophic and characterized by shallow water, organic substrates, and a high density of aquatic vegetation (COSEWIC, 2005).  ESA Protection: Species and regulated habitat protection	Habitat within study area is not representative of key habitat.
Bobolink	<i>Dolichonyx oryzivorus</i>	THR	Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >4ha (MNR, 2000)  ESA Protection: Species and general habitat protection	No Bobolink were observed during Azimuth's field investigations.
Butternut	<i>Juglans cinerea</i>	END	Occurs on a variety of sites, including dry rocky soils (particularly those of limestone origin); grows best on well-drained fertile soils in shallow valleys and on gradual slopes; singly or in small groups mixed with other species. Intolerant of shade (Farrar 1995)  ESA Protection: Species and general habitat protection	Butternut was observed on the property during the vegetation surveys.
Canada Warbler	<i>Wilsonia canadensis</i>	SC	Wet, mixed deciduous-coniferous forests with a well developed shrub layer. Shrub marshes, red-maple stands, cedar stands, black spruce swamps, larch and riparian woodlands along rivers and lakes. (COSEWIC, 2008)  ESA Protection: N/A	Habitat within study area is not representative of key habitat.
Chimney Swift	<i>Chaetura pelagica</i>	THR	Nests primarily in chimneys though some populations ( <i>i.e.</i> in rural areas) may nest in cavity trees (Cadman 2007). Recent changes in chimney design and covering of openings to prevent wildlife access may be a significant factor in recent declines in numbers (Adams and Lindsey 2010).  ESA Protection: Species and general habitat protection	No suitable nesting habitat present for species ( <i>i.e.</i> No structures). No Chimney Swift were observed during Azimuth's field investigations.
Common Nighthawk	<i>Chordeiles minor</i>	SC	Open habitats including sand dunes, beaches recently logged/burned over areas, forest clearings, short grass prairies, pastures, open forests, bogs, marshes, lakeshores, gravel roads, mine tailings, quarries, and other open relatively clear areas. (COSEWIC, 2007)  ESA Protection: N/A	Potential habitat exists within study area, but the species was not observed during Azimuth's field investigations.
Eastern Meadowlark	<i>Sturnella magna</i>	THR	Open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees. Old orchards with adjacent, open grassy areas >4 ha in size (MNR, 2000)  ESA Protection: Species and general habitat protection	No Eastern Meadowlark were observed during Azimuth's field investigations.

Table 4: Species at Risk Habitat Summary.

AEC11-076h Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON

Common Name	Species Name	MNR	Key Habitats Used By Species <sup>1</sup>	Initial Assessment
Eastern Musk Turtle	<i>Sternotherus oderatus</i>	SC	Marsh, swamp, fen (bog). Eastern Musk Turtles are found in ponds, lakes, marshes and rivers that are generally slow-moving have abundant emergent vegetation and muddy bottoms that they burrow into for winter hibernation (MNRF 2015).  ESA Protection: N/A	Habitat within study area is not representative of key habitat.
Eastern Prairie Fringed Orchid	<i>Platanthera leucophaea</i>	END	Wetlands, fens, swamps, and tallgrass prairie. Ditches, railroad rights of way. ESA Protection: Species and general habitat protection	Habitat within study area is not representative of key habitat.
Eastern Ribbonsnake	<i>Thamnophis sauritus</i>	SC	Marsh, swamp, fen (bog). Eastern Ribbonsnake prefer to live in close proximity to water, particularly marshes and areas with shallow water where opportunities to hunt frogs and fish are possible (MNRF, 2015).  ESA Protection: N/A	Habitat within study area is not representative of key habitat.
Eastern Small-footed Bat	<i>Myotis Lleibii</i>	END	Generally occurs in mountainous or rocky regions where it has been noted to roost in large boulders and beneath slabs of rock and stones. Hibernation is typically confined to caves and abandoned mine adits. (Best and Jennings, 1997 and MNRF, 2014)  ESA Protection: Species and general habitat protection	Species not expected to be present on or adjacent to study area. Habitat is not representative of key habitat.
Eastern Wood-pewee	<i>Contopus virens</i>	SC	Typically associated with deciduous and mixed forests with little understory vegetation; Often found in clearings or on edges of deciduous and mixed forests (MNRF, 2015).  ESA Protection: N/A	Eastern Wood-pewee was identified within the woodland feature along the eastern property limit (Figure 2).
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	SC	Areas of early successional scrub surrounded by Mature Forests including dry uplands, swamp forests, and marshes (COSEWIC, 2006).  ESA Protection: N/A	Golden-winged Warbler was not observed during breeding bird surveys. Habitat on site is no representative of ideal habitat for the species.
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	SC	It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. ESA Protection: N/A	Habitat within the study area is not representative of key habitat. No Grasshopper Sparrows were observed during Azimuth's field investigations.
Henslow's Sparrow	<i>Ammodramus henslowii</i>	END	Nests in large, open, usually moist to wet, often flat fields with a high graminoid to forb/shrub ratio. Vegetation must be dense and over 30cm in height  ESA Protection: Species and general habitat protection	Henslow's Sparrow was not observed during breeding bird surveys. There is no potentially suitable habitat for this species on the property.
Least Bittern	<i>Ixobrychus exilis</i>	THR	Least Bittern prefer large, freshwater marshes with dense aquatic vegetation (e.g. Cattails) with interspersed clumps of woody vegetation and open water (COSEWIC, 2001).  ESA Protection: Species and general habitat protection	Habitat on site is not representative of ideal habitat for the species.
Little Brown Bat	<i>Myotis lucifugus</i>	END	Forests and regularly aging human structures as maternity roost sites. Regularly associated with attics of older buildings and barns for summer maternity roost colonies. Overwintering sites are characteristically mines or caves, but can often include buildings (MNRF 2014, COSEWIC 2013a).  ESA Protection: Species and general habitat protection	Potentially suitable maternity roosting habitat is present within the FOD5-2.
Massasauga	<i>Sistrurus catenatus</i>	THR (Great Lakes St Lawrence Population)	Tall grass prairie, bogs, marshes, shorelines, forests and alvars. Within all of these habitats, Massasaugas hibernate in the crevases in bedrock, sphagnum swamps, tree root cavities and animal burrows. ESA Protection: Species and general habitat protection	Habitat within study area is not representative of key habitat.
Monarch Butterfly	<i>Danaus plexippus</i>	SC	Caterpillars - Milkweed in meadows and open areas Adults - Meadows and diverse habitats with a variety of wildflowers (MNRF, 2015)  ESA Protection: N/A	No significant areas of Milkweed. No potentially suitable habitat on the property.

