

ENVIRONMENTAL IMPACT ASSESSMENT

GEORGIAN GLEN SUBDIVISION

PART LOT 28, CONCESSION VII
TOWN OF THE BLUE MOUNTAINS

DECEMBER 2016



ENVIRONMENTAL IMPACT ASSESSMENT

GEORGIAN GLEN SUBDIVISION

Project 161-12260-00
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Final Distribution:
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1 c File

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December 9, 2016

Attn: Scott Paris
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Plan of Subdivision Town of the Blue Mountains Original File No. 42T-2002-006
Georgian Glen Subdivision, Part Lot 28, Concession VII, Town of the Blue Mountains

WSP is pleased to enclose our final report on the natural heritage component of your submissions. The environmental impact assessment (EIA) conforms to numerous recent changes in policy and draft policy guidelines that speak to natural heritage in Ontario including EcoRegion Guidelines for Region 6E.

WSP concludes that the prior draft plan of subdivision approvals were appropriate, with Phase 1 infrastructure in place, and Phase 2 to be described at the future design and detail stage.

New protocols moving forward would include, as agreed, continued collaboration with Saugeen Ojibway Nation during the plant enhancement at forest edge and stormwater management pond.

Please do not hesitate to contact the undersigned with any comments or questions further to your review.

Best regards,

A handwritten signature in cursive script that reads "Linda Liisa Sober".

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APPENDICES

APPENDIX A	PLANNING HISTORY
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1 INTRODUCTION

The 28.8 acre (11.67 ha) property is currently zoned as illustrated below.

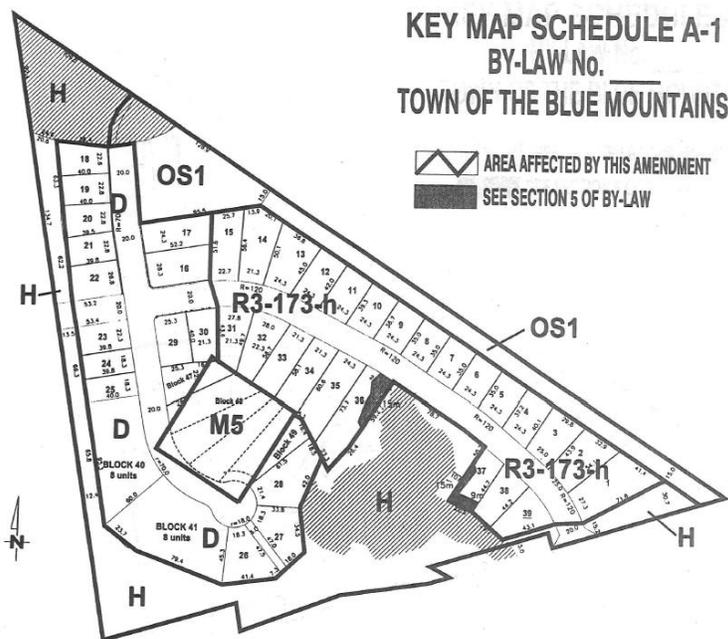


Figure 1: Georgian Glen Plan of Subdivision

The draft plan of subdivision was approved in 2003 by the Town of the Blue Mountains. Phase 1 infrastructure was built out, including the stormwater management pond, with Phase 2 subject to future design and detail such as staking of building envelopes.

Zoning agreed upon and laid out as above in Figure 1 will also be subject to current Town of the Blue Mountains Zoning By-Law 2016 updates carried out at the municipal level. Condition 15, of 15 conditions to final plan approval for registration, notes that if final approvals do not follow the draft approval within eight (8) years, the approval lapses under Subsection 51(32) of the Planning Act, RSO 1990, as amended. The approval lapsed and current submissions are required to update the state of the environment. Submissions include an arborist report, archaeological report and an environmental impact assessment.

This report provides a description of the existing conditions as determined through consultation with relevant authorities, reviews of secondary source information, and direct observation during seasonal wildlife survey from June through September of 2016.

2 REVIEW AGENCIES

2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) (Ontario Ministry of Municipal Affairs and Housing (OMMAH), 2014) is a planning document that provides a framework for, and governs development within, the Province of Ontario. In order to preserve various ecological resources deemed significant in the Province, development lands must be assessed for the presence of natural heritage features and sensitive hydrological features prior to construction. Natural heritage features (listed below) are both defined and afforded protections under the PPS. Linkages between natural heritage features, surface water and groundwater features are also recognized and afforded similar protections under the policy. Section 2.1.2 of the PPS also requires that the diversity and connectivity of natural heritage features and the long-term ecological function of natural heritage systems be maintained, restored or improved where possible.

Under the PPS (OMMAH, 2014), development or Site alteration is prohibited within significant wetlands in Ecoregions 5E, 6E and 7E and in significant coastal wetlands, but may be allowed adjacent to these features provided the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts to these features or their ecological functions. Development may be permitted in or adjacent to significant wetlands north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valley lands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River), significant wildlife habitat, and significant areas of natural and scientific interest (ANSI), provided there will be no negative impacts to these features or their ecological function due to the proposed undertaking. In addition, development and Site alteration is not permitted in fish habitat unless in accordance with provincial and federal legislation.

Natural heritage features as defined by the PPS (OMMAH, 2014) include:

- Natural Heritage Systems;
- Fish Habitat;
- Habitats of Endangered and Threatened Species;
- Significant Areas of Natural and Scientific Interest (ANSI);
- Significant Wetlands;
- Significant Coastal Wetlands;
- Significant Wildlife Habitat;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

Georgian Glen supports two of the nine natural heritage elements identified in the Provincial Policy, namely fish habitat and significant wildlife habitat. Both can be buffered from development.

Planning policies as they relate to surface water features and groundwater features are outlined within Section 2.3 of the PPS (2014). Specifically, development and Site alteration in or near sensitive surface water features and sensitive groundwater features should be restricted to ensure the protection,

improvement, and/or restoration of these features and their hydrologic functions, as well as the quality and quantity of water within the watershed and adjacent watersheds. Section 7.0 speaks to relevant policies.

MNRF was contacted for any pertinent natural heritage information on or near the subject property. Rare species data is discussed in the impact assessment section 7.0 of the document.

2.2 CONSERVATION AUTHORITIES ACT

The Conservation Authorities Act gives individual conservation authorities the power to regulate development and activities in or adjacent to river or stream valleys, Great Lakes and large inland lakes and shorelines, watercourses, hazardous lands and wetlands. Regulations made under the Conservation Authorities Act specify the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by individual Conservation Authorities. These regulations apply to lands within river or stream valleys, flood plains, wetlands, watercourses, lakes, hazardous lands or lands within 120 m of a Provincially Significant Wetland or wetlands greater than 2 hectares, or lands within 30 m of non-provincially significant wetlands. Development or Site alteration within these regulated areas may be permitted provided development is conducted in accordance with existing policies.

The local conservation authority, Grey Sauble Conservation Authority, was consulted for hazard land mapping which is detailed in consultation section 3.0 as well as section 7.0 where impact is assessed.

3.0 CONSULTATION

3.1 GREY SAUBLE CONSERVATION AUTHORITY

The Site is located within the jurisdiction of the Grey Sauble Conservation Authority (GSCA). The GSCA was contacted to conduct a review of the Site with respect to Ontario Regulation 151/06 under the *Conservation Authorities Act* and any other concerns they may have regarding the proposed development.

GSCA regulates development through Ontario Regulation 151/06 for “development, interference with wetlands and alterations to shorelines and watercourses” (GSCA, 2016). As such, the proponent will require a permit from GSCA before future construction of a building, temporary or permanent fill, altering wetland, and/or straightening, changing, diverting or in any way interfering with an existing channel of a river, lake, creek, stream or watercourse (GSCA, 2016).

During original studies the southerly wetland unit was delineated and incorporated into the GSCA hazard land mapping. It remains constrained from all Phase 1 and Phase 2 development.

Phase 2 cul de sac development will have regard for the toe of slope seasonal drainage WSP observed with evidence of coolwater discharge from the slope (i.e. *Nasturtium*).

3.2 ONTARIO MINISTRY OF NATURAL RESOURCES AND FORESTS

The Ontario Ministry of Natural Resources and Forestry (OMNRF) Owen Sound District Office was contacted upon completion of initial screening in order to verify records findings, request clarification (e.g., updated Species At Risk records etc.), and request any additional relevant information.

