



Ecological Services
R.R. #1, 3803 Sydenham Road
Elginburg, Ontario K0H 1M0
Phone: (613) 376-6916
E-mail: mail@ecologicalservices.ca

ENVIRONMENTAL SITE EVALUATION

Municipality: Leeds and the Thousand Islands Township

Lots:

Concession:

Municipal Address: 479 Highway 2, Gananoque

Site District: 6E-10

Landowner: John Madden

Planning Application Reference:

Description of Application: The subject property is located east of Gananoque, between Highways 2 and 401 (Attachment 1). We undertook a scoped assessment of the site, focused on the northern part of the property where the landowner proposes to build an office/shop building for his Eco Tree Care business, as well as erect a coverall for storage of associated equipment. The site will be serviced with a septic system. The concept plan is included in Attachment 2.

Site Description:

The site is largely characterized by agricultural lands, with an alfalfa crop at the time of our site inspection. This landuse appears to have expanded and contracted at various times over the years. 1954 photography shows almost the entire site in agricultural use, with the exception of two sparsely-treed areas of high land. Legge's Creek cuts across the southern part of the site in a northeast/southwest orientation, and associated with the creek is a provincially significant wetland. We did not investigate the lands beyond the wetland, as it was well over 120 m distant from the site of the proposed development, thus beyond adjacent lands for the purposes of the Provincial Policy Statement.

A. Ecological Land Classification

The preliminary ELC mapping is provided in Attachment 3; site photos are included in Appendix 4. Due to the time of year of our field visit (November) and the scoped assessment work required, we could make only superficial assessment of ELC. More detailed work would permit finer delineation of the ELC types, and might adjust details of the categorization. For example, the woodland in the northeast corner of the property is shown as an FOD5-3 area within which is a type of Treed Rock Barren (RBT); with more detailed assessment, this might be mapped as an ELC polygon of deciduous forest with rock barrens inclusions. While sufficient for the proposed development (as shown in Attachment 2), if a future proposal were made for other development, an expanded environmental assessment would be indicated.

The largest ELC type is a cultural type shown as Ag (alfalfa). Cultural sites can have variable site conditions and substrates, but they are communities resulting from, or maintained by, cultural or anthropogenic-based disturbances (Lee et al. 1998). Here, the

land was cropland, currently in alfalfa. This is the area within which the two buildings are proposed. It is of low ecological value due to being a monotypic crop cover with no other plant species noted. There was also a finger of abandoned agricultural land on the west part of the site not currently in crops, which area is just denoted as AG.

The lands to the west of the cropland are denoted as Meadow Marsh (MAM), with the three pothole areas more specifically denoted as MAM1-1, dominated by Reed Canary Grass. There appears to be drainage coming south from Highway y, draining down toward Legge’s Creek and the associated wetland. There was a discernable channel at some points, but no distinct channel could be found through the whole MAM area, rather it appears that drainage works its way south overland. We did not investigate this area in detail, so further investigation may fine-tune the ELC mapping.

On the east side of the cropland, we found a high finger of land that was treed. Portions of the area had sufficient canopy to be deemed forest, and we identified an oak-maple forest that we have shown as FOD5-3 deciduous woodland. As we climbed higher, however, the tree cover was reduced, and we found treed rock barren (RBT). The tip of the ”finger” supported more RBT.

Cutting across this finger of land is a strip of Sumac Cultural Thicket Type (CUT1-1), where the land has been cleared, and a large billboard is located. Revegetation has taken place, but tree cover is limited, and the area is characterized by the presence of Staghorn Sumac shrubs.

We have approximated the boundary of the Legge’s Creek Wetland based on the wetland mapping, satellite imagery, and our observations in the field. We note that we did not extend our survey south of the wetland, which is over 120 m from the site of the proposed development. Because this is beyond the land defined as “adjacent lands” for the purposes of the Provincial Policy Statement, there was no need to go further, and the timing of the fieldwork was not ideal for wetland assessment work. As noted above, if future development is proposed to extend closer to the PSW, additional assessment may be required.

Finally, we have suggested probable ELC types associated with the balance of the site, but note that this is largely based on interpretation of satellite imagery. We did not investigate the balance of the site, as pointed out above.