Table 4: Species at Risk Habitat Summary.

AEC11-076h Blue Sky Private Equity Inc., Hewitt's Secondary Plan Area, Barrie, ON

Common Name	Species Name	MNR	Key Habitats Used By Species <sup>1</sup>	Initial Assessment
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	END	Maternity roost sites are generally located within deciduous and mixed forests and focused within leaf . Overwintering sites are characteristically mines or caves, but can include buildings.  ESA Protection: Species and general habitat protection	Potentially suitable maternity roosting habitat present within FOD5-2.
Northern Map Turtle	<i>Graptemys geographica</i>	SC	Northern Map Turtles prefer rivers and lakeshores with available emergent rocks and fallen trees for basking. Deep, slow-moving sections of rivers are utilized for hibernation (COSEWIC, 2002a).  ESA Protection: N/A	Species not expected to be present on or adjacent to the property. Habitat is not representative of key habitat.
Olive-sided Flycatcher	<i>Contopus cooperi</i>	SC	Natural forest openings, forest edges near natural openings (such as wetlands) or open to semi-open forest stands. Occasionally human made openings (such as clear cuts). Presence of tall snags and residual live trees is essential. (COSEWIC, 2007 and MNRF, 2015))  ESA Protection: N/A	Olive-sided Flycatcher was not observed during breeding bird surveys. Habitat is not representative of key habitat.
Peregrine Falcon	<i>Falco peregrinus</i>	THR	Peregrine Falcons nest on tall, steep cliff ledges close to large bodies of water. Urban falcons raise their young on ledges of tall buildings.  ESA Protection: Species and regulated habitat protection	Species not expected to be present on or adjacent to the study area. Habitat is not representative of key habitat.
Purple Twayblade	<i>Liparis liliifolia</i>	THR	Open oak woodland and savannah, mixed deciduous forest, shrub thicket, shrub alvar, deciduous swamp, and even conifer plantations.	Habitat on site is not representative of ideal habitat for the species.
Red-Headed Woodpecker	<i>Melanerpes erythrocephalus</i>	SC	Oak and Beech Forests, graasslands, forest edges, orchards, pastures, riparian forests, roadsides, urban parks, golf courses, cemetaries, beaver ponds and burns (COSEWIC, 2007#). ESA Protection: N/A	Red-headed Woodpecker was not identified during bird surveys. It could however, reasonably be expected to use any of the existing forested units within the study area for nesting or foraging habitat.
Short Eared Owl	<i>Asio flammeus</i>	SC	Short-eared Owl prefer large, dense, well-drained grasslands (such as tallgrass prairie) for breeding and nesting, preferably in proximity to large, coastal wetland units (COSEWIC, 2008b). Often Nest on the ground.  ESA Protection: N/A	Species not expected to be present within study area. Habitat is not representative of key habitat.
Snapping Turtle	<i>Chelydra serpentina</i>	SC	Snapping Turtle utilize a wide variety of aquatic habitat, but prefer shallow waters with abundant leaf litter. Femals travel overland during the nesting season in search of suitable nesting sites such as gravel shoulders of roadways, dams, and aggregate pite (MNRF, 2015).  ESA Protection: N/A	Species not expected to be present on or adjacent to the study area. Habitat is not representative of key habitat.
Spotted Wintergreen	<i>Chimaphila maculata</i> var. <i>Maculata</i>	END	Usually occurs in dry oak-pine woodland habitats with sandy soils. Typically, dominant tree species include White Pine, Red Oak, Black Oak, and American Beech. The species does best in semi-open habitats. ESA Protection: Species and general habitat protection	Species not expected to be present within study area. Habitat is not representative of key habitat.
Tri-colored Bat	<i>Perimyotis subflavus</i>	END	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. ESA Protection: Species and General Habitat Protection	Potentially suitable maternity roosting habitat present within FOD5-2.
Whip-Poor-Will	<i>Caprimulgus vociferus</i>	THR	Whip-poor-will prefer areas with a mix of open and forested habitat, open woodlands, or openings in mature forests (MNRF, 2015).  ESA Protection: Species and general habitat protection	Not expected to occur on the property. Habitat is not representative of key habitat.
Wood Thrush	<i>Hylocichla mustelina</i>	SC	Typically associated with moist mature deciduous and mixed forests with a well developed understory.  ESA Protection: N/A	Potentially suitable habitat present for this species within wooded areas. Wood Thrush not observed during Azimuth's Breeding Bird surveys.