WSP confirms habitat is found on and near the subject property, outlined on our constraint map with healthy setbacks from the future residential land use. Setbacks for sensitive species are recommended in the EIA Impact Assessment section. Table 1 lists the potential rare species within 10km, while Table 2 lists rarities known in the broader region.

Table 1: Species at Risk within 10km (UTM 1km Grid ID: 17NK4632, southwest corner 17NK4631)

Species at Risk	Scientific Name	Status	Last Observation Date
Snapping Turtle	<i>Chelydra serpentina</i>	S3 Special Concern	1989-06-25
Shrubby St. John's-wort	<i>Hypericum prolificum</i>	S2	1943-08-19
Smith's Bulrush	<i>Schoenoplectiella smithii</i>	S3	1943-08-19
Shining-branch Hawthorn	<i>Crataegus magniflora</i>	S3	1975-06-12
Variegated Meadowlark	<i>Sympetrum corruptum</i>	S3	1927-09-11
A Lichen	<i>Melanelia subargentifera</i>	S1S3	1976-07-27

The subject property falls within the Niagara Escarpment Biosphere Reserve.

Our impact assessment section details whether the site offers suitable habitat for any of the rarities.

Based on the 2016 updates WSP finds potential for the Snapping turtle. A significantly historical record – 1927 – of a Variegated Meadowlark dragonfly may be possible for the eco-district and this site due to the pond and associated wetland at the north end of the parcel.

Based on the presence of other bryophytes and lichens in the treed swamp, the lichen, a more recent observation (1976), is quite possible within the southerly black ash treed swamp. These areas are conserved and will continue to be available for wildlife. Exclusionary fencing for turtle health is discussed for the northern wetland and storm pond in the impact assessment section of reporting.

The other historical records may reflect locations along nearby Georgian Bay since Smith's Bulrush and Shrubby St. John's-wort exhibit shoreland affinity.

Table 2: Other potential conservation status species in EcoRegion 6E (MNRF, 2016)

SPECIES	STAT US (as of July 2014)	HABITAT
Canada Warbler	SC	Deciduous and coniferous forests, usually wet forest types with a well developed, dense shrub layer
Cerulean Warbler	THR	Forest-interior birds that require large, relatively undisturbed tracts of mature, semi-open deciduous forest
Eastern Wood Pewee	SC	Deciduous and mixed forests
Olive-sided Flycatcher	SC	Coniferous or mixed forest adjacent to wetlands or rivers
Short-eared Owl	SC	Open grassland, marsh, wet meadows and forest clearings
Little Brown Bat	END	Roost in trees or buildings in daytime, evenings attics, abandoned buildings and barns. Hibernation sites rare, including caves and abandoned mines
Butternut	END	Various habitats from forest edges, fields, hedgerows, creekbanks and gradual slopes.
Monarch	SC	Nectaring and development stages in milkweed, new England aster, joe-pye-weed Autumn courtship occurs at ecotones between open meadow and forest edges
Eastern Ribbonsnake	SC	Edges of marsh, swamp, bog, fen and creekbanks
Milksnake	SC	Wide range of habitats, especially old fields and farm buildings
Snapping Turtle	SC	Aquatic species, mostly in water with preference for shallow water of wetlands

WSP surveys found:

- Eastern Wood Pewee and Monarch, both Species of Concern, at forest edges
- Suitable habitat in the northerly wetland for Snapping turtle

3.3 NIAGARA ESCARPMENT PLAN

Policies directly speaking to natural heritage within the Niagara Escarpment Plan have been included.

A2 Goals and Strategic Objectives

A2.1 The Natural Environment

A2.1.1 Goal

It is a goal of this Plan to protect and enhance significant natural heritage features and functions in the Municipality and to support the rehabilitation of those that have become degraded.

A2.1.2 Strategic Objectives

1. To ensure that the protection of significant environmental features and their associated ecological functions takes precedence over the development of such lands.
2. To ensure that an understanding of the natural environment, including the values, opportunities, limits and constraints that it provides, guides land use decision-making in the Municipality.
3. To make planning decisions that contribute to the protection, conservation and enhancement of water and related resources on an integrated watershed management basis with particular focus on the protection of ground water recharge areas, cold water streams, lakes and other surface waters for their habitat, recreational, ecological and drinking water benefits.
4. To make planning decisions which discourage the loss or fragmentation of significant woodland features and the habitats and ecological functions they provide.
5. To prohibit changes to the water quality and hydrological and hydrogeological characteristics of watercourses, lakes, aquifers and wetlands and to restrict development that will negatively impact the critical functions and processes of these features.
6. To make planning decisions which aim to prevent the loss or fragmentation of Provincially Significant Wetlands and Areas of Natural and Scientific Interest and the habitats and ecological functions they provide.
7. To discourage further large-scale development serviced by private sewage disposal systems.
8. To encourage the establishment of an open space system that links environmental and recreational resources both within and beyond the boundaries of the Municipality as part of the development of a Natural Heritage/Recreational Strategy.
9. To make planning decisions that contribute to the protection of air quality and the minimization of air-borne contaminants.

A3.3 Environmental and Open Space Designations

The land use designations within the Environmental and Open Space category are described below:

A3.3.1 Environmental Protection

The Environmental Protection designation is intended to include the following components of the Municipality's Natural Heritage System:

- All wetlands;
- Provincially significant Areas of Natural and Scientific Interest;
- Floodplains;
- Hazardous slopes;
- Lands identified as 'Escarpment Natural Area' within the Niagara Escarpment Plan;
- Any other areas that have been determined to be environmentally significant as a result of a development review process or detailed land use study, such as a Secondary Plan.

Natural Function policies have also been established to address other significant natural areas/features not specifically designated as Environmental Protection.

Many of the NEP policies are consistent with the Ontario Planning Act Provincial Policy Statement goals and policies and are captured within our assessment of potential impact to the natural heritage features and functions observed and/or documented for the site.

4.0 ECOLOGICAL FEATURES AND FUNCTIONS



Figure 2: Key ecological features and functions documented by WSP in the 2016 EIA update.

The Eastern Wood Pewee was documented at two locations west of the parcel. The storm pond supports a rare damselfly, the Azure Bluet, and the Monarch courted at the limits of the central septic bed open meadow. WSP noted two Wood Frog at the south wetland periphery in late summer.

4.1 SITE VISITS

Prior to the Site visit, satellite images of the property, land use and topographical maps were reviewed to identify the presence of Natural Heritage Features, available habitat and the potential for species of conservation concern on the Site. The Natural Heritage Areas Mapping, including the Natural Heritage Information Centre (NHIC) data (MNRF, 2015a), was reviewed for records of Species at Risk, Significant

Plant Communities, Wildlife Concentration Areas and Areas of Natural and Scientific Interest (ANSI) on or near the Site.

Site visits were conducted and documented below in Table 4.1. While each survey had a primary purpose, incidental wildlife observations were also collected.

Table 4.1 Field Schedule

DATE	SURVEY TYPE	TIME / DURATION	WEATHER CONDITIONS*
August 26	Ecological Land Classification	2:00 p.m. to 4:00 p.m.	22°Celsius. Clear, no precipitation. Beaufort 2.
August 29	Rare Species Survey Including courting Monarch	9:00 a.m. to 4:00 p.m.	23 Celsius 9:00 a.m. Clear, no precipitation or wind
September 19	Wetland Function All ELC wetlands including SWMP	8 a.m. to 12:00 noon	25 Celsius. Sunny, Beauford 1.

* Sky cover defined as Clear (0-25%), Mostly Clear (25-50%), Mostly Cloudy (50-75%), and Cloudy (75-100%). Precipitation defined as None, Trace, or Rain. Wind defined as Calm (0-2 km/h), Light Air (3-5 km/h), Slight Breeze (6-11 km/h), Gentle Breeze (12-19 km/h), or Moderate Breeze (20-10 km/h).

Site visits were conducted for the purposes of i) documenting the presence of dominant vascular plants, ii) completing breeding bird surveys, iii) investigating the presence of rare or endangered species or their habitats, and iv) confirming the presence of Natural Heritage Features and general Site characteristics.

5.0 RESULTS

The following sections describe the wildlife surveys undertaken and their results.

5.1 METHODS

Reconnaissance wildlife surveys included:

- Herpetofaunal Value Derived From Habitat Evaluation and prior reporting (no spring census)
- Early Morning Bird Chorus, both roving reconnaissance and three point counts.
- Roving reconnaissance for ELC Vegetation Community Mapping

Bird survey protocol follows intent of the Forest Bird Monitoring Protocol (FBMP; Konze and McLaren, 1997), and Ontario Breeding Bird Atlas (OBBA). The Forest Bird Monitoring Protocol recommends completing standardized point counts to survey an area.

