



Environmental Impact Study
1500 Sandy Bay Road
Town of Penetanguishene

Prepared for:
Peter Raikes

Prepared by:
Azimuth Environmental
Consulting, Inc.

March 2022

AEC 20-397



Environmental Assessments & Approvals

March 1, 2023

AEC 20-397

Peter Raikes
c/o Raikes Geomatics Inc.
642 Welham Road
Barrie, ON
L4N 9A1

**Re: Environmental Impact Study - Proposed Severance 1500 Sandy Bay Road,
Town of Penetanguishene, Simcoe County**

Dear Mr. Raikes

As requested we have completed an Environmental Impact Study related to a proposed land severance to create residential building lots on the above noted property.

This report identifies our study approach, findings and conclusions with respect to environmental impact.

If you have any questions or require additional information please do not hesitate to contact the undersigned.

Yours truly,
AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Jim Broadfoot, H. B.Sc.
Terrestrial Ecologist



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1.0 INTRODUCTION

Azimuth Environmental Consulting, Inc. (Azimuth) was retained by Peter Raikes, to complete an Environmental Impact Study (EIS) for a proposed severance (Appendix A) at 1500 Sandy Bay Road within the Town of Penetanguishene (Figure 1).

It is our understanding that a pre-submission consultation meeting between the Town and MHBC was held on October 6, 2021 and that the Town indicated a need for a four season EIS with emphasis on consideration of: watercourses/drainage features; unevaluated wetlands; woodlands and related functions. A terms of reference for the EIS was established in consultation with the Town (Appendix B).

2.0 PLANNING CONTEXT

2.1 Provincial Planning Policy (2020)

The Provincial Policy Statement (PPS) (MMAH, 2020) outlines policies related to natural heritage features. Ontario's *Planning Act*, (1990) requires that planning decisions shall be consistent with the PPS.

Section 2.1.2 of the PPS states that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

Section 2.1.4 of the PPS states that development and site alteration shall not be permitted in:

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

Section 2.1.5 of the PPS states that, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, development and site alteration shall not be permitted within:

- a) *significant wetlands* in the Canadian Shield north of Ecoregions 5E, 6E; and 7E;
- b) *significant woodlands* in Ecoregions 6E; and 7E;
- c) *significant valleylands* in Ecoregions 6E; and 7E;
- d) *significant wildlife habitat*;
- e) *significant areas of natural and scientific interest*; and,



- f) *coastal wetlands* in Ecoregions 5E, 6E; and 7E that are not subject to policy 2.1.4(b).

It is ultimately the responsibility of the Province and/or the Municipality to designate areas identified within Section 2.1.4 and 2.1.5 of the PPS as “significant”.

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

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

Section 2.1.8 of the PPS states that no development or site alteration will be permitted on lands adjacent to natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated there will be no negative impacts on the natural features and their ecological functions.

The property is located within Ecoregion 6E.

2.2 Endangered Species Act, 2007

Ontario’s *Endangered Species Act*, 2007 (ESA) provides regulatory protection to Extirpated (EXT), END and THR species prohibiting harassment, harm and/or killing of individuals and damage/destruction to their habitats. O. Reg. 230/08 identifies SAR in Ontario. The SARO list includes Special Concern (SC) species. SC species are not protected under the ESA.

2.3 Growth Plan for the Greater Golden Horseshoe

The property is mapped as within a Primary Settlement Area (Simcoe County Official Plan, Schedule 5.1). Section 4.1 of the Growth Plan for the Greater Golden Horseshoe (Growth Plan) indicates that policies of the Plan provide for the identification and protection of a Natural Heritage System for the Growth Plan outside of settlement areas. Therefore, policies of the Growth Plan related to Key Hydrologic Features and Key Natural Heritage Features do not apply.



2.4 Town of Penetanguishene

The property is designated Rural Area (Town of Penetanguishene Official Plan [TPOP], Schedule A). Schedule B1 of the TPOP designates portions of the property as Environmental Protection (EP).

According to Section 3.10 of the TPOP the EP designation relates to the following Natural Heritage Features and Areas: wetlands including Locally Significant Wetlands (those ≥ 2 ha); Significant Woodlands; and Linkage Areas. Other features of interest listed in TPOP Section 3.10 include: Areas of Natural and Scientific Interest (ANSI); Significant Valleylands; Fish Habitat; SWH; and habitat of END and THR species.

Section 3.10 of the TPOP indicates that development and site alteration shall not be permitted within, and potentially adjacent to the above noted Natural Heritage Features and Areas unless it is demonstrated through an EIS that development will not negatively impact the natural feature or its ecological and/or hydrologic function. Adjacent lands are those located within 120m. Delineation of Natural Heritage Features and Areas is based on data or criteria provided by the Town's Natural Heritage Study. The delineation of these features may be determined and/or refined through the preparation of an EIS.

2.5 Federal Fisheries Act

The *Fisheries Act* provides protection against the “death of fish, other than by fishing”, (Section 34.4(1)) and the “harmful alteration, disruption or destruction of fish habitat”, (Section 35(1)), otherwise known as HADD. In cases where impacts to fish and fish habitat cannot be avoided, Fisheries and Oceans Canada (DFO) review is required to establish the needs for permitting.

3.0 STUDY APPROACH

3.1 Field Data

- Vegetation community classification and mapping - Ecological Land Classification system for southern Ontario (Lee *et al.*, 1998 + 2008 update) – May 18 (D. D'Entremont), July 8 (D. D'Entremont), 2022;
- Vascular plant surveys – May 18 (D. D'Entremont), June 4 (J. Broadfoot), July 8 (D. D'Entremont), September 14 (D. D'Entremont), 2022;
- Wetland delineation based on the “50% rule” of the Ontario wetland Evaluation System (MNRF 2023) – July 8 (D. D'Entremont), 2022;



- Evening calling amphibian surveys as per Marsh Monitoring Program (BSC et al. 2008) protocol – April 25 (A. Deurwaarde), May 24 (J. Wrobel), June 14 (C. Butler), 2022;
- Dawn breeding bird surveys conducted as a combined point count and roving survey according to the methods of the Ontario Breeding Bird Atlas (OBBA) program (OBBA 2001) – June 4 (J. Broadfoot), June 23 (J. Broadfoot), 2022;
- Nocturnal bird surveys conducted as point count surveys following the methods of the Canadian Nightjar Survey protocol (RegroupementQuebecOiseaux, et. al., 2019) within the Mid-season Window (optimal timing) preferred timing (June 8-June 14) defined for the Ontario Whip-poor-will Survey in 2022 by Bird Studies Canada (BSC) – June 9 (C. Butler), June 14 (C. Butler), 2022. Note: full moon on June 14, 2022;
- Detailed bat “snag” tree mapping following the criteria of the Technical Note Species at Risk (SAR) Bats (MNRF 2015a) – April 12 (D. D’Entremont, C. Butler), 2022;
- Winter site visit – February 17, 2023 (J. Broadfoot);
- Drainage feature assessments – April 11 (M. Gillespie), June 4 (J. Broadfoot), 2022 and January 11 (M. Jones), 2023.

3.2 Background Data

- Town of Penetanguishene Natural Heritage Study Update (Severn Sound Environmental Association [SSEA] May 2017);
- Ministry of Natural Resources and Forestry (MNRF) Make A Map: Natural Heritage Areas (https://www.lioapplications.lrc.gov.on.ca/Natural_Heritage/index.html?viewer=Natural_Heritage.Natural_Heritage&locale=en-CA) with link to MNRF’s Natural Heritage Information Centre (NHIC) data;
- Atlas of the Breeding Birds of Ontario (<https://www.birdsontario.org/>);
- Ontario Reptile and Amphibian Atlas (<https://www.ontarioinsects.org/herp/>);
- Atlas of the Mammals of Ontario (Dobbyn, 1994);
- DFO SAR Mapping (<https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html>);
- Simcoe County GIS (<https://opengis.simcoe.ca/>);
- Town of Penetanguishene (<https://www.penetanguishene.ca/business-and-development/official-plan/#>);
- Ministry of Environment Conservation and Parks (MECP) (<https://www.ontario.ca/page/species-risk>);
- iNaturalist (<https://www.inaturalist.org/places/ontario-ca>); and,
- eLaws – O. Reg 230-08 Species at Risk in Ontario List (January 25, 2023) (<https://www.ontario.ca/laws/regulation/080230>).



3.3 Species at Risk Assessment

A Species at Risk (SAR) assessment was completed following the MECP's Guidelines (MECP 2019). In keeping with provincial guidelines the SAR assessment is limited to species listed as EXT, END and THR protected under the ESA. The above noted data sources in combination with data derived through the field program were used to identify EXT, END and THR species reported the general area of the property (+/- approx. 5km). SC and provincially rare (i.e., species assigned S rank of 1, 2, 3 or H) species are assessed under Section 2.1.5 d) of the PPS as SHW. The NHIC was contacted to identify the restricted species identified locally (Appendix I, identity concealed).

4.0 EXISTING CONDITIONS

4.1 Land Use

The property is irregularly shaped and covers approx. 7ha.

Most of the property is tree covered the exception being an area around an existing single-detached dwelling located on the south section of the property as shown on Figure 2. Access to the dwelling is via a private driveway from Sandy Bay Road. Sandy Bay road traverses the eastern and southern limits of the property.

Lands to the west include an unopened road allowance that abuts the property and multiple residential lots further west. The unopened road allowance and most of the adjacent lots are tree covered throughout save for a small cleared area associated with a single-detached dwelling located on the south end of 1474 Sandy Bay Road.

Lands to the east are vacant and treed throughout.

Lands to the north contain multiple residential lots associated with Gordon Drive. Most lots are developed with single-detached dwellings.

4.2 Topography, Soils and Hydrogeology

The property slopes toward Georgian Bay from approx. 210 masl in the south to 190 masl to the north. As per Map 6 of the Town of Penetanguishene Natural Heritage Study Update (SSEA May 2017 – see Appendix C) there is a ridge on the southern third of the property that runs in a general east to west direction. Lands south of the ridge are relatively flat and are the site of the existing single-detached dwelling. Lands north of the ridge are also relatively flat.



Surficial soils of the property and adjacent lands are composed of VASEY series – sandy loam till (Soil Map of Simcoe County, Soil Survey Report No. 29, North Sheet). According to local well records, the surficial sandy loam is underlain by silt till. Based on topography, soils and proximity of the site to Georgian Bay we infer that the accumulation of surface water in the wetlands on the north end of the property reflects surface runoff as well as ground water confined near surface by the underlying silt.

4.3 Vegetation

Figure 2 shows the locations of vegetation communities identified on the property. Representative photos of selected vegetation communities are shown in Appendix D. Most of the property contains woodland cover – exception in area of existing single-detached dwelling. Woodlands include forests and swamps. Forests types include: Dry-Fresh Oak-Hardwood Deciduous Forest (FODM2-4), Dry-Fresh Poplar Deciduous Forest (FODM3-1), Fresh-Moist Lowland Deciduous Forest (FODM7) and Fresh-Moist Oak-Hardwood Deciduous Forest (FODM9-6). Swamp (wetland) include: Silver Maple Mineral Deciduous Swamp (SWD3-2); and Poplar Mineral Deciduous Swamp/Green Ash Mineral Deciduous Swamp (SWDM4-5/SWDM2-2). As per Figure 2, we identified a 0.03ha “inclusion” within forest community FODM9-6. The inclusion has vegetation composition characteristic of deciduous swamp but was identified as an inclusion as it is well below the threshold for mapping under the ELC system (i.e., < 0.5ha) and is isolated from adjacent areas of swamp wetland. None of the vegetation communities is a type considered provincially rare according to SCI_Name equivalents of the NHIC database - Plant_Community_List_Aug 2021_FINAL.xls (August 25, 2021 downloaded September 2022).

Appendix E provides a list of vascular plants (n = 198) compiled per vegetation community. As per the plant list and Figure 2 Black Ash was observed in wetland and forest communities of the property. Black Ash is designated END on Schedule 2 of O. Reg. 230-08 but as per Section 2 “Temporary Suspension” of O. Reg. 23/22 prohibitions in subsections 9 (1) and 10 (1) of the *Act* (ESA) do not apply with respect to Black Ash for the period that begins on January 26, 2022 and ends on January 25, 2024”. Therefore, Black Ash receives no protection under the ESA until January 26, 2024. According to the NHIC, Black Ash is not provincially rare (i.e., provincial/S Rank [S4] based on Ontario_Species_list 20221230.xls). No ESA protected species, species designated SC or provincially rare species were observed.

4.4 Wildlife

Birds

Appendix F provides a list of birds compiled for the property. The bird list reports observations by Point Count Station (5 minute sampling duration per station) and



describes observation conditions (weather, survey times, etc.). Point Count station locations are shown on Figure 2.

None of the 22 species detected are designated EXT, END or THR. Eastern Wood-pewee (probable breeder) is designated SC.

Nocturnal bird surveys detected no Eastern Whip-poor-will (THR) or Common Nighthawk (SC) on or adjacent to the property. Point Count Station locations are shown on Figure 2 (point count survey duration 10 minutes/station) and observation conditions were as follows: June 9, 2022: Start Time 10:50p.m., Temp. +15C, Cloud Cover 30%, Wind B2 N, Moon visible, Precip. Nil, Observer C. Butler; and June 14, 2022: Start Time 10:00p.m., Temp. +24C, Cloud Cover 30%, Wind B0, Moon visible, Precip. Nil, Observer C. Butler.

Mammals

Mammals observed included: Eastern Gray Squirrel (S5), Eastern Chipmunk (S5); Coyote (S5), White-tailed Deer (S5) and Fisher (S5).

Reptiles

Searches of vernal pools, the drainage feature and areas of potential snake activity (slopes, open areas providing basking habitat) were completed at times and under observation conditions when snakes and turtle would be active and hence detectable on the following dates: April 11, May 18, June 4, June 23, July 8, September 14, 2022. No snakes or turtles or signs of snakes or turtles (shed skins, predated turtle nests, etc.) were observed.

Amphibians

The results of evening calling amphibian surveys (see Figure 2 for Point Count Station locations) revealed no amphibian calling within wetlands of the property during any of the three surveys completed under the following observation conditions: April 25, 2022 Start Time 8:46p.m., Temp. +10C, Cloud Cover 95%, Wind B1, Precip. Drizzle, Observer A. Deurwaarde; May 24, 2022 Start Time 9:20p.m., Temp. +14C, Cloud Cover 30%, Wind B0, Precip. Nil, Observer J. Wrobel; and June 14, 2022 Start Time 10:00p.m., Temp. +24C, Cloud Cover 30%, Wind B0, Precip. Nil, Observer C. Butler.

Amphibian calling was detected from unevaluated wetlands and potentially adjacent shoreline areas of adjacent lands to the east of Sandy Bay Road as follows: April 25, 2022 – Spring Peeper (S5, Call Code 3 [full chorus], American Toad (S5, 1-1, non-overlapping calls 1 individual); May 24, 2022 – Spring Peeper (Call Code 3), Wood Frog



(S5, 1-1, non-overlapping calls 1 individual); and June 14 – Green Frog (S5, Call Code 3), American Bullfrog (S4, 1-1, non-overlapping calls 1 individual).

4.5 Aquatic Habitat

A drainage ditch occurs on the property, aligned with a portion of the northern property boundary (Figure 2). The ditch is a straight feature with very little slope, and bends 90° at the northwest corner of the property. The ditch directs overland runoff northerly through adjacent lands, ultimately discharging to Georgian Bay approximately 200m north of the property. Background mapping from the Town's Natural Heritage System Update (see Appendix C, Maps 1 and 3) identifies the drainage feature as a 'watercourse', however no other background maps acknowledge the occurrence of a feature (i.e., Vumap, MNRF, Google maps, DFO maps, Toporama). Under spring conditions the ditch contains surface water connected to adjacent vernal pools but with little to no discernable flow. Repeat observations indicate that the channelized ditch provides ineffective drainage with minimal hydraulic function.

During site visits, areas of standing water were assessed to determine the potential for fish in the ditch and vernal pools (i.e., Brook Stickleback and other small "baitfish" tolerant of such habitats). No fish were observed consistent with seasonal dry down and the absence of hydraulic connectivity to a waterbody.

The off property section of ditch to the north has a relatively steep gradient towards the lakeshore. The off-site ditch is characteristically dry (effective drainage due to slope) and there is no fish habitat connectivity to Georgian Bay (slope barrier to upstream passage at the lakeshore). The drainage ditch and seasonally connected vernal pools do not function as fish habitat. The function of the ditch is restricted to conveyance.

5.0 BIOPHYSICAL ASSESSMENT

Background and site specific data were used to assess the significance of natural heritage features and functions of the property and adjacent lands. Features/functions assessed include those identified in: Section 3.10 of the TPOP; the Town's Natural Heritage System Update (SSEA 2017); and under Section 2.1 of the PPS.

5.1 Wetlands

The property and adjacent lands contain wetlands as mapped by the province (unevaluated wetland as shown on Figure 2) and wetlands > 2ha (also identified as coastal wetlands) as per Map 5 of the Natural Heritage System Update (SSEA 2017 – see Appendix C).



There are no Provincially Significant Wetlands identified on or adjacent (i.e., within 120m) to the property.

Site specific wetland delineation revealed an area of treed swamp covering much of the lowland portion of the northern portion of the property below the ridge. This wetland covers approx. 1.6ha of the property and is continuous with wetland habitat that extends off onto adjacent lands to the west that is partially mapped as unevaluated wetland by the province and more extensively mapped as Local (coastal) Wetlands by the Town (i.e., continuous area of wetland associated with property and adjacent lands \geq 2ha).

Wetlands of the property do not classify as coastal wetland types under the ELC and do not have plant species composition characteristic of Great Lakes coastal wetlands. The identification of the wetlands as coastal by the Town/SSEA appears to relate to drainage feature connection and proximity to Georgian Bay (i.e., within 2km).

5.2 Significant Woodlands

Woodland cover (i.e., forests, swamps) of the property and adjacent lands is identified as part of Significant Woodlands identified by the Town/SSEA – see Map 2B of the Natural Heritage System Update in Appendix C. Woodlands of the property and adjacent lands to the west are identified as components of an area of continuous woodland cover > 20ha. Woodlands on adjacent lands to the east form part of an area of continuous woodland cover >50. Azimuth estimates that continuous woodland cover associated with the property and adjacent lands equals approx. 30ha (see mapping in Appendix G).

