Environmental Impact Assessment

For the 1919 Estates Subdivision

Consisting of Twenty-two (22) Hamlet Residential Estate Lots & Three (3) Blocks
Part Lot 19, Concession 19,
Geographic Township of Harvey,
Now in the Municipality of Trent Lakes
County of Peterborough

Prepared by



Jp2g Consultants Inc.

12 International Drive, Pembroke, Ontario, K8A 6W5 T.613.735.2507 F.613.735.4513 Jp2g Project No. 17-6053A

In Association With

The Greer Galloway Group Inc.

973 Crawford Drive Peterborough, ON K9J 3X1

June 11, 2018 Revised November 3, 2021 & November 28, 2022

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1 Introduction and Background

1.1 Purpose and Scope

The purpose of this report is to provide details regarding the site conditions of Phase 1 of a subdivision proposal located at 168 County Road 49 in the geographic Township of Harvey. This report also provides details on the existence and extent of Bobolink (Threatened), Eastern Meadowlark (Threatened) and Northern Myotis (Endangered) as well as other Species at Risk (SAR) habitat, which were indicated to potentially exist on the subject lands by the Ministry of Natural Resources and Forestry in an email dated May 26, 2017, attached as Appendix C. The location of the subject lands is shown on Map 1.

1.2 Proposed Development

Phase 1 of the subdivision proposal consists of twenty-two (22) hamlet residential estate lots, two stormwater blocks (blocks 23 & 24) and one environmental protection block (block 25). Each lot will be between 0.48 and 1.67 hectares in area and will have frontage on and be accessed by one of two streets which will be constructed on the west and east halves of the subdivision lands as shown on Map 2. The street to be constructed on the west half of the property will connect to County Road 49 and will provide access to lots 1 to 10 and block 24. The street to be constructed on the east half of the property will connect to Moon Line North and will provide access to lots 11 to 22 and block 23. Block 25 is located between the eastern and western potions of the Phase 1 lands. The location of the proposed lots as well as the proposed roads to be constructed on the property are shown on Maps 1 to 3. Residential dwellings, wells and septic systems will be constructed on each of the lots, stormwater ponds will be constructed on blocks 23 & 24 and no development is proposed within the environmental protection block (block 25) The retained lands are proposed to be developed in the future as part of Phase 2 of the subdivision. This focus of this report however is on the portions of the Phase 1 lands that will be developed (all lands with the exception of block 25).

1.3 Location and Size of Property

The subject lands (Phase 1 of the subdivision) are approximately 21.8 hectares in land area and are located to the east of County Road 49 and to the west of Moon Line North, within part of Lot 19, Concession 19 in the Geographic Township of Harvey, now in the Municipality of Trent Lakes. The Phase 1 lands are designated as Hamlet on Schedule A-1 to the Official Plan of the Township of Galway-Cavendish and Harvey and are zoned Development (D) on Schedule "A" Map 5 to the Municipality of Trent Lakes By-law No. B2014-070.

The province has also mapped a Natural Heritage System for the Greater Golden Horseshoe (GGH). The natural heritage system mapping shows that the eastern three-quarters of the proposed subdivision lands are designated as part of the natural heritage system. However, Section 4.2.2.1 of the Growth Plan for the Greater Golden Horseshoe states that "...The Natural Heritage System mapping will exclude lands within settlement area boundaries that were approved and in effect as of July 1, 2017." This plan defines a settlement area as "Urban areas and rural settlement areas within municipalities (such as cities, towns, villages and hamlets) that are:



- a) Built up areas where development is concentrated and which have a mix of land uses; and
- b) Lands which have been designated in an official plan for development in accordance with the policies of this Plan...."

Therefore, as the subject lands are considered to be within a settlement area as they are designated as Hamlet, the natural heritage system overlay of the natural heritage system policies of the Growth Plan for the GGH would not apply.



2 Existing Environmental Information

2.1 Physical Environment

2.1.1 Topography & Geology

According to the Soils of Peterborough County Ontario, North Sheet, Soil Survey Report No. 45, the soils on the subject lands consist primary of stony till (Douro) underlain by limestone rock. These soils are very stony and well drained as a result of a varying topography with multiple slopes.

During site visits to the property, the ground surface of the subject lands was found to contain relatively flat to hilly topography with gentle to steep slopes. The subject lands also contained sandy soils which will allow for the infiltration of rainfall to occur and a rock outcrop was noted on Lot 11 (Photo 1) as shown on Map 3.

2.1.2 Drainage, Wetlands and Surface Water

The subject lands contain un-evaluated wetlands. There are no provincially significant wetlands (PSWs) on or in close proximity to the proposed development. The closest provincially significant wetland known as Nogie's Creek Mouth is located approximately 3.1 km to the northeast of the subject lands.

Surface water on the subdivision lands is present in the form of wetlands (Wetlands 4, 5 & 6, Photos 2, 3 & 4), a pond (Photo 5) and a watercourse (Photo 6). A larger wetland (Wetland 1) is also located on the subdivision lands within block 25, which will not be developed. Due to the rolling topography of the site, some low areas of the fields along County Road 49 were found to be wet as shown on Map 3 (Photo 7). The location of these surface water features and the low wet areas has been determined based on aerial photography interpretation with the aid of site visits to the property. The approximate locations of where the enclosed photos were taken are shown on Map 3.

Drainage on the subdivision lands travels primarily to the south, however, water within the watercourse on the subject lands travels east under Moon Line Road. This watercourse contained clear flowing water and on average was approximately 75 cm in wetted width and 10 cm deep during the June 27, 2017 site visit. Rocks, grass, and fallen woody debris were also noted in the watercourse. No fish were observed during visual searches in the watercourse on the subdivision lands during the site visits to the property.

2.2 Biological Environment

No Areas of Natural and Scientific Interest (ANSIs) are located on or adjacent to the subject lands. The closest ANSI is located approximately 3 km southeast from the subdivision lands and is a Life Science ANSI known as Big Island (Boyd Island).