Point counts are recommended to be at least 250 m apart and at least 100 m from the edge of a habitat type. Three point counts were completed on the Site, separated from each other by a distance of no less than 250 m sampling wetland habitat, mixed forest and coniferous forest.

Reconnaissance while roving also took place when moving between habitat types. This involved looking and listening for birds en route between the upland forest and the forested wetland. Birds observed on and near the site are reported on below and discussed.

5.2 BREEDING BIRDS

Evidence of breeding birds on and 120m from the site included:

Avifauna

- American Robin
- Swamp Sparrow
- Chipping Sparrow
- Downy Woodpecker
- Hairy Woodpecker
- Eastern Phoebe
- American Crow
- Black-capped Chickadee
- Ruffed Grouse
- Blue Jay
- Great Crested Flycatcher
- American Goldfinch
- Eastern Wood Pewee
- Common Yellowthroat
- Black-and-white Warbler

5.3 MAMMALS

Mammal observations include:

- White-tailed deer
- Fox
- Red Squirrel
- No sign of Black Bear
- Scat of domestic cat
- Track of domestic dog
- Meadow vole
- Grey squirrel (black phase)

5.4 HERPETOFAUNA

The project commenced after the spring herpetofauna breeding season. WSP thus relied upon previous studies on file at the Town of the Blue Mountains for Georgian Glen, which was before the Ontario Municipal Board and approved earlier. WSP also ranked herpetile function by wetland and wetland fringe habitat on and near the study site.

Our 2016 fieldwork included ground searches for herptiles and assessment of habitat value for herptiles. Ground truthing included reconnaissance surveys on foot, searching beneath deadfallen trees, brush piles, rocks and vegetation.

WSP confirms that herpetile function can be expected in the following ELC vegetation communities:

1. The SWMP
2. Wetland proximate to the SWMP:
3. Southern wetland

The majority of species encountered require temporary ponding to complete their breeding cycle in water. Our site inspections confirm that standing water was observed in the wetland ELC units in August of 2016, suggesting there is adequate water cover in the spring to support amphibian and salamander breeding as well as incubation.

The Eastern Red-backed Salamander breeds on land, but also requires a moist forest floor as we most often conduct egg counts within rotted den trees on the forest floor in the summer; these eggs have overwintered as the salamanders breed during September and October rain events, then hibernate before the female lays her eggs next June.

Mitigation to retain salamander, frog and snake species in the rear yard habitats includes limiting the amount of landscaping and clearing of existing shrub and tree cover wherever adjacent to key wetland areas below.



Figure 3: Key herptile breeding habitat

Landscape Level

With regard to wildlife corridors some herptiles may experience current mortality crossing County Road 40.

There is also potential for mortality if herptiles travel across the internal road separating the SWMP and treed swamp. Mitigation is discussed in the impact assessment section.

6 NATURAL HERITAGE

The following sections summarize the findings of the background review and Site investigations as they pertain to Natural Heritage Features and Hydrologic Features described within the Provincial Policy Statement (OMMAH, 2014).

6.1 FISH HABITAT

Fish habitat, as defined by the Fisheries Act, c. F-14, includes the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes. The Act also includes a broader definition of fish as shellfish, crustaceans, and marine mammals at all stages of their life cycles.

The Natural Heritage Areas Mapping (MNRF, 2015a), and Town of the Blue Mountains O.P. map schedules were searched for fisheries resource identification. There was no recorded fish habitat on or adjacent to the Site. The Official Plan however allows for new information to be added to an open file, and we confirm fish habitat in the treed swamp and SWMP.

Cyprinids include the Brook Stickleback and WSP notes some of the available habitat in the swamp dries and land locks the cyprinids, resulting in mortality during high drought summers such as the one experienced in 2016. The SWMP continued to hold water throughout the drought.

MNRF and DFO guidelines for the warmwater fisheries of 15m setbacks are met.

6.2 SIGNIFICANT AREAS OF NATURAL AND SCIENTIFIC INTEREST

Significant Areas of Natural and Scientific Interest (ANSI) are defined as areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.

The Natural Heritage Areas Mapping (MNRF, 2015a), and The Official Plan of the Town of the Blue Mountains were searched for the presence of ANSI's on or within 120 m of the Site.

No ANSI are present on or adjacent to the study site.

6.3 SIGNIFICANT HABITAT OF ENDANGERED AND SIGNIFICANT HABITAT OF THREATENED SPECIES

The PPS (OMMAH, 2014) defines the significant habitat of endangered or threatened species as the habitat, as approved by the MNRF, that is necessary for the maintenance, survival and/or the recovery of a naturally occurring or reintroduced population of endangered or threatened species, and where those areas of occurrences are occupied or habitually occupied by the species during all or any part(s) of their life cycle. The MNRF is mandated to ensure accurate database information for the identification, listing and conduct of ongoing assessments for significant endangered species and their related habitats. Development and Site alteration is also not permitted within the significant habitat of endangered or threatened species as noted in the Official Plan of the Town of the Blue Mountains.

Information requests were sent to the OMNRF to identify potential threatened or endangered species which could be present on or within 120 m of the Site. Special consideration was given to these species and their habitats during the Site investigation. Mitigation measures to address potential impacts to significant habitat of Endangered or Threatened species are outlined in the later mitigation section.

Table 6.3 Endangered and Threatened Species Habitat Potential Assessment

SPECIES	SARO ¹	COSEWIC ²	HABITAT DESCRIPTION ³	HABITAT POTENTIAL	FIELD OBSERVATIONS
Bank Swallow	THR	THR	This species nests in burrows located in vertical faces of sand and silt, such as along banks of rivers and lakes or in sand and gravel pits.	Low	This species was not observed. Suitable nesting habitat was not observed within 120 m of the Site.
Barn Swallow	THR	THR	The species often lives in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area.	N/A on site	This species was not observed. No nearby structures/dwellings on the adjacent lands suitable for Barn Swallow.
Bobolink	THR	THR	The species builds their nests on the ground in dense grasses, such as those found in hay fields, tallgrass prairies and open meadows.	Low	This species was not observed. Suitable nesting habitat is not present as this bird requires large acreage of grasslands.

SPECIES	SARO ¹	COSEWIC ²	HABITAT DESCRIPTION ³	HABITAT POTENTIAL	FIELD OBSERVATIONS
Butternut	END	END	This species is commonly found in riparian habitats, but is also found on rich, moist, well-drained loams, and well-drained gravels, particularly those of limestone origin.	Low	Potential habitat but no specimen trees observed.
Chimney Swift	THR	THR	The species feeds in flocks around water bodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	N/A	This species was not observed. We find this bird most often in chimneys vs. hollow trees.
Eastern Meadowlark	THR	THR	The species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	Low	This species was not observed. Suitable nesting habitat is not present on or adjacent to site.
Common Nighthawk	SC	THR	This species prefers open areas with little to no ground vegetation, such as logged areas, forest clearings, rock barrens and, lakeshores. Although the species also nests in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways, they tend to occupy natural Sites	Moderate	Preferred nesting habitat is present at edges of the SWMP but no specimen birds observed at dusk.
Cerulean Warbler	THR	SC	This species lives in mature, deciduous forests with large, tall trees and an open under storey.	Moderate	This species was not observed. Potential, but not optimal, deciduous elements are found in the treed swamp and are conserved and setback
Henslow's Sparrow	END	END	This species lives in abandoned farm fields, pastures, and wet meadows. It tends to avoid fields that have been grazed or are crowded with trees and shrubs. It prefers extensive, dense, tall grasslands.	Low	This species was not observed. No suitable nesting habitat.
Blandings Turtle	THR	THR	This species lives in shallow water, usually in large wetlands and shallow lakes or ponds with aquatic vegetation	Low	This species was not observed. Large roving ranges make protection of a general wildlife linkage across the site important.

Protection status: ¹ SARO - Species at Risk in Ontario and ² COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, “-” – Not listed. ³ Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

6.4 SIGNIFICANT WETLANDS

Wetlands are defined in the PPS (OMMAH, 2014) as lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. There are four major wetland types, which are classified as swamps, marshes, bogs, and fens. A significant wetland is defined as an area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the province, as amended from time to time (OMMAH, 2014). Accordingly, it is the responsibility of the MNR to both identify and classify wetlands as significant in Ontario. The MNR Natural Heritage Areas Mapping (2015a), and map schedules of the Town of the Blue Mountains were reviewed for the presence of wetlands on or within 120 m of the Site.