5.3 Significant Valleylands

Map 6 of the Town's Natural Heritage System Update (SSEA 2017) indicates that there are no valleylands associated with the property of adjacent lands – see mapping in Appendix C.

5.4 ANSIs

Map 5 of the Town's Natural Heritage System Update (SSEA 2017) indicates that there are no ANSIs associated with the property of adjacent lands – see mapping in Appendix C.

5.5 Significant Wildlife Habitat

Map 5 of the Town's Natural Heritage System Update (SSEA 2017) indicates that there are no areas functioning as Significant Wildlife Habitat (SWH) identified with the property or adjacent lands – see mapping in Appendix C.



As per the SWH assessment presented in Appendix H, the following SWH functions are attributable to the woodlands of the property and adjacent lands: Bat Maternity Colonies; Woodland Area-Sensitive Bird Breeding Habitat; and Special Concern and Rare Wildlife Species (Eastern Wood-pewee, SC).

5.6 Fish Habitat

As per Section 4.5 above, the drainage feature is clearly a constructed feature (straight, aligned partially with an unopened road allowance, etc.) and not a natural watercourse feature. The feature is not accessible to fish owing to the steep site grades from Georgian Bay and elevation difference at the shoreline. It dries out substantially during summer and the feature and adjacent vernal pools do not contain fish. Therefore, the ditch functions as a conveyance feature only, and hence does not classify as fish habitat under the Federal *Fisheries Act*.

5.7 Habitat Linkages

Habitat linkages are generally considered areas of natural habitat required to connect adjacent natural areas as a conduit for movement through landscapes devoid of natural heritage cover (i.e., through urban or agricultural landscapes). Viewed at landscape scale, the property and adjacent lands are contained within a relatively large area of continuous natural heritage cover – mostly woodland. Therefore, the concept of a habitat linkage is not applicable. That said, there is utility in evaluating whether sufficient habitat maintained post-development to allow for local scale wildlife movement – the subject of Section 7.3.

5.8 Habitat of ESA Protected Species

The results of our SAR assessment (Appendix I) indicate that the property and adjacent lands have potential to function as habitat for END bats (Little Brown Myotis, Northern Myotis, Tri-colored Bat and potentially Eastern Small-footed Myotis). Black Ash is currently not protected under the ESA but individual and habitat protections may come into effect on January 26, 2024 depending on the direction taken by the province in preparing regulations under the ESA related to the species (unknown at present).

6.0 PROPOSED DEVELOPMENT

A severance plan has been prepared by Raikes Geomatics (Appendix A) that establishes 3 severed lots plus a retained lot. The current severance plan is a revision of a plan to create five lots. The 5-lot plan was revised to avoid wetland habitat as delineated through this EIS. The 3 severed lots front onto Sandy Bay Road. Each would be privately serviced – well and septic. Each severed lot would be the site of a single-detached



dwelling to be constructed at some future time. Therefore, development envelopes and building plans are not available at this point. It is anticipated that future dwellings would be constructed in keeping with existing single-detached dwellings of the area.

7.0 IMPACT ASSESSMENT

Based on existing conditions and the results of our biophysical assessment the following significant natural heritage features and functions are associated with the property and adjacent lands and hence the subject of impact assessment: Local Wetlands; Significant Woodlands; SWH (Bat Maternity Colonies; Woodland Area-Sensitive Bird Breeding Habitat; and Special Concern and Rare Wildlife Species [Eastern Wood-pewee, SC]); and Habitat of END bats. As habitat of END bats and all SWH functions are woodland related, impacts to those functions is considered in the context of Significant Woodland. Though not assessed as significant/protected - the conveyance function of the drainage feature, habitat connectivity/linkage and potential for impact to Black Ash are considered as well.

7.1 Local Wetland

As per Figure 3, the lot layout of the proposed severance plan was configured to place lot limits of the three new lots outside of continuous areas of wetlands covering >2ha of the property and adjacent lands (i.e., outside of the limits of Local Wetlands by Town criteria). We note that in the Natural Heritage Study Update (SSEA 2017) the Town identifies the wetlands as Coastal. Therefore, there will be no direct impact to Local Wetlands/Coastal Wetlands.

Wetland hydrology is governed by both surface and ground water. The proposed development does not interfere with the dominant overland flow patterns that contribute to an accumulation of surface water in the flat lands below the ridge located on the southern third of the property. Similarly, the proposed development does not affect the lateral subsurface flow of ground water from the base of the ridge through the areas of wetland as it follows topography to the lake. As the future lots will be privately serviced (well and septic) household water use will be recycled on-site (well to septic system to infiltration). The septic system designed for future developments will have to conform to building code and other standards related to nutrient output. Therefore, nitrate contributions to adjacent wetlands will not impact wetland composition, structure or functions. Surface water shed from impervious surfaces (roofs, paved areas, etc.) will infiltrate within the proposed lots. The scale of proposed development is minor relative to the area of land on the retained Lot and adjacent lands available for infiltration and hence the proposed development does not impact water balance.



We recommend that permanent boundary markers are installed along the property lines of severed lots (i.e., Part 1, Part 2 and Part 3) that abut the wetland to clearly define limits to mitigate the potential for encroachment into adjacent natural area. Roof downspouts should be directed to areas of lawn to promote on-site infiltration. An Erosion and Sediment Control Plan (ESCP) should be prepared at the site plan/building permit stage based on best practices to ensure sediment does not enter the adjacent wetlands during construction. Erosion controls should remain in place until areas of exposed soils are stabilized (grassed or otherwise managed).

The proposed development can be achieved with no direct or indirect impacts to Local/Coastal Wetlands as per the requirements of Section 3.10 of the TPOP and Section 2.1.5 f) of the PPS.

7.2 Significant Woodland

Feature

The proposed development requires removal of approx. 0.7ha of woodland assuming full clearing of the severed lots (Parts 1, 2 and 3). As per Section 5.2, the area of continuous woodland covered (i.e., Significant Woodland) associated with the property and adjacent lands total approx. 30ha. Therefore, direct impact Significant Woodland is minor – approx. 2% loss of woodland. Areas of woodland impacted have composition and structure of Fresh-Moist Oak-Hardwood Deciduous Forest (FODM9-6), large portions of which are preserved on the proposed retained lot (Part 4) and a forest type common in the area. As follows, the proposed development does not impact wildlife habitat functions associated with the property and adjacent lands including post-development function related to habitat linkage/connectivity. Therefore, the proposed development does not impact the composition, structure or functions of Significant Woodlands consistent with requirements of Section 3.10 of the TPOP and Section 2.1.5b of the PPS.

Related Functions

Area-sensitive Woodland Breeding Birds & Eastern Wood-pewee

As the name suggests Eastern Wood-pewee is a woodland breeding bird. Therefore, consideration of potential impact to this SC species is addressed in the context of area-sensitive species that require relatively large areas of mature woodland to breed successfully. If there are no impacts to area-sensitive woodland breeding birds there will be no impacts to Eastern Wood-pewee.

As above, the proposed development removes a minor amount of woodland (approx. 0.7ha) from a relatively large area of continuous mature woodland cover measuring approx. 30ha. The proposed development aligns severed lots with Sandy Bay Road and hence places future development in proximity to an existing woodland gap/area of edge



habitat. Area-sensitive woodland breeding birds typically avoid edge habitats and instead breed in habitat internal to woodlands – often 100m and up to 200m from woodland edges. The area of continuous woodland cover/Significant Woodland associated with the property and adjacent lands contains interior habitat 100m from woodland edge and the proposed development does not diminish the availability of 100m interior habitat post-development. Map 2B of the Town's Natural Heritage System Update (see Appendix C) identifies that woodland to the east and south of the property contain 200m interior habitat. Therefore, the proposed development does not remove woodland of a scale or in a location that would impact the continued function of woodlands retained on the property or available on adjacent lands to function as breeding habitat for area-sensitive woodland breeding birds or Eastern Wood-pewee - no negative impact to these SWH functions consistent with requirements of Section 3.10 of the TPOP and Section 2.1.5 d) of the PPS.

Bat Maternity Colonies & Habitat of END Bats

Figure 3 shows the distribution of bat snag trees on the property along with a development plan overlay. Assuming full clearing of the proposed severed lots (Part 1, 2 and 3) to facilitate future development, 20 snag trees potentially utilized by bats as maternity and day roost habitat during summer would be removed out of approx. 105 snag trees identified on the property. Results indicate that snag tree density of the property is approx. 15/ha. The woodlands of the overall area of continuous woodland associated with the property and adjacent lands (i.e., Significant Woodlands – 30ha) have composition, structure and age similar to those of the property. Therefore, the overall woodland is likely to have a similar snag tree density and hence local woodlands would provide upwards of 450 snag trees of value to bats as potential roost habitat. Loss of 20 snag trees as the result of the proposed development is therefore minor and not of a scale representing damage or destruction of habitat of END bats – no impact to habitat of END bats consistent with Section 10 of the ESA. Also, the combined area of woodland preserved on the proposed retained lot (Part 4) provides a sufficient abundance of snag trees to ensure continued use of the Significant Woodlands as bat maternity colony habitat should they be doing so at present - no negative impact to this SWH function consistent with requirements of Section 3.10 of the TPOP and Section 2.1.5d of the PPS.

We recommend that trees are cleared outside of the bat active season defined as between March 15 and November 30 by the MECP in its 2022 Bat Survey Standards Note, to avoid kill/harm/harassment of END bats consistent with requirements of Section 9 of the ESA.



7.3 Habitat Linkage

The proposed development maintains natural cover (forest and treed swamp) between the rear of severed lots Part 2 and 3 and the developed area on the retained lot (Part 4) approx. 80m wide and an area of natural cover between lots Part 1 and 2 approx. 50m wide. Both of these areas of natural cover maintained in the severance plan are wide enough and sufficiently vegetated to allow wildlife passage through the property post-development connecting to woodlands and wetland of adjacent lands to the east and west.

The proposed development maintains multiple areas of habitat connectivity/linkage consistent with the requirements of Section 3.10 of the TPOP the EP.

7.4 Drainage Feature

The Town identified this feature as a mapped ‘watercourse’, however as per Section 4.5, no other standard mapping sources acknowledge such and the feature is clearly a constructed ditch. In any case, the proposed development does not impact the ditch. As per Section 7.1, the proposed development does not impact the hydrology of wetlands in the vicinity of the drain. Therefore, there will be no alteration of flows conveyed by the drain – no impact to the conveyance function.

We recommend that an ECP is prepared as part of site plan/building permit stage employing best practices to ensure sediment does not enter the ditch.

7.5 Black Ash

Black Ash were encountered throughout the woodlands and wetlands of the property as shown on Figure 2 including within the proposed severed lots. Therefore, if severance plan approval and lot clearing occurs beyond February 25, 2024 removal of Black Ash will be subject to regulations the province establishes under the ESA with respect to this species. Future site alteration and development occurring beyond the Temporary Suspension afforded the species under O. Reg. 23/22 will have to be completed in conformity with ESA requirement in effect at the time.

7.6 Buffer Considerations

The concept of buffering does not apply with respect to Significant Woodlands or related wildlife habitat functions as development is proposed within woodlands – unavoidable given that undeveloped portions of the property are treed throughout.

Buffers are not provided to wetlands as the results of field studies revealed that the wetlands do not provide wetland specific SWH functions – no significant amphibian breeding habitat function, etc. Buffers to wetlands are not required to maintain



hydrologic processes supporting wetland hydrology or to mitigate nutrient inputs to wetlands as future septic systems will have to be designed in conformity to water quality standards in effect at the time.

Though the ditch and wetland do not constitute fish habitat requiring buffering, we note that the ditch is confined to the proposed Retained Lot (Part 4) and hence is located in an area of existing natural woodland (forest and treed swamp) preserved in the severance plan. Therefore, the drainage feature will retain “woodland buffer” at least on the proponent’s lands. There is no consistent woodland buffer to the drain evident on developed lots to the north.

8.0 RECOMMENDATIONS

- Vegetation removals should occur between December 1 and March 14 to avoid the bat active season as recently defined by the MECP (Note: doing so also avoids impact to nesting birds required under the *Migratory Birds Convention Act* and *Fish and Wildlife Conservation Act*);
- Minimize the extent of tree clearing on lots Part 1, Part 2 and Part 3 to the extent possible given the needs for space for a future single-detached dwelling, accessory structures, septic bed, amenity spaces, etc.;
- If development approval and site clearing does not occur before January 26, 2024 – evaluate requirements for impact to Black Ash that are enacted following expiry of the Temporary Suspension afforded the species under O. Reg. 23/22;
- Install permanent boundary markers along the property lines of severed lots (i.e., Part 1, Part 2 and Part 3) that abut the wetland;
- Directed roof downspouts to areas of lawn to promote on-site infiltration; and,
- At the time of future development (site plan/building permit approval stage) prepare an ECP according to best management practices for approval by the Town.

9.0 CONCLUSIONS

The proposed development can be achieved with no negative impacts to: Local/Coastal Wetlands; Significant Woodlands; Significant Wildlife Habitat Functions; Habitat Linkage or individuals or habitat of species protected under the ESA consistent with the requirements of the TPOP, PPS and Sections 9 and 10 of the ESA.



10.0 REFERENCES

Bird Studies Canada (BSC). 2008. Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. Bird Studies Canada, Environment Canada - Canadian Wildlife Service, U.S. Environmental Protection Agency. 16 pp.

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Government of Canada. 1985. *Federal Fisheries Act*. (<http://laws-lois.justice.gc.ca/eng/acts/f-14/>) Accessed November 2022

Government of Canada. 2014. *Migratory Birds Convention Act*. (<http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>) Accessed November 2022

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Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide. Ontario Ministry of Natural Resources, Fish & Wildlife Branch, Wildlife Section. Peterborough, ON.

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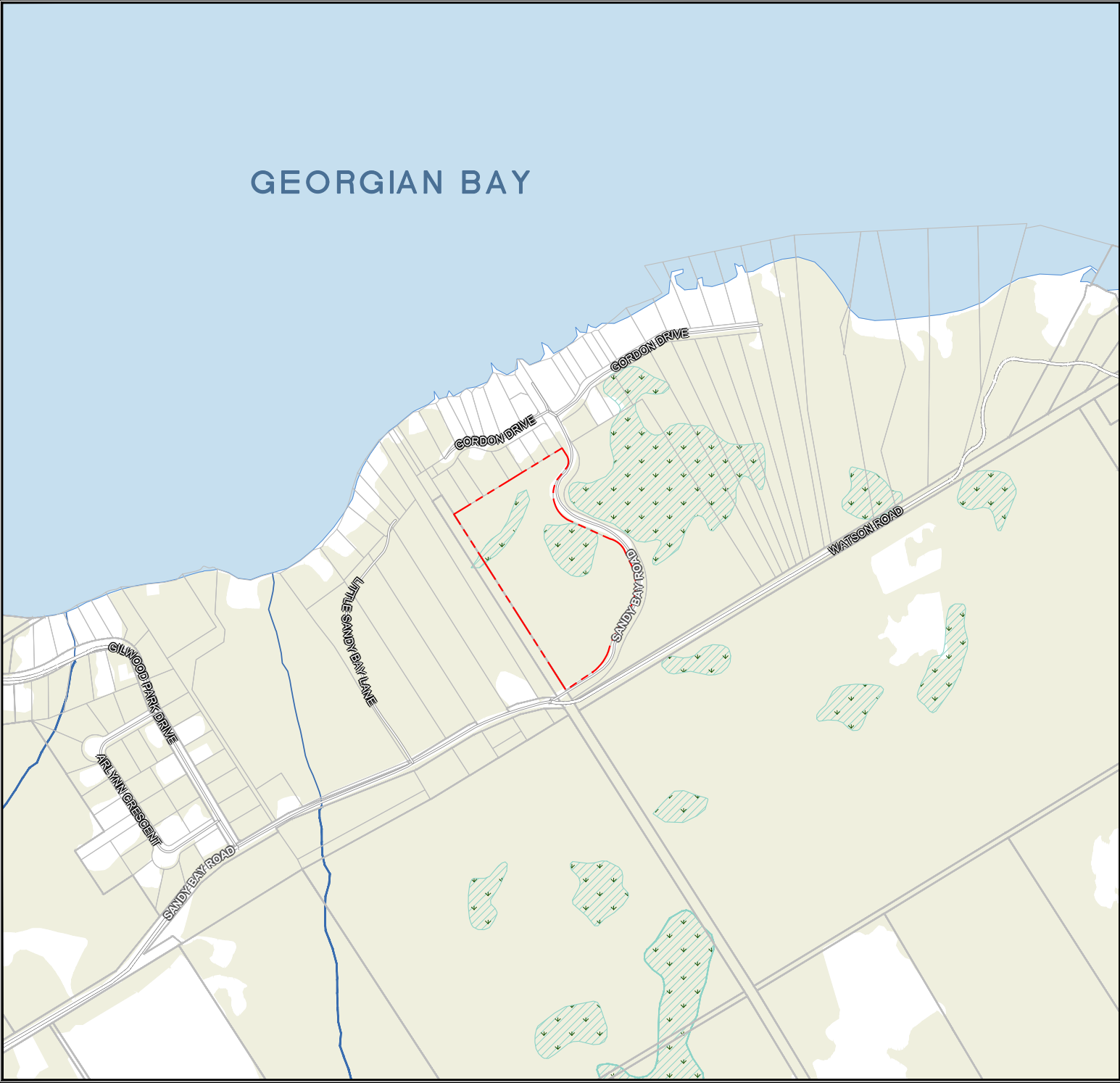
Ministry of Natural Resources and Forestry (MNRF). 2015b. Significant Wildlife Habitat criterion schedules for Ecoregion 6E. MNRF Regional Operations Division & Northeast Region Resources Section. 39pp.

Ontario Breeding Bird Atlas (OBBA). 2001. Guide for Participants. Atlas Management Board, Federation of Ontario Naturalists, Don Mills.



Regroupement Quebec Oiseaux, Bird Canada. Canadian Wildlife Service. University of Regina. Wild Research. 2019. Canadian Nightjar Survey Protocol. iii + 18 pp.