The Ministry of Natural Resources and Forestry "Make a Map: Natural Heritage Areas" website was also reviewed and the following Natural Heritage Information Center data for species at risk was found for the grid cells which contained the subject lands:

UTM Grid: 17PK9437 UTM Grid: 17PK9436

• Restricted species (1931)

• Bobolink (2002 & 2005)

• Eastern Meadowlark (2002 & 2005)

UTM Grid: 17PK9537 UTM Grid: 17PK9536

Restricted species (1931) • Restricted species (1931 & 1939)

Restricted species (1931 & 1939)

MNRF have also indicated in an email dated May 26, 2017 (see Appendix C) that there have been occurrences of Bobolink (Threatened), Eastern Meadowlark (Threatened), and Northern Myotis (Endangered) in the immediate area of the site as well as occurrences of Barn Swallow (Threatened), Blanding's Turtle (Threatened), Butternut (Endangered), Eastern Hog-nosed Snake (Threatened), Eastern Whip-poor-will (Threatened), Lake Sturgeon Great Lakes Upper St. Lawrence River population (Threatened), Least Bittern (Threatened), Mottled Duskywing (Endangered), Common Five-Lined Skink Southern Shield Population (Special Concern), Eastern Wood-Pewee (Special Concern), Red-headed Woodpecker (Special Concern), Snapping Turtle (Special Concern) and Wood Thrush (Special Concern) in the general area (5 km) of the site.

In addition, MNRF have also indicated in their email that the proposed development is adjacent to a stratum 2 deer wintering area.

2.3 Socio-Economic Environment

The subject lands are currently vacant woodlands, fields and wetlands. The land use in the vicinity of the subject lands as shown on Map 1 includes vacant woodlands, a pond and agricultural uses along County Road 49 to the west; vacant woodlands, wetlands and agricultural uses along Ranch Road to the north; vacant woodlands, wetlands, and residential uses along Moon Line North to the east; and vacant woodlands, wetlands, and residential uses along Ellwood Crescent and Moon Line Road to the south.



3 Site Inspections

Site visits to the property were carried out on May 23, May 24, June 7, June 8, June 13, June 20, June 27 and June 28, 2017 by Bryana Kenny and an assistant to assess the site conditions of the subdivision lands and/or to carry out targeted SAR surveys as described in the next section.

The subdivision lands consist of vacant woodlands, wetlands, fields and historically cleared areas. A pond and a watercourse are also located on the subdivision lands in addition to low wet areas. An existing dwelling, garage and pool are located on Lot 1 and Block 24 as well as over a portion of the proposed road to be constructed on the west end of the property. A storage trailer is also located on Lot 3 / over a portion of the proposed road. The site features are shown on Maps 1, 2 and 3.

The vegetation on the forested portion of the subdivision lands consists of a mixed forest with trees of various ages, a white cedar coniferous forest, a common buckthorn thicket as well as a mature sugar maple dominated deciduous forest (Photo 8) as shown on Map 3. Tree species noted within the forested portions of the property and along the mixed fencerows includes eastern red cedar (15 cm diameter at breast height (dbh)), eastern white cedar (40 cm dbh), sugar maple (40 cm dbh), black cherry (23 cm dbh), white elm (10 cm dbh), trembling aspen (15 cm dbh), American basswood (10 cm dbh), bur oak (5 cm dbh), white pine (28 cm dbh), balsam fir (56 cm dbh), bitternut hickory (15 cm dbh), and white ash saplings. Shrubs and herbaceous vegetation noted within the forested portion of the property includes, common buckthorn, wild red raspberry, purple-flowering raspberry, prickly gooseberry, poison ivy, Virginia creeper, common strawberry, woodland strawberry, and various ferns and grasses. Fallen trees, branches and leaves/needles covered the forest floor.

Vegetation noted within the mixed swamp wetland (Wetland 4 on Maps 1 & 3) portion of the subdivision lands along Moon Line North consists primarily of eastern white cedar, common buckthorn and willow species (Photo 2). The access road to lots 11 – 22 and block 23 will be constructed through this wetland which is associated with the watercourse that runs though this area. The vegetation noted within the meadow marsh wetlands (Wetlands 5 & 6 on Maps 1 & 3, Photos 3 & 4) consist primarily of slender willow, grass and sedge species. The access road to lots 1-10 and block 24 will be constructed though a portion of Wetland 6. Tree species noted in the wetlands on the subdivision lands includes eastern white cedar (30 cm diameter at breast height (dbh)), white elm (20 cm dbh), black ash (17 cm dbh), and a white ash sapling. Shrubs and herbaceous vegetation noted within the wetlands includes, Bebb's willow, slender willow, common buckthorn, purple-flowering raspberry, cattails, sensitive fern as well as various moss, grass and sedge species. Fallen trees, branches and leaves were also located in Wetland 4.

Vegetation noted within the open field (cultural meadow) and historically cleared portions of the subdivision lands consists primarily of various grasses and herbaceous vegetation, however a few of the above tree species as well as juniper shrubs were also noted to be growing in the open areas as well (Photo 9). The fields on the subject lands were separated



from one another by wood and stone fences. Shrubs and herbaceous vegetation noted within the open field portion of the subdivision lands includes vipers bugloss, bird's-foot trefoil, sulphur cinquefoil, ox-eye daisy, hairy beard-tongue, smooth bedstraw, red clover, white clover, cow vetch, hop clover, bladder campion, tall buttercup, common dandelion, Canada goldenrod, common St. John's wort, orange hawkweed, yellow hawkweed, wild basil, common burdock, and common milkweed.

In addition to the species listed in the next section, the wildlife observed on the subdivision lands includes wood frog, grey squirrel, red squirrel, and white-tailed deer.

3.1 Species at Risk / Surveys

Bobolink (Threatened) & Eastern Meadowlark (Threatened)

Bobolink and Eastern Meadowlark surveys were carried out as per the Ministry of Natural Resources and Forestry methodology in order to determine if Bobolink and/or Eastern Meadowlark were using the grassed fields on the subdivision lands as habitat. Surveys were carried out on June 8, June 20 and June 28, 2017 at the two survey stations shown on Map 3.

Ten minute intervals of observations and listening at survey station 1 began around 7:17 am, 6:13 am and 8:28 am on each respective date and were followed by surveys at station 2. Surveys were conducted under sunny to cloudy conditions with low winds (<11 km/h) and temperatures between 15°C and 20°C.

No bobolinks or eastern meadowlarks were observed or heard on the subdivision lands during any of the surveys.

Northern Myotis (Endangered)

Acoustic surveys for bats were not carried out at the subject lands as they were not considered to contain suitable maternity roost habitat for bats, due to the lack of cavity trees/snags greater than 25 cm in diameter on the subdivision lands.

Barn Swallow (Threatened)

Targeted Barn Swallow surveys were not carried out on the subject lands as the barn on the property has been removed. No barn swallows were observed or heard on the subdivision lands during site visits to the property.

Turtles

MNRF identified in their May 26, 2017 email that Blanding's Turtle (Threatened) and Snapping Turtle (Special Concern) have occurred within 5 km of the subject lands.