1. Habitat as outlined within MNRF's Species at Risk Website (<https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>) or Species Specific COSEWIC Reports referenced in this document.



Table 5: Significant Wildlife Habitat Ecoregion 6ECriteria, Blue Sky Private Equity Inc.

SWH Category	SWH Function	SWH Criteria	Assessment
Seasonal Concentration Area	Waterfowl Stopover & Staging Areas (Terrestrial)	Mixed waterfowl species aggregations of >100 birds within flooded field areas used annually during spring migration (mid March to May).	No suitable habitat.
	Waterfowl Stopover & Staging Areas (Aquatic)	<p>Ponds, marshes, lakes, bays, coastal inlets &amp; watercourses used by aggregations of &gt; 100 of listed waterfowl for 7 days during spring and autumn migration.</p> <p>Listed Species: Canada Goose, Cackling Goose, Snow Goose, American Black Duck, Northern Pintail, Northern Shoveler, American Widgeon, Gadwall, Green-winged Teal, Blue-winged Teal, Hooded Merganser, Scaup (Lesser &amp; Greater), Long-tailed Duck, Surf Scoter, Black Scoter, Ring-necked Duck, Common Goldeneye, Bufflehead, Ruddy Duck, Red-breasted Merganser, Brant, Canvasback, Redhead.</p>	No suitable habitat.
	Shorebird Migratory Stopover Area	<p>Shorelines of lakes, rivers and wetlands including beach areas, bars, groynes and muddy/un-vegetated shoreline habitat used by 3 or more listed species demonstrating &gt; 1000 “shorebird use days” (<i>i.e.</i> accumulated number of shorebirds over the course of the spring or autumn migration period) or sites used by &gt;100 Whimbrel for 3 or more years.</p> <p>Listed Species: Greater Yellowlegs, Lesser Yellowlegs, Marbled Godwit, Hudsonian Godwit, Black-bellied Plover, American Golden Plover, Semipalmated Plover, Solitary Sandpiper, Spotted Sandpiper, Semipalmated Sandpiper, Pectoral Sandpiper, White-rumped Sandpiper, Baird’s Sandpiper, Stilt Sandpiper, Short-billed Dowitcher, Red-necked Phalarope, Whimbrel, Ruddy Turnstone, Sanderling, Dunlin.</p>	No suitable habitat.
	Raptor Wintering Area	<p>Combinations of fields and woodlands providing roosting, foraging and resting habitat utilized by at least 10 individuals of 2 listed species used regularly for at least 20 days in 3 of 5 years or used by one or more Short-eared Owls.</p> <p>Listed Species: Rough-legged Hawk, Red-tailed Hawk, Northern Harrier, American Kestrel, Snowy Owl, Short-eared Owl.</p>	No suitable habitat.
	Bat Hibernacula	Caves, mine shafts, underground foundations and Kart formations utilized by bat species during winter.	No suitable habitat.
	Bat Maternity Colony	Wildlife cavity trees within deciduous or mixed forest communities having >10ha, large diameter ( <i>i.e.</i> >25cm diameter at breast height) trees containing cavities or loose bark pockets of sufficient size to housing five or more adult bats.	Potentially suitable habitat within FOD5-2.
	Turtle Wintering Area	Areas of deep water associated with core habitat utilized by turtles throughout the year often in the vicinity of areas of concentrations of basking turtles noted on warm, sunny days in autumn (September – October) or spring (March – May).	No suitable habitat.
	Snake Hibernacula	Animal burrows, rock fissures and other structures that allow underground	No suitable habitat.

Table 5: Significant Wildlife Habitat Ecoregion 6ECriteria, Blue Sky Private Equity Inc.