Plotted by: ALU on February 3, 2023 at 3:49pm
File: Q:\20 projects\20-397 1500 sandy bay rd (onstoma)\04.0 - drafting\20-397 Site Location.dwg Layout: Site Location Plotstyle: 1



LEGEND:

--- APPROX. PROPERTY BOUNDARY

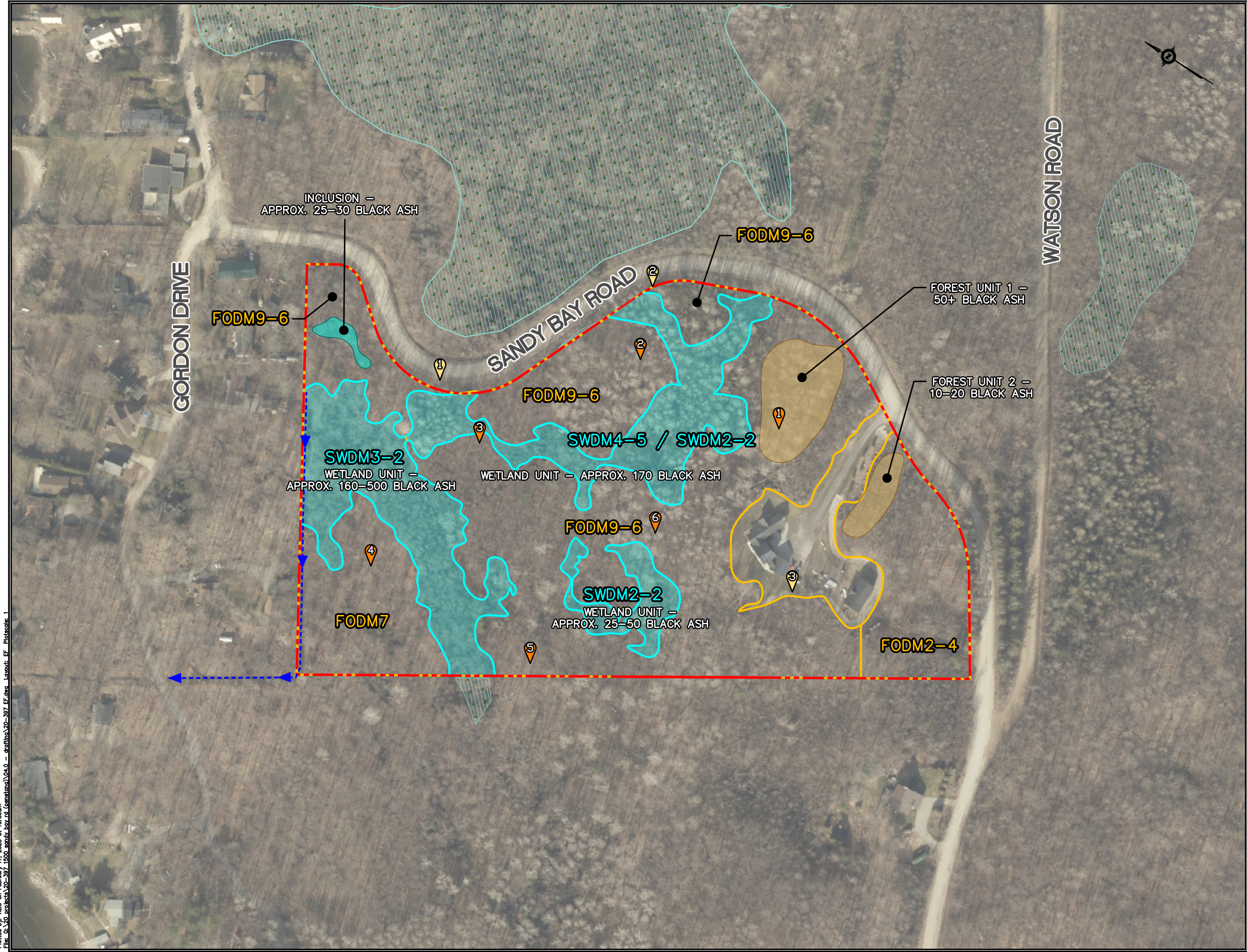
REGIONAL MAP
SCALE 1:250000

0 250.0 500.0
HORIZONTAL SCALE 1:10000

**1500 SANDY BAY ROAD
PENETANGUISHENE, ON**

DATE ISSUED: FEBRUARY 2023	Figure No. 1
CREATED BY: A.L.	
PROJECT NO.: 20-397	
REFERENCE: SIMCOE COUNTY	

Plotted by: ALU on February 17, 2023 at 10:56am
File: G:\20_projects\20-397_1500_sandy_bay_rd_penetanguishene\04.0 - draft\mxd\20-397 EF.dwg Layout: EF_PlotScale_1



LEGEND:

--- APPROX. PROPERTY BOUNDARY
--- PROPOSED SEVERANCE
 UNEVALUATED WETLAND (MNR, 2021)
---> DRAINAGE FEATURE

ELC UPLAND COMMUNITIES:

FODM2-4 DRY-FRESH OAK-HARDWOOD DECIDUOUS FOREST
FODM3-1 DRY-FRESH POPLAR DECIDUOUS FOREST
FODM7 FRESH-MOIST LOWLAND DECIDUOUS FOREST
FODM9-6 FRESH-MOIST OAK-HARDWOOD DECIDUOUS FOREST

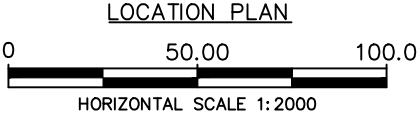
ELC WETLAND COMMUNITIES:

SWDM2-2 GREEN ASH MINERAL DECIDUOUS SWAMP
SWDM3-2 SILVER MAPLE MINERAL DECIDUOUS SWAMP
SWDM4-5 POPLAR MINERAL DECIDUOUS SWAMP

POINT COUNT / SURVEY STATIONS:

AMPHIBIAN / EASTERN WHIP-POOR-WILL SURVEY STATION
 DAWN BREEDING BIRD SURVEY STATION

FOREST UNIT (BLACK ASH)
 MOIST INCLUSION



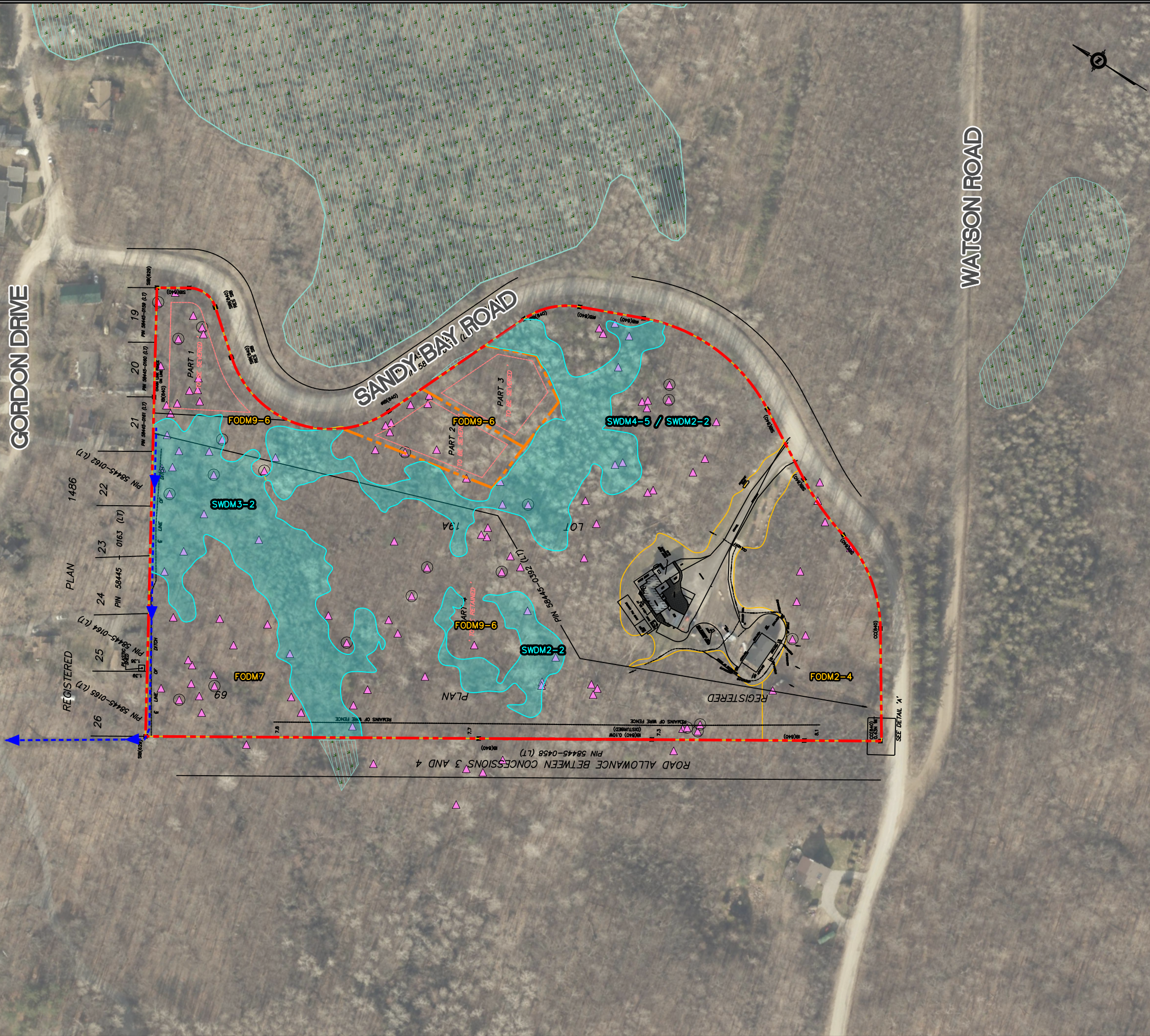
ENVIRONMENTAL FEATURES

1500 SANDY BAY ROAD
PENETANGUISHENE, ON

DATE ISSUED:	FEBRUARY 2023	Figure No. 2
CREATED BY:	A.L.	
PROJECT NO.:	20-397	
REFERENCE:	SIMCOE COUNTY	

Plotted by: ALU on February 17, 2023 at 10:56am
File: G:\20_projects\20-397_1500 sandy bay rd (separate)\04.0 - draft\20-397 EF.dwg Layout: BSNG_Plotselec.1

GORDON DRIVE



WATSON ROAD

SANDY BAY ROAD

LEGEND:

- APPROX. PROPERTY BOUNDARY
- PROPOSED SEVERANCE
- DRAINAGE FEATURE
- UNEVALUATED WETLAND (MNR, 2021)



ELC UPLAND COMMUNITIES:

- FODM2-4 DRY-FRESH OAK-HARDWOOD DECIDUOUS FOREST
- FODM3-1 DRY-FRESH POPLAR DECIDUOUS FOREST
- FODM7 FRESH-MOIST LOWLAND DECIDUOUS FOREST
- FODM9-6 FRESH-MOIST OAK-HARDWOOD DECIDUOUS FOREST



ELC WETLAND COMMUNITIES:

- SWDM2-2 GREEN ASH MINERAL DECIDUOUS SWAMP
- SWDM3-2 SILVER MAPLE MINERAL DECIDUOUS SWAMP
- SWDM4-5 POPLAR MINERAL DECIDUOUS SWAMP



BAT SNAG LOCATION

BAT SNAG CLASSIFICATION:



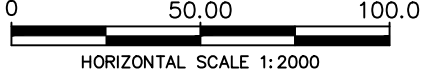
CIRCLED - HIGH QUALITY



UNCIRCLED - LOW QUALITY



LOCATION PLAN



SEVERANCE PLAN OVERLAY

1500 SANDY BAY ROAD
PENETANGUISHENE, ON

DATE ISSUED:	FEBRUARY 2023	Figure No. 3
CREATED BY:	A.L.	
PROJECT NO.:	20-397	
REFERENCE:	SIMCOE COUNTY	



APPENDICES

- Appendix A: Severance Plan
 - Appendix B: EIS Terms of Reference & TPOP Schedules
 - Appendix C: Town of Penetanguishene Natural Heritage Study Mapping
 - Appendix D: Site Photos
 - Appendix E: Vascular Plant List
 - Appendix F: Bird List
 - Appendix G: Continuous Woodland Cover
 - Appendix H: Significant Wildlife Habitat Assessment
 - Appendix I: Species at Risk Assessment
-
-

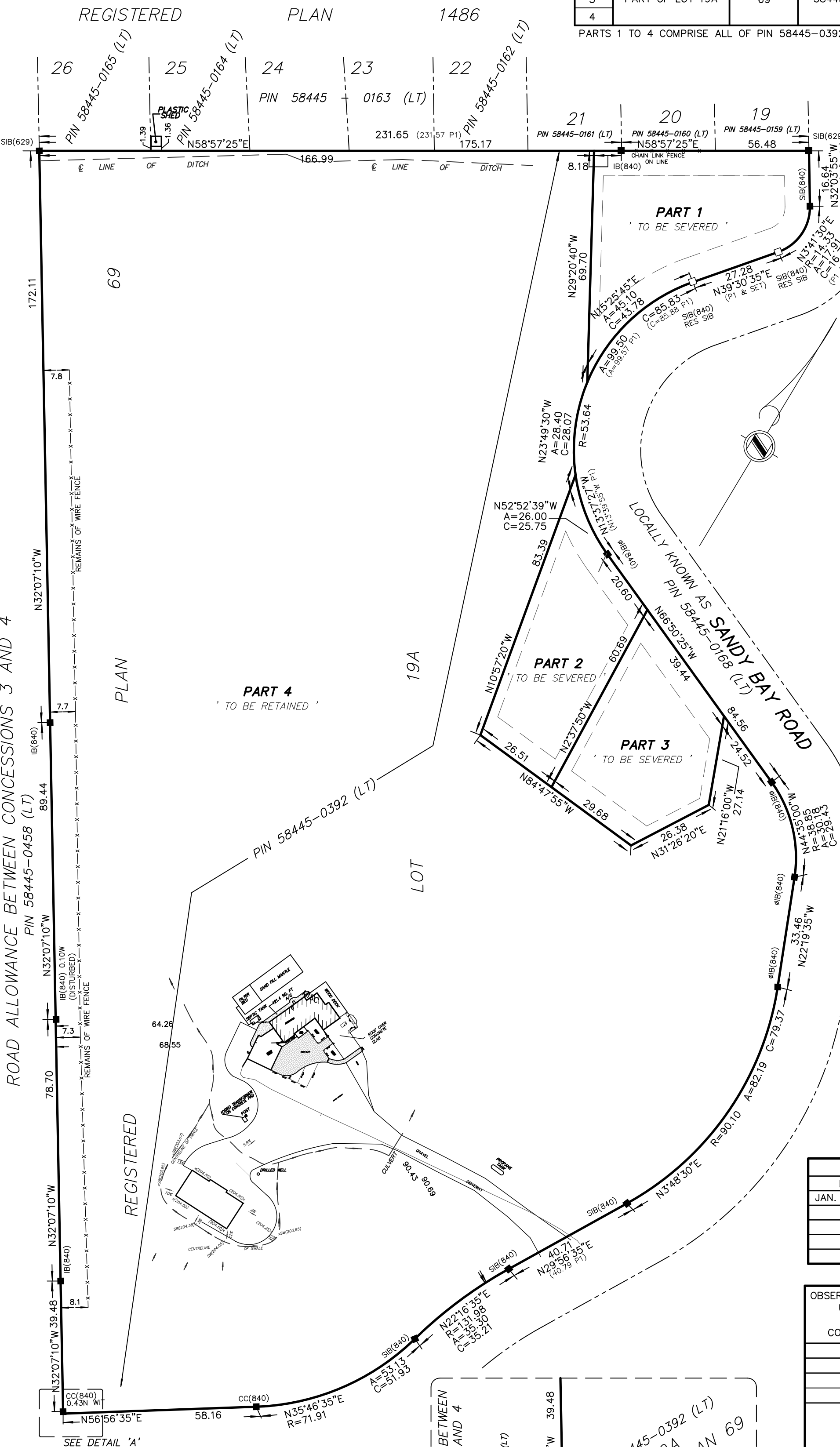


APPENDIX A

Severance Plan

SCHEDULE				
PART	LOT / BLOCK	PLAN	PIN	AREA M ²
1	PART OF LOT 19A	69	58445-0392 (LT)	2676.1
2				2114.1
3				2043.5
4				63156.8

PARTS 1 TO 4 COMPRISE ALL OF PIN 58445-0392 (LT)



PLAN OF SURVEY
OF ALL OF
LOT 19A
REGISTERED PLAN 69
(GEOGRAPHIC TOWNSHIP OF TAY)
TOWN OF PENETANGUSHENE
COUNTY OF SIMCOE

SCALE 1 : 1000
25 20 15 10 5 0 25 50 75 Metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 559mm IN WIDTH BY 432mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1: 1000.

RAIKES GEOMATICS INC.
2021

METRIC
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

BEARING NOTE
BEARINGS HEREON ARE UTM GRID BEARINGS AND ARE DERIVED FROM OBSERVED REFERENCE POINTS (ORPs) A AND B BY REAL TIME NETWORK (RTN) OBSERVATIONS AND ARE REFERRED TO THE CENTRAL MERIDIAN 81°W IN ZONE 17 BASED ON NAD83 (CSRS) (2010 EPOCH).

BEARING ROTATION
FOR BEARING COMPARISONS, A ROTATION OF 0°48'25" COUNTERCLOCKWISE WAS APPLIED TO PLAN 51R-6181 (P1)

DISTANCE NOTE
DISTANCES SHOWN ON THIS PLAN ARE HORIZONTAL GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999667.