Blanding's Turtle surveys were carried out at the subject lands on May 23, May 24, June 7, June 8, and June 13. Surveys were conducted under sunny to cloudy conditions with low winds (<11 km/h) and temperatures between 17°C and 22°C.



Blanding's Turtle surveys which included surveys for other turtle species as well were carried out as per the Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario by the Ontario Ministry of Natural Resources and Forestry in order to determine if Blanding's Turtles were using the wetland portions of the subject lands as habitat.

During the field investigations, Wetlands 2, 3, 4, 5 and 6 as shown on Map 1 were not considered to contain suitable Blanding's Turtle habitat due to the lack of standing water and/or basking sites. Searches for Blanding's Turtles occurred in the open water areas of Wetland 1 (a silver maple and black ash swamp, Photo 10), in a ponded area along the watercourse on the retained lands (Photo 11) as well as within the ponds (Photos 5 and 12) on the subdivision lands. No turtles were observed during any of the surveys.

Butternut (Endangered)

Butternut trees were not noted on or adjacent to the subdivision lands during a butternut survey that was carried out on June 20 and June 27, 2017.

Eastern Hog-nosed Snake (Threatened)

The 2007 COSEWIC Assessment and Update Status Report on the Eastern Hog-nosed Snake (*Heterodon platirhinos*) in Canada, describe the preferred habitat for Eastern Hog-nosed snake as consisting of well-drained soil; loose or sandy soil; open vegetative cover such as open woods; brushland or forest edge; proximity to water; and climatic conditions typical of the eastern deciduous forest biome.

The subdivision lands contain most of these habitat features and therefore Eastern Hog-nosed snake habitat is considered to be present on the subdivision lands. However, Eastern Hog-nosed snakes were not observed during any of the site visits to the property.

Eastern Whip-poor-will (Threatened)

Eastern Whip-poor-will surveys were not carried out due to the lack of large patches of suitable forest habitat on the property. The forested portion on and adjacent to the subdivision lands consists primarily of juniper, cedar and common buckthorn with a thick understory present. According to the 2009 COSEWIC Assessment and Status Report on the Whip-poor-will (*Caprimulgus vociferous*) in Canada and the General Habitat Description for the Eastern Whip-poor-will (*Caprimulgus vociferous*), Eastern Whip-poor-will utilize forest habitats consisting of semi-open or patchy forests with little ground cover that are close to open areas which the species uses to forage. Therefore suitable habitat for eastern whip-poor-will is not considered present on the subdivision lands.

Lake Sturgeon Great Lakes Upper St. Lawrence River Population (Threatened)

Lakes are not located on or adjacent to the subdivision lands and therefore the subdivision lands do not contain suitable habitat for this species.

Least Bittern (Threatened)

Least Bittern's were not noted on the subdivision lands during any of the field studies. According to the 2001 COSEWIC Assessment and Update Status Report on the Least Bittern (*Ixobrychus exilis*) in Canada, Least Bittern utilize freshwater marshes which are greater than



5 hectares in area. Marsh habitat on the subdivision lands is present, however, it is less than 5 ha in area. Based on a review of aerial photography, marsh habitat greater then 5 ha in area also does not exist adjacent to the subdivision lands. Therefore, suitable habitat for Least Bittern is not located on or adjacent to the subdivision lands.

Mottled duskywing (Endangered)

According to the 2012 COSEWIC Assessment and Status Report on the Mottled Duskywing (*Erynnis martialis*) Great Lakes Plains population, Boreal population in Canada, the mottled duskywing occurs within oak woodland, pine woodland, roadsides, river banks, oak savannahs, shady hillsides, tall grass prairies and alvars, and are always associated with dry, sandy soils. In addition, they also require Prairie Redroot and New Jersey Tea plants which are the host plant for this species.

Mottled duskywing's or their host plants were not noted on or adjacent to the subdivision lands during any of the site visits to the property. Therefore, Mottled duskywing habitat is not considered to be present on or adjacent to the subdivision lands.

Common Five-Lined Skink Southern Shield Population (Special Concern)

Common Five-Lined Skink's were not noted on the subject lands during any of the field studies. According to the 2007 COSEWIC Assessment and Update Status Report on the Five-lined Skink (*Eumeces fasciatus*) Carolinian population, Great Lakes/St. Lawrence population in Canada, the Great Lakes/St. Lawrence population of Five-Lined Skink utilize rock outcrops which are located within coniferous and deciduous forests.

One small area of the proposed subdivision lands contains a rock outcrop as shown on Map 3 (Photo 1). This rock outcrop is relatively small and the surrounding woody vegetation has mostly been cleared, however, a small mixed forest and juniper covered area is located to the south of the rock outcrop. Due to the small size and the characteristics of the surrounding area, the subdivision lands and the adjacent lands are not considered to contain suitable habitat for this species.

Breeding Birds

MNRF identified in their May 23, 2017 email that Eastern Wood-Pewee (Special Concern), Red-headed Woodpecker (Special Concern), and Wood Thrush (Special Concern) have occurred within 5 km of the site.

The following bird species were noted to be on or in close proximity to the subdivision lands during the nesting season: American crow, red-winged blackbird, yellow warbler, eastern towhee, mourning dove, black capped chickadee, blue jay, field sparrow, and chipping sparrow. One (1) bird's nest was also observed in a tree within the forested portion of the subdivision lands.



4 Environmental Effects Analysis

4.1 Potential Environmental Effects

The subdivision proposal consists of the development of 22 hamlet residential estate lots, 2 stormwater lots and two access roads. An environmental protection block is also located on the Phase 1 lands which will not be developed.

Significant Wetlands, Ponds, Watercourse & Access Road

No Provincially Significant wetlands (PSWs) are located on or within 120 metres of the subdivision lands. All development will occur outside of the wetlands and ponds on the subject property except for Wetland 4 and Wetland 6 as well as the watercourse on the subdivision lands, where public, paved access roads to the subdivision lands will be constructed. Wetland 5 may also be removed. There will be a small loss of wetland habitat as a result of the construction of the access roads from Moon Line North and County Road 49 and development of the lots. Minor impacts will also occur on the watercourse from the construction of the access road through this area. However, mitigation measures can be implemented to reduce the adverse impacts as a result of the proposed development on the wetlands, ponds and watercourse located on and surrounding the subdivision lands.

Significant Habitat of Endangered and Threatened Species

Significant habitat of endangered and threatened species is not located on the subject lands as no species at risk were observed and/or heard during the site visits that were carried out at the subject lands.