SWH Category	SWH Function	SWH Criteria	Assessment
		access below frost and open wetlands containing sparse trees or shrubs cover providing hummocks or depressions with sphagnum moss or sedge ground cover. Areas of observed concentrations of five or more snakes or two or more snake species observed on sunny, warm days in spring (April-May) and autumn (September-October).	
	Colonial Bird Nesting (Bank & Cliff)	Sites with exposed soil banks either natural (mainly along shorelines, rivers) or exposed as part of aggregate extraction/material stockpiling. Presence of 1 or more nesting sites with 8 or more pairs of Cliff Swallows or > 50 Bank Swallow or Northern Rough-winged Swallow during the breeding season.	No suitable habitat.
	Colonial Bird Nesting (Tree/Shrub)	Sites having live or dead trees in wetlands, lakes, islands or peninsulas having > 5 active Great Blue Heron nests or active heronries of other species (Black-crowned Night-heron, Great Egret, Green Heron).	No suitable habitat. No Heron nests or heronries observed on site.
	Colonial Bird Nesting (Ground)	Nesting colonies of gulls and terns on islands or peninsulas having > 25 active nests for Herring Gulls or Ring-billed Gulls or > 5 active Common Tern nests or > 2 active Caspian Tern nests or any active nests of Little Gull or Great Blacked-backed Gull. Farm ditches or streams having low shrub cover utilized by 5 or more pairs of Brewer’s Blackbirds during the nesting season.	No suitable habitat.
	Migratory Butterfly Stopover Area	Meadows and thickets over 10ha in size with a combination of field and forest habitat located within 5km of Lake Ontario having > 5000 Monarch Use Days (MUD = number of days site used by Monarchs X number of Monarchs ) during autumn migration (August – October) or MUD > 3000 MUD if Painted Lady or White Admiral are observed.	No suitable habitat. Not within 5km of Lake Ontario.
	Landbird Migratory Stopover Area	Woodlots over 10ha in size located within 5km of Lake Ontario used by >200 birds/day with >35 species total with at least 10 species recorded on at least 5 different survey days during spring (April-May) and autumn (August-October) migration.	No suitable habitat. Not located within 5km of Lake Ontario.
	Deer Yarding Area	Conifer and mixed forest and swamp communities in areas typically having snow depths > 40cm for more than 60 days that are mapped as Stratum 1 (core) or Stratum 2 deer yard by the MNR and show winter accumulations of deer tracks.	Currently not mapped by MNRF as deer yard (Appendix C). No obvious deer yard function.
	Deer Winter Concentration Area	Large (i.e., woodlots > 100ha) conifer and mixed forest and swamp communities in areas typically having relatively low snow accumulation that are utilized during winter by > 10 deer/km <sup>2</sup> and identified by the MNR.	Currently not mapped by MNRF as deer yard (Appendix C). No obvious deer yard function.
Rare Vegetation Communities	Cliffs & Talus Slopes	Any Ecological Land Classification (ELC) vegetation type for Cliffs or Talus Slopes associated with a vertical to near vertical rock face >3m high.	Not present on subject lands.
	Sand Barren	Area of exposed sand with sparse vegetation and underlying rock protruding the surface in places. Site not dominated by exotic or introduces species (i.e., <50% vegetative cover by non-native plant species).	Not present on subject lands.

Table 5: Significant Wildlife Habitat Ecoregion 6ECriteria, Blue Sky Private Equity Inc.

SWH Category	SWH Function	SWH Criteria	Assessment
	Alvar	Area of exposed calcareous bedrock sand with sparse vegetation and shallow soils. Site not dominated by exotic or introduces species (i.e., <50% vegetative cover by non-native plant species) and in excellent condition with few conflicting land uses.	Not present on subject lands.
	Old Growth Forest	Forest communities over 30ha with at least 10ha of “100m forest interior” dominated by trees over 140 years old with a mosaic of gaps establishing a multi-layered canopy with no evidence of forestry activities.	Not present on subject lands.
	Savannah	Tallgrass Prairie habitat having tree cover between 25% and 60%	Not present on subject lands.
	Tallgrass Prairie	Open grassland having tree cover <25% containing one or more Prairie indicator plant species.	Not present on subject lands.
	Other Rare Vegetation Community Type	Any ELC vegetation community having a sub-national (S Rank) of S1, S2 or S3 as assigned by the MNR.	Not present on subject lands.
Specialized Habitat for Wildlife	Waterfowl Nesting Area	All lands adjacent (i.e., within 120m) of wetlands over 05ha in size or clusters of 3 or more small (<0.5) wetlands where waterfowl breeding is known to occur that contain 3 or more nesting pairs of listed species excluding Mallard or 10 or more nesting pairs including Mallard or any active nest site of American Black Duck. Listed Species: American Black Duck, Northern Pintail, Northern Shoveler, Gadwall, Blue-winged Teal, Green-winged Teal, Wood Duck, Hooded Merganser, Mallard.	No suitable habitat.
	Bald Eagle & Osprey Nesting, Foraging & Perching Habitat	Forest and swamp wetlands directly adjacent to lakes, rivers, ponds and other wetlands where nesting by Osprey or Bald Eagle is confirmed. Within 300m of active Osprey nest or 400-800m of an active Bald Eagle nest.	No suitable habitat.
	Woodland Raptor Nesting Habitat	Forests and conifer plantations >30ha with >10ha of “200m interior forest habitat” containing active nests of listed species. Within 400m of an active Red-shouldered Hawk or Northern Goshawk nest or 200m of an active Barred Owl nest or 100m of an active Broad-winged Hawk or Coopers Hawk nest or 50m of a Sharp-shinned Hawk nest. Listed Species: Northern Goshawk, Cooper’s Hawk, Sharp-shinned Hawk, Red-shouldered Hawk, Barred Owl, Broad-winged Hawk.	No Woodland Raptors or nests were observed on the property. No known raptor nests within the general area.
	Turtle Nesting Area	Areas of exposed sand and gravel in proximity to wetlands and waterbodies providing undisturbed shallow weedy areas utilized by turtles having 5 or more nesting Midland Painted Turtles or one or more nesting Northern Map Turtle or Snapping Turtle plus travel routes between wetlands and nesting areas.	No suitable habitat.
	Seeps & Springs	Forested headwaters of stream or river system containing 2 or more seeps/springs.	Not present on property.
	Amphibian Breeding Habitat (Woodland)	Forests and swamp wetlands containing permanent or vernal pools containing water in most years until mid-July having a breeding population of 1 or more listed species with at least 20 individuals (adults, juveniles, eggs/larval masses). Listed Species: Eastern Newt, Blue-spotted Salamander, Spotted	No amphibian breeding habitat present on property.