- LEGEND**
- DENOTES MONUMENT FOUND
 - DENOTES MONUMENT PLANTED
 - IB DENOTES IRON BAR
 - SIB DENOTES STANDARD IRON BAR
 - ØIB DENOTES ROUND IRON BAR
 - CC DENOTES CUT CROSS
 - Meas. DENOTES MEASURED
 - 629 DENOTES V.R. DAVIES, OLS
 - 840 DENOTES J.M. HARVEY, OLS
 - P1 DENOTES PLAN 51R-6181
 - RES DENOTES RESTORED IN ACCORDANCE WITH SECTION 1.5 OF THE NATIONAL STANDARDS FOR THE SURVEY OF CANADA LANDS
 - WIT DENOTES WITNESS

ZONING INFORMATION				
ZONE DESIGNATION	PERMITTED	PROVIDED PART 1	PROVIDED PART 2	PROVIDED PART 3
RURAL (RU)				
LOT AREA (sq.m.)	2000	2676	2134	2074
LOT FRONTAGE (m)	35.0	* > 35.0	35.0	35.0

* MAY REQUIRE FRONTAGE DEFINITION CLARIFICATION

REVISION TABLE			
DATE	BY	COMMENT	
JAN. 18, 2023		RELEASED FOR ENVIRONMENTAL IMPACT STUDY	

OBSERVED REFERENCE POINTS (ORPs) ARE DERIVED FROM GPS OBSERVATIONS USING THE CAN-NET VRS NETWORK, UTM ZONE 17 (81° LONGITUDE) NAD 83 CSRS (1997 EPOCH) COORDINATES TO URBAN ACCURACY PER SEC. 14 (2) OF O.REG 216/10		
UTM NAD 83 CSRS COORDINATE TABLE		
POINT ID	NORTHING	EASTING
ORP A	4962005.90	587279.61
ORP B	4962253.89	586998.50
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN		

W:\PROJECTS\PROJECTS_2015\155314\MSCAD\155314_RP2.DWG		
DRAWN BY :	EKU	PROJECT No. 155314
CHECKED BY :	PTR	



RAIKES
GEOMATICS INC.

Barrie Office: (705) 722 - 6222 642 Welham Road, Barrie, ON L4N 9A1
Midland Office: (705) 526 - 7552 529 Elizabeth Street, Midland, ON L4R 2A2
Email : info@survey4u.com

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

- THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT, THE LAND TITLES ACT, AND THE REGULATIONS MADE UNDER THEM.
- THE SURVEY WAS COMPLETED ON THE ##th DAY OF XXXX, 2021.

DATE

PETER T. RAIKES, BSc., CLS, MRICS
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER #####.

DETAIL 'A'
SCALE: NOT TO SCALE



APPENDIX B

EIS Terms of Reverence & TPOP Schedules



March 30, 2022

Owen Taylor, Planner
Town of Penetanguishene
10 Robert Street West
P.O. Box 5009
Penetanguishene, ON
L9M 2G2

**Subject: Peer Review of the Terms of Reference for 1500 Sandy Bay Road
Penetanguishene, Ontario**

WSP Canada Inc. (WSP) was retained by the Town of Penetanguishene to complete a peer review of a Terms of Reference (TOR) in support of an Environmental Impact Study (EIS) for a property located at 1500 Sandy Bay Road, Penetanguishene. This was completed through a desktop review of the provided TOR, publicly available sources, and aerial photography (Google Earth).

The documents reviewed as part of this peer review included the following:

- Email: From Jim Broadfoot (Azimuth Environmental) to Andrea Betty (Town of Penetanguishene).
Subject: 1500 Sandy Bay Road (Penetanguishene) – proposed EIS Terms of Reference. Dated January 7, 2021.

Comments or additions for the following Terms of Reference are provided below in red:

Azimuth has been retained to prepare an Environmental Impact Study (EIS) related to a proposed severance of 1500 Sandy Bay Road. It is our understanding that a pre-submission consultation meeting between the Town and MHBC was held on October 6, 2021 and that the Town has indicated a need for a 4 season EIS with emphasis on consideration of watercourses/drainage features, unevaluated wetlands, woodlands and related functions.

Given our understanding of environmental features and functions associated with the subject and adjacent lands, we provide the following Terms of Reference for review and comment. The Terms of Reference identifies proposed field studies and assessments recommended to define existing conditions and on which to base an impact assessment evaluating severance potential.

Data Collection

- Conduct background review of publicly available sources including County of Simcoe (County), Town, Ministry of Northern Development, Mines, Natural Resources and Forestry (NDMNR), Ministry of the Environment, Conservation and Parks (MECP), and Fisheries and Oceans Canada (DFO) records to obtain

582 Lancaster Street West
Kitchener, ON
Canada N2K 1M3

T: +1 519 743-8778
wsp.com

[Click here to enter Your Ref.](#)

available background information, including obtaining current information related to natural heritage conditions including SAR on the properties and/or nearby area;

- Consult with the MECP to determine the identification of the restricted species with records in the area, as required;
- Evaluate/ map vegetation community types based on Ecological Land Classification methods for southern Ontario (summer 2022);
- Delineate wetland limits (if applicable) based on the “50% rule” of the Ontario wetland Evaluation System (summer 2022);
- Bat habitat assessment under leaf-off conditions following provincial methods (January – late April);
- Three vascular plant surveys in 2022 (late May/early June, mid July/early August, September);
- Three watercourse/drainage feature assessment (late-March/April, May/June, July/August);
- If drainage feature assessment site visit in late-March/April reveals potential amphibian breeding habitat, complete three evening calling amphibian surveys according to methods of the Marsh Monitoring Program (April, mid-May, late June);
- Two dawn breeding bird surveys in June; and,
- Two nocturnal breeding bird surveys (May-June).

Analysis

- Complete a Species at Risk assessment according to provincial guidelines (MECP 2019). If applicable based on the results of field investigations and the Species at Risk assessment, consult with the MECP on the requirement for targeted SAR surveys (e.g., bat acoustic monitoring, targeted snake surveys for potentially occurring SAR) for any future proposed works and include documentation of this consultation in the EIS; and
- Evaluate potential for Significant Wildlife Habitat functions based on site specific data and according to provincial criteria for Ecoregion 6E (MNRF 2015);

Impact Assessment

- Evaluate severance potential based on results of field studies and analysis of significance of natural heritage features and related functions;
- Assess the potential direct and indirect impacts of the proposed lot creation on the natural heritage features and functions identified on or adjacent to the property;
- Provide recommendations for avoidance/mitigation of potential impacts arising from the development plan advanced as part of the severance application; and
- Provide an outline of conformance with applicable policy, legislation, and plans (e.g., Town of Penetanguishene Official Plan, County of Simcoe Official Plan, Provincial Policy Statement 2020, Endangered Species Act, Species at Risk Act, Migratory Birds Convention Act, Fisheries Act), including any potential permits or authorizations that may be required for future development plans.

Sincerely,

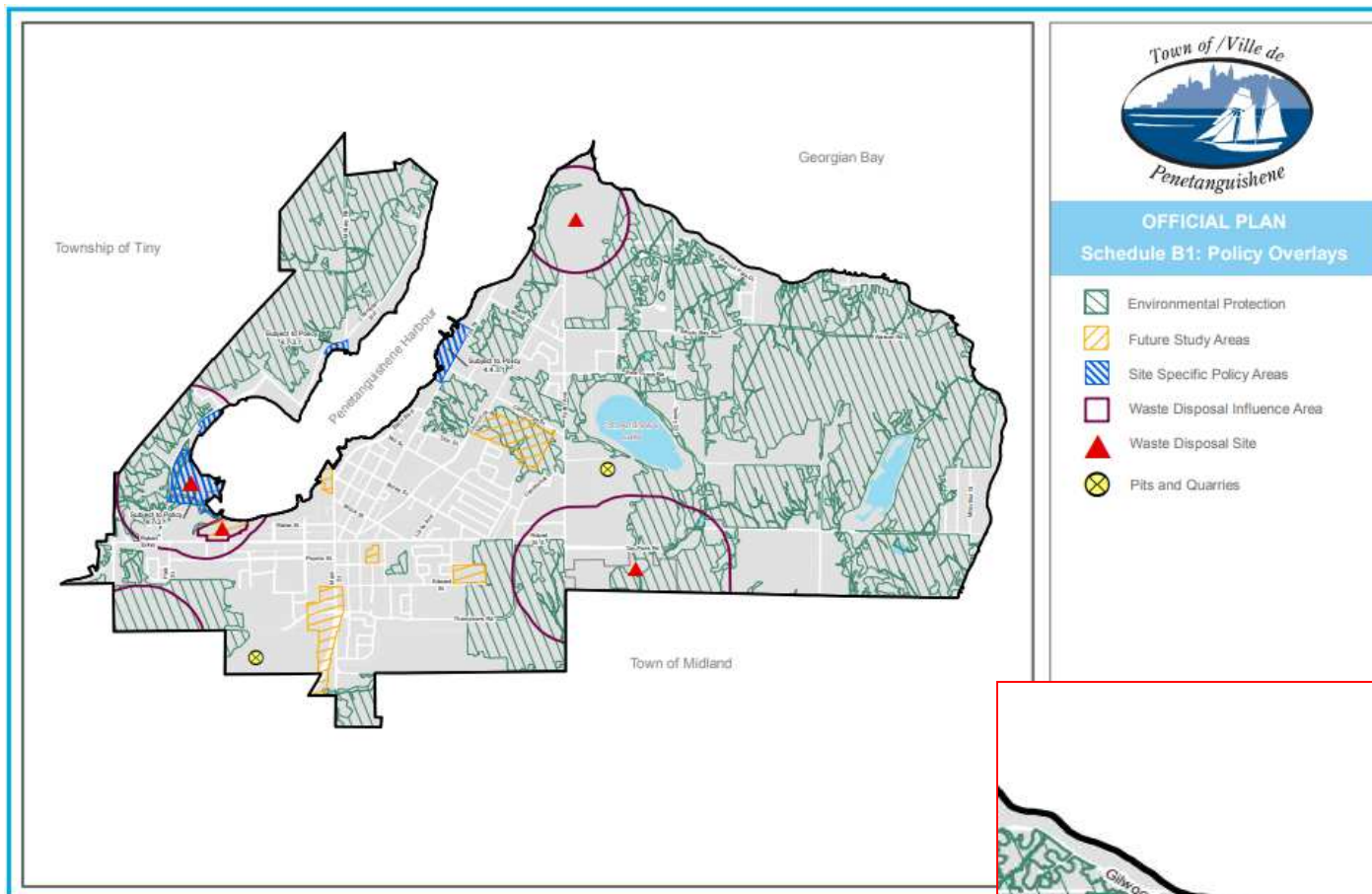
WSP Canada Inc.




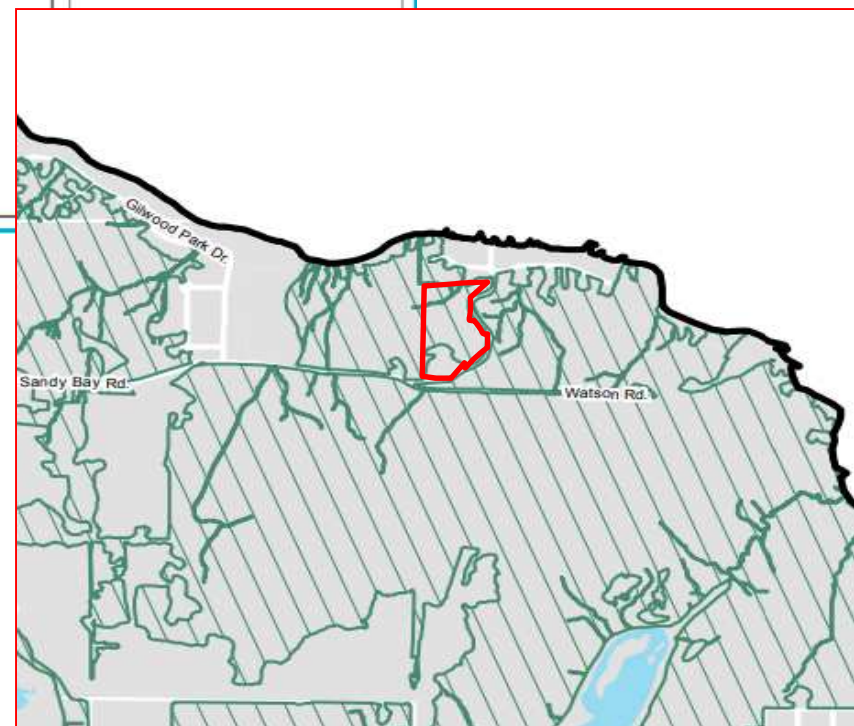
Nathan DeCarlo, M.E.S.