The Official Plan provides for some protection of provincially and locally significant wetlands within the policy area. Development or site alteration is not permitted within a wetland unless damage to natural heritage features can be avoided, and when appropriate setbacks are observed. These setbacks are determined by the city; however the setback for Provincially Significant Wetlands is 120m.

While the wetlands on and near the site have not been evaluated by the Province, the main southcentral wetland was ground truthed during original studies and incorporated into GSCA hazard land mapping.

Although protective language of the O.P. is directed more fully toward wetlands of Provincial interest and status, the text above describes all wetlands. Similarly, the Grey County O.P. and the NEP also note interest in local wetland, while the Grey Sauble Conservation Authority more recent Ontario Regulation provides the conservation authority with legal interest in local wetlands.

Our field surveys, constraint exercise and mitigation all conserve and setback wetland habitat.

6.5 SIGNIFICANT WILDLIFE HABITAT

Wildlife habitat is defined as areas where plants, animals, and other organisms live and find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual life cycle and areas that are important to migratory or non-migratory species (OMMAH, 2014). Wildlife habitat is referred to as significant if it is ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (OMMAH, 2014). Development and Site alteration within significant wildlife habitat is not permitted under the PPS (OMMAH, 2014), and the Official Plan for the Town of the Blue Mountains.

Guidelines and criteria for the identification of significant wildlife are detailed in the Significant Wildlife Habitat Technical Guide (OMNF, 2000), Significant Wildlife Habitat Ecoregion 6E Criterion Schedule (OMNR, 2012), and the Natural Heritage Reference Manual (OMNR, 2010). Significant wildlife habitat is described under four main categories:

Seasonal concentration of animals, rare vegetation communities or specialized habitats for wildlife, wildlife movement corridors and habitat of species of conservation concern. A review of available information resources did not uncover identified significant wildlife habitat on or within 120 m of the site.

Although much of the site has undergone disturbance to install the roads, catch basins, building envelope clearings and storm water management pond, WSP did observe a few areas during our 2016 wildlife surveys that qualify as significant wildlife habitat using the relatively recent SWH Guidelines for Ecoregion 6E. Significant wildlife habitat on or immediately adjacent to this site was:

1. Species of Concern Monarch Courtship
2. Eastern Wood Pewee Interior Forest
3. Wetland Support for potential breeding concentrations of frogs and salamanders
4. Suitable habitat for Snapping turtle in the stormpond and associated north wetland
5. Confirmed rare damselfly supported in the stormpond

The types of significant wildlife habitat described by the province are outlined below.

6.5.1 SEASONAL CONCENTRATION AREAS

Areas of seasonal concentrations of animals are defined as “areas where animals occur in relatively high densities at specific periods in their life cycle and/or particular seasons.” At these times, species are vulnerable to ecological interferences or weather impacts. Areas of seasonal concentration are typically small in comparison to the larger habitat areas used by species at other times of the year. The identification of habitats associated with seasonal concentrations of species is typically based on known occurrences (OMNR, 2000).

An assessment was carried out to determine the potential for wildlife concentration areas on or within 120m of the Site. Resources and protocols outlined in the OMNR Significant Wildlife Habitat: Technical Guide (OMNR, 2000) and the Significant Wildlife Habitat Criterion Schedule for Ecoregion 6E (OMNR, 2012) were utilized to evaluate the potential for species concentration area occurrence. Seasonal concentration areas with the potential to be on or within 120 m of the Site are examined in Table 6.5.1.

Table 6.5.1 Seasonal Concentration Areas within 120 m of the Site

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Waterfowl Stopover and Staging Areas (Terrestrial)	Habitat limited to created SWMP. No stopover or staging in autumn observed
Waterfowl Stopover and Staging Areas (Aquatic)	As above
Shorebird Migratory Stopover Area	As above
Raptor Wintering Area	Potential habitat present in all surrounding forest cover which is retained
Bat Hibernacula	No caves, mine shafts, underground foundations or karsts were found on or within 120 m of the Site
Bat Maternity Roosting Habitat	Candidate habitat present in surrounding forest, mitigation includes retaining dead standing trees
Bat Migratory Stopover Area	Criteria are not available at this time; therefore no evaluation is possible
Turtle Wintering Areas	Candidate habitat limited to treed swamp edge and SWMP
Reptile Hibernacula	Suitable areas of bedrock and deep rock fissures were not identified within 120 m of the Site, nor were caves or talus slopes. Shrub and treed swamp is present and retained
Colonially-nesting Bird Breeding Habitat (Bank/Cliff)	Habitat is not present. Exposed sand piles, eroding banks, or borrow pits were not identified during the Site investigation
Colonially-nesting Bird Breeding Habitat (Tree/Shrub)	Habitat present in treed swamp. No colonies observed on or 120 m from Site

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Colonially-nesting Bird Breeding Habitat (Ground)	Habitat is not present. The Site does not contain areas with rocky islands or peninsulas that are suitable for colonial ground-nesting birds such as gulls and terns. In addition, preferred nesting habitat for Brewer's Blackbird (<i>Euphagus cyanocephalus</i>), including fields close to clear, flowing water is not present.
Migratory Butterfly Stopover Areas	No stopover habitat. The Site is not located within 5 km of the Lake Ontario shoreline. Nectaring and courting activity can be enhanced with plantings.
Landbird Migratory Stopover Areas	Habitat is not present. The Site is not located within 5 km of the Lake Ontario shoreline.
Deer Yarding Areas	OMNRF maps this habitat, and no Deer Yarding Areas are mapped on the uplands. Cedar will continue to be provided for White-tailed deer cover and winter forage after development. The upland historical tile field will still be accessible for bedding sites after development.

Seasonal concentration areas were not identified on or within 120 m of the Site.

6.5.2 RARE VEGETATION COMMUNITIES OR SPECIALIZED HABITATS

Rare or specialized habitats include rare vegetation communities or concentrations of rare plant species. These specialized areas may also support rare animal species. **The Site lacked significant old growth forest** features which, if present, might provide specialized habitats and food sources for other species dependent on these features. The vegetation communities identified on or within 120 m of the Site were not designated as rare or threatened in Ontario. An assessment of the presence/absence of rare vegetation communities and specialized wildlife habitat for this ecoregion is provided in Tables 6.5.2 and 6.5.2.1.

Table 6.5.2 Rare Vegetation Communities within 120 m of the Site

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Cliffs and Talus Slopes	Habitat is not present. Exposed cliffs or talus slopes were not observed on or within 120 m of the Site.
Sand Barren	Habitat is not present. Areas of sandy soil and characteristic sand barren plant species and landforms were not observed on or within 120 m of the Site.
Alvar	Habitat is not present. Significant areas of exposed bedrock were not observed on or within 120 m of the Site.
Old Growth Forest	Habitat is not present. Forests in and within 120 m of the Site were not characterized by heavy mortality of mature over-storey trees; no gaps and they are representative of secondary growth from prior forestry use.
Tallgrass Prairie	Habitat is not present. Tallgrass Prairie and associated plant species were not identified on or within 120 m of the Site.
Savannah	Habitat is not present. Tallgrass prairie habitat with 25-60% tree cover was not observed on or within 120 m of the Site.

Table 6.5.2.1 Specialized Wildlife Habitats within 120 m of the Site

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Waterfowl Nesting Area	Limited potential habitat at SWMP edges with no young observed
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Low potential with none observed. Based on prior field sites preferences for the birds are taller perches located at topographic high points
Woodland Raptor Nesting Habitat	Candidate habitat present, conserved and setback
Turtle Nesting Areas	No evidence of nests on site. Suitable habitat is afforded at SWMP edge. Incorporate exclusionary fencing for safe turtle access from SWMP to wetland
Seep / Spring	No seeps
Amphibian Breeding Habitat (Woodland)	Contract timing did not capture spring breeders. Habitat value present in surrounding forest which is retained
Amphibian Breeding Habitat (Wetlands)	Candidate habitat is present in wetlands which are retained

6.5.3 SPECIES OF CONSERVATION CONCERN

Species of Conservation Concern include those that have been listed as S1 to S3 by the NHIC or are listed as Special Concern by SARO or COSEWIC. While these species are currently not afforded protection under the Endangered Species Act, 2007, species of conservation concern are tracked and monitored for changes in their populations and distributions. The NHIC maintains lists of all species found in Ontario. Provincial “S” ranks are used by the NHIC to set protection priorities for rare species and natural communities within Ontario. By comparing global “G” and provincial “S” ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated lists at least annually. The SARO and COSEWIC classification of “Special Concern” means the species lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered due to a combination of biological characteristics and identified threats. The observance of a species of conservation concern on-Site does not necessarily define the area as Significant Habitat; this is determined using the guidelines and criteria identified above.