Significant Woodlands

Section 7.0 of the Natural Heritage Reference Manual, prepared by the Ministry of Natural Resources and Forestry sets out criteria for determining if a woodland is considered significant which considers woodland size, ecological functions, uncommon characteristics and economic and social functional values.

The woodlands on the subdivision lands are located over a portion of the access road from Moon Line North as well as on a portion of Lots 14 to 17. A small forested area is also present over a portion of Lots 11 and 22, Block 23 and over a portion of the access road in this area. Plant species found within the woodlands on the subdivision lands are common in the area and the woodlands do not contain walking trails etc. and therefore are not considered to have high economic or social values.

The woodlands on the subject lands are small extensions of larger woodlands which are located on adjacent lands. However, as the woodlands on the subject lands are relatively small in nature and are separated from other woodlands on and adjacent to the subject lands by open fields, existing development or municipal roads, there is no interior forest habitat present on the subdivision lands and very limited (if any) interior forest habitat is present on adjacent lands (the retained lands). Interior forest habitat is present within the woodlands on the east side of Moon Line Road. The woodlands on the subdivision lands do provide some



linkage functions as they are located adjacent to wetlands and a stratum 2 deer wintering area.

Based on the characteristics and size of these woodlands and the lack of suitable interior habitat, the woodlands on the subdivision lands themselves are not considered to be significant woodlands. However, if the larger contiguous woodlands located within 120 metres of the subdivision lands on the east side of Moon Line North are considered to be significant woodlands, the development of the proposed lots on the subject lands will only remove approximately 1.9 hectares of the overall contiguous forest (over 202 hectares) which will not impact the ability of this overall forest to function as a significant woodland.

Significant Valleylands

Significant valleylands are not located on the subdivision lands. Based on a desktop review of available information for the adjacent lands, no significant vallleylands are located within 120 metres of the subject lands either.

Significant Wildlife Habitat

MNRF have indicated in their May 26, 2017 email that the proposed development is adjacent to a stratum II deer wintering area. The development of the lots and the access road will have limited impact on the adjacent stratum II deer wintering area as the majority of the proposed development will occur within the open field portions of the subdivision lands and only a small amount of forest habitat (approximately 1.9 hectares) will be removed. The subject lands themselves are not considered to contain suitable deer wintering areas due to the small amount of mixed, coniferous and deciduous forests and the lack of a suitable amount of browse for Stratum II habitat within those forests. It is likely that the deer would use the more suitable Stratum II habitat located in close proximity to the subject lands rather than the lesser quality habitat on the subject lands.

Based on the field studies carried out at the subdivision lands, the potential for other species of special concern and their habitat to be present on the subdivision lands is minimal. Similarly, significant features such as other seasonal concentration areas of animals and rare vegetation communities are not anticipated to occur on the site. Amphibian breeding habitat (specialized habitat for wildlife) potentially exists on and adjacent to the subject lands. Only one wood frog was noted during the site visits to the property, however in order to protect potential amphibian breeding habitat on and adjacent to the subject lands, the mitigation measures in this report should be properly implemented. The site also provides some animal movement corridors for species along the fencerows on the subdivision lands. Therefore significant wildlife habitat potentially occurs on the subdivision lands and adjacent lands.

Significant Areas of Natural and Scientific Interest (ANSI)

Based on a desktop review and site visits to the subject lands, no ANSI's are located on or adjacent to the subdivision lands. The closest ANSI to the proposed development site is located approximately 1.3 km south from the proposed lots. This ANSI is a Life Science ANSI known as Oak Orchard – Nichol Island. Therefore the proposed development will not have any adverse impacts on any Significant Areas of Natural and Scientific Interest.



Fish Habitat

Potential fish habitat is present in the ponds, watercourse and wetlands on the subject lands, however, no fish were noted during visual searches in these surface water features during the site visits to the property. All development will occur at least 30 metres from Wetland 1 located through the middle portion of the subject lands as well as 15 metres from the smaller wetlands and ponds on the subject lands, with the exception of Wetlands 4, 5 and 6 as well as the watercourse. Wetlands 4, 5 & 6 and the watercourse will be directly impacted as a result of the development of the subdivision lands. However, provided the mitigation measures outlined in the next section are implemented, no adverse impacts on fish or potential fish habitat will occur within the watercourse, wetlands or ponds on the subject lands.

Flora/Fauna

Some minor impacts will occur to bird species using woody vegetation as nesting habitat on the subdivision lands due to the limited tree removal that will be required to develop some of the proposed lots. Recommended mitigation measures to ensure no adverse impacts occur are described in the next section.

4.2 Environmental Mitigation Measures

Wetlands, Ponds, Watercourse, Potential Amphibian Breeding Habitat, Fish Habitat & Access Road

As Wetland 1 is larger and contains more features and functions, a 30 metre wide buffer area from the edge of the wetland boundary of Wetland 1 on Block 25 should be maintained in a natural vegetated state, with an exception for a meandering pathway to the wetland.

Wetlands 5 and 6 are small, isolated features which lack large areas of standing water and contain limited features and functions. Therefore, these features can be removed, if needed, provided the important mitigation measures in this report are properly implemented.

The pond on Lot 6 is also a small, isolated feature which contains limited features and functions. However, as this feature contains standing water, a 15 metre wide buffer area from the pond on Lot 6 should be maintained in a natural vegetated state, with an exception for a meandering pathway constructed of permeable surface materials. No impermeable surfaces should be located within 15 metres of this feature.

The limbing of trees to provide for a view of the wetlands or pond and the removal of dead or diseased trees shall also be permitted, but limited to the greatest extent possible. The setbacks described above are considered sufficient in order to avoid any adverse impacts on the wetlands, ponds, water quality and potential fish habitat on the subdivision lands.

At the time that a portion of Wetland 4 and Wetland 6 will be filled in order to construct access roads to the property and if Wetland 5 will be removed, if there is standing water present, defishing, if applicable will need to occur prior to filling it in. A sampling permit will be required from the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF) for the defishing.