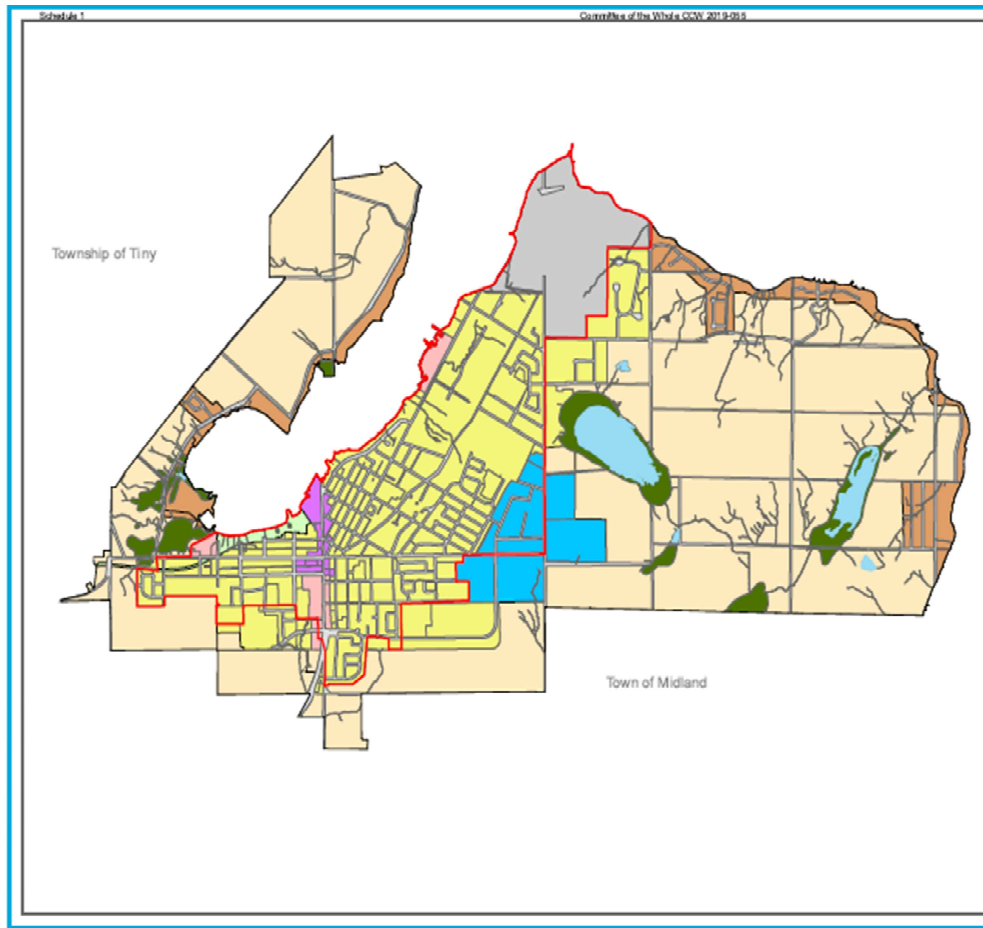
Nathan.DeCarlo@wsp.com

Ecologist, Ontario Earth and Environment



 Subject Lands





Approximate Study Area

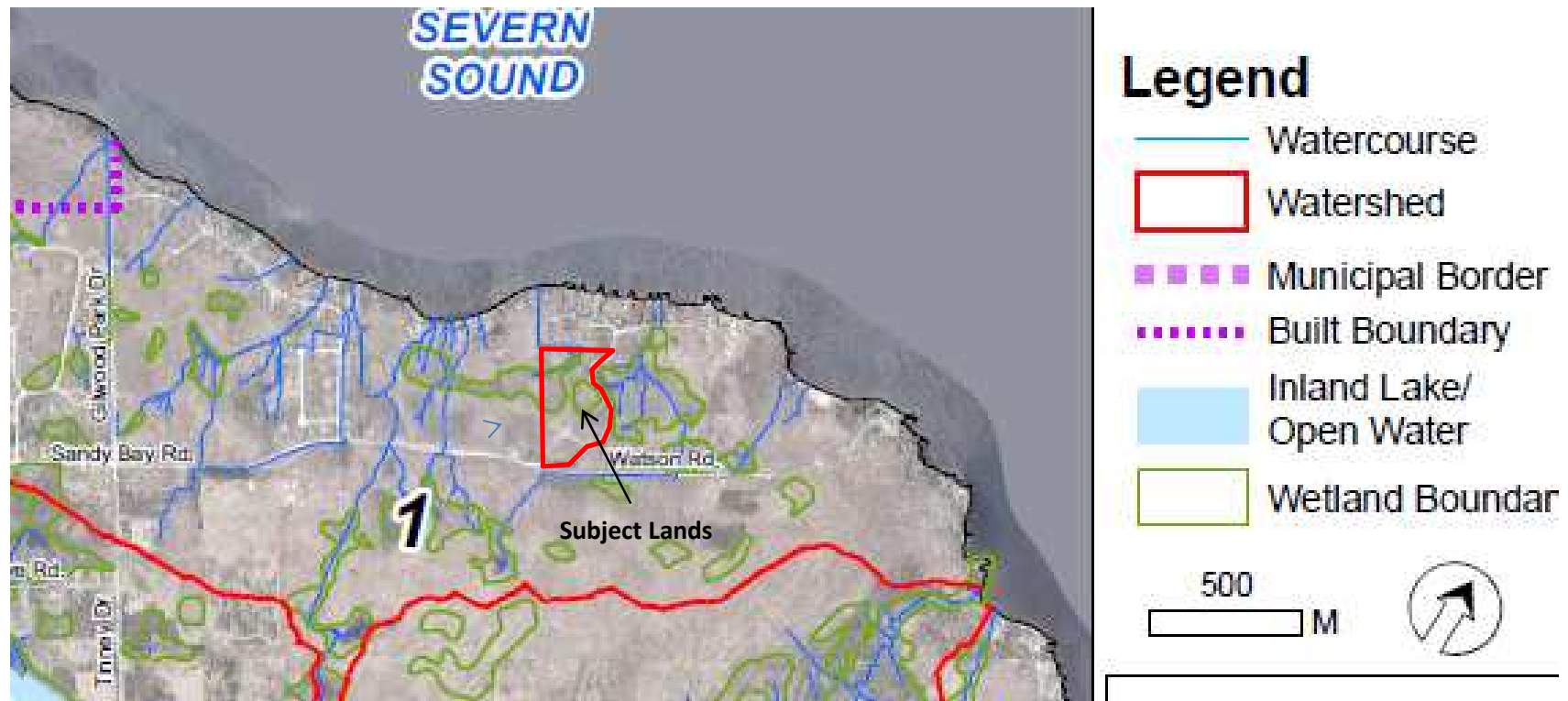




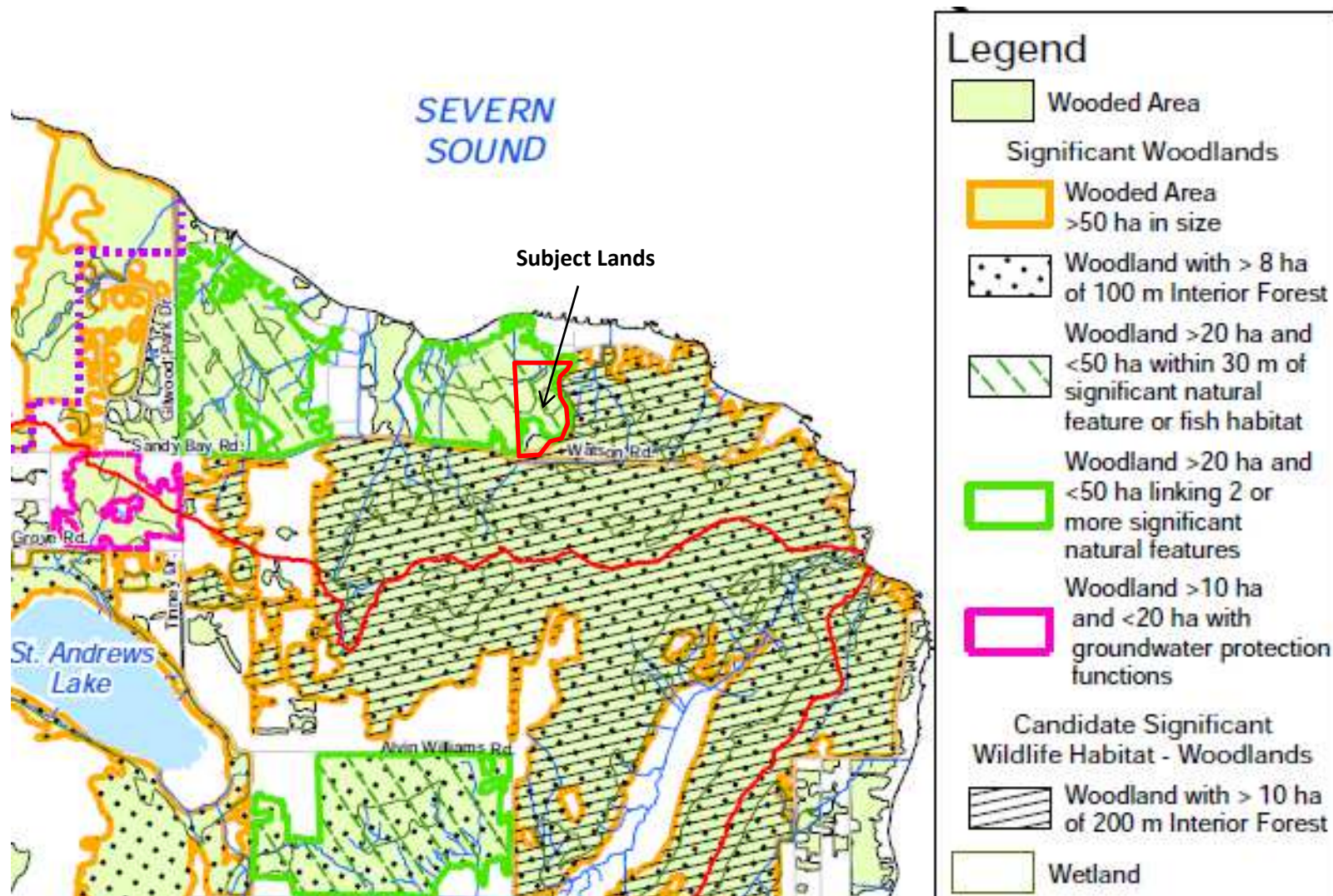
APPENDIX C

Town of Penetanguishene Natural Heritage Study Mapping (SSEA 2017)

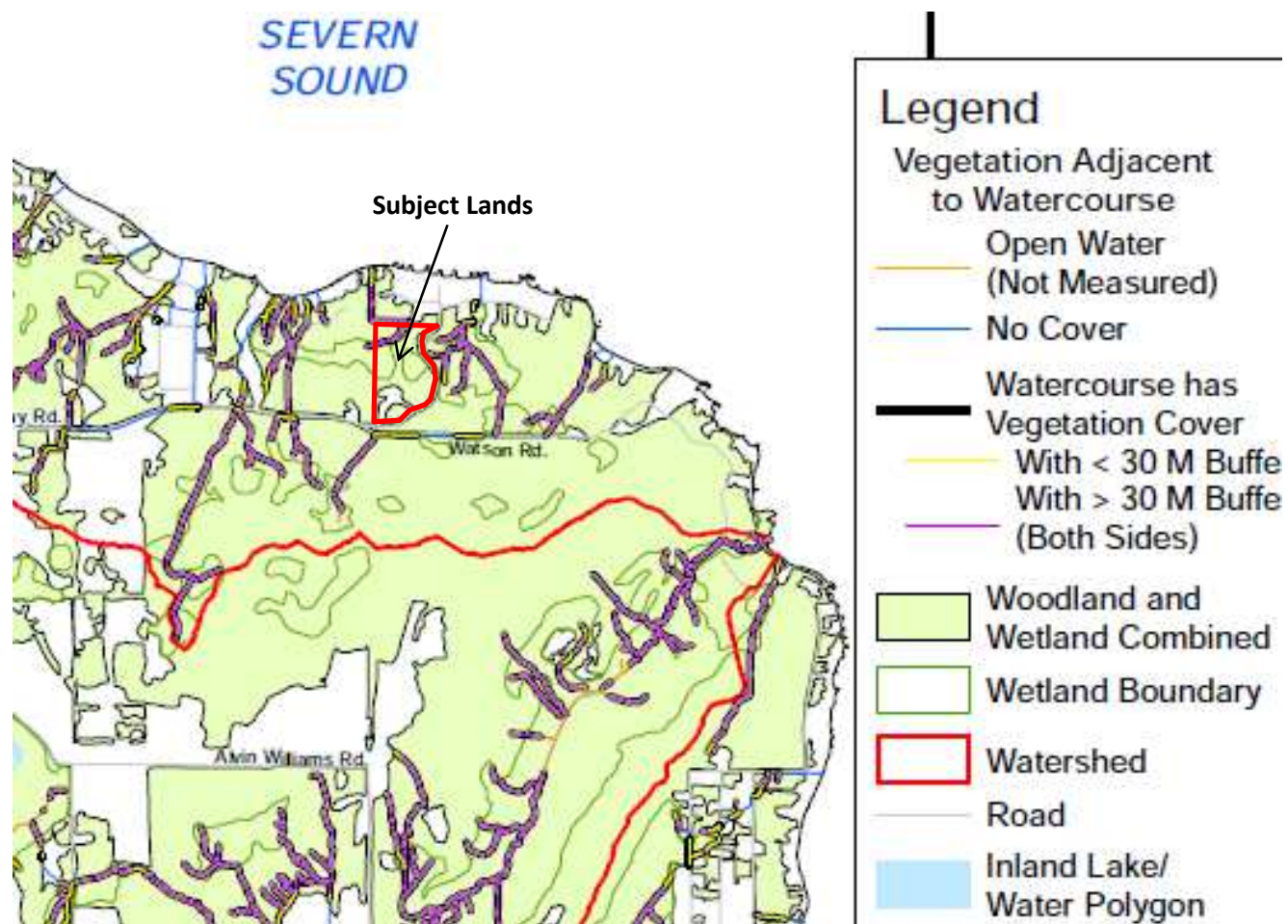
Figures From: Penetanguishene Natural Heritage Study Update (Severn Sound Environmental Association May 2017)



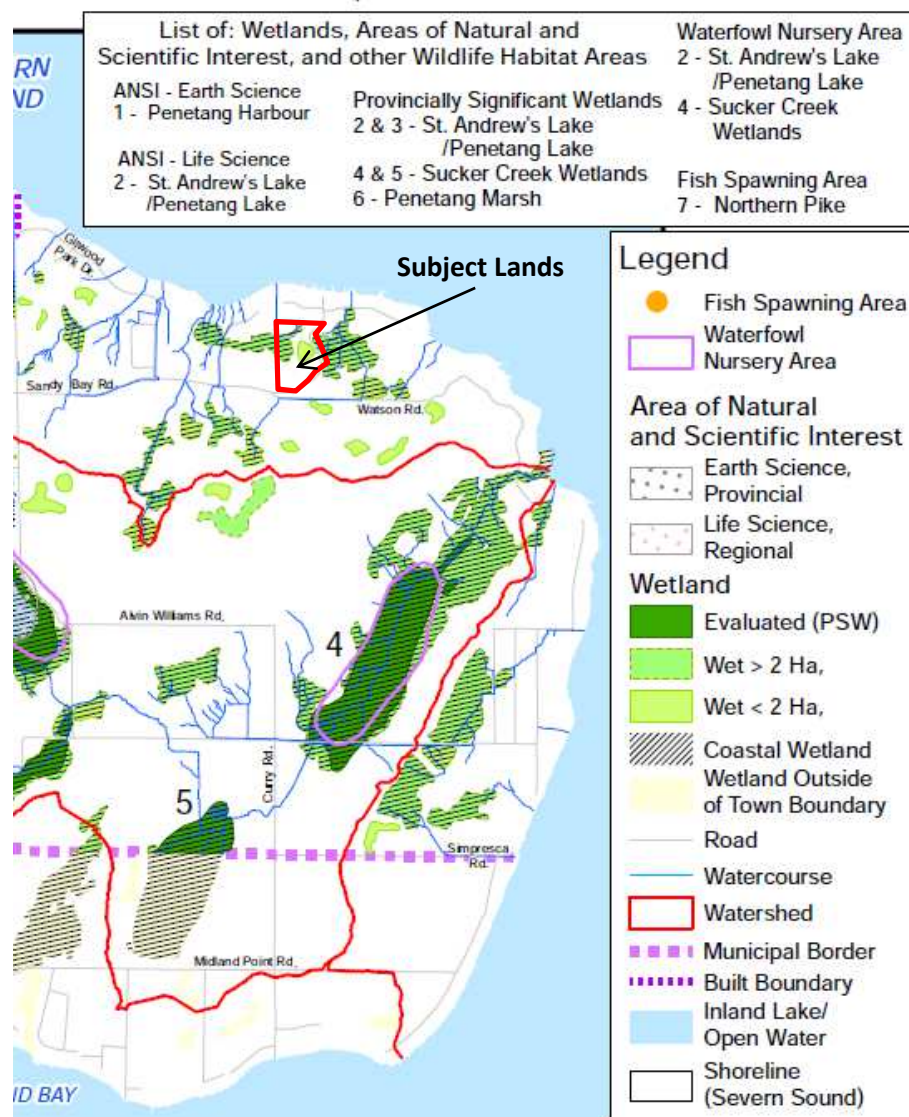
Clip from Map 1 – Town of Penetanguishene – Overview Map & Watersheds



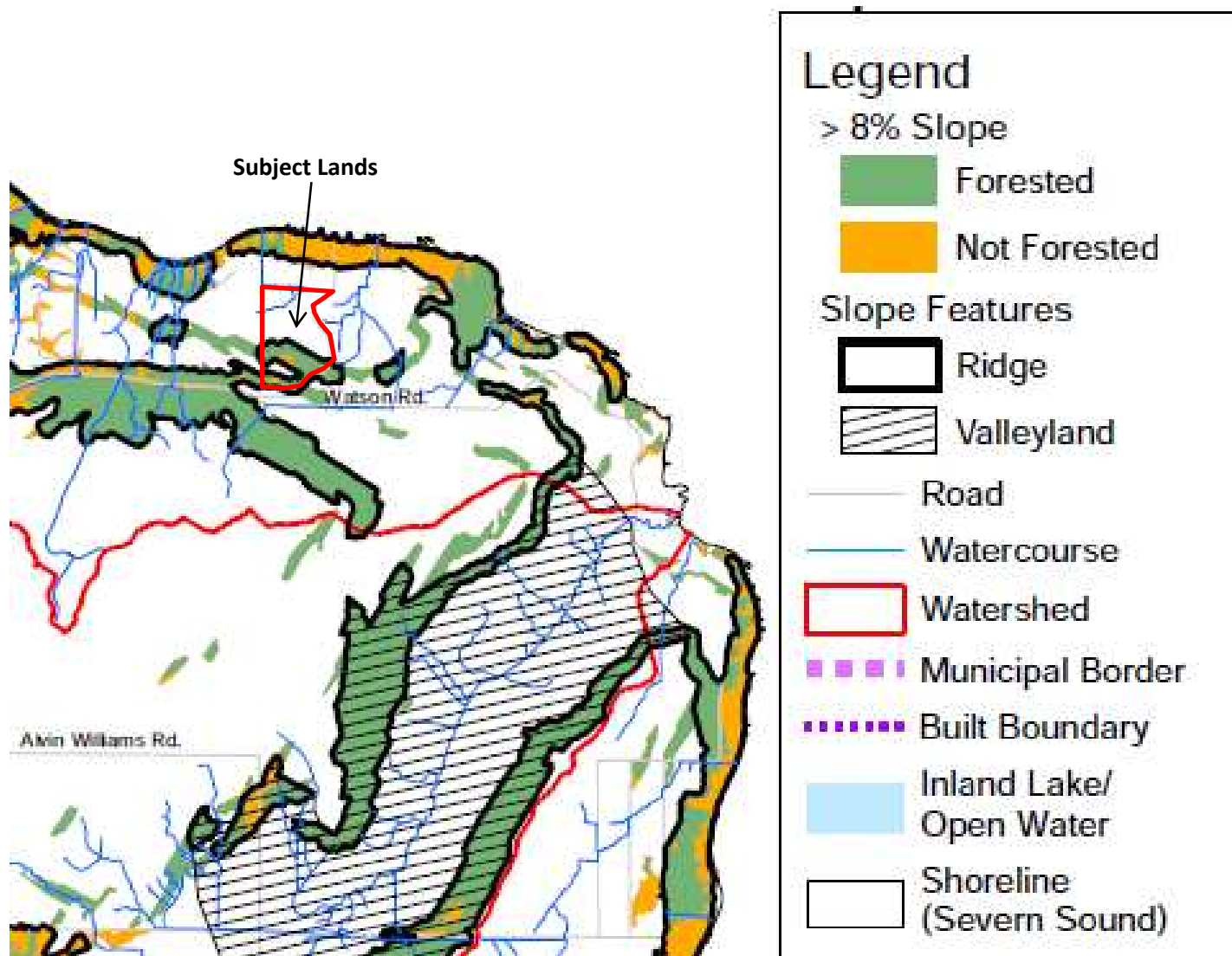
Clip from Map 2B – Town of Penetanguishene – Significant Woodland Habitat



Clip from Map 3 – Town of Penetanguishene – Riparian Habitat



Clip from Map 5 – Town of Penetanguishene – Wetlands, ANSI, and Other Wildlife Habitat Areas



Clip from Map 6 – Town of Penetanguishene – Steep Slopes, Ridges and Valleylands



APPENDIX D

Site Photos



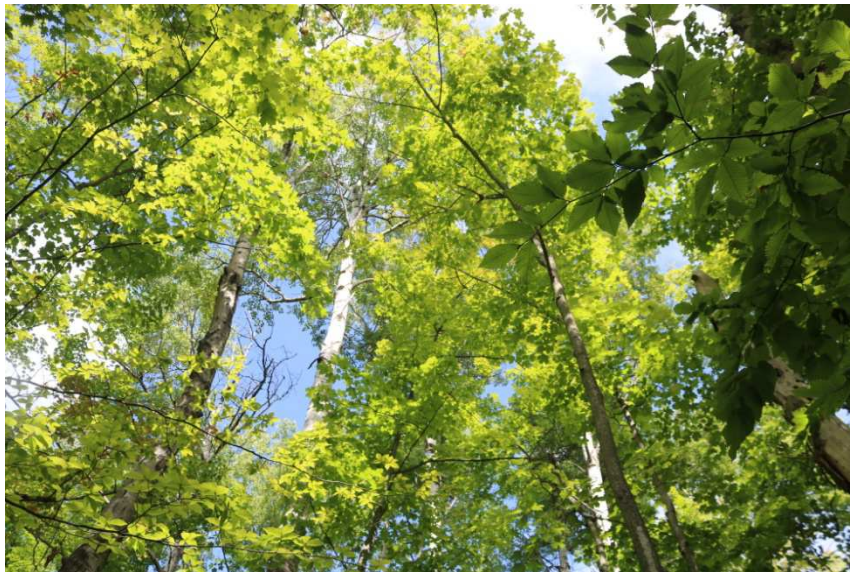
Photograph 1: SWDM3-2 Community (May 18,2022)



Photograph 2: View of the residential area at the front of the property
(Sept 18, 2022)



Photograph 3: FODM9-6 Community (September 14, 2022)



Photograph 4: FODM3-1 Community (Sept 18, 2022)



Photograph 5: SWDM3-2 Community, an old growth Silver Maple is present.
(September 14, 2022)



Photograph 6: FODM7 Community (Sept 18, 2022)



Photograph 7: SWDM4-5 Community (September 14, 2022)



Photograph 8: FODM2-4 Community (Sept 18, 2022)



Photograph 9: SWDM2-2 Community (September 14, 2022)



Photograph 10: SWDM3-2 Community (April 11, 2022)



Photograph 11: Drainage feature northwest section of property adjacent land in distance looking down-gradient (April 11, 2022)



Photograph 12: Drainage feature, adjacent lands to north near lakeshore looking up-gradient (January 11, 2023)



APPENDIX E

Vascular Plant List

Vascular Plant Species List - 1500 Sandy Bay Road (Penetanguishene)