Is the Proposed Development:	
A. In a Provincially Significant Wetland or Coastal Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Adjacent to a Provincially Significant Wetland or Coastal Wetland? Legge’s Creek Wetland is a PSW, a portion of which crosses the subject property (shown as MAS wetland in Attachment 3). We note that the proposed development area is not within 120 m of the PSW, therefore lies outside adjacent lands. The proposed development will be consistent with the natural heritage policies of the Provincial Policy Statement (PPS 2020), including policies 2.1.4 and 2.1.8.	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

B. In a Regionally Significant Wetland?	Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No
Adjacent to a Regionally Significant Wetland?	Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No
<p>C. In/adjacent to an Unevaluated Wetland?</p> <p>We found some low areas within the agricultural lands that were characterized by Reed Canary Grass. We deemed these areas to be Meadow Marsh (MAM1-1). These are small patches that reflect low elevation points on the property. They are loosely within a matrix that we mapped more generally as MAM (they were characterized by a more diverse vegetation community, which could not be fully assessed at this time of year). The three MAM1-1 spots mapped are all less than 0.2 ha in size, which is below the minimum polygon size for ELC mapping (0.5 ha) and the minimum size for wetland evaluation (2.0 ha). Ecologically, the MAM1-1 areas are of low value because the vegetation is a dense monotypic growth, and they are dominated by a non-native grass species. They are not sensitive habitats and would not be expected to support species of conservation concern. The proposed development will be set back a minimum distance of 30 m from these wet areas, and we are satisfied that the proposed development will have no impact in contravention of the PPS.</p>	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> No
D. In an Area of Natural and Scientific Interest?	Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No
<p>Adjacent to an Area of Natural and Scientific Interest?</p> <p>The closest ANSI is Landon’s Bay/Fitzsimmon’s Mountain, which is located approximately 3.5 km to the east, thus not within adjacent lands.</p>	Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No
E. In the habitat of Species at Risk?	Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No
<p>Adjacent to habitat of Species at Risk?</p> <p>We reviewed the database of the Natural Heritage Information Center (NHIC). The subject property is split between two of the 1km² UTM blocks, 18VQ1011 and 18VQ1111. Within these two blocks, there were three species at risk reports in the NHIC database, and these species are discussed below.</p> <p>Henslow’s Sparrow (<i>Ammodramus henslowii</i>) is designated an Endangered species under both the <i>Species at Risk Act</i> of Canada (SARA) and Ontario’s <i>Endangered Species Act</i> (ESA). The NHIC no longer provides observation dates, but it is assumed that this observation dates back to the middle of the last century. This bird lives in open fields with tall grasses, flowering plants, and a few scattered shrubs, and is considered to be extirpated as a breeding species in Ontario, though a few migratory birds are seen in migration hotspots each spring. eBird observations show numerous sightings in northern New York, particularly around the Perch River State Game Management Area, but there are no sightings north of the St. Lawrence River in Ontario east of Belleville. Comparable results were found on iNaturalist. It is our opinion that the proposed development will have</p>	Yes <input checked="" type="checkbox"/> <input type="checkbox"/> No

no impact on these birds.

Western Chorus Frog – Great Lakes – St. Lawrence – Canadian Shield Population (*Pseudacris maculata*): this population is designated as Threatened under the ESA (no status under SARA). The timing of our field work did not allow assessment for the presence of absence of these frogs. However, we note that the Recovery Strategy for this population of Chorus Frogs (Environment Canada 2014) focuses on wetland habitat and dispersal corridors. *Assuming* the presence of these animals, this proposal provides over 120 m setback from the suitable wetland habitat of Legge’s Creek Wetland (critical for breeding), and will not intrude into the wooded areas (potentially used for dispersal outside the breeding season). The habitat of the proposed development area does not provide suitable conditions for Chorus Frogs at any period of their life cycle, and we are satisfied that no impact to Chorus Frogs will result from approval of this proposed development.

Blanding’s Turtle (*Emydoidea blandingii*) is designated as a Threatened species under both SARA and the ESA, and as Endangered by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Blanding’s Turtles live in shallow water, usually in large wetland and shallow lakes with ample water plants. Of the wetland ecosites on the property, only the wetland associated with Legge’s Creek offers potentially appropriate habitat, but no surveys for this species could be undertaken at this time of year. Conservatively assuming that the creek and wetland provide habitat for Blanding’s Turtles, we considered the potential for habitat, referring to the general habitat description (GHD) and habitat categorization requirements of the Province (MECP 2013):

Category 1 (most sensitive) includes a nest and the area within 30 m or overwintering sites and the area within 30 m. We have no knowledge of specific nesting or overwintering sites, both of which support critical life stages of these animals. MECP (2013) notes that nests are typically close to permanent wetland, but can average between 99.5 and 242 m. For nesting, the habitat associated with the agricultural portions of the land would be inhospitable for nesting, as the turtles are looking for open habitat with high sun exposure and low vegetation cover. Conservatively *assuming* that overwintering is possible within the Legge’s Creek Wetland, the setback of the development from the wetland is greater than 120 m, and there will be no impact to Category 1 habitat.