A review of the NHIC database (MNRF, 2015a) was conducted to determine the existence and approximate location of recorded occurrences of species of conservation concern in the study area.

From OMNRF:

SPECIES	STATUS (as of July 2014)	DESCRIPTION OF HABITAT	ESA PROTECTION
Canada Warbler	SC	deciduous and coniferous forests, usually wet forest types with a well developed, dense shrub layer	N/A
Cerulean Warbler	THR	forest-interior birds that require large, relatively undisturbed tracts of mature, semi-open deciduous forest	General
Olive-sided Flycatcher	SC	coniferous or mixed forest adjacent to wetlands or rivers	N/A
Short-eared Owl	SC	open areas such as grasslands, marshes, wet meadows, fields and forest clearings	N/A
Little Brown Bat	END	roost in trees or buildings during the day, attics, abandoned buildings and barns. Hibernate in caves and abandoned mines	General
Butternut	END	found in variety of sites, commonly in forest openings, old fields, hedgerows, on floodplains, stream sides or gradual slopes.	General
Eastern Ribbonsnake	SC	marshes, swamps, bogs, ponds, streams	N/A
Milksnake	SC	wide range of habitats, especially old fields and farm buildings	N/A
Snapping Turtle	SC	very aquatic species, spend most of their lives in water, prefers shallow water in wetland habitats	N/A

1 Nature Conservancy conservation concern rankings (MNRF, 2015b): G - Global Level, S - Sub-national Rank (Ontario), 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure, B - Breeding, N - Non-breeding, '?' - Rank Uncertain. ² COSEWIC - Committee on the Status of Endangered Wildlife in Canada; ³ SARO - Species at Risk in Ontario; END - Endangered, THR - Threatened, SC - Special Concern, NAR - Not at Risk, "-" - Not listed.

Based on the initial review of aerial photographs and available habitat types within the general area, there is potential for several species of Special Concern, including Monarch (*Lampropeltis triangulum*).

Background review of the Atlas of the Breeding Birds of Ontario indicated the potential for Common Nighthawk (*Chordeiles minor*), Wood Thrush (*Hylocichla mustelina*), and Eastern Wood-pewee (*Contopus virens*). Field surveys confirmed Eastern Wood Pewee and courting Monarch.

Table 6.5.3.1 assesses potential for species of conservation concern.

Table 6.5.3.1 Potential Species of Conservation Concern and Habitat Assessment

SPECIES	SARO ¹	COSEWIC ²	HABITAT DESCRIPTION	HABITAT POTENTIAL	FIELD OBSERVATIONS
Common Nighthawk	SC	THR	Prefers open areas with little to no ground vegetation, such as logged areas, forest clearings, rock barrens and, lakeshores. Although the species also nests in cultivated fields, orchards, urban parks, mine tailings and along gravel roads and railways, they tend to occupy natural Sites	Low	Typically surveyed on open rock barrens which are not present here.
Cerulean Warbler	THR	SC	This species lives in mature, deciduous forests with large, tall trees and an open under storey.	Low	Mixed forest is not optimal habitat for this bird.
Eastern Wood-pewee	SC	SC	Eastern Wood-pewees prefer deciduous and mixedwood forests. They are often observed sallying to capture flying insects from an exposed perch high in the canopy.	High	Species was observed. Mixed forest is conserved and setback
Wood Thrush	SC	NAR	This species is strongly associated with woodlands containing tall trees. They are typically found in deciduous forests but may be found in mixedwood forests as well. The presence of a thick understory is usually a prerequisite for Site occupancy.	Low	Species was not heard. Potential habitat in mixed treed swamp and forest, both of which are retained.
Milksnake	-	-	The species inhabits a wide range of habitats especially old fields and farm buildings in close proximity to water.	Low	Species was not observed.
Monarch	SC	SC	The species is commonly found in abandoned fields, along roadsides and in other habitats where Milkweed, Goldenrod, Asters and Purple Loosestrife exist.	Moderate	Species was observed courting. Native Planting Plan to enhance forest edge with Milkweed, Joe-pye-weed and New England Aster seeding.

In addition to the species and habitats identified above, species of conservation concern are often associated with specific habitat types. The presence/absence of specific habitats for species of conservation concern within Ecoregion 6E (OMNR, 2012) is provided in Table 6.5.3.2, below.

Table 6.5.3.2 Habitats of Species of Conservation Concern within 120 m of the Site

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Marsh Breeding Bird Habitat	Treed swamp is potential and retained.
Woodland Area-Sensitive Bird Breeding Habitat	Large, mature forest stands/woodlots were not present but surrounding second growth forest does provide interior forest, and is retained. Future land uses to the west would ideally also retain core forest.
Open Country Bird Breeding Habitat	Habitat is not present. There is no grassland and pasture of sufficient area.
Shrub/Early Successional Bird Breeding Habitat	Fields of adequate size (>10 ha) are not present, and no candidate species were observed.
Terrestrial Crayfish	Digger crayfish that erect chimneys may be supported on sunny exposed portions of the treed swamp. Retained.
Habitat for Special Concern or Rare Wildlife Species	Confirmed habitat for Monarch, Eastern Wood Pewee. Retained and recommended for enhancement with respect to butterfly via Native Planting Plan to restore forb layer of nectar plants.

6.6 ANIMAL MOVEMENT CORRIDORS

The Natural Heritage Reference Manual (OMNRF, 2010) describes animal movement corridors as habitats that link two or more wildlife habitats that are critical to the maintenance of a population, species, or group of species, or habitats with a key ecological function to enable wildlife to move, with minimum mortality between areas of SWH or core natural areas. The Significant Wildlife Habitat Technical Guide (OMNRF, 2000) further describes animal movement corridors as elongated, naturally vegetated parts of the landscapes used by animals to move from one habitat to another. Examples may include riparian zones and shorelines, wetland buffers, stream and river valleys, woodlands, and anthropogenic features including hydro and pipeline corridors, abandoned road and rail allowances, and fencerows and windbreaks. The presence/absence of animal movement corridors within 120 m is provided in Table 6.6.

Table 6.6 Animal Movement Corridors

HABITAT TYPE	CANDIDATE SWH CRITERIA AND SITE INVESTIGATION RESULTS
Amphibian Movement Corridors	Amphibian movement corridors are only determined if amphibian breeding habitat (wetlands) is confirmed as SWH. The storm pond and adjacent treed swamps can support herptiles. Road mortality may occur and can be mitigated with exclusionary fencing.
Cervid Movement Corridors	Candidate cervid movement corridors are only determined if deer wintering habitat, moose aquatic feeding areas, or mineral licks are confirmed as SWH. As no candidate areas were identified within 120 m of the Site, cervid movement corridors do not apply. Local movement of White-tailed deer and browse is evident. Access across the site should be maintained.

6.7 SIGNIFICANT WOODLANDS

Woodlands are defined as “treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels,” (OMMAH, 2014).

The PPS (OMMAH, 2014), and The Official Plan for the Town of the Blue Mountains, provide protection to Significant Woodlands. In regard to woodlands, these documents define 'significant' as "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," (OMMAH, 2014).

Woodland significance is typically determined by evaluating key criteria which relate to woodland size, ecological function, uncommon woodland species, and economic and social value. The MNR Natural Heritage Areas Mapping (2015a), Grey County O.P. Significant Woodland layer captures these areas.

Support values include interior forest breeding birds including the Ovenbird, Eastern Wood Pewee and birds sensitive to size of forest patch itself such as the Ruffed Grouse. The mixed forests and wetlands supporting the woodland values will be retained.

Forestry management practices by the County of Grey are also not impacted by the Georgian Glen subdivision. Figure below indicates no public holdings that are subject to silvicultural forestry practices.