			Vegetation Community (see Figure 2 for locations)						Conservation Rank Information ¹			
Family	Scientific Name	Common Name	FODM2-4	FODM3-1	FODM7	FODM9-6	SWDM3-2	SWDM4-5 /SWDM2-2	S-Rank	G-Rank	SARO	Tracked ?
Aceraceae	<i>Acer pensylvanicum</i>	Striped Maple		x	x	x	x	x	S4	G5		N
Aceraceae	<i>Acer platanoides</i>	Norway Maple				x			SE5	GNR		N
Aceraceae	<i>Acer rubrum</i>	Red Maple		x	x	x	x	x	S5	G5		N
Aceraceae	<i>Acer saccharinum</i>	Silver Maple				x	x	x	S5	G5		N
Aceraceae	<i>Acer saccharum</i>	Sugar Maple	x	x	x	x	x	x	S5	G5		N
Aceraceae	<i>Acer spicatum</i>	Mountain Maple		x	x		x	x	S5	G5		N
Anacardiaceae	<i>Rhus typhina</i>	Staghorn Sumac	x	x					S5	G5		N
Anacardiaceae	<i>Toxicodendron radicans</i>	Western Poison Ivy	x	x	x	x	x	x	S5	G5		N
Apiaceae	<i>Daucus carota</i>	Wild Carrot		x					SE5	GNR		N
Apocynaceae	<i>Apocynum androsaemifolium</i>	Spreading Dogbane	x	x		x			S5	G5		N
Apocynaceae	<i>Vinca minor</i>	Lesser Periwinkle				x			SE5	GNR		N
Aquifoliaceae	<i>Ilex verticillata</i>	Common Winterberry					x	x	S5	G5		N
Araceae	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	x	x	x	x	x	x	S5	G5		N
Araliaceae	<i>Aralia nudicaulis</i>	Wild Sarsaparilla			x	x	x	x	S5	G5		N
Asteraceae	<i>Ambrosia artemisiifolia</i>	Common Ragweed		x					S5	G5		N
Asteraceae	<i>Arctium minus</i>	Common Burdock		x					SE5	GNR		N
Asteraceae	<i>Artemisia biennis</i>	Biennial Wormwood	x						SE5	G5		N
Asteraceae	<i>Bidens frondosa</i>	Devil's Beggarticks	x						S5	G5		N
Asteraceae	<i>Centaurea stoebe</i>	Spotted Knapweed		x					SE5	GNR		N
Asteraceae	<i>Cirsium arvense</i>	Canada Thistle		x					SE5	G5		N
Asteraceae	<i>Doellingeria umbellata</i>	Flat-top White Aster						x	S5	G5		N
Asteraceae	<i>Erigeron annuus</i>	Annual Fleabane		x					S5	G5		N
Asteraceae	<i>Eurybia macrophylla</i>	Large-leaved Aster	x	x	x	x	x	x	S5	G5		N
Asteraceae	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	x						S5	G5		N
Asteraceae	<i>Lapsana communis</i>	Common Nipplewort		x			x		SE5	GNR		N
Asteraceae	<i>Nabalus altissimus</i>	Tall Rattlesnakeroot	x		x	x	x	x	S5	G5		N
Asteraceae	<i>Pilosella caespitosa</i>	Meadow Hawkweed		x			x		SE5	GNR		N
Asteraceae	<i>Solidago altissima</i>	Tall Goldenrod	x	x					S5	G5		P
Asteraceae	<i>Solidago caesia</i>	Blue-stemmed Goldenrod	x	x	x	x		x	S5	G5		N
Asteraceae	<i>Solidago rugosa</i>	Rough-stemmed Goldenrod	x	x	x	x	x	x	S5	G5		N
Asteraceae	<i>Sonchus arvensis</i>	Field Sow-thistle		x					SE5	GNR		N
Asteraceae	<i>Symphyotrichum lanceolatum</i>	Paniced Aster	x	x			x		S5	G5		P
Asteraceae	<i>Symphyotrichum lateriflorum</i>	Calico Aster	x	x		x	x	x	S5	G5		P
Asteraceae	<i>Symphyotrichum urophyllum</i>	Arrow-leaved Aster	x	x		x			S4	G4G5		N
Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion	x	x	x	x	x		SE5	G5		N
Asteraceae	<i>Tussilago farfara</i>	Coltsfoot	x	x				x	SE5	GNR		N
Balsaminaceae	<i>Impatiens capensis</i>	Spotted Jewelweed					x	x	S5	G5		N
Berberidaceae	<i>Caulophyllum thalictroides</i>	Giant Blue Cohosh		x	x	x		x	S5	G4G5		N
Betulaceae	<i>Alnus incana ssp. rugosa</i>	Speckled Alder					x		S5	G5T5		N
Betulaceae	<i>Betula alleghaniensis</i>	Yellow Birch			x	x	x	x	S5	G5		N
Betulaceae	<i>Betula papyrifera</i>	Paper Birch	x	x	x	x		x	S5	G5		N

			Vegetation Community (see Figure 2 for locations)						Conservation Rank Information ¹			
Family	Scientific Name	Common Name	FODM2-4	FODM3-1	FODM7	FODM9-6	SWDM3-2	SWDM4-5 /SWDM2-2	S-Rank	G-Rank	SARO	Tracked ?
Betulaceae	<i>Ostrya virginiana</i>	Eastern Hop-hornbeam	x	x	x	x	x	x	S5	G5		N
Boraginaceae	<i>Echium vulgare</i>	Common Viper's Bugloss		x					SE5	GNR		N
Boraginaceae	<i>Hackelia virginiana</i>	Virginia Stickseed	x						S5	G5		N
Boraginaceae	<i>Myosotis sylvatica</i>	Woodland Forget-me-not				x	x		SE4	G5		N
Brassicaceae	<i>Alliaria petiolata</i>	Garlic Mustard				x			SE5	GNR		N
Brassicaceae	<i>Berteroa incana</i>	Hoary Alyssum		x					SE5	GNR		N
Brassicaceae	<i>Cardamine diphylla</i>	Two-leaved Toothwort		x					S5	G5		N
Brassicaceae	<i>Hesperis matronalis</i>	Dame's Rocket		x					SE5	G4G5		N
Brassicaceae	<i>Lunaria annua</i>	Annual Honesty				x			SE2	GNR		N
Caprifoliaceae	<i>Lonicera canadensis</i>	Canada Fly Honeysuckle		x	x	x	x	x	S5	G5		N
Caprifoliaceae	<i>Lonicera dioica</i>	Limber Honeysuckle		x		x	x	x	S5	G5		N
Caprifoliaceae	<i>Lonicera x bella</i>	(<i>Lonicera morrowii</i> X <i>Lonicera tatarica</i>)				x	x		SNA	GNA		N
Caprifoliaceae	<i>Viburnum acerifolium</i>	Maple-leaved Viburnum				x			S5	G5		N
Caprifoliaceae	<i>Viburnum lentago</i>	Nannyberry	x	x		x	x	x	S5	G5		N
Caprifoliaceae	<i>Viburnum opulus</i>	Cranberry Viburnum		x	x	x	x	x	S5	G5		N
Clusiaceae	<i>Hypericum perforatum</i>	Common St. John's-wort	x	x					SE5	GNR		N
Cornaceae	<i>Cornus alternifolia</i>	Alternate-leaved Dogwood	x	x	x	x	x		S5	G5		N
Cornaceae	<i>Cornus rugosa</i>	Round-leaved Dogwood		x	x				S5	G5		N
Cornaceae	<i>Cornus sericea</i>	Red-osier Dogwood	x				x		S5	G5		N
Cupressaceae	<i>Thuja occidentalis</i>	Eastern White Cedar		x	x	x	x	x	S5	G5		N
Cyperaceae	<i>Carex arctata</i>	Drooping Woodland Sedge		x	x	x	x	x	S5	G5		N
Cyperaceae	<i>Carex communis</i>	Fibrous-root Sedge				x			S5	G5		N
Cyperaceae	<i>Carex crinita</i>	Fringed Sedge	x			x	x	x	S5	G5		N
Cyperaceae	<i>Carex cristatella</i>	Crested Sedge					x		S5	G5		N
Cyperaceae	<i>Carex deweyana</i>	Dewey's Sedge		x	x	x	x	x	S5	G5		N
Cyperaceae	<i>Carex disperma</i>	Two-seeded Sedge					x		S5	G5		N
Cyperaceae	<i>Carex gracillima</i>	Graceful Sedge	x	x		x		x	S5	G5		N
Cyperaceae	<i>Carex intumescens</i>	Bladder Sedge			x	x	x	x	S5	G5		N
Cyperaceae	<i>Carex lupulina</i>	Hop Sedge					x		S5	G5		N
Cyperaceae	<i>Carex peckii</i>	Peck's Sedge			x				S5	G5		N
Cyperaceae	<i>Carex pedunculata</i>	Long-stalked Sedge	x	x	x	x	x		S5	G5		N
Cyperaceae	<i>Carex projecta</i>	Necklace Sedge		x	x			x	S5	G5		N
Cyperaceae	<i>Carex radiata</i>	Eastern Star Sedge						x	S5	G5		N
Cyperaceae	<i>Carex rosea</i>	Rosy Sedge		x		x			S5	G5		N
Cyperaceae	<i>Carex sparganioides</i>	Burreed Sedge			x				S4S5	G5		N
Cyperaceae	<i>Carex tuckermanii</i>	Tuckerman's Sedge				x	x	x	S5	G5		N
Cyperaceae	<i>Carex vulpinoidea</i>	Fox Sedge	x					x	S5	G5		N
Cyperaceae	<i>Cyperus esculentus</i>	Perennial Yellow Flatsedge	x						S5	G5		N
Cyperaceae	<i>Scirpus atrovirens</i>	Dark-green Bulrush						x	S5	G5		N
Dennstaedtiaceae	<i>Pteridium aquilinum</i>	Bracken Fern	x	x	x	x			S5	G5		N
Dryopteridaceae	<i>Athyrium filix-femina</i>	Common Lady Fern	x	x	x	x	x	x	S5	G5		N
Dryopteridaceae	<i>Dryopteris carthusiana</i>	Spinulose Wood Fern	x		x	x	x	x	S5	G5		N
Dryopteridaceae	<i>Dryopteris intermedia</i>	Evergreen Wood Fern			x	x	x	x	S5	G5		N

			Vegetation Community (see Figure 2 for locations)						Conservation Rank Information ¹			
Family	Scientific Name	Common Name	FODM2-4	FODM3-1	FODM7	FODM9-6	SWDM3-2	SWDM4-5 /SWDM2-2	S-Rank	G-Rank	SARO	Tracked ?
Dryopteridaceae	<i>Dryopteris marginalis</i>	Marginal Wood Fern		x		x			S5	G5		N
Dryopteridaceae	<i>Gymnocarpium dryopteris</i>	Common Oak Fern			x				S5	G5		N
Dryopteridaceae	<i>Matteuccia struthiopteris</i>	Ostrich Fern			x	x	x	x	S5	G5		N
Dryopteridaceae	<i>Onoclea sensibilis</i>	Sensitive Fern	x	x	x	x	x	x	S5	G5		N
Equisetaceae	<i>Equisetum arvense</i>	Field Horsetail	x	x	x	x	x	x	S5	G5		N
Equisetaceae	<i>Equisetum hyemale</i>	Common Scouring-rush		x	x	x	x		S5	G5		N
Equisetaceae	<i>Equisetum variegatum</i>	Variegated Scouring-rush		x					S5	G5		N
Fabaceae	<i>Amphicarpaea bracteata</i>	American Hog-peanut				x		x	S5	G5		N
Fabaceae	<i>Hylodesmum glutinosum</i>	Large Tick-trefoil					x		S4	G5		N
Fabaceae	<i>Lathyrus latifolius</i>	Everlasting Pea		x					SE4	GNR		N
Fabaceae	<i>Lotus corniculatus</i>	Garden Bird's-foot Trefoil		x					SE5	GNR		N
Fabaceae	<i>Melilotus albus</i>	White Sweet-clover	x	x					SE5	G5		N
Fabaceae	<i>Securigera varia</i>	Purple Crown-vetch				x			SE5	GNR		N
Fabaceae	<i>Trifolium hybridum</i>	Alsike Clover	x						SE5	GNR		N
Fabaceae	<i>Trifolium pratense</i>	Red Clover		x					SE5	GNR		N
Fabaceae	<i>Vicia cracca</i>	Tufted Vetch		x					SE5	GNR		N
Fagaceae	<i>Fagus grandifolia</i>	American Beech	x	x	x	x	x		S4	G5		N
Fagaceae	<i>Quercus rubra</i>	Northern Red Oak	x	x	x	x	x	x	S5	G5		N
Geraniaceae	<i>Geranium robertianum</i>	Herb-Robert				x	x		S5	G5		N
Grossulariaceae	<i>Ribes cynosbati</i>	Eastern Prickly Gooseberry		x		x	x	x	S5	G5		N
Grossulariaceae	<i>Ribes triste</i>	Swamp Red Currant				x	x	x	S5	G5		N
Juncaceae	<i>Juncus effusus</i>	Soft Rush	x						S5	G5		N
Lamiaceae	<i>Clinopodium vulgare</i>	Wild Basil		x					S5	G5		N
Lamiaceae	<i>Lycopus uniflorus</i>	Northern Water-horehound					x		S5	G5		N
Lamiaceae	<i>Prunella vulgaris</i>	Common Self-heal	x	x		x		x	S5	G5		N
Lamiaceae	<i>Scutellaria lateriflora</i>	Mad-dog Skullcap					x		S5	G5		N
Liliaceae	<i>Clintonia borealis</i>	Yellow Clintonia			x			x	S5	G5		N
Liliaceae	<i>Convallaria majalis</i>	European Lily-of-the-valley				x			SE5	G5		N
Liliaceae	<i>Erythronium americanum</i>	Yellow Trout-lily		x	x	x	x	x	S5	G5		N
Liliaceae	<i>Maianthemum canadense</i>	Wild Lily-of-the-valley	x	x	x	x	x	x	S5	G5		N
Liliaceae	<i>Maianthemum racemosum</i>	Large False Solomon's Seal	x	x	x	x		x	S5	G5T5		N
Liliaceae	<i>Maianthemum stellatum</i>	Star-flowered False Solomon's Seal		x				x	S5	G5		N
Liliaceae	<i>Polygonatum pubescens</i>	Hairy Solomon's Seal			x				S5	G5		N
Liliaceae	<i>Trillium grandiflorum</i>	White Trillium		x	x	x		x	S5	G5		N
Monotropaceae	<i>Monotropa uniflora</i>	Indian-pipe		x		x			S5	G5		N
Oleaceae	<i>Fraxinus americana</i>	White Ash	x	x	x	x	x	x	S4	G4		N
Oleaceae	<i>Fraxinus nigra</i>	Black Ash	x	x	x	x	x	x	S4	G5	END	Y
Oleaceae	<i>Fraxinus pennsylvanica</i>	Red Ash	x	x	x	x	x	x	S4	G4		N
Onagraceae	<i>Circaea canadensis</i>	Broad-leaved Enchanter's Nightshade	x	x	x	x	x	x	S5	G5		N
Onagraceae	<i>Epilobium ciliatum</i>	Northern Willowherb	x				x	x	S5	G5		N
Onagraceae	<i>Epilobium parviflorum</i>	Small-flowered Hairy Willowherb	x	x					SE4	GNR		N
Onagraceae	<i>Oenothera biennis</i>	Common Evening-primrose	x	x					S5	G5		N
Orchidaceae	<i>Epipactis helleborine</i>	Broad-leaved Helleborine	x	x	x	x			SE5	GNR		N

			Vegetation Community (see Figure 2 for locations)						Conservation Rank Information ¹			
Family	Scientific Name	Common Name	FODM2-4	FODM3-1	FODM7	FODM9-6	SWDM3-2	SWDM4-5 /SWDM2-2	S-Rank	G-Rank	SARO	Tracked ?
Orobanchaceae	<i>Conopholis americana</i>	American Cancerroot	x	x		x			S4	G5		N
Orobanchaceae	<i>Epifagus virginiana</i>	Beechdrops		x	x	x			S5	G5		N
Osmundaceae	<i>Osmundastrum cinnamomeum</i>	Cinnamon Fern					x		S5	G5		N
Pinaceae	<i>Abies balsamea</i>	Balsam Fir	x		x	x	x	x	S5	G5		N
Pinaceae	<i>Picea abies</i>	Norway Spruce	x						SE3	G5		N
Pinaceae	<i>Picea glauca</i>	White Spruce	x						S5	G5		N
Pinaceae	<i>Pinus resinosa</i>	Red Pine		x					S5	G5		N
Pinaceae	<i>Pinus strobus</i>	Eastern White Pine		x		x			S5	G5		N
Pinaceae	<i>Pinus sylvestris</i>	Scots Pine		x					SE5	GNR		N
Pinaceae	<i>Tsuga canadensis</i>	Eastern Hemlock			x		x		S5	G4G5		N
Plantaginaceae	<i>Plantago major</i>	Common Plantain	x						SE5	G5		N
Poaceae	<i>Agrostis gigantea</i>	Redtop	x						SE5	G4G5		N
Poaceae	<i>Agrostis stolonifera</i>	Creeping Bentgrass	x						SE5	G5		N
Poaceae	<i>Dactylis glomerata</i>	Orchard Grass				x			SE5	GNR		N
Poaceae	<i>Echinochloa crus-galli</i>	Large Barnyard Grass	x						SE5	GNR		N
Poaceae	<i>Elymus repens</i>	Quackgrass		x					SE5	GNR		N
Poaceae	<i>Glyceria striata</i>	Fowl Mannagrass				x	x	x	S5	G5		N
Poaceae	<i>Oryzopsis asperifolia</i>	Rough-leaved Mountain Rice				x			S5	G5		N
Poaceae	<i>Panicum capillare</i>	Common Panicgrass	x						S5	G5		N
Poaceae	<i>Phleum pratense</i>	Common Timothy	x						SE5	GNR		N
Poaceae	<i>Phragmites australis ssp. australis</i>	European Reed	x	x					SE5	G5T5		N
Poaceae	<i>Poa compressa</i>	Canada Bluegrass		x					SE5	GNR		N
Poaceae	<i>Setaria viridis</i>	Green Foxtail	x						SE5	GNR		N
Polygonaceae	<i>Rumex obtusifolius</i>	Bitter Dock	x	x		x			SE5	GNR		N
Polypodiaceae	<i>Polypodium virginianum</i>	Rock Polypody		x		x			S5	G5		N
Primulaceae	<i>Lysimachia borealis</i>	Northern Starflower			x	x	x		S5	G5		N
Primulaceae	<i>Lysimachia nummularia</i>	Creeping Yellow Loosestrife		x					SE5	GNR		N
Pyrolaceae	<i>Pyrola asarifolia</i>	Pink Pyrola			x		x	x	S5	G5		N
Pyrolaceae	<i>Pyrola elliptica</i>	Shinleaf	x	x		x	x	x	S5	G5		N
Ranunculaceae	<i>Actaea pachypoda</i>	White Baneberry			x	x			S5	G5		N
Ranunculaceae	<i>Actaea rubra</i>	Red Baneberry				x			S5	G5		N
Ranunculaceae	<i>Clematis virginiana</i>	Virginia Clematis				x			S5	G5		N
Ranunculaceae	<i>Hepatica acutiloba</i>	Sharp-lobed Hepatica				x		x	S5	G5T5		N
Ranunculaceae	<i>Ranunculus abortivus</i>	Kidney-leaved Buttercup				x		x	S5	G5		N
Ranunculaceae	<i>Ranunculus acris</i>	Common Buttercup	x	x		x	x	x	SE5	G5		N
Ranunculaceae	<i>Ranunculus recurvatus</i>	Hooked Buttercup		x			x		S5	G5		N
Ranunculaceae	<i>Thalictrum dioicum</i>	Early Meadow-rue		x		x			S5	G5		N
Rhamnaceae	<i>Frangula alnus</i>	Glossy Buckthorn	x	x	x	x	x	x	SE5	GNR		N
Rosaceae	<i>Agrimonia gryposepala</i>	Hooked Agrimony				x	x	x	S5	G5		N
Rosaceae	<i>Amelanchier laevis</i>	Smooth Serviceberry		x					S5	G5		N
Rosaceae	<i>Fragaria virginiana</i>	Wild Strawberry	x		x	x	x	x	S5	G5		N
Rosaceae	<i>Geum canadense</i>	Canada Avens				x	x	x	S5	G5		N
Rosaceae	<i>Potentilla recta</i>	Sulphur Cinquefoil	x						SE5	GNR		N