Category 2 (moderate level of tolerance to alteration) includes the wetland complex up to 2 km from an occurrence, and the area within 30 m around those suitable wetlands. Although we have no specific

<p>location reports, the habitat of Legge’s Creek is the only suitable habitat on the subject lands. <i>Assuming</i> an occurrence within 2 km, which is reasonable given the sighting somewhere within 18VQ1011, the area within 30 m of the Legge’s Creek Wetland should be considered to be Category 2 habitat. As the setback of the development is over 120 m from the wetland, there will be no impact to Category 2 habitat.</p> <p><u>Category 3</u> (highest toleration to alteration) includes an area between 30 m and 250 m around suitable wetlands/waterbodies, within 2 km of an occurrence. As the development area is within 250 m of the wetland, this is potentially Category 3 habitat. However, the GHD document (MECP 2013) that Category 3 habitat provides movement corridors between wetland habitats, and between this and nesting sites. Blanding’s Turtles use wetlands and ponds as movement corridors when available. While they will make use of other upland habitat, when necessary, we observed the MAM areas and other more suitable habitat for this purpose. The agricultural lands currently in alfalfa would not be preferred habitat. It is our opinion that there may be Category 3 habitat on the subject property, but that as the proposed development is not extensive and as it will be located within agricultural crop lands, there will be no impact to Blanding’s Turtles from its approval.</p> <p>It is acknowledged that there are potentially other species at risk in the area that are not in the database. If present, however, we would expect to find these species primarily associated with the wetland, and potentially with the wooded areas. Given the limited scale of the proposal and its location within active crop land, it is our opinion that the potential to impact a species at risk is low. We conclude that the proposed development will be consistent with PPS policy 2.1.7.</p>	
<p>F. In significant wildlife habitat?</p>	<p>Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No</p>
<p>Adjacent to significant wildlife habitat? Significant Wildlife Habitat (SWH) is assessed by looking at criteria under four main headings: habitat of seasonal concentrations of animals, rare vegetation communities or specialized habitat for wildlife, habitat of species of conservation concern, and animal movement corridors. We reviewed the criteria for Ecodistrict 6E (OMNRF 2015), and discuss below those for which we determined there was potentially adjacent SWH (i.e., where there were potentially suitable habitat characteristics, the required ELC types, required minimum area, etc.).</p> <p>For many of the SWH criteria, the Legge’s Creek Wetland and adjacent lands may support SWH for several of the criteria, including but not necessarily limited to:</p>	<p>Yes <input checked="" type="checkbox"/> <input type="checkbox"/> No</p>

Turtle Wintering Areas

The NHIC database reports Blanding’s, Midland Painted, and Snapping Turtles in one or two of the UTM blocks reviewed. This was consistent with the information available on the iNaturalist database (iNaturalist 2021) . For most turtles, wintering areas have to be deep enough not to freeze and have soft mud substrates (often wetlands or bays). If present, Legge’s Creek Wetland offers the only potentially suitable habitat on the site. Based on the modest nature of the proposed development, and the fact that the development will be set back over 120 m from the wetland, we anticipate no impact on overwintering turtles in the creek/wetland.

Turtle Nesting Area

As noted above, the NHIC database reports three turtle species in the area. Turtle nesting is usually done close to shore, and mean distance to a water body for nesting in Ontario was determined to be about 35 m (Steen et al. 2012). It is noted that much of the property is cultural in nature, and does not provide appropriate nesting habitat. Turtle nesting areas are sand/gravel areas in open, sunny areas away from roads and near water, and we observed no suitable habitat on the subject property, but some could be present in areas to the south that we did not visit. SWH requires studies finding a minimum number of turtle nests (variable by species), which could not be conducted at this time of year, but we are satisfied that the proposed development, which will be set back over 120 m from the wetland, does not represent a risk to nesting turtles.