Table 5: Significant Wildlife Habitat Ecoregion 6ECriteria, Blue Sky Private Equity Inc.

SWH Category	SWH Function	SWH Criteria	Assessment
		Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog.	
	Amphibian Breeding Habitat (Wetland)	Wetlands and pools (including vernal pools >0.05ha) located >120m from woodlands having a breeding population of 1 or more of the listed salamander species or 3 or more of the listed frog species with at least 20 breeding individuals or wetlands with confirmed breeding by Bullfrog. Listed Species: Eastern Newt, Blue-spotted Salamander, Spotted Salamander, Four-toed Salamander, Gray Treefrog, Spring Peeper, Western Chorus Frog, Wood Frog, Northern Leopard Frog, Pickerel Frog, Green Frog, Mink Frog, Bull Frog, American Toad.	No suitable habitat.
Habitat of Species of Conservation Concern	Marsh Bird Breeding Habitat	Wetlands containing 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 5 or more of the listed species or any wetland with breeding of 1 or more Black Tern, Trumpeter Swan, Green Heron or Yellow Rail. Listed Species: American Bittern, Virginia Rail, Sora, Common Moorhen, American Coot, Pied-billed Grebe, Marsh Wren, Sedge Wren, Common Loon, Sandhill Crane, Green Heron, Trumpeter Swan, Black Tern, Yellow Rail.	No suitable habitat.
	Woodland Area-sensitive Bird Breeding Habitat	Large mature forest stands over 30ha having “200m interior habitat” with breeding pairs of 3 or more listed species or any site with breeding by Cerulean Warbler or Canada Warbler. Listed Species: Yellow-bellied Sapsucker, Red-breasted Nuthatch, Veery, Blue-headed Vireo, Northern Parula, Black-throated Green Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Ovenbird, Scarlet Tanager, Winter Wren, Cerulean Warbler, Canada Warbler.	Ovenbird was documented within the forest community, but the feature itself is not a candidate of SWH for Woodland Area-sensitive Bird Breeding Habitat due to lack of 200m interior habitat.
	Open County Bird Breeding Habitat	Grasslands >30ha in size not actively used for farming ( <i>i.e.</i> not Class 1 or 2 farmland) with breeding by 2 or more listed species or 1 or more breeding Short-eared Owls. Listed Species: Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, Northern Harrier, Savannah Sparrow, Short-eared Owl.	Only Savannah Sparrow was observed on the property during avian surveys and the property is actively farmed. Not SWH.
	Shrub/Early Successional Bird Breeding Habitat	Large field areas succeeding to thicket >10 in size not actively used for farming ( <i>i.e.</i> , not Class 1 or 2 farmland) with breeding by 1 of the listed species and at least 2 of the common species of a thicket having breeding Yellow-breasted Chat or Golden-winged Warbler. Listed Species: Indicator Spp.: Brown Thrasher, Clay-colored Sparrow; Common Spp: Field Sparrow, Black-billed Cuckoo, Eastern Towhee, Willow Flycatcher; Other Spp. Yellow-breasted Chat, Golden-winged Warbler.	No suitable habitat.
	Terrestrial Crayfish	Meadows and edges of shallow marshes containing 1 or more individuals or chimneys of Chimney or Devil Crayfish.	No suitable habitat. No chimneys documented on the property.
	Special Concern & Rare Wildlife Species	Site containing wildlife species having a sub-national (S Rank) of S1, S2 or S3 as assigned by the MNR.	Eastern Wood-pewee (SC) was observed within the FOD 5-2 and CUW1 communities.