No building envelopes will be in proximity to the watercourse on the property however, the access road will be constructed over this watercourse. In order to mitigate potential impacts on the potential fish habitat within the watercourse and surrounding wetland the following mitigation measures should be implemented for any culverts to be installed under the access roads on the subdivision lands,

- a. Timing of the in-water work for the installation of a culvert should be completed in the summer period due to generally reduced flow, decreased potential for sediment input and the greater growing season afforded for revegetation of disturbed areas. If construction occurs in the fall, depending on the length of construction period and how the re-vegetation germinates it may be necessary to have any exposed areas along the banks covered with erosion control blankets to keep the soil in place and prevent erosion from occurring during the spring freshet period;
- The channel bed and banks should be stabilized with clean shot rock one metre upstream and downstream of the new culvert after installation. Smaller rounded material will be placed over the larger rock protection to provide more habitat utilization potential;
- c. All material to be placed in the watercourse is to be clean and free of fines;
- d. All access to the work areas should be within the road allowance to avoid tree removal and other potential disturbances in portions of the watercourse corridor that will not be disturbed;
- e. It is important to ensure the banks are stabilized as soon as possible after the installation is completed and exposed soil is kept to a minimum at all times;
- f. Erosion and sediment control measures are a critical component of the construction work. Effective sediment and erosion control measures are to be maintained until complete re-vegetation of disturbed areas is achieved. Prior to any in-water work a rock flow check dam, with a sediment trap immediately upstream of the flow check, is recommended downstream of the work area. Silt fencing is to be installed along the edges of the work areas and along both banks of the watercourse where the fencing will not conflict with work within and under the watercourse. It is important that fencing is properly dug-in to treat any surface water flow and is maintained as required, including removal of accumulated sediment;
- g. Additional mitigation measures to minimize the potential for inputs of sediments and other contaminants into the watercourse and the environment in general include proper maintenance on construction equipment with respect to refuelling, washing and fluid changes, and proper disposal of fluids, filters and other waste materials. None of this work should take place within 30 metres of the watercourse, ponds or the wetlands on the property;
- h. It is important that monitoring be completed at all times and any water quality issues such as elevated turbidity levels be addressed immediately with cessation of work until proper sediment and erosion controls are in place.
- i. Any permits, if required are to be obtained.

In order to mitigate impacts on the potential fish habitat within the retained wetlands and ponds on the Phase 1 lands, the following mitigation measures should be implemented:



- Erosion and sediment control measures are a critical component of the construction work. Effective sediment and erosion control measures are to be maintained until complete re-vegetation of disturbed areas is achieved;
- b. Additional mitigation measures to minimize the potential for inputs of sediments and other contaminants into the wetlands, ponds and the environment in general include proper maintenance on construction equipment with respect to refuelling, washing and fluid changes, and proper disposal of fluids, filters and other waste materials. None of this work should take place within 30 metres of any surface water features on the property;
- c. It is important that monitoring be completed at all times and any water quality issues such as elevated turbidity levels be addressed immediately with cessation of work until proper sediment and erosion controls are in place.

Fauna

- To protect breeding birds, no tree or shrub removal should occur between April 15th and August 15th, unless a breeding bird survey completed within five days of the woody vegetation removal identifies no nesting activity. One nest in the forest on the subdivision lands was noted. No evidence of raptor nesting was observed on or adjacent to the subdivision lands.
- 2. The following mitigation measures are recommended in order to mitigate the potential impacts on turtles and snakes from development on the subject lands:
 - Specific site preparation work requiring clearing of vegetation and building on the subject lands should be undertaken between October 16th and April 15th, which is outside of the more active season for turtles;
 - b. If work is to occur between April 16th and October 15th then in order to prevent potential movement of turtle and snake species onto the subject lands, a properly installed and maintained barrier (silt fencing) should be erected around any areas where development will occur during all site preparation and construction activities:
 - i. Once the work areas are surrounded by properly dug in fencing and prior to further site alterations, the work areas are to be searched for turtles and snakes. Any turtles observed should be relocated to a wetland in the vicinity of the subject lands and any snakes observed should be relocated outside of the work areas; and
 - ii. Construction staff is to be made aware of the characteristics of SAR turtles and snakes. If any turtles or snakes are observed during construction, activity in the area is to stop until the turtles or snakes can be carefully relocated outside of the work areas. If a Blanding's Turtle, Snapping Turtle or Eastern Hog-nosed Snake is observed, all work is to cease and the Ministry of Environment Conservation and Parks (MECP) and a biological consultant contacted.

Flora

 To ensure no adverse impacts occur on the adjacent Stratum II deer wintering area, vegetation on the subject lands should remain in a natural state, except for the clearing of portions of the property to allow for the construction of structures as well as



- associated access requirements and outdoor amenity areas on the lots. Coniferous trees should also be retained where possible;
- 2. Butternut trees were not observed on or adjacent to the subject lands. However, to ensure that any butternut trees are not removed from the subject lands in the future, prior to any tree removal that is required to access the subject lands or to construct any structures, a survey for butternut should be conducted during the leaf-out period. This survey should be conducted within the construction footprint as well as within 50 metres surrounding the construction footprint in order to ensure that any butternut trees that may be present are not removed.



5 Conclusions and Recommendations

No SAR were observed or heard on the proposed subdivision lands during the site visits that were carried out to the property in 2017. The recommendations from this study are intended to mitigate potential impacts arising from the future development of this property and should be implemented through a development or subdivision agreement between the owners and the Municipality of Trent Lakes in order to control development of the site. Controls within this agreement are deemed sufficient to mitigate the potential impacts of the proposed development on the wetlands, ponds, watercourse and potential significant wildlife habitat, and potential fish habitat on the property as well as the adjacent Stratum II deer wintering area as a result of the proposed future development.

Please do not hesitate to contact our office if you have any questions.

Yours truly,

Jp2g Consultants Inc.
Engineers • Planners • Project Managers

Muncaster Environmental Planning Inc.

Bene Must

Bryana Kenny, B.Sc. (Hons.)