Amphibian Breeding Habitat (Wetlands)

The presence of at least some of the species specified in OMNRF (2015) is assumed (e.g., including but not necessarily limited to American Toad, Northern Leopard Frog, Green Frog). Breeding would be associated with the Legge’s Creek Wetland. We note that limited breeding may be conducted opportunistically in the Meadow Marsh areas as well, but that the dense MAM1-1 patches are less likely to provide good breeding habitat. Because amphibian breeding will be confined to wetland areas, all development will be set back over 120 m from the PSW and at least 30 m from the Meadow Marsh areas, the development will have no impact on this SWH type.

Marsh Breeding Bird Habitat

To confirm SWH, studies must show five or more nesting pairs of Sedge Wren or Marsh Wren, or one pair of Sandhill Cranes, or breeding by five or more of the listed species. Required ELC types include MAM1 and MAM2 habitat, so there is potential for suitable habitat on the property. Most of the PSW appears to be Shallow Marsh (MAS) wetland, but more detailed assessment might determine Shallow

Water wetlands compartments that meet criteria (SAS1, SAM1, or SAF1). Due to the long, narrow shape of the MAM polygon on the property (see Attachment 3), and the lack of open water, it is our opinion that the potential for this type of SWH is limited. Conservatively assuming that it is present, however, we note that the proposed development will be set back at least 30 m from the wetland, entirely within agricultural crop land, and we would anticipate no impact to this SWH.

For these four types of SWH, if present, it is our opinion that the proposed development will have no impact to SWH for the purposes of the PPS, as there will be no loss of or alteration to relevant habitat.

Additionally, there are areas of woodland/treed rock barrens that may support the following SWH:

Reptile Hibernaculum

The deciduous woodland and rock barrens areas have potential to provide reptile hibernacula. No assessment could be made of such use at this time of the year, but it could be used by species such as, but not necessarily limited to, Eastern Garter Snakes and Eastern Ribbon Snake. (The region is also known to support Gray Ratsnakes, a Threatened species; we note that NHIC has no reports in 18VQ1011 or 18VQ1111, and that iNaturalist has no reports north of Highway 401 in this area.) Conservatively assuming that this SWH type is present, however, we note that the proposed development will not affect any woodland or treed rock barrens areas, and we would anticipate no impact to this SWH.

Special Concern and Rare Wildlife Species

We reviewed the provincial database in the Natural Heritage Information Center (NHIC, and the data from UTM blocks (18VQ1011 and 18VQ1111), and found three species of Special Concern reported: Midland Painted Turtle, Snapping Turtle, and Grass Pickerel. These species are discussed below:

Midland Painted Turtle (*Chrysemys picta marginata*) is designated as Special Concern under SARA (not listed under the ESA) due to the decline of the species from threats such as road mortality, nest predation, and habitat loss and degradation. These turtles are found in relatively shallow and well-vegetated wetlands and water bodies with abundant basking sites and organic substrate. The two most critical life stages for turtle are nesting (for which they must come into upland habitat) and overwintering. Both have been discussed above. We are satisfied that the proposed development will have no impact on nesting or overwintering habitat, as it is set back over 120 m from the PSW,

therefore there will be no impact to this species of conservation concern.

Snapping Turtle (*Chelydra serpentina*) is designated as a species of Special Concern under both SARA and the ESA. The Snapping Turtle is a highly aquatic turtle that occurs in almost any freshwater habitat, though it is most often found in slow-moving water with a soft mud or sand bottom and abundant vegetation. This species may inhabit surprisingly small wetlands, ponds and ditches. It hibernates in the mud or silt on the bottom of lakes and rivers, usually not too far from the shore. A habitat generalist, its populations are very vulnerable to threats such as road mortality, hunting and poaching. As outlined above, the two most critical life stages for turtle are nesting and overwintering. Both have been discussed above. We are satisfied that the proposed development will have no impact on nesting or overwintering habitat, as it is set back over 120 m from the PSW, therefore there will be no impact to this species of conservation concern.

Grass Pickerel (*Esox americanus vermiculatus*) is designated as a species of Special Concern under both SARA and the ESA. This species is ranked as S3 (or rare to uncommon) in Ontario. The Grass Pickerel is the smallest member of the pike family, and is a subspecies of the Redfin Pickerel. It is a species of lakes, weedy bays, backwaters and sluggish pools of creeks and small rivers with mud bottom, aquatic vegetation and clear water. If present on the subject property, it would be associated with Legge’s Creek. The proposed development is set back over 120 m from the creek and surrounding wetland, so there will be no impact to this species of conservation concern.

Amphibian Movement Corridors

As SWH corridors can be associated with all ecosites associated with water, we assume that Legge’s Creek and its associated wetland offers potential habitat. SWH can only be confirmed when amphibian breeding habitat is confirmed, and by studies conducted at the time of year when species are expected to be migrating or entering breeding sites, something that could not be done at this time of year.