SWH Category	SWH Function	SWH Criteria	Assessment
Animal Movement Corridors	Amphibian Movement Corridors	Movement corridors linking amphibian breeding habitat and summer habitat containing native vegetation and free of gaps such as fields, waterways, waterbodies or developed lands that are >200m wide and having gaps <20m wide. If following a riparian area corridor should include vegetation 15m of either side of watercourse.	No significant amphibian breeding habitat is associated with the property, and no corridors are present. No SWH.
	Deer Movement Corridors	Forest habitat associated with watercourses and ridges that are >200m wide and having gaps <20m wide. If following a riparian area corridor should include vegetation 15m of either side of watercourse. Corridors leading to deer wintering yards should be unbroken by roads or residential areas.	No suitable habitat.

Reference: MNR. 2015. Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E. Ontario Ministry of Natural Resources and Forestry, Regional Operations Division: Southern Region Resources Section, 300 Water Street, 4<sup>th</sup> Floor South, Peterborough, Ontario, Canada, K9J 8M5.



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## **APPENDICES**

- Appendix A: Municipal Background Information**  
**Appendix B: Lake Simcoe Region Conservation Authority**  
**Appendix C: Provincial Background Information**
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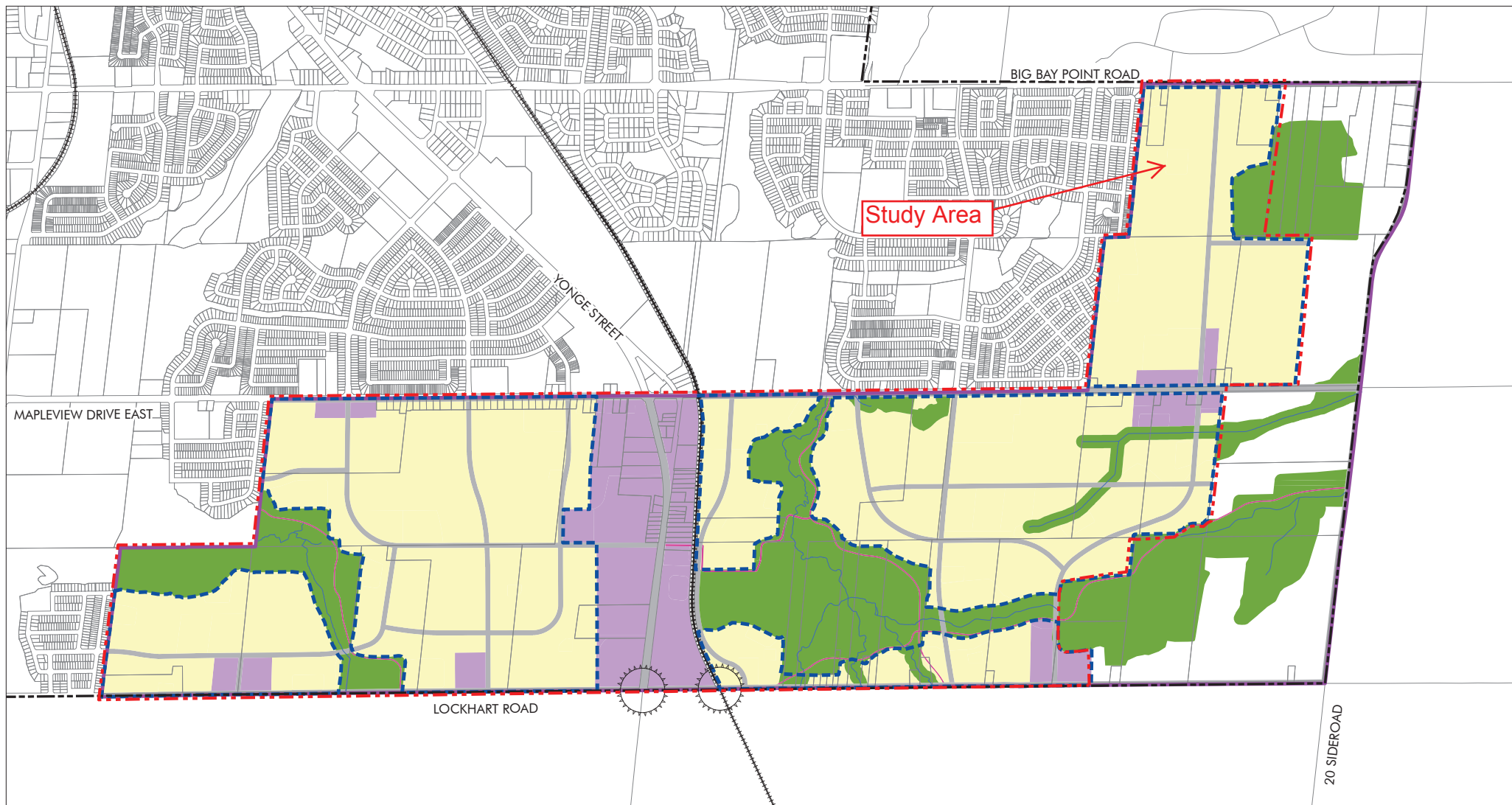
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## **APPENDIX A**

### **Municipal Background Information**

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|--------------------------|-----------------------------|-------------------------------|
| City Boundary            | Stream                      | Natural Heritage System       |
| Secondary Plan Boundary  | Existing and Proposed Roads | Special Rural Area            |
| Settlement Area Boundary | Pathway System              | Residential Area              |
| Residential District     | Gateways                    | Mixed Use Nodes and Corridors |
| Existing Parcel Fabric   |                             |                               |
| Railway                  |                             |                               |