			Vegetation Community (see Figure 2 for locations)						Conservation Rank Information ¹			
Family	Scientific Name	Common Name	FODM2-4	FODM3-1	FODM7	FODM9-6	SWDM3-2	SWDM4-5 /SWDM2-2	S-Rank	G-Rank	SARO	Tracked ?
Rosaceae	<i>Prunus serotina</i>	Black Cherry	x	x	x	x			S5	G5		N
Rosaceae	<i>Prunus virginiana</i>	Chokecherry	x	x	x	x	x	x	S5	G5		N
Rosaceae	<i>Rubus allegheniensis</i>	Allegheny Blackberry		x	x	x			S5	G5		N
Rosaceae	<i>Rubus idaeus ssp. strigosus</i>	North American Red Raspberry	x			x	x		S5	G5T5		N
Rosaceae	<i>Rubus pubescens</i>	Dwarf Raspberry				x	x	x	S5	G5		N
Rosaceae	<i>Sorbus aucuparia</i>	European Mountain-ash	x	x			x	x	SE4	G5		N
Rubiaceae	<i>Galium odoratum</i>	Sweet-scented Bedstraw						x	SE1	GNR		N
Rubiaceae	<i>Mitchella repens</i>	Partridgeberry		x	x	x	x	x	S5	G5		N
Salicaceae	<i>Populus balsamifera</i>	Balsam Poplar		x				x	S5	G5		N
Salicaceae	<i>Populus grandidentata</i>	Large-toothed Aspen		x		x			S5	G5		N
Salicaceae	<i>Populus tremuloides</i>	Trembling Aspen	x	x	x	x	x	x	S5	G5		N
Salicaceae	<i>Salix bebbiana</i>	Bebb's Willow		x					S5	G5		N
Salicaceae	<i>Salix discolor</i>	Pussy Willow	x	x					S5	G5		N
Salicaceae	<i>Salix eriocephala</i>	Cottony Willow	x	x					S5	G5		N
Saxifragaceae	<i>Tiarella stolonifera</i>	Heart-leaved Foamflower			x	x			S5	GNR		N
Scrophulariaceae	<i>Linaria vulgaris</i>	Butter-and-eggs		x					SE5	GNR		N
Scrophulariaceae	<i>Verbascum thapsus</i>	Common Mullein		x					SE5	GNR		N
Scrophulariaceae	<i>Veronica officinalis</i>	Common Speedwell		x		x			SE5	G5		N
Scrophulariaceae	<i>Veronica serpyllifolia</i>	Thyme-leaved Speedwell				x			SU	G5		N
Solanaceae	<i>Solanum dulcamara</i>	Bittersweet Nightshade	x	x		x	x	x	SE5	GNR		N
Thelypteridaceae	<i>Parathelypteris noveboracensis</i>	New York Fern			x		x	x	S4S5	G5		N
Thelypteridaceae	<i>Thelypteris palustris</i>	Marsh Fern					x	x	S5	G5		N
Tiliaceae	<i>Tilia americana</i>	Basswood	x	x	x	x	x	x	S5	G5		N
Typhaceae	<i>Typha latifolia</i>	Broad-leaved Cattail	x						S5	G5		N
Ulmaceae	<i>Ulmus americana</i>	White Elm	x		x	x	x	x	S5	G4		N
Violaceae	<i>Viola labradorica</i>	Labrador Violet			x		x	x	S5	G5		N
Vitaceae	<i>Parthenocissus vitacea</i>	Thicket Creeper	x	x	x	x	x	x	S5	G5		N
Vitaceae	<i>Vitis riparia</i>	Riverbank Grape	x	x	x	x	x	x	S5	G5		N

¹ Nomenclature and Conservation Rankings based on MNRF Natural Heritage Information Centre (NHIC, 2022).



APPENDIX F

Bird List

Bird Species List - 1500 Sandy Bay Road (Penetanguishene)

			Point Count Station								Conservation Rankings ³				
Fanily	Scientific Name	Common Name	1	2	3	4	5	6	Incidental	Breeding Evidence ²	GRANK	SRANK	ESA	SARA	TRACK
Accipitridae	<i>Buteo platypterus</i>	Broad Winged Hawk				,C				Possible	G5	S5B			N
Certhiidae	<i>Certhia americana</i>	Brown Creeper							H ⁴	Possible	G5	S5B			N
Columbidae	<i>Zenaida macroura</i>	Mourning Dove			S,					Possible	G5	S5			N
Corvidae	<i>Corvus brachyrhynchos</i>	American Crow			,C	,C		C,		Possible	G5	S5			N
Corvidae	<i>Cyanocitta cristata</i>	Blue Jay	C,				,C			Possible	G5	S5			N
Paridae	<i>Poecile atricapillus</i>	Black-capped Chickadee	S,	S,		S,	,C	,C		Possible	G5	S5			N
Parulidae	<i>Seiurus aurocapilla</i>	Ovenbird				S,S	,S			Probable	G5	S5B			N
Parulidae	<i>Setophaga ruticilla</i>	American Redstart	,S							Possible	G5	S5B			N
Passerellidae	<i>Melospiza melodia</i>	Song Sparrow			S,					Possible	G5	S5			N
Passerellidae	<i>Spizella passerina</i>	Chipping Sparrow	S,							Possible	G5	S5B,S3N			N
Phasianidae	<i>Meleagris gallopavo</i>	Wild Turkey			,C					Possible	G5	S5			N
Picidae	<i>Dryocopus pileatus</i>	Pileated Woodpecker				,C				Possible	G5	S5			N
Picidae	<i>Melanerpes carolinus</i>	Red-bellied Woodpecker	,S							Possible	G5	S5			N
Picidae	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker		,C				,C		Possible	G5	S5B,S3N			N
Regulidae	<i>Regulus satrapa</i>	Golden-crowned Kinglet							X ⁴	None	G5	S5B			N
Scolopacidae	<i>Scolopax minor</i>	American Woodcock							H ⁴	Possible	G5	S4B			N
Sittidae	<i>Sitta carolinensis</i>	White-breasted Nuthatch		,C		C,C	,C	, C		Probable	G5	S5			N
Troglodytidae	<i>Troglodytes aedon</i>	House Wren	S,C	S,S		S,S		S,S		Probable	G5	S5B			N
Troglodytidae	<i>Troglodytes hiemalis</i>	Winter Wren	,S					,S		Possible	G5	S5B,S4N			N
Turdidae	<i>Catharus fuscescens</i>	Veery	S,	S,			,S	,C		Possible	G5	S5B			N
Turdidae	<i>Turdus migratorius</i>	American Robin	S,S		,H	S,C	C,C	S,C		Probable	G5	S5			N
Tyrannidae	<i>Contopus virens</i>	Eastern Wood-pewee		S,	S,S	S,S	,S			Probable	G5	S4B	SC	SC	Y
Tyrannidae	<i>Myiarchus crinitus</i>	Great Crested Flycatcher	C,C	C,	C,			C,		Probable	G5	S5B			N
Tyrannidae	<i>Sayornis phoebe</i>	Eastern Phoebe	S,			,S				Possible	G5	S5B			N
Vireonidae	<i>Vireo olivaceus</i>	Red-eyed Vireo	,S	S,S ¹	S,S	S,S	S,S	S,S		Probable	G5	S5B			N

¹ Breeding Bird Evidence Codes: X - Species observed outside of breeding seaon and/or not in breeding habitat, H - Species observed in its breeding season in suitable nesting habitat, S - Singing male; C - Call heard. (example S,S - singing male heard on first and second survey, ,S - singing male heard on second survey only)

² Highest level of breeding evidence detected on subject lands (Note, Possible, Probable or Confirmed)

³ Conservation Rankings: From Ministry of Natural Resources and Forestry, Natural Heritage Information Centre (Ontario Species List - <https://www.ontario.ca/page/natural-heritage-information-centre>)

⁴ Observed April 12, 2022

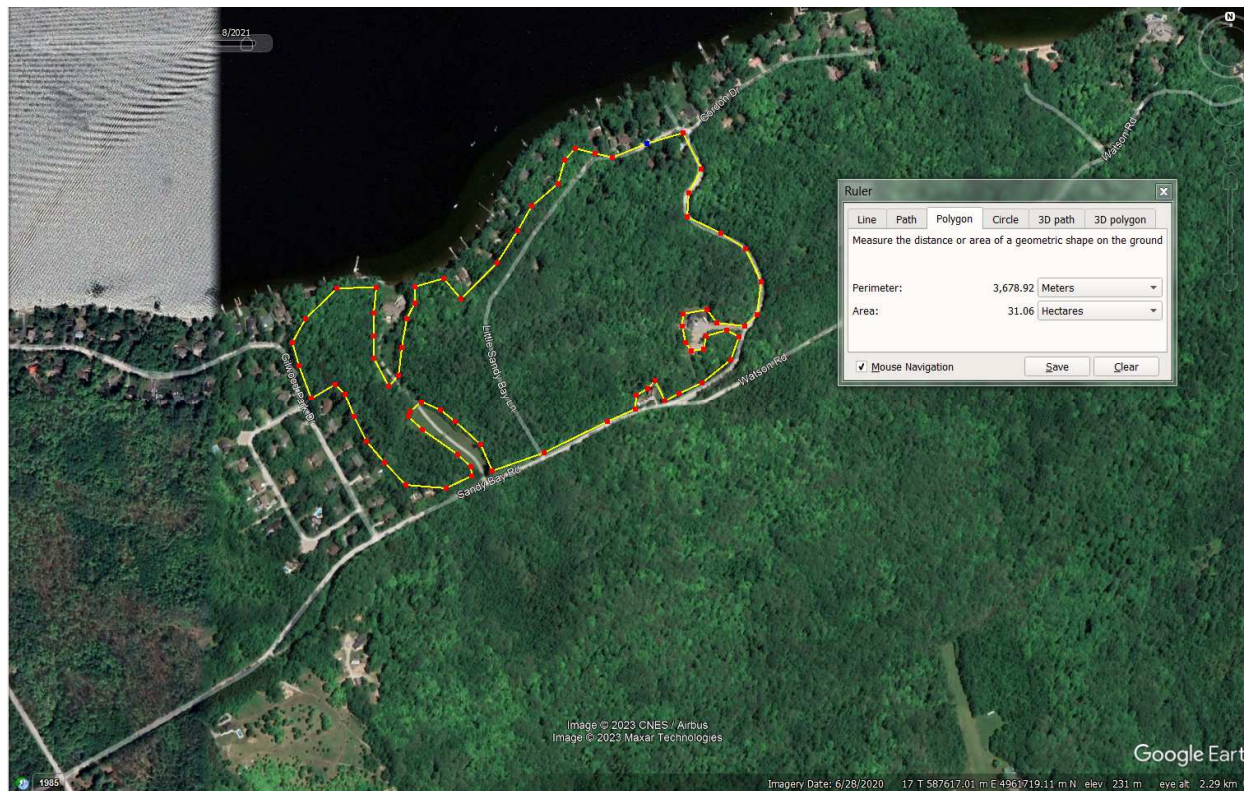
Observation Conditions:

June 4, 2022 - Tempurature 7°C, Cloud Cover 30% , Wind: B2, Precipitation: Nil, Search Time 0535hr to 0700hr, Observer: Jim Broadfoot; June 23, 2022 - Tempurature 14°C, Cloud Cover 100% , Wind: B0, Precipitation: Nil, Search Time 0550hr to 0705hr, Observer: Jim Broadfoot.



APPENDIX G

Continuous Woodland Cover



Continuous Woodland Cover – assumes: Sandy Bay Road, Gilwood Park Drive impose gaps/breaks; and excludes areas of residential development and obvious large opening (>20 wide).



APPENDIX H

Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Criteria Schedule for Ecoregion 6E