Conservatively *assuming* that the creek and wetland do provide a movement corridor for amphibians, we considered that the proposed development is set back over 120 m from the creek and surrounding wetland, and that it will not affect the wetland or adjacent vegetation. It is our opinion that there will be no impact on this SWH type.

Overall, we conclude that there may be areas of SWH present on the subject property, but that the proposed development does not affect any of the potential SWH, and will be consistent with PPS policies 2.1.5d

and 2.1.8.	
G. Within 120 m of a waterbody? Legge’s Creek cuts through the subject property, but no development is proposed within 120 m of the creek and its associated wetland.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
H. In fish habitat?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<p>Adjacent to fish habitat? Given that Legge’s Creek is directly connected to the St. Lawrence River, it is assumed that it will support a variety of fish species (the river being known to support over 100 species). Fish ON-Line (2021) had no information for this creek. We found no evidence to suggest that the MAM1-1 patches were capable of supporting fish, and the habitat characteristics were no conducive to fish; similarly, we noted the lack of a discernable channel through the MAM area. We concluded that no fish habitat was associated with the MAM areas.</p> <p>Assuming that there is fish habitat associated with Legge Creek and the associated wetland, we note that the development will be located over 120 m from the fish habitat, thus outside of adjacent lands, and will have no impact on fish or fish habitat.</p>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
I. In or Adjacent to Highly or Moderately Sensitive Lake Trout Lake?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
J. In a significant woodland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<p>Adjacent to a significant woodland? Woodland patches on the property are identified in Schedule A3 of the Official Plan for the Township of Leeds and the Thousand Islands as “woodland.” The woodland on the subject property would not be likely to be considered part of a significant woodland for several reasons.</p> <p>Woodland is defined in the PPS as areas meeting the ELC system definition for “forest.” While there is area mapped as forest (the FOD5-3 area), much of the treed land is defined under Lee et al. (1998) as Treed Rock Barren (RBT), which is not a forest type. Additionally, one of the most important characteristics of a significant woodland, as defined by the Natural Heritage Reference Manual, NHRM (OMNR 2010) is <i>woodland size</i>. Henson and Brodribb (2005) state that nearly 83% of Site District 6E-10 remains in natural cover, mostly forest. Cataraqui Conservation (Beaubiah, personal communication) states that in the St. Lawrence watershed, the total forested area is 46.3%. Taking the lower coverage area, the NHRM states that where woodlands comprise 30 to 60% of the land cover, woodlands 20 hectares in size or greater should be considered significant. Measured conservatively, i.e., including rock barrens area as “forest,” the woodland that lies partially on the subject property is approximately 4.6 hectares in size. It would not be considered to be significant for size.</p> <p>Where a woodland is not significant for size, the NHRM directs an assessor to look at other criteria, including ecological functions,</p>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

<p>uncommon characteristics, and economic and social values. While we could not fully evaluate the woodland given the time of year and our restriction to a small portion of the woodland (most of which lies on lands owned by others), a review of the other criteria suggested that it would not be deemed a significant woodland for the purposes of the PPS.</p> <p>We concluded that as the woodlands on the site are probably not significant, and as the proposed development will not result in the loss of woodland area, the proposal will be consistent with PPS policies 2.1.5b and 2.1.8.</p>	
<p>K. In a significant valleyland?</p>	<p>Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No</p>
<p>Adjacent to a significant valleyland?</p>	<p>Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No</p>

<p>In our opinion, is a more detailed Environmental Impact Statement (EIS) required to demonstrate the appropriateness of the proposed development? Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No</p> <p>It is noted that this is a large parcel of land, and this assessment was scoped to assess the current proposal. Should further development be proposed in the future, environmental assessment work would be required due to the presence of PSW wetland and of woodland/rock barrens patches.</p>

<p>If yes, which natural feature(s) should the assessment focus on?</p>
<p><u>Recommendations for Setback:</u> The proposal will set development back over 120 m from the PSW and at least 30 m for the other wetland areas on the property. We support this proposal as they meet or exceed appropriate setbacks.</p>

<p><u>Recommendations for Mitigation:</u></p>	
<p><u>Environmental Impact Statement:</u> It is our opinion that the proposed undertaking will have no negative impact on the natural heritage features or on their ecological functions and that, assuming the implementation of our recommendations, the proposal is consistent with the intent of the Provincial Policy Statement.</p>	<p>Yes <input checked="" type="checkbox"/> <input type="checkbox"/> No</p>