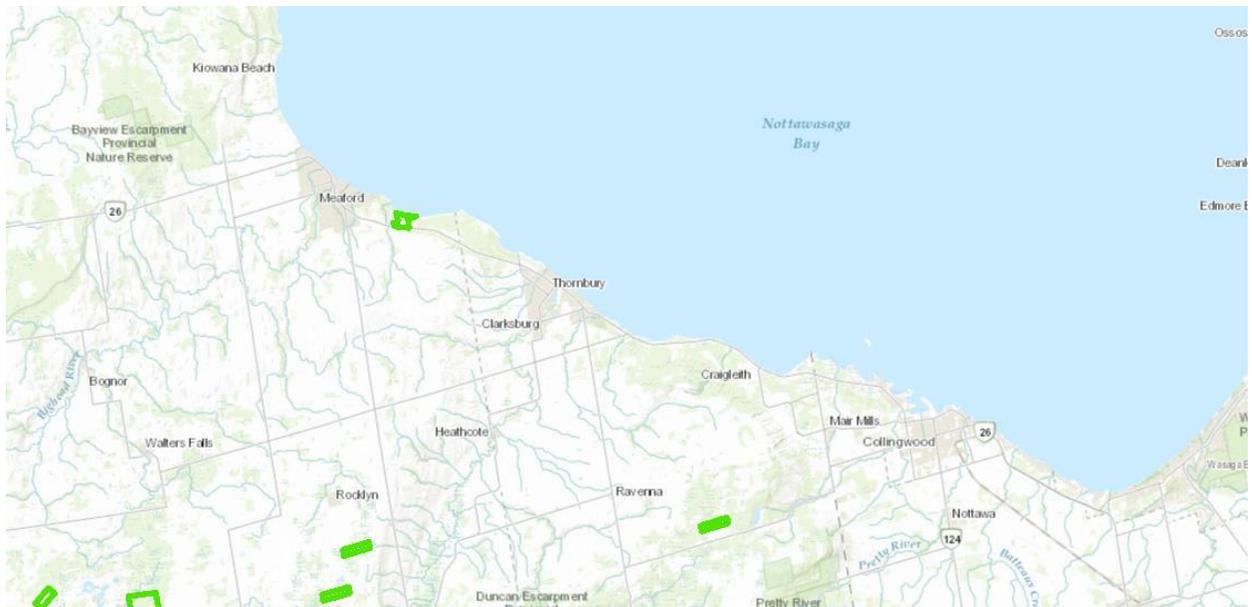


Figure 4: County of Grey managed woodlots, in green, confirming no competing uses on or near site

6.8 SIGNIFICANT VALLEYLANDS

The PPS (OMMAH, 2014) and The Official Plan for the Town of the Blue Mountains describe valleylands as "a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year". To be considered significant, valleylands must be ecologically important in terms of representation or amount, and must contribute to the quality and diversity of an identifiable geographic area or natural heritage system (OMMAH, 2014). Development and Site alteration

may be permitted in significant valleylands if it has been demonstrated that there will be no negative impacts on the feature or its ecological function.

Review of MNRF Natural Heritage Areas Mapping (2015a) did not identify the presence of valleylands on or within 120 m of the Site. Site visits confirmed that there were no valleylands, provincially significant or otherwise, noted on or within 120 m of the Site.

6.9 SAND BARRENS, SAVANNAHS, AND TALLGRASS PRAIRIES

Sand barrens, savannahs and tallgrass prairies are lands that are characterized by specific vegetation communities, soil conditions, and other environmental conditions. These habitats are considered rare within the province.

There were no sand barrens, savannahs or tallgrass prairies identified on or within 120 m of the Site.

The language of these specific sensitive habitats is not reflected in earlier O.P.'s but the intent of future O.P. updates will be to reflect the most recent iterations of the PPS.

6.10 KEY HYDROLOGIC FEATURES

Key hydrologic features include wetlands, lakes and their littoral zones, permanent and intermittent streams, kettle lakes, seepage areas and springs. These features are described under Section 2.3 of the PPS (2014) (see Section 2.1 of this document), Section 4.11 the Official Plan of the Town of the Blue Mountains.

Concurrent policy goals for hydrology involve assuring reviewers that any development is not proposed within a floodplain or floodfringe to safeguard both human safety and maintain earlier mentioned ecological wetland habitat values for wildlife.

To that end, the O.P. speaks to Floodplain in Section C3 and C3.1 Two-Zone Floodway and Floodfringe for lands adjacent to the Bighead River. Section C4 (b) also applies in a general sense to balance water needs of wildlife with human drinking water requirements, as future development would be serviced by a well.

O.P. Section C4 (b) manage water resources in a manner that ensures their continued availability while maximizing both environmental and economic benefits;

GSCA review will determine whether the subdivision meets their policies before permit issuance for future phases of the subdivision.

6.11 SIGNIFICANT NATURAL HERITAGE FEATURE SUMMARY

A summary of the significant Natural Heritage Features identified on or adjacent to the Site is provided in Table 6.11, below. In order to minimize the effects of the development on these natural features mitigative measures may have to be considered for all work conducted in the Site.

Table 6.11 Significant Feature Summary

FEATURE	PRESENT	COMMENT
Fish Habitat	Yes	WSP observed Brook Stickleback in the treed swamp.
Significant ANSI or Natural Areas	No	
Threatened or Endangered Species Habitat	No	No threatened or endangered species were observed on Site.
Significant Wetland	N/A	Wetland not provincially significant. However within GSCA regulation, and has been ground truthed and incorporated into GSCA hazard land mapping.
Significant Wildlife Habitat	Yes	Eastern Wood Pewee and Monarch habitats identified, confirmed through field observation and retained. Northern Myotis and Eastern Ribbon Snake optimal habitat is also conserved by direct constraint of the wetland and significant woodland mixed treed swamps.
Significant Woodland	Yes	Significant woodlands surround the site and are retained.
Significant Valleyland	No	No significant valleylands are present on Site.
Sand Barrens, Savannahs and Tallgrass Prairies	No	Sand barrens, savannahs and tallgrass prairies were not identified on or within 120 m of the Site.
Key Hydrologic Features (other than wetlands)	Yes	Watercourse on western parcel limits is retained and setback for warmwater fish support.

WSP site inspections documented the current state of the site, and described the vegetation using the provincial Ecological Land Classification (ELC) terminology in the following summary of habitat types.