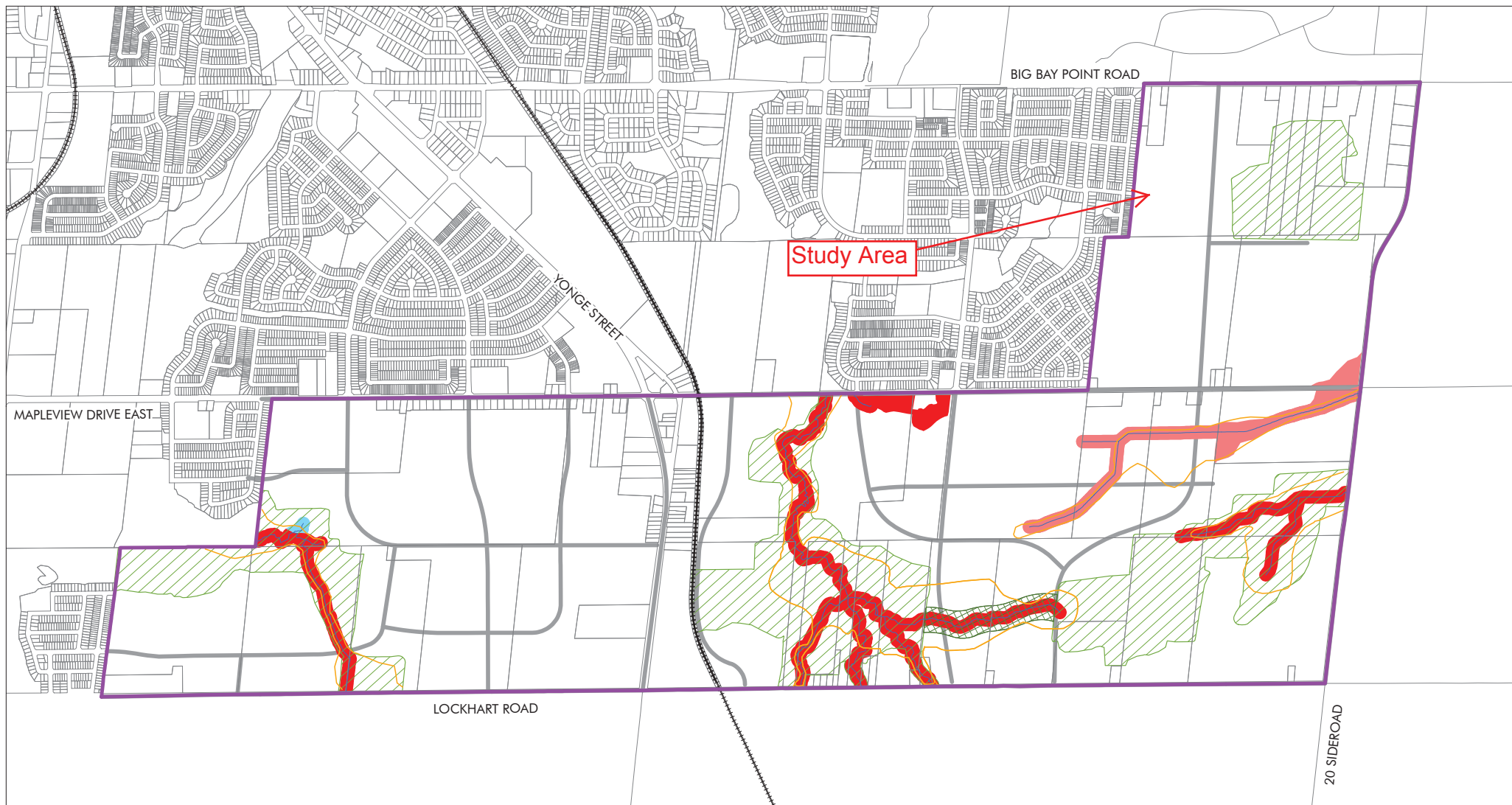
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Schedule 9A  
Community Structure

City of Barrie  
Hewitt's Secondary Plan

June 2014





-  Secondary Plan Boundary
-  Existing Parcel Fabric
-  Railway
-  Stream
-  Existing and Proposed Roads
-  Natural Core Area
-  Natural Linkage Area
-  High Constraint Stream Corridor Area
-  High (S) Constraint Stream Corridor Area - Special
-  Medium Constraint Stream Corridor Area
-  Regulatory Floodplain