<p>Is monitoring recommended? Yes <input type="checkbox"/> <input checked="" type="checkbox"/> No</p>

<p><u>Contacts, References & Literature Cited:</u></p> <p>Beaubiah, Tom. Biologist with the Cataraqui Region Conservation Authority. 613-546-4228, extension 240.</p> <p>eBird. Online tool that provides a database of submitted bird sightings by citizen scientists, managed by the Cornell Lab of Ornithology . <http://ebird.org></p>

Environment Canada. 2014. Recovery Strategy for the Western Chorus Frog (*Pseudacris triseriata*), Great Lakes / St. Lawrence – Canadian Shield Population, in Canada [Proposed], *Species at Risk Act Recovery Strategy Series*, Environment Canada, Ottawa, v + 46 pp.

Environment Canada. 2014. Recovery Strategy for the Western Chorus Frog (*Pseudacris triseriata*), Great Lakes / St. Lawrence – Canadian Shield Population, in Canada [Proposed], *Species at Risk Act Recovery Strategy Series*, Environment Canada, Ottawa, v + 46 pp.

Fish ON-line. Database created by the Ontario Ministry of Natural Resources and Forestry.
<<https://www.gisapplication.lrc.gov.on.ca/FishONLine/Index.html?site=FishONLine&viewer=FishONLine&locale=en-US>>

Henson, B.L. and K.E. Brodribb. 2005. Great Lakes Conservation Blueprint for Terrestrial Biodiversity: Volume 2 – Ecodistrict Summaries. Nature Conservancy of Canada. Completed as a partnership project between the Nature Conservancy of Canada and the Ontario Ministry of Natural Resources. 344 pp. Online at: <http://nhic.mnr.gov.on.ca/projects/conservation_blueprint/Terr_Vol2_final_e-version.pdf>

iNaturalist. Online tool that provides a database of submitted species sightings by citizen scientists. iNaturalist is a joint initiative by the California Academy of Sciences and the National Geographic Society. <<http://inaturalist.org>>

Kraus, T., B. Hutchinson, S. Thompson and K. Prior. 2010. Recovery Strategy for the Gray Ratsnake (*Pantherophis spiloides*) – Carolinian and Frontenac Axis populations in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. vi + 23 pp.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario. First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Technology Transfer Branch. SCSS Field Guide FG-02. 225 pp.

Ministry of the Environment, Conservation and Parks. 2013. Updated 2021. General Habitat Description for the Blanding's Turtle (*Emydoidea blandingii*). 7 pp.

Natural Heritage Information Center. 20xx. Web site maintained by the Ontario Ministry of Natural Resources and Forests, with species rarity rankings in Ontario, and information on reported element occurrences.
<http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US>

Ontario. 2016. Fish ON-line website provides lake-specific data (fish species and stocking efforts) from the Ontario Ministry of Natural Resources and Forestry. <<https://www.gisapplication.lrc.gov.on.ca/FishONLine/Index.html?site=FishONLine&viewer=FishONLine&locale=en-US> >

Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criterion Schedules for Ecoregion 6E. OMNRF Regional Operations, Peterborough, Ontario. 38 pp.

Ontario Ministry of Natural Resources. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd edition. Toronto: Queen’s Printer for Ontario. 248 pp.

Provincial Policy Statement. 2020. Issued under Section 3 of the *Planning Act*. Province of Ontario. 53 pp.

Steen, D.A., J.P. Gibbs, K.A. Buhlmann, J.L. Carr, B.W. Compton, J.D. Congdon, J.S. Doody, J.C. Godwin, K.L. Holcomb, D.R. Jackson, F.J. Janzen, G. Johnson, M.T. Jones, J.T. Lamer, T.A. Langen, M.V. Plummer, J.W. Rowe, R.A. Samure, J.K. Tucker, and D.S. Wilson. 2012. Terrestrial habitat requirements of nesting freshwater turtles. *Biological Conservation* 150(1): 121-128.

White, David J. 1993. Life Science Areas of Natural and Scientific Interest in Site District 6-10: A Review and Assessment of Significant Natural Areas. Prepared for the Ontario Ministry of Natural Resources, Kemptville and Tweed Districts. 122 pp., plus map.