Bryener Kerry

Biologist | Planner

Bernie Muncaster, M.Sc.,

Principal



6 References

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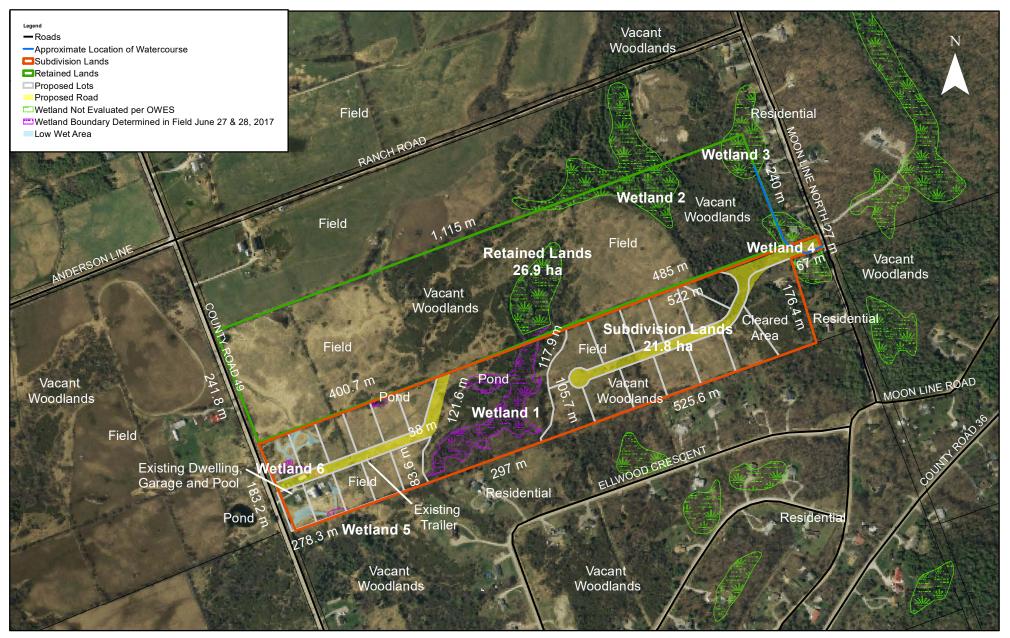
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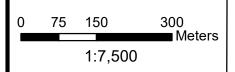
Appendix A - Maps



Notes

1. Aerial Imagery obtained from The Ministry of Natural Resources and Forestry Maps A Map: Natural Heritage Areas Website.

2. Map Layers obtained from Land Information Ontario.



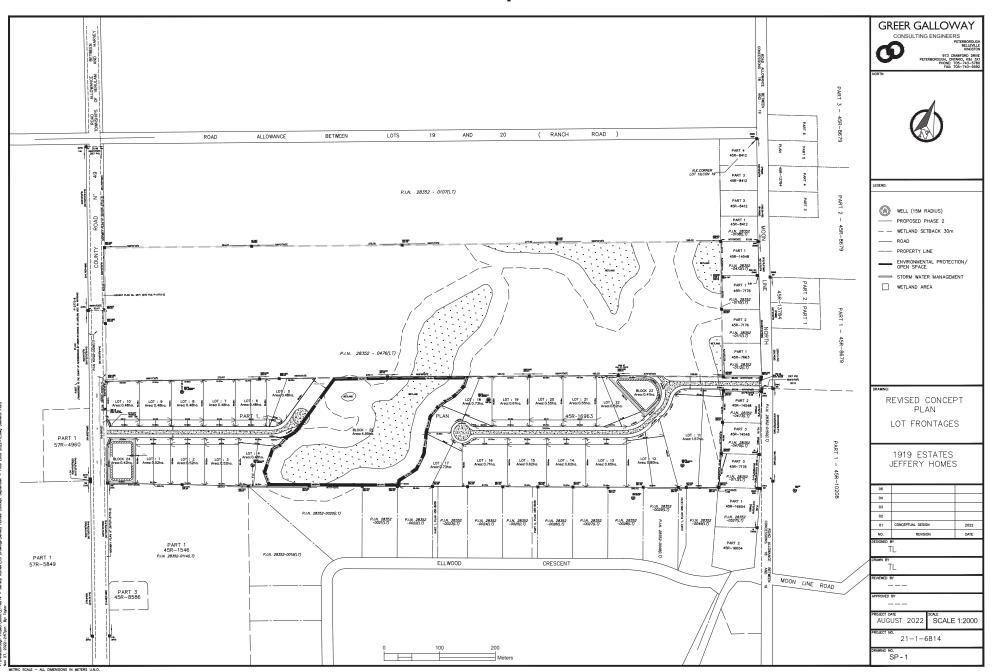
Map 1: Site & Surrounding Land Use

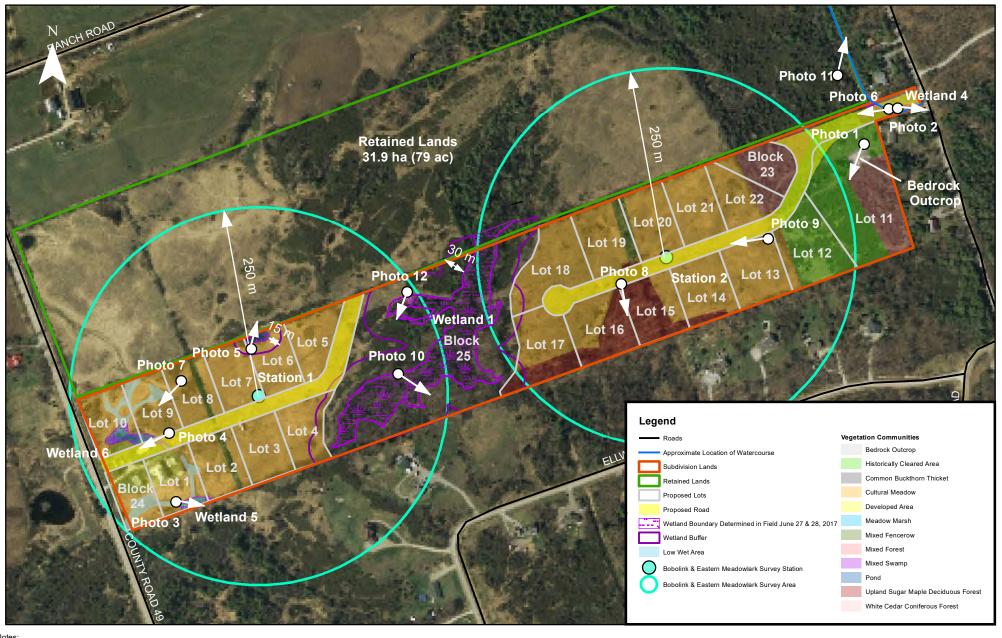


Date: November 2022

17-6053A

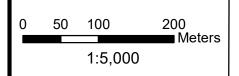
Map 2





Notes:

- 1. Aerial Imagery obtained from the County of Peterborough's GIS website.
- 2. Map Layers obtained from Land Information Ontario.



Map 3: Bobolink & Eastern Meadowlark Survey Stations & Vegetation Communities



Date: November 2022

17-6053A



Appendix B - Photos





Photo 1 – Rock Outcrop on Subdivision Lands. View Looking Southwest. Photo taken June 27, 2017



Photo 2 – Wetland 4/Watercourse on Subdivision Lands Where Proposed Access Road will be Located. View Looking East.
Photo taken June 27, 2017





Photo 3 – Wetland 5 on Subdivision Lands. View Looking East. Photo taken June 28, 2017



Photo 4 – Wetland 6 on Subdivision Lands. View Looking Southwest. Photo taken June 28, 2017.