Table 1.1 Seasonal Concentrations of Areas of Animals

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Stopover and Staging Areas (Terrestrial) Rationale: Habitat important to migrating waterfowl.	American Black Duck Wood Duck Green-winged Teal Blue-winged Teal Mallard Northern Pintail Northern Shoveler American Wigeon Gadwall	CUM1 CUT1 Plus evidence of annual spring flooding from melt water or run-off within these Ecosites.	Fields with sheet water during Spring (mid-March to May). <ul style="list-style-type: none">Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl.Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available. <u>Information Sources</u> <ul style="list-style-type: none">Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence.Reports and other information available from Conservation AuthoritiesSites documented through waterfowl planning processes (e.g. EHJV implementation plan)Field Naturalist ClubsDucks Unlimited CanadaNatural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects” <ul style="list-style-type: none">Any mixed species aggregations of 100 or more individuals required.The flooded field ecosite habitat plus a 100-300m radius area, dependant on local site conditions and adjacent land use is the significant wildlife habitat.Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates).SWHMiST Index #7 provides development effects and mitigation measures.	No seasonally flooded fields on or adjacent to property – Not Applicable.
Waterfowl Stopover and Staging Areas (Aquatic) Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district.	Canada Goose Cackling Goose Snow Goose American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Green-winged Teal Blue-winged Teal Hooded Merganser Common Merganser Lesser Scaup Greater Scaup Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Ring-necked duck Common Goldeneye Bufflehead Redhead Ruddy Duck Red-breasted Merganser Brant	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	<ul style="list-style-type: none">Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify.These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). <u>Information Sources</u> <ul style="list-style-type: none">Environment CanadaNaturalist clubs often are aware of staging/stopover areasOMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging.Sites documented through waterfowl planning processes (e.g. EHJV implementation plan)Ducks Unlimited projectsElement occurrence specification by Nature Serve: http://www.natureserve.orgNatural Heritage Information Centre (NHIC) Waterfowl Concentration Areas	Studies carried out and verified presence of: <ul style="list-style-type: none">Aggregations of 100 or more of listed species for 7 days, results in > 700 waterfowl use days.Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH.The combined area of the ELC ecosites and a 100m radius area is the SWH.Wetland area and shorelines associated with sites identified within the SWHTG Appendix K are significant wildlife habitat.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded).SWHMiST Index #7 provides development effects and mitigation measures.	No abundance of waterfowl detected during April and September site visits. Wetlands do not provide an abundance of shallow water vegetation – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
	Canvasback Ruddy Duck				
Shorebird Migratory Stopover Area Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use.	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird’s Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	<ul style="list-style-type: none">Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats.Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October.Sewage treatment ponds and storm water ponds do not qualify as a SWH. <u>Information Sources</u> <ul style="list-style-type: none">Western hemisphere shorebird reserve networkCanadian Wildlife Service (CWS) Ontario Shorebird SurveyBird Studies CanadaOntario NatureLocal birders and naturalist clubsNatural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: <ul style="list-style-type: none">Presence of 3 or more of listed species and > 1000 shorebird use days during spring or fall migration period. (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period)Whimbrel stop briefly (<24hrs) during spring migration, any site with >100 Whimbrel used for 3 years or more is significant.The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #8 provides development effects and mitigation measures.	Property not on shoreline of lake, river, wetland and provides no areas of beach, bars, mudflats. – Not Applicable.
Raptor Wintering Area Rationale: Sites used by multiple species of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	<u>Hawks/Owls:</u> Combination of ELC Community Series; need to have present one Community Series from each land class; Forest: FOD, FOM, FOC. Upland: CUM; CUT; CUS; CUW. <u>Bald Eagle:</u> Forest community Series: FOD, FOM, FOC, SWD, SWM or SWC on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	<ul style="list-style-type: none">The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors.Raptor wintering sites (hawk/owl) need to be > 20 ha with a combination of forest and upland.Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands.Field area of the habitat is to be windswept with limited snow depth or accumulation.Eagle sites have open water, large trees and snags available for roosting. <u>Information Sources:</u> <ul style="list-style-type: none">OMNRF Ecologist or Biologist Field Naturalist ClubsNatural Heritage Information Center (NHIC) Raptor Winter Concentration AreaData from Bird Studies CanadaResults of Christmas Bird Counts Reports and other information available from Conservation Authorities.	Studies confirm the use of these habitats by: <ul style="list-style-type: none">One or more Short-eared Owls or; One or more Bald Eagles or; At least 10 individuals and two of the listed hawk/owl species.To be significant a site must be used regularly (3 in 5 years) for a minimum of 20 days by the above number of birds.The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #10 and #11 provides development effects and mitigation measures.	No combination of fields and woodlands associated with the property. No raptors observed on February 17, 2023 – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Bat Hibernacula Rationale: Bat hibernacula are rare habitats in all Ontario landscapes.	Big Brown Bat Tri-coloured Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	<ul style="list-style-type: none">Hibernacula may be found in caves, mine shafts, underground foundations and Karsts.Active mine sites should not be considered as SWHThe locations of bat hibernacula are relatively poorly known. <u>Information Sources</u> <ul style="list-style-type: none">OMNRF for possible locations and contact for local expertsNatural Heritage Information Center (NHIC) Bat Hibernaculum Ministry of NorthernDevelopment and Mines for location of mine shafts.Clubs that explore caves (<i>e.g.</i> Sierra Club)University Biology Departments with bat experts.	<ul style="list-style-type: none">All sites with confirmed hibernating bats are SWH.The habitat area includes a 200m radius around the entrance of the hibernaculum, for most development types and 1000m for wind farmsStudies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects.SWHMiST Index #1 provides development effects and mitigation measures.	No caves, mine shafts, underground foundations and karsts associated with property or adjacent lands – Not Applicable.
Bat Maternity Colonies Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	<ul style="list-style-type: none">Maternity colonies can be found in tree cavities, vegetation and often in buildings (buildings are not considered to be SWH).Maternity roosts are not found in caves and mines in Ontario.Maternity colonies located in Mature deciduous or mixed forest stands with >10/ha large diameter (>25cm dbh) wildlife trees.Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3 or class 1 or 2.Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred. <u>Information Sources</u> <ul style="list-style-type: none">OMNRF for possible locations and contact for local expertsUniversity Biology Departments with bat experts.	<ul style="list-style-type: none">Maternity Colonies with confirmed use by;<ul style="list-style-type: none">>10 Big Brown Bats>5 Adult Female Silver-haired BatsThe area of the habitat includes the entire woodland or a forest stand ELC Ecosite or an Ecoelement containing the maternity colonies.Evaluation methods for maternity colonies should be conducted following methods outlined in the “Bats and Bat Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #12 provides development effects and mitigation measures.	Results of snag tree mapping indicate that woodlands of the property provide approx. 15snag trees/ha - Applicable.
Turtle Wintering Areas Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle Special Concern: Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles; ELC Community Classes; SW, MA, OA and SA, ELC Community Series; FEO and BOO Northern Map Turtle; Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	<ul style="list-style-type: none">For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates.Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen.Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH. <u>Information Sources</u> <ul style="list-style-type: none">EIS studies carried out by Conservation Authorities.Local field naturalists and experts, as well as university herpetologists may also know where to find some of these sites.OMNRF Ecologist or BiologistField Naturalist clubsNatural Heritage Information Center (NHIC)	<ul style="list-style-type: none">Presence of 5 over-wintering Midland Painted Turtles is significant.One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant.The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH.Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – May)Congregation of turtles is more common where wintering areas are limited and therefore significantSWHMiST Index #28 provides development effects and mitigation measures for turtle wintering habitat.	Wetlands provide shallow water only (water not deep enough to provide overwintering habitat). No turtles observed during repeat observation at times and under conditions amenable to observing turtles – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Reptile Hibernaculum Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Special Concern: Milksnake Eastern Ribbonsnake Lizard: Special Concern (Southern Shield population): Five-lined Skink	For all snakes, habitat may be found in any ecosite other than very wet ones. Talus, Rock Barren, Crevice, Cave, and Alvar sites may be directly related to these habitats. Observations or congregations of snakes on sunny warm days in the spring or fall is a good indicator. For Five-lined Skink, ELC Community Series of FOD and FOM and Ecosites: FOC1 FOC3	<ul style="list-style-type: none">For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural or naturalized locations. The existence of features that go below frost line; such as rock piles or slopes, old stone fences, and abandoned crumbling foundations assist in identifying candidate SWH.Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line.Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover.Five-lined skink prefer mixed forests with rock outcrop openings providing cover rock overlaying granite bedrock with fissures. Information Sources <ul style="list-style-type: none">In spring, local residents or landowners may have observed the emergence of snakes on their property (<i>e.g.</i> old dug wells).Reports and other information available from Conservation Authorities.Field Naturalists clubsUniversity herpetologistsNatural Heritage Information Center (NHIC)OMNRF ecologist or biologist may be aware of locations of wintering skinks	Studies confirming: <ul style="list-style-type: none">Presence of snake hibernacula used by a minimum of five individuals of a snake sp. or; individuals of two or more snake spp.Congregations of a minimum of five individuals of a snake sp. or; individuals of two or more snake spp. near potential hibernacula (<i>e.g.</i> foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)<u>Note:</u> If there are Special Concern Species present, then site is SWH<u>Note:</u> Sites for hibernation possess specific habitat parameters (<i>e.g.</i> temperature, humidity, <i>etc.</i>) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (<i>e.g.</i> mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30 m radius area is the SWH.SWHMiST Index #13 provides development effects and mitigation measures for snake hibernacula.Presence of any active hibernaculum for skink is significant.SWHMiST Index #37 provides development effects and mitigation measures for five-lined skink wintering habitat.	No snakes were observed during multiple site visits conducted during spring/summer, under weather conditions when snakes would be active and hence observable - Not Applicable.
Colonially -Nesting Bird Breeding Habitat (Bank and Cliff) Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles. Cliff faces, bridge abutments, silos, barns. Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	<ul style="list-style-type: none">Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area.Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles.Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources <ul style="list-style-type: none">Reports and other information available from Conservation Authorities.Ontario Breeding Bird AtlasBird Studies Canada; <i>NatureCounts</i> http://www.birdscanada.org/birdmon/Field Naturalist Clubs.	Studies confirming: <ul style="list-style-type: none">Presence of 1 or more nesting sites with 8or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season.A colony identified as SWH will include a 50m radius habitat area from the peripheral nests.Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #4 provides development effects and mitigation measures.	No exposed soil banks on or adjacent to the property. No Cliff, Blank or Northern Rough-winged Swallows detected during breeding bird surveys – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs) Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	<ul style="list-style-type: none">Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used.Most nests in trees are 11 to 15 m from ground, near the top of the tree. <u>Information Sources</u> <ul style="list-style-type: none">Ontario Breeding Bird Atlas, colonial nest records.Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF).Natural Heritage Information Center (NHIC) Mixed Wader Nesting ColonyAerial photographs can help identify large heronries.Reports and other information available from CAs.MNRF District OfficesLocal naturalist clubs	Studies confirming: <ul style="list-style-type: none">Presence of 5 or more active nests of Great Blue Heron or other listed species.The habitat extends from the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH.Confirmation of active heronries are to be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells.SWHMiST Index #5 provides development effects and mitigation measures.	None of listed species observed during breeding bird surveys. No stick nests of listed species detected on or adjacent to property – Not Applicable.
Colonially-Nesting Bird Breeding Habitat (Ground) Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer’s Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1;50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer’s Blackbird) MAM1 – 6; MAS1 – 3; CUM CUT CUS	<ul style="list-style-type: none">Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas.Brewers Blackbird colonies are found loosely on the ground in low bushes in close proximity to streams and irrigation ditches within farmlands. <u>Information Sources</u> <ul style="list-style-type: none">Ontario Breeding Bird Atlas , rare/colonial species records.Canadian Wildlife ServiceReports and other information available from CAs.Natural Heritage Information Center (NHIC) Colonial Waterbird Nesting AreaMNRF District OfficesField Naturalist clubs	Studies confirming: <ul style="list-style-type: none">Presence of > 25 active nests for Herring Gulls or Ring-billed Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern.Presence of 5 or more pairs for Brewer’s Blackbird.Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant.The edge of the colony and a minimum 150m radius area of habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH.Studies would be done during May/June when actively nesting. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #6 provides development effects and mitigation measures.	Property and adjacent lands do not contain rocky islands/peninsulas within a lake or river. No gull nesting habitat on or adjacent to property. No shrubby farm fields on or adjacent to property and no Brewer’s Blackbirds observed during breeding bird surveys - Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
<p>Migratory Butterfly Stopover Areas</p> <p>Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter.</p>	<p>Painted Lady Red Admiral</p> <p><u>Special Concern</u> Monarch</p>	<p>Combination of ELC Community Series; need to have present one Community Series from each land class:</p> <p><u>Field:</u> CUM CUT CUS</p> <p><u>Forest:</u> FOC FOD FOM CUP</p> <p>Anecdotaly, a candidate site for butterfly stopover will have a history of butterflies being observed.</p>	<p>A butterfly stopover area will be a minimum of 10 ha in size with a combination of field and forest habitat present, and will be located within 5 km of Lake Ontario.</p> <ul style="list-style-type: none">The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south.The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat.Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes. <p><u>Information Sources</u></p> <ul style="list-style-type: none">OMNRF (NHIC)Agriculture Canada in Ottawa may have list of butterfly experts.Field Naturalist ClubsToronto Entomologists AssociationConservation Authorities	<p>Studies confirm:</p> <ul style="list-style-type: none">The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct). MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day, significant variation can occur between years and multiple years of sampling should occur.Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD.MUD of >5000 or >3000 with the presence of Painted Ladies or Red Admiral’s is to be considered significant.SWHMiST Index #16 provides development effects and mitigation measures.	<p>Property is not located within 5km of Lake Ontario – Not Applicable.</p>
<p>Landbird Migratory Stopover Areas</p> <p>Rationale: Sites with a high diversity of species as well as high numbers are most significant.</p>	<p>All migratory songbirds. Canadian Wildlife Service Ontario website.</p> <p>All migratory songbirds. Canadian Wildlife Service Ontario website:</p>	<p>All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD</p>	<p>Woodlots need to be >10 ha in size and within 5 km of Lake Ontario.</p> <ul style="list-style-type: none">If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Ontario are more significant.Sites have a variety of habitats; forest, grassland and wetland complexes.The largest sites are more significant.Woodlots and forest fragments are important habitats to migrating birds, these features located along the shore and located within 5km of Lake Ontario are Candidate SWH . <p><u>Information Sources</u></p> <ul style="list-style-type: none">Bird Studies CanadaOntario NatureLocal birders and naturalist clubOntario Important Bird Areas (IBA) Program	<p>Studies confirm:</p> <ul style="list-style-type: none">Use of the habitat by >200 birds/day and with >35 spp with at least 10 bird spp. recorded on at least 5 different survey dates. This abundance and diversity of migrant bird species is considered above average and significant.Studies should be completed during spring (Apr./May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #9 provides development effects.	<p>Property is not located within 5km of Lake Ontario – Not Applicable.</p>

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SWH		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Deer Yarding Areas Rationale: Winter habitat for deer is considered to be the main limiting factor for northern deer populations. In winter, deer congregate in “yards” to survive severe winter conditions. Deer yards typically have a long history of annual use by deer, yards typically represent 10-15% of an areas summer range.	White-tailed Deer	Note: OMNRF to determine this habitat. ELC Community Series providing a thermal cover component for a deer yard would include; FOM, FOC, SWM and SWC. Or these ELC Ecosites; CUP2 CUP3 FOD3 CUT	<ul style="list-style-type: none">Deer yarding areas or winter concentration areas (yards) are areas deer move to in response to the onset of winter snow and cold. This is a behavioural response and deer will establish traditional use areas. The yard is composed of two areas referred to as Stratum I and Stratum II. Stratum II covers the entire winter yard area and is usually a mixed or deciduous forest with plenty of browse available for food. Agricultural lands can also be included in this area. Deer move to these areas in early winter and generally, when snow depths reach 20 cm, most of the deer will have moved here. If the snow is light and fluffy, deer may continue to use this area until 30 cm snow depth. In mild winters, deer may remain in the Stratum II area the entire winter.The Core of a deer yard (Stratum I) is located within the Stratum II area and is critical for deer survival in areas where winters become severe. It is primarily composed of coniferous trees (pine, hemlock, cedar, spruce) with a canopy cover of more than 60%.OMNRF determines deer yards following methods outlined in “Selected Wildlife and Habitat Features: Inventory Manual”.Woodlots with high densities of deer due to artificial feeding are not significant.	No Studies Required: <ul style="list-style-type: none">Snow depth and temperature are the greatest influence on deer use of winter yards. Snow depths > 40cm for more than 60 days in a typically winter are minimum criteria for a deer yard to be considered as SWH.Deer Yards are mapped by OMNRF District offices. Locations of Core or Stratum 1 and Stratum 2 Deer yards considered significant by OMNRF will be available at local MNRF offices or via Land Information Ontario (LIO).Field investigations that record deer tracks in winter are done to confirm use (best done from an aircraft). Preferably, this is done over a series of winters to establish the boundary of the Stratum I and Stratum II yard in an "average" winter. MNRF will complete these field investigations.If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.SWHMiST Index #2 provides development effects and mitigation measures.	Property and adjacent lands not mapped as part of a Deer Yarding Area by the province (MNRF LIO – WINTERING_AREA.shp). No sign of browsing on saplings/shrubs of property at levels consistent with traditional use as deer yard habitat. No deer sign detected during February 17, 2023 site visit. Property does not function as deer yarding area – Not Applicable.
Deer Winter Congregation Areas Rationale: Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions.	White-tailed Deer	All Forested Ecosites with these ELC Community Series; FOC FOM FOD SWC SWM SWD Conifer plantations much smaller than 50 ha may also be used.	<ul style="list-style-type: none">Woodlots will typically be >100 ha in size. Woodlots <100ha may be considered as significant based on MNRF studies or assessment.Deer movement during winter in the southern areas of Ecoregion 6E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands .If deer are constrained by snow depth refer to the Deer Yarding Area habitat within Table 1.1 of this Schedule.Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha.Woodlots with high densities of deer due to artificial feeding are not significant. <u>Information Sources</u> <ul style="list-style-type: none">MNRF District OfficesLIO/NRVIS	Studies confirm: <ul style="list-style-type: none">Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF.Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF.Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques, ground or road surveys. or a pellet count deer density survey.If a SWH is determined for Deer Wintering Area or if a proposed development is within Stratum II yarding area then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.SWHMiST Index #2 provides development effects and mitigation measures.	Property occurs in area of province where deer typically migrate to traditional deer yarding areas – function assessed above.

Table 1.2.1 Rare Vegetation Communities

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Cliffs and Talus Slopes Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO TAS TAT CLO CLS CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. <u>Information Sources</u> <ul style="list-style-type: none">The Niagara Escarpment Commission has detailed information on location of these habitats.OMNRF DistrictNatural Heritage Information Center (NHIC) has location information available on their websiteField Naturalist clubsConservation Authorities	<ul style="list-style-type: none">Confirm any ELC Vegetation Type for Cliffs or Talus SlopesSWHMiST Index #21 provides development effects and mitigation measures.	No cliffs or talus slopes.
Sand Barren Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered, but less than 60%.	A sand barren area >0.5ha in size. <u>Information Sources</u> <ul style="list-style-type: none">MNRF DistrictsNatural Heritage Information Center (NHIC) has location information available on their website.Field Naturalist clubsConservation Authorities	<ul style="list-style-type: none">Confirm any ELC Vegetation Type for Sand BarrensSite must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.)SWHMiST Index #20 provides development effects and mitigation measures.	No sand barrens.
Alvar Rationale: Alvars are extremely rare habitats in Ecoregion 6E. Most alvars in Ontario are in Ecoregions 6E and 7E. Alvars in 6E are small and highly localized just north of the Palaeozoic-Precambrian contact.	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 Five Alvar Species: 1) <i>Carex crawei</i> 2) <i>Panicum philadelphicum</i> 3) <i>Eleocharis compressa</i> 4) <i>Scutellaria parvula</i> 5) <i>Trichostema brachiatum</i> These indicator species are very specific to Alvars within Ecoregion 6E.	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plants. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animal species. Vegetation cover varies from patchy to barren with a less than 60% tree cover.	An Alvar site > 0.5 ha in size. <u>Information Sources</u> <ul style="list-style-type: none">Alvars of Ontario (2000), Federation of Ontario Naturalists.Ontario Nature – Conserving Great Lakes Alvars.Natural Heritage Information Center (NHIC) has location information available on their websiteOMNRF DistrictsField Naturalist clubsConservation Authorities	<ul style="list-style-type: none">Field studies that identify four of the five Alvar Indicator Species at a Candidate Alvar site is Significant.Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses.SWHMiST Index #17 provides development effects and mitigation measures.	No alvar.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Rare Vegetation Community	Candidate SWH			Confirmed SWH	Assessment
	ELC Ecosite Code	Habitat Description	Detailed Information and Sources	Defining Criteria	
Old Growth Forest Rationale: Due to historic logging practices, extensive old growth forest is rare in the Ecoregion. Interior habitat provided by old growth forests is required by many wildlife species.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old Growth forests are characterized by heavy mortality or turnover of over-storey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland areas 30 ha or greater in size or with at least 10 ha interior habitat assuming 100 m buffer at edge of forest. <u>Information Sources</u> <ul style="list-style-type: none">OMNRF Forest Resource Inventory mappingOMNRF Districts.Field Naturalist clubsConservation AuthoritiesSustainable Forestry Licence (SFL) companies will possibly know locations through field operations.Municipal forestry departments	Field Studies will determine: <ul style="list-style-type: none">If dominant trees species are >140 years old, then the area containing these trees is Significant Wildlife Habitat.The forested area containing the old growth characteristics will have experienced no recognizable forestry activities (cut stumps will not be present).The area of forest ecosites combined or an eco-element within an ecosite that contains the old growth characteristics is the SWH.Determine ELC vegetation types for the forest area containing the old growth characteristics.SWHMiST Index #23 provides development effects and mitigation measures.	Forests of property and adjacent lands do not display old growth characteristics – no mosaic of gaps, abundance of snags and downed woody debris typical of mid-age stands. Woodlands relatively even aged suggesting past logging – Not Applicable.
Savannah Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none">Natural Heritage Information Center (NHIC) has location information available on their websiteOMNRF DistrictsField Naturalist clubsConservation Authorities	Field studies confirm one or more of the Savannah indicator species listed in Appendix N should be present. Note: Savannah plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none">Area of the ELC Ecosite is the SWH.Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).SWHMiST Index #18