0 0.25 0.5 1 km

Schedule 9B  
Natural Heritage System Components

City of Barrie  
Hewitt's Secondary Plan

June 2014



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## **APPENDIX B**

### **Lake Simcoe Region Conservation Authority**

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## LSRCA Regulation Mapping





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## **APPENDIX C**

### **Provincial Background Information**

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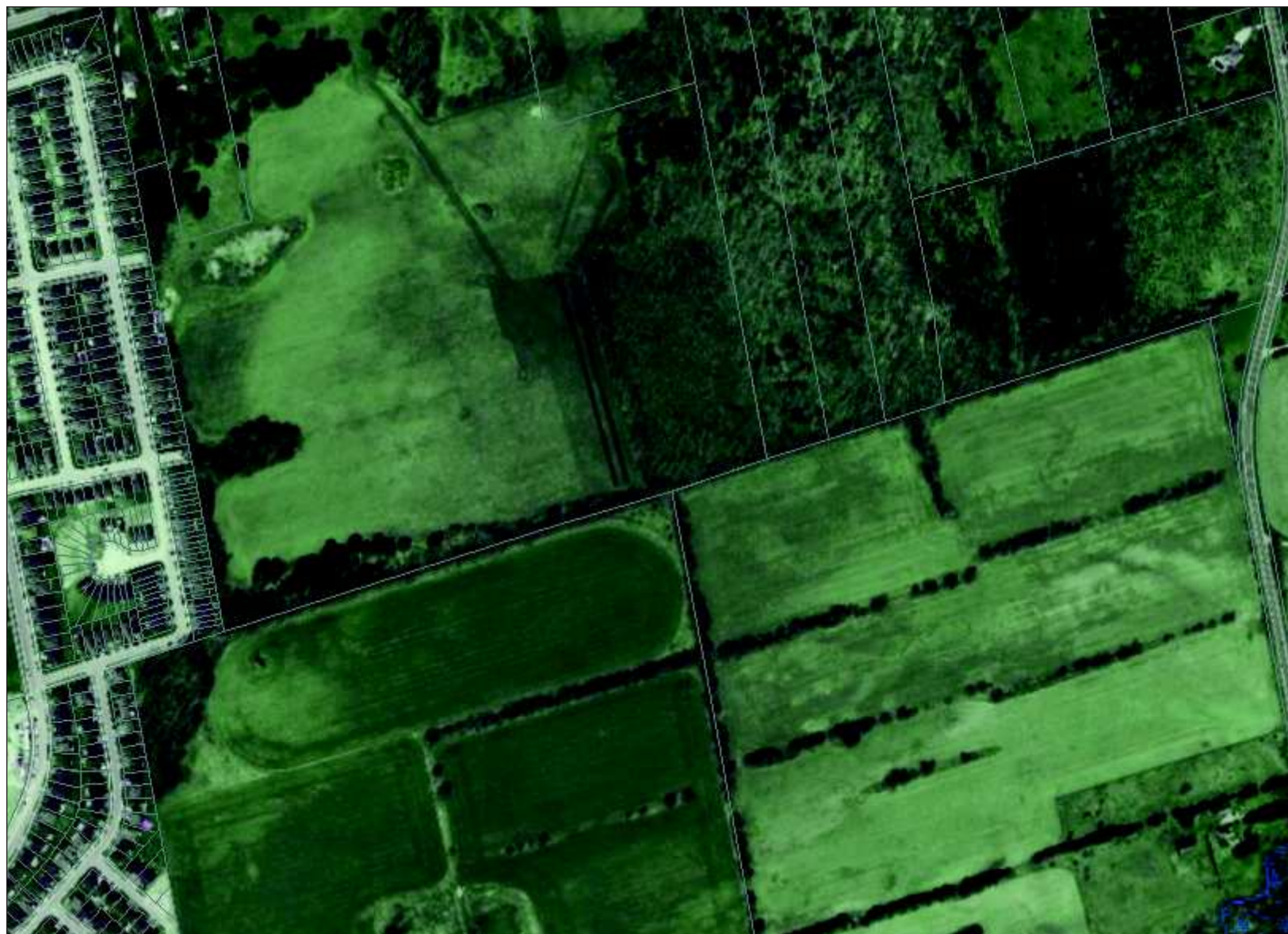




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## Legend

- Assessment Parcel
- Woodland
- Conservation Reserve
- Provincial Park
- Natural Heritage System
- Ecoregion

### Wetland

- Provincially Significant Wetland Evaluated
- Non - Provincially Significant Wetland Evaluated
- Unevaluated Wetland

### Area of Natural Heritage & Scientific Interest (ANSI)

- Provincially Significant Life Science ANSI
- Provincially Significant Earth Science ANSI

### Greenbelt Plan

- Boundary
- River Valley Connections
- Protected Countryside
- Towns and Villages
- Hamlets
- Urban River Valley
- Specialty Crop Area

### Niagara Escarpment Plan (NEP)

- Boundary
- Parks and Open Space System
- Land Use Designations
  - Escarpment Natural Area
  - Escarpment Protection Area
  - Escarpment Rural Area
  - Mineral Resource Extraction Area
  - Escarpment Recreation Area
  - Urban Area
  - Minor Urban Centre

### Oak Ridges Moraine Conservation Plan (ORM)

- Boundary
- Land Use Designations
  - Natural Core Area
  - Natural Linkage Area
  - Countryside Area
  - Rural Settlement
  - Palgrave Estates Residential Community
  - Settlement Area

0 0.3 km

Projection: Web Mercator



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