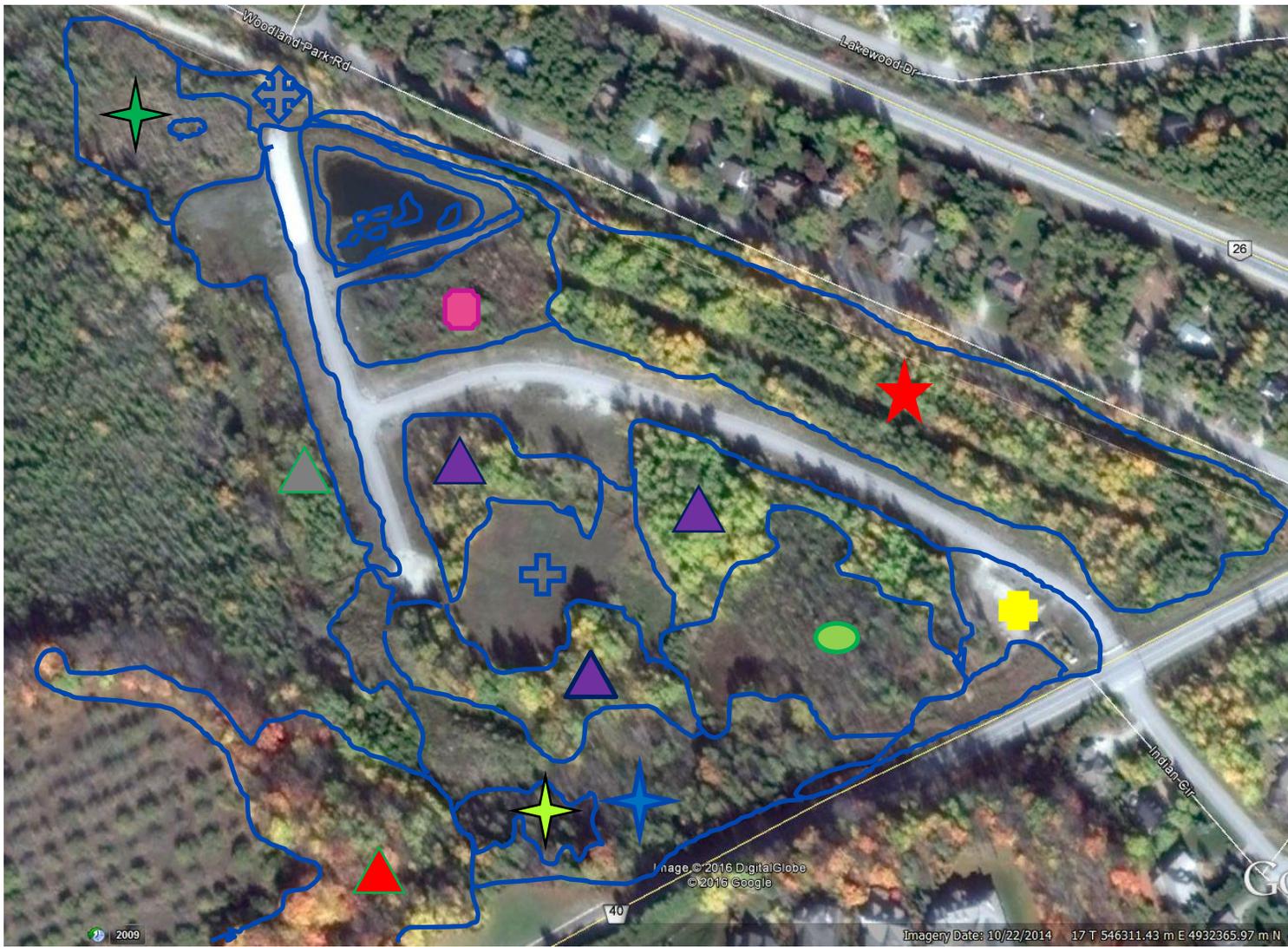


Figure 5: ELC Vegetation Community Types

Legend

Water Feature

OAO

SAS	Submerged	SAS 1-1 Pondweed	Potamogeton natans, P. zosteriformis, Vallisneria americana
		SAS1-4 Millfoil	Eurasian Millfoil
SAM1-4	Floating Aquatics		P. natans, P. zosteriformis
SAM1-6	Bladderwort		Utricularia cornuta carnivorous plant community
MAS2-6	Torrey's Three Square		Scirpus torreyi, S. rubrotinctus, S. atrovirens Phragmites inclusions
	Bromus inermis, Dipsacus fullonum		Eupatorium perfoliatum, Chamerion angustifolium, Sapling Balsam Fir, Phragmites. Cornus rugosa + earlier open meadow description forbs. Pb-Ag-Pw-Pta-Sw

ELC Terrestrial Units

FOM5-2		Balsam Poplar-Green Ash-Trembling Aspen-Basswood-White Cedar-White Spruce-Manitoba Maple-Shining Willow
FOM8		Balsam Poplar-Trembling Aspen-Basswood-White Cedar-Red Maple-Green Ash-White Birch-Glossy Buckthorn
FOM8-1		Balsam Poplar-White Cedar-Green Ash-White Ash
FOD8-1		Balsam Poplar-Trembling Aspen-Green Ash, few Viburnum acerifolium and Glossy Buckthorn.
FOD5-1		Dry-fresh Sugar Maple Deciduous Forest Type

Terrestrial Wetland Units

SWM6-2		Poplar Conifer Organic Swamp
SWD7		Treed Swamp Balsam Poplar, Trembling Aspen and Phragmites
SWM6-2		Balsam Poplar-White Cedar-Green Ash with Typha latifolia
SWM1-1		White Cedar-Hardwood Mixed Mineral Swamp
SWD4-3		White Birch-Poplar Mineral Deciduous Swamp elements with Mineral Thicket Swamp SWT2

Legend Continued**Open Meadow Flanks all front lots (CUM1-1)**

CUM1-1 Early Succession

Daucus, Aster pt., Solidago, Plantain, Knapweed, Chickory, Aster nova-angliaea, Brown-eyed Susan, Phragmites, Danthonia spicata, Green Ash seedlings, Balsam Fir seedlings, Cirsium vulgare, Dipsacus fullonum, Achillea millefolia, Asclepias, Cow Vetch, Butter & Eggs, Prenanthes alba, Cornus rugosa, Sweet Clover, Coltsfoot and more.



CUM1 CUM1 Mineral Cultural Meadow Central Meadow. Dominant Poa, Asclepias, Dipsacus, Balsam Poplar Saplings, Cinquefoil and Rhus edge.

Disturbed

Home Sales Office Building and crushed gravel yard

7 IMPACT ASSESSMENT

Negative impact to ecology usually occurs if the land use is situated too close to the natural heritage features and functions.

The roadside development of the upland provides the luxury of healthy setbacks because substantial mixed forests exist to buffer the internal wetland and surfacewater drainage features from the development. Immediate potential impact often associated with the construction phase, and including vegetation removal, erosion, noise and lighting impacts, is again modified by the location of the mixed treed forests.

Less direct potential effects, yet sometimes more damaging, such as any long term effect of changes in water quality and quantity on the surfacewater feature, introduction of invasive species replacing native floral assemblages and anthropogenic pressures on the ecosystem from pets, noise and light are also evaluated here. An assessment of the potential for negative impacts associated with the proposed development, and suggestions for the mitigation of these impacts are discussed below.

7.1 HABITAT FOR SPECIES OF CONSERVATION

7.1.1 OBSERVED SPECIES AND/OR HABITAT

The following species of conservation concern and/or significant wildlife habitat were documented on and/or within 120m of the study site.

Monarch Butterfly, Species of Concern

Eastern Wood Pewee, Species of Concern

MNRF atlas block record of Eastern Ribbonsnake and Snapping Turtle

Inferred species based upon habitat evaluation or personal observation:

Eastern Ribbonsnake

Northern Myotis

Snapping turtle

Azure Bluet damselfly

Bryophytes and lichens

These species are expected based upon our prior expertise observing their optimal habitat and active use elsewhere within the same ecological site district.

8.0 MITIGATION

Beyond the direct constraint of the identified wetland and woodland habitats, added mitigation includes:

- Securing filter cloth fencing at wetland and woodland limits during the construction phase to limit sediment entry into surfacewater drainage, wetland and off site habitats
- Installing a 'living fence' of easily discernable tree species such as Tamarack to mark the setback limits for any future tree removal

8.1 MAMMALS

- Ensure that adequate passage for herptiles, avifauna and large ranging mammals is still available after subdivision build out
- The Site can attain a net gain in biodiversity by enhancing Monarch habitat and bolstering the wetland habitat edges, directed through the Native Planting Plan.

8.2 BIRDS

Development phases for home construction should adhere to the required mitigation below to safeguard the bird community:

- No tree or shrub with a bird nest is permitted to be removed between April 1 and August 15 of any year.
- Construction activities, such as vegetation clearing (including tree removal) or compaction, should not take place in migratory bird habitat during the core breeding season, from May 1 to July 31 of any year.
- Tree removal, vegetation removal or compaction activity with the potential to harm or destroy the nests of migratory birds of species protected under the *Migratory Birds Convention Act*, 1994 and/or Regulations under that Act, will not occur between May 1 and July 31 of any year.
- Restrict the type of backyard lighting to minimize light pollution and disruption of nocturnal and crepuscular wildlife (e.g. Eastern Red-backed Salamander). Use downward directed low intensity path lights in the backyards.

8.3 HERPETOFAUNA

- Maximize forest vegetation by retaining dead fallen trees, leaf litter and avoiding manicuring of vegetation
- Mitigation to lessen dispersal effects for treed swamp wildlife on adjacent land is directed to construction phase noise disturbance; restrict heavy equipment outside the most critical early dawn and dusk hours for all wildlife. Times to avoid are between 5 to 7 a.m. and 8 to 9 p.m. depending on varying seasonal sunrise and sunset.
- Install filter cloth around the perimeter of the construction site for sediment control given adjacent fish habitat (Brook Stickleback were observed)
- Limit landscaping of non-native garden cultivars to areas immediate to the house and amenity area wherever possible to avoid incursion into the native vegetation communities of the forested swamp
- Conserve the treed swamp. Restrict manicuring, retaining dead standing stub, cavity and deadfallen trees, organic substrate; all habitat for the local herptiles, avifauna and mammals
- Ensure that pre and post construction drainage remains the same and that no reduction in flows toward the treed swamp occur.
- The treed swamp and SWMP have potential for turtle support. Explore whether exclusionary fencing is required between the treed swamp and SWMP.

9 CONCLUSION

WSP finds that the Georgian Glen plan of subdivision is compliant with current environmental policy.

Time elapsed since the first draft approvals is evidenced on site by a small measure of vegetation succession. This, although established at some road margin, does not represent a significant change in natural heritage, nor a significant impact on existing and adjacent lands natural heritage.

Key natural heritage features and functions continue to be retained through constraint and holding zones of the subdivision including the north and south wetlands and rear lot woodlands.