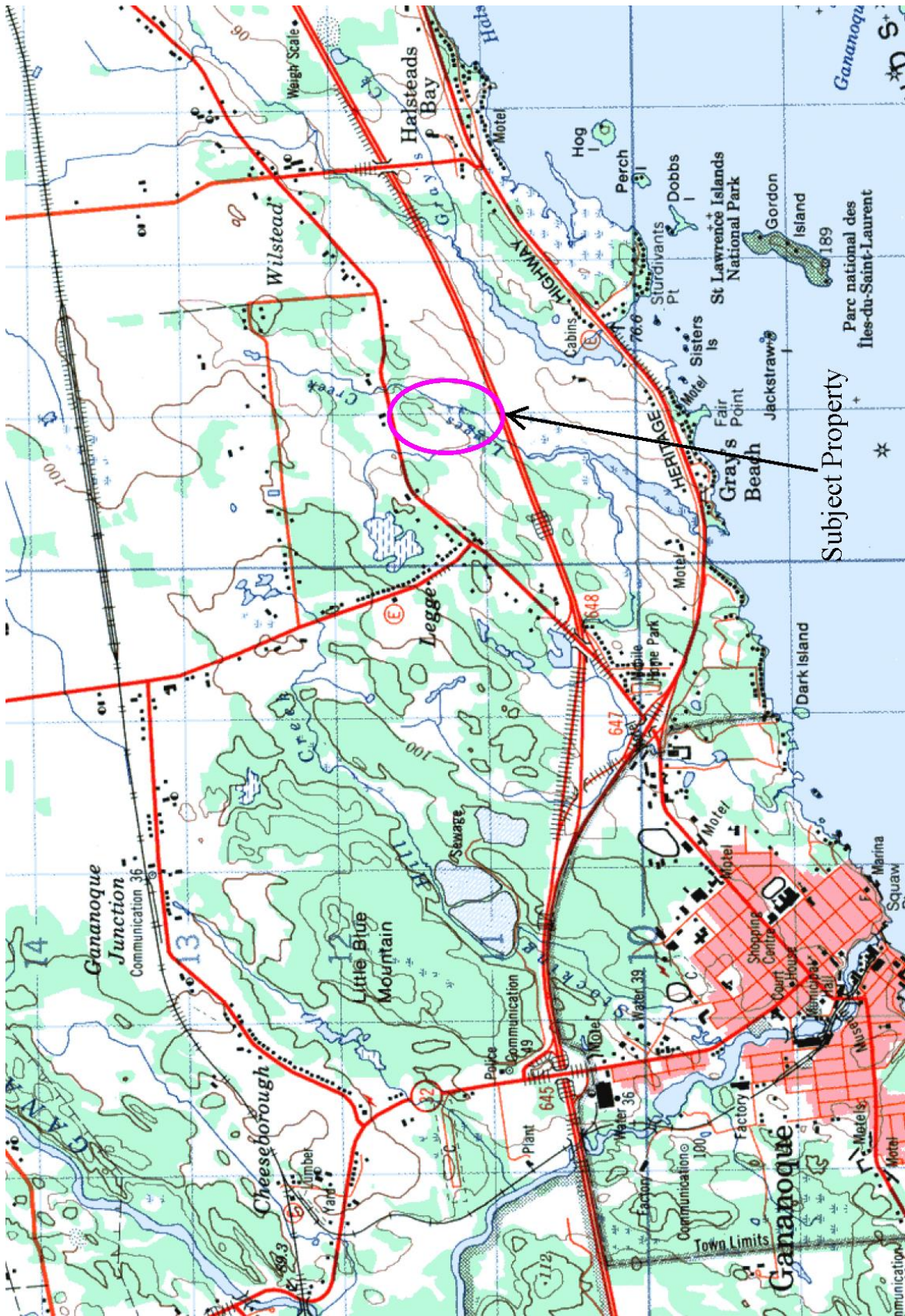
Environmental Site Evaluation Completed by: Mary Alice Snetsinger