Photo 5 – Pond on Lot 6 of Subdivision Lands to be Retained. View Looking Northeast. Photo taken June 28, 2017.



Photo 6 – Watercourse on Subdivision Lands. View Looking West. Photo taken June 27, 2017





Photo 7 – Low Wet Areas in Fields on Subdivision Lands. View Looking Southwest. Photo taken June 28, 2017



Photo 8 – Site Conditions of Sugar Maple Forest on Subdivision Lands. View Looking Southeast. Photo taken June 27, 2017





Photo 9 – Site Conditions of Fields on Subdivision Lands. View Looking West. Photo taken June 27, 2017



Photo 10 – Wetland 1 to be Retained on Subdivision Lands. View Looking Southeast. Photo taken June 7, 2017.





Photo 11 – Ponded Area of Watercourse on Retained Lands. View Looking Northeast. Photo taken June 7, 2017.



Photo 12 – Pond to be Retained on Subdivision Lands. View Looking Southwest. Photo taken June 28, 2017.



Appendix C - MNRF Correspondence

Bryana Kenny

From: Irwin Osinga <iosinga@greergalloway.com>

Sent: May 26, 2017 3:51 PM **To:** Li, Jenny (MNRF)

Cc: Warren, Catherine (MNRF); Bryana Kenny

Subject: Anderson Development: 2017-05-26 MNRF Comments 17-HARV-P Information Request to Confirm

the Scope for the EIA for a Proposed Development Site at 168 County Road 49, Part Lots 18 and 19,

Conc. 19, Township of Harvey, Municipality of Trent Lakes

Importance: High

Thanks for your help Jenny and Catherine.

We will forward the draft Environmental Impact Assessment report for your review once available.

Our biologist, Bryana Kenny, may also follow-up with you if she has any questions.

Irwin Osinga, P.Eng.

GREER GALLOWAY

Tel: (705) 743-5780, Ext. 253; Fax: (705) 743-5782; Cell: (416) 523-5730

E-Mail: iosinga@greergalloway.com

From: Li, Jenny (MNRF) [mailto:Jenny.Li2@ontario.ca]

Sent: Friday, May 26, 2017 11:49 AM

To: Irwin Osinga <iosinga@greergalloway.com>

Cc: Warren, Catherine (MNRF) < Catherine. Warren@ontario.ca>

Subject: 2017-05-26 MNRF Comments 17-HARV-P Information Request to Confirm the Scope for the EIA for a Proposed Development Site at 168 County Road 49, Part Lots 18 and 19, Conc. 19, Township of Harvey, Municipality of Trent

Lakes

Hello Irwin,

MNRF Peterborough District has received your email (dated May 8, 2017) regarding the information request to confirm the scope for the EIA for the proposed development site located in part of Lot 18 and 19, Concession 19 (Township of harvey), Municipality of Trent Lake. We provide the following general information for your consideration:

General: MNRF Data and Information

We would like to inform you that MNRF's natural heritage and natural resources data and information (including wetlands, ANSIs) for the study area can be obtained through the Land Information Ontario Warehouse (LIOW) through the Ministry's Land Information Ontario (LIO) website at: https://www.ontario.ca/environment-and-energy/land-information-ontario.

You may also view natural heritage information online (e.g. Provincially Significant Wetlands, ANSIs, Woodlands, NHIC 1 km screening squares) using Natural Heritage Make a Map at: https://www.ontario.ca/environment-and-energy/make-natural-heritage-area-map.

You can also obtain Species at Risk occurrence information on our Natural Heritage Information Centre website: https://www.ontario.ca/environment-and-energy/get-natural-heritage-information. In addition, the official Species at Risk in Ontario (SARO) List can be obtained at: http://www.e-laws.gov.on.ca/html/regs/english/elaws-regs-080230 e.htm

We recommend that you use the above-noted sources of information during the review of your project proposal.

Wetlands

The subject property is overlapping unevaluated wetlands. We recommend contacting your local Conservation Authority for more information on approvals that may be required.

ANSIS

There are no Areas of Natural and Scientific Interests that are adjacent to the proposed development site.

Species at Risk

A review of our best available information indicates that there are occurrences of Bobolink (Threatended), Eastern Meadowlark (Threatened) and Northern Myotis (Endangered) in the immediate area of the site. Also, there are occurrences of Barn Swallow (Threatened), Blanding's Turtle (Threatened), Butternut (Endangered), Common Five-Lined Skink Soutern Shield Population (Special Concern), Eastern Hog-nosed Snake (Threatened), Eastern Whip-poor-will (Threatened), Eastern Wood-Pewee (Special Concern), Lake Sturgeon Great lakes Upper St. Lawrence river Pop (Threatened), Least Bittern (Threatened), Mottled Duskywing (Endangered), Red-headed Woodpecker (Special Concern), Snapping Turtle (Special Concern) and Wood Thrush (Special Concern) in the general area (5 km) of the proposed activities. Although no other threatened or endangered species or their habitat have been documented in the area of the proposed projects, these features may be present and this list should not be considered complete.

Species listed as endangered or threatened on the Species at Risk in Ontario (SARO) list are protected under the Endangered Species Act, 2007 (ESA). Section 9(1) of the ESA prohibits a person from killing, harming, harassing, capturing or taking a member of a species listed as endangered, threatened or extirpated on the SARO list. Section 10(1) of the ESA prohibits the damage or destruction of habitat of a species listed as endangered or threatened on the SARO list.

Since comprehensive mapping for most Species at Risk is not available, a site assessment is recommended to identify the presence of any Species at Risk and/or their habitat on the subject lands, as a decision should not be made in the absence of such information. The focus of the site assessment can include a review of the information about known occurrences provided by MNRF above along with other information sources such as species distributions and habitat requirements as well as field visits using MNRF approved protocols during the appropriate seasons by a qualified professional. Due to the species that are potentially present at this site, the following recommendations should help prevent adverse impacts:

Birds

Workers must be vigilant and check work areas for the presence of breeding birds and nests containing eggs and/or young. If breeding birds and/or nests are encountered, works should not continue in the location of the nest until after August 1 (or as soon as it has been determined that that the young have left the nest). Please note that the breeding bird season in the subject area extends from April 15 to July 31.