The additional Species of Concern that WSP observed in 2016 are afforded protection in the designated constraint and holding zones of the subdivision, namely the Eastern Wood Pewee and the Monarch butterfly. An exception is the rare damselfly found in the stormwater management pond however we find it reasonable to expect continued habitat provision for life cycle requirements in the pond, with enhancement measures invoked for a final planting plan. This serves a twofold purpose since the pond offers suitable habitat for a possible Snapping turtle to establish a nest site.

It is our understanding that setbacks from the environmentally sensitive wetlands and nearby creek were approved during initial submissions and final approval before the Ontario Municipal Board.

WSP finds that moving forward a new element in the planning protocol that will assist final installation of enhancement plantings is a collaborative effort between the proponent and the Saugeen Ojibway Nation.

10 CLOSURE

This report has been prepared by WSP Canada Inc. The assessment represents the conditions at the subject property only at the time of the assessment, and is based on the information referenced and contained in the report. The conclusions presented herein respecting current conditions represent the best judgment of the assessors based on current environmental standards. WSP Canada Inc. attests that to the best of our knowledge, the information presented in this report is accurate. The use of this report for other projects without written permission of the client and WSP Canada Inc. is solely at the user's own risk.

Thank you for the opportunity to complete this report. We trust that this information is satisfactory for your current requirements. Please contact us if we can be of further assistance.

Draft report prepared by:
WSP Canada Inc.

Final Report editorial by:



EKSW

Elin K. Sober-Williams
Ecologist Intern

Linda Liisa Sober, H.BSc.
Biologist

11 LITERATURE CITED

Cadman, M.D., Eagles, P.F.J. and F. M. Helleiner. 1987. Atlas of the Breeding Birds of Ontario. Federation of Ontario Naturalists and the Long Point Bird Observatory. University of Waterloo Press.

Dobbyn, J., 1966. Atlas of the Mammals of Ontario. Federation of Ontario Naturalists.

Appendix A

PLANNING HISTORY

Applicant: Sorichetti
File No. 42T-2002-006
Municipality: Town of The Blue Mountains
Location: Part Lot 28, Concession 7
Phase 2

Schedule E-4

Draft Plan of Subdivision Conditions

Plan of Subdivision File No. 42T-2002-006 has been granted DRAFT APPROVAL.

The conditions of final plan approval for registration of this draft Plan of Subdivision are as follows:

No. Conditions

1. That this approval applies to the draft plan prepared by Malone Given Parsons Ltd. revised June 21, 2004, showing a total of 10 single detached residential lots (Lots 16 & 17, 18 to 23, 29 and 30) and Blocks 52-54 on Lot 28, Concession 7 (formerly Twp. of Collingwood) in the Town of The Blue Mountains in the County of Grey.
2. The owner shall pay cash-in-lieu of parkland dedication in accordance with the provisions of the *Planning Act*.
3. That the owner agrees to satisfy all the requirements, financial and otherwise, of the Town of The Blue Mountains concerning the provision of roads, installation of services and any other financial matter consistent with Minutes of Settlement dated May 2, 2003 between the Town and the Owner and that appropriate provisions be contained in the subdivision agreement.
4. That prior to final approval, appropriate zoning is in effect for this proposed subdivision, to the satisfaction of the Grey Sauble Conservation Authority and the Niagara Escarpment Commission.
5. That Blocks 52-54 abutting lots 16-22, 29 and 30 be lifted and conveyed by the municipality.
6. That a subdivision agreement between the owner and the Town of The Blue Mountains shall be entered into and registered against the lands to which it applies.
7. (a) That prior to final approval, drainage, surface water and stormwater management plans shall be prepared by a professional engineer that will address the means to control erosion, sedimentation and surface water flow within the development lands, both during and after construction to the satisfaction of the municipality in consultation with the Grey Sauble Conservation Authority and the Niagara Escarpment Commission.

 (b) That the subdivision agreement between the owner and the Town of The Blue Mountains contain provisions in wording acceptable to the Town of The Blue

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Mountains, in consultation with the Niagara Escarpment Commission and the Grey Sauble Conservation Authority that will ensure the implementation of the approved plans. The agreement shall also provide for the Maintenance, default and adequacy of construction provisions with respect to stormwater management facilities. Confirmation that construction has occurred in accordance with Town Standards.

8. That development shall be subject to suitable arrangements for the extension of municipal water and sewer services and the availability of adequate water and sewage allocations in accordance with the servicing provisions of the Beaver Valley Official Plan and Official Plan Amendment 133 and Minutes of Settlement.
9. That the Owner shall not construct internal services for the plan prior to entering into a pre-servicing agreement.
10. That the appropriate fees are paid to the Grey Sauble Conservation Authority for the review of the noted reports, as specified in the Authority's planning services agreement with the Town of The Blue Mountains .
11. That prior to final approval the County is advised, in writing, by the Town of The Blue Mountains how conditions 2 to 10 have been satisfied.
12. That prior to final approval the County is advised, in writing, by the Grey Sauble Conservation Authority how conditions 4,7 and 10 have been satisfied.
13. That prior to final approval the County is advised, in writing, by the Niagara Escarpment Commission how conditions 4 and 7 have been satisfied.
14. (a) That prior to final approval a copy of the fully executed subdivision agreement between the Owner and the Town of The Blue Mountains shall be provided to the County of Grey.

(b) In addition to the Subdivision Agreement, and prior to final approval, the Town and the Owner shall enter into a Wetland Buffer Agreement in the form attached hereto that will apply to Lot 18 and be registered against the lands to which it applies.
15. If final approval is not given to this plan within eight years of the draft approval date, and no extensions have been granted, draft approval shall lapse under Subsection 51(32) of the Planning Act, RSO 1990, as amended. If the owner wishes to request an extension to draft approval, a written explanation along with the applicable application fee and a resolution from the local municipality must be received by the County of Grey Director of Planning prior to the lapsing date. Please note that an updated review of the Plan and revisions to the conditions of

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approval may be necessary if an extension is to be granted.

16. That the owner provide the County of Grey with a computer disk containing a digitized copy of the Final Plan in a format acceptable to the County of Grey.

NOTES TO DRAFT APPROVAL

1. It is the Owners responsibility to fulfill the conditions of draft approval and to ensure that the required clearance letters are forwarded by the appropriate agencies to the County of Grey, quoting the County file number.
2. An electrical distribution line operating at below 50,000 volts might be located within the area affected by this development or abutting this development. Section 186 - Proximity - of the Regulations for Construction Projects in the *Occupational Health and Safety Act*, requires that no object be brought closer than 3 meters (10 feet) to the energized conductor. It is the Owner s responsibility to be aware, and to make all personnel on site aware, that all equipment and personnel must come no closer than the distance specified in the Act. They should also be aware that the electrical conductors can raise and lower without warning, depending on the electrical demand placed on the line. Warning signs should be posted on the wood poles supporting the conductors stating "DANGER - Overhead Electrical Wires" in all locations where personnel and construction vehicles might come in close proximity to the conductors.
3. Clearances are required from the following agencies:

Town of The Blue Mountains
Municipal Office Box 310
THORNBURY, Ontario NOH 2P0

Grey Sauble Conservation Authority
R.R. # 4
OWEN SOUND, Ontario N4K 5N6

Niagara Escarpment Commission
99 King Street
THORNBURY, Ontario N0H 2P0
4. We suggest you make yourself aware of the following subsections of the Land Titles Act:
 - a) subsection 143(1) requires all new plans to be registered in a Land Titles system if the land is situated in a land titles division; and

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- b) subsection 143(2) allows certain exceptions.
5. It is a requirement that the municipality register the subdivision agreement as provided by subsection 51 (26) of the *Planning Act* against the land to which it applies, as notice to prospective purchasers.
 6. Inauguration or extension of a piped water supply, a sewage system or a storm drain, is subject to the approval of the Ministry of the Environment under the *Ontario Water Resources Act*, RSO 1990, as amended.
 7. All measurements in subdivision final plans must be presented in metric units.
 8. The final plan approved by the County must be registered within thirty (30) days or the County may withdraw its approval under subsection 51(21) of the *Planning Act* RSO 1990, as amended.
 9. That prior to any alteration or crossing of a watercourse, or works within a fill regulated area, approval must be obtained from the Grey Sauble Conservation Authority.
 10. Final approval of the subdivision plans approved by the OMB is given to the County of Grey pursuant to Section 51 (56.1) of the *Planning Act*.

KEY MAP SCHEDULE A-1
BY-LAW No. _____
TOWN OF THE BLUE MOUNTAINS

 AREA AFFECTED BY THIS AMENDMENT
 SEE SECTION 5 OF BY-LAW