Date of Site Inspection: November 8, 2021

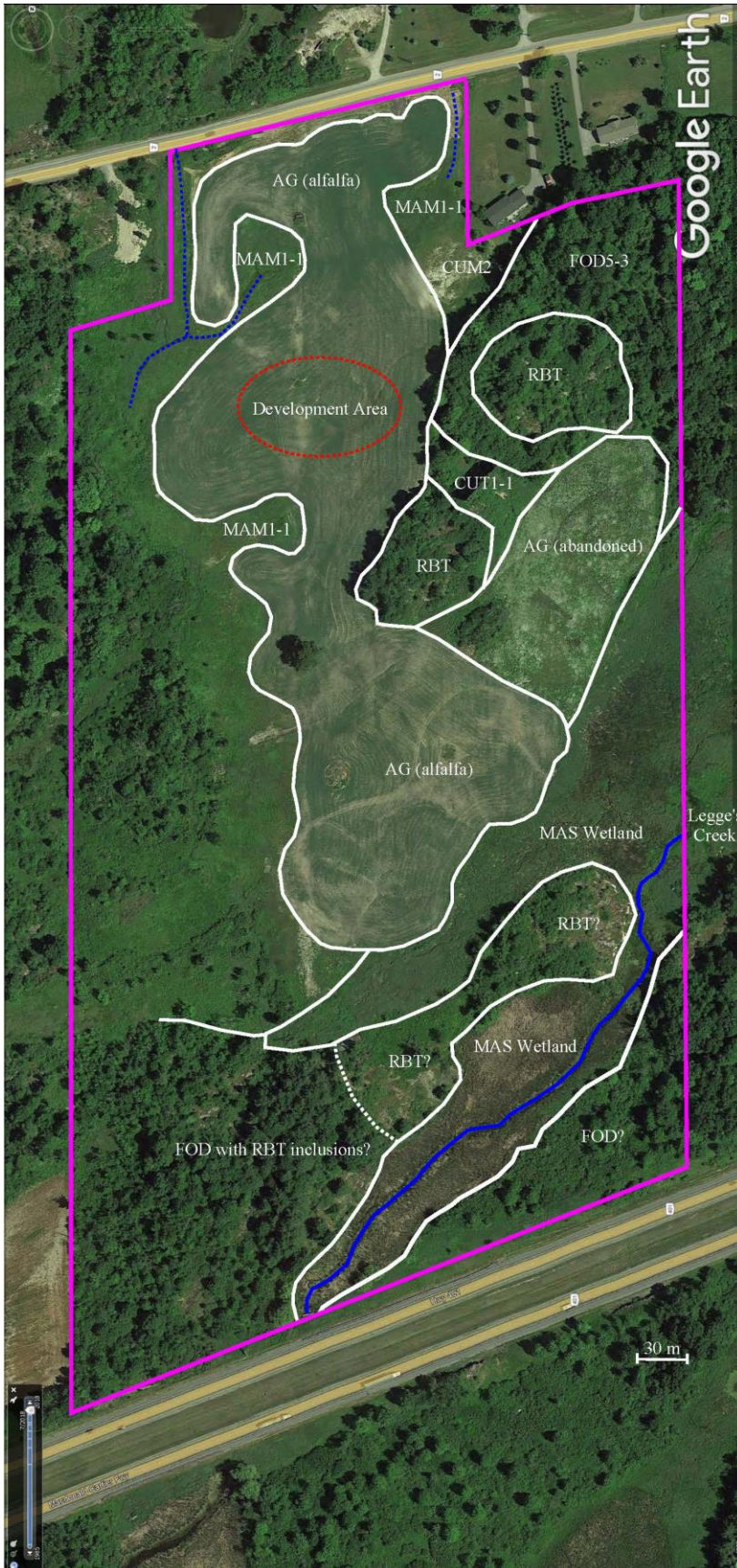
Date of Report: February 18, 2022 (Attachment 2 updated 2022.04.22)

Signature:





Attachment 1. The approximate location of the subject property is indicated. Annotated detail from topographic map Gananogue 31 C/8.



Attachment 3. Scoped Ecological Land Classification map for the subject property (in pink). ELC category codes (in white) are after Lee et al. (1998) for southern Ontario. The area outlined in red is the approximate area of the proposed development. Legge's Creek is shown in blue, and the surrounding wetland that is part of the PSW is shown as MAS Wetland. Broken blue lines indicate areas on indistinct channels observed in the northern part of the site.

Attachment 4. Site photographs, taken by report author on November 8, 2021.



Photo 1. View to the SSW from north end of the property, looking over alfalfa field.



Photo 2. Meadow Marsh (MAM1-1) area at the north end of the property, looking north toward Highway 2, private lands owned by others to the right.



Photo 3. View to the north across alfalfa field, looking at the area of proposed development (circled in photo).



Photo 4. View from development area in an easterly direction. The raised woodland (FOD5-3 and RBT) can be seen in the distance, as well as the billboard (identified in Attachment 2).



Photo 5. Steeply sloped edge of deciduous woodland (FOD5-3).



Photo 6. Looking southward toward Legge's Creek (in far distance).