<u>Specific Barn Swallow Information:</u> Barn Swallow nests may be present under bridges and/or culverts. Therefore, the underside of these structures should be assessed for Barn Swallow nests before proceeding. If no nests are present, a contravention of the ESA is unlikely. However, if nests are present, construction should not begin until after August 15 of any year. If nests will be impacted during the nesting season or if the structure will no longer be suitable for nesting post-construction, ESA requirements will apply to the activity. A regulatory provision is available that allows eligible activities that impact to Barn Swallow to register and follow all the rules in regulation in place of applying for a permit under the ESA. See this website for more information on regulatory requirements for Barn Swallow: https://www.ontario.ca/page/alter-structure-habitat-barn-swallow.

Turtles and Snakes

Workers must be vigilant and check work areas for the presence of turtles. If turtles or snakes are encountered, whenever possible, work should be temporarily suspended until the animal is out of harm's way. Workers should report any turtle observations (including photographs and coordinates) to the Peterborough District Office immediately at (705) 755-2001. Please note that the turtle nesting season in the subject area extends from May 15 to Aug 15. Therefore, activities which may cause adverse impacts to a species or habitat (e.g. use of heavy equipment) should commence after Aug 15.

Butternut:

If a Butternut tree(s) is identified and is to be removed, trimmed or is in close proximity to the application of herbicides, a Butternut Health Assessment should be conducted by an individual trained and certified by MNRF as a Butternut Health Assessor (BHA) under the Butternut Health Assessment in Ontario protocol. All Butternut Health Assessments must be submitted to the MNRF District office for a 30 day review period before proceeding. Depending on the results of the assessment, you may have different options for how to proceed. Please see the following online factsheet

(http://www.ontario.ca/environment-and-energy/butternut-trees-your-property) for more information. Please note that the ideal time of year to properly identify Butternut (and to distinguish between Butternut and Butternut Hybrids) is between the leaf on and leaf off period (approximately June to August). Workers should report any Butternut observations (including photographs and coordinates) to the Peterborough District office immediately upon discovery. For those Butternut that are not proposed for removal, a minimum protective buffer of a 25 metre radius from the stem of each Butternut is required to prevent root disturbance. A larger area up to 50 m may also be considered protected habitat for the tree. Within the 25 metre buffer area, activities that would remove or significantly compact the roots and soil, and cause direct harm to the Butternut are not permitted. Within the 25-50 metre buffer area, activities that would significantly damage or destroy habitat e.g. by impacting the tree's ability to disperse seeds are also not permitted. Removal of other vegetation and careful logging practices within this radius are permitted.

As of July 1, 2013, there are new regulatory provisions provided under the ESA. This regulatory provision allows eligible activities, such as work undertaken to repair, modify, demolish, replace or general maintenance of a structure or the removal of buildings and/or excavation of land, vegetation removal, etc. that is considered to be species at risk habitat to proceed without a permit, provided the proponent register with the Ministry of Natural Resources and Forestry and then follow the specific rules in regulation under the ESA. These rules include, but are not limited to, preparing a mitigation plan and implementing steps to minimize the adverse effects of the activity on the species identified.

Information on the new ESA regulatory provision that come into effect on July 1, 2013 can be found at http://www.ontario.ca/environment-and-energy/natural-resources-approvals.

The amended ESA regulation (O.Reg 242/08) can be found at http://www.e-laws.gov.on.ca/html/regs/english/elaws-regs-080242 e.htm.

If an impact to a Species at Risk or its habitat cannot be avoided, a person(s) should contact MNRF to discuss options, including applying for an authorization under the ESA. In situations where an activity is not registered with or authorized by the MNRF, a person(s) must comply with the ESA by modifying proposed activities to avoid impacts to Species at Risk and habitat protected under the ESA.

It is highly recommended that landowners and on-site workers familiarize themselves with information found at the following link:

MNRF Species at Risk website: www.ontario.ca/speciesatrisk

During on-site activities, should any species at risk or their habitat be potentially impacted, MNRF should be contacted immediately and operations should be modified to avoid any negative impacts to species at risk or their habitat until further discussions with MNRF can occur regarding opportunities for mitigation. If any species at risk are found, the Peterborough District MNRF office should be contacted at 705-755-2001. If possible, pictures of the species at risk and coordinates for the location where it was observed should be provided to MNRF.

Significant Wildlife Habitat

The site may contain significant wildlife habitat which typically must be identified during site-specific investigations. Significant wildlife habitat may include features such as: seasonal concentration areas for wildlife species (e.g. snake hibernaculum), rare vegetation communities (e.g. tallgrass prairie), specialized habitats of wildlife (e.g. turtle nesting and over-wintering areas), habitats of species of conservation concern (e.g. Special Concern species as identified on the Species at Risk in Ontario list) and animal movement corridors (e.g. amphibian movement corridors). We recommend that you contact the local planning authority for potential study requirements for the identification of Significant Wildlife Habitat. In addition, when no information is available, we refer you to the Significant Wildlife Habitat Technical Guide and the recently approved Ecoregion Criterion Schedules for the identification of Significant Wildlife Habitat (January 2015). The Ecoregion Criterion Schedules and newly approved Significant Wildlife Habitat Mitigation Support Tool (MiST) can be downloaded here: https://www.ontario.ca/search/natural-heritage-planning-resources-municipal-planning

MNRF is responsible for the identification of winter deer yards. A review of our available information indicates that the proposed development site is adjacent to a stratum 2 deer wintering area. According to the latest Ecoregion 6E Criterion Schedule for the identification of Significant Wildlife Habitat (January 2015), both Stratum 1 and 2 deer yards are recommended to be considered Significant Wildlife Habitat. Stratum 2 deer yards can also contain agricultural areas. According to the PPS, development within Significant Wildlife Habitat would require an EIS to demonstrate no negative impacts.

General Information Regarding MNRF approvals:

Fish and Wildlife Conservation Act

Please note that you may require a Scientific Collector's Permit from our office if you will be doing any fish or wildlife sampling, collection, salvage, or relocation within Peterborough District. For more information about Scientific Collector's Permits, please contact Julie Formsma, Fish and Wildlife Technical Specialist at 705-755-3296.

Other Approvals

It is the responsibility of the proponent to acquire all other information and necessary approvals from any other municipal, provincial or federal authority under other legislation. We recommend that you contact your local Conservation Authority, Department of Fisheries and Oceans, Ministry of the Environment and Climate Change, Ministry of Tourism, Culture and Sport, etc.

If you have any questions regarding the above comments, don't hesitate to contact me. Please reference the file number in the subject line for any future correspondence.

Sincerely,

Jenny

Jenny Li
Land Use Planning Assistant Summer Student
Peterborough District
Ontario Ministry of Natural Resources and Forestry
300 Water Street, 1st Floor South
Peterborough, ON K9J 8M5

Email: Jenny.Li2@ontario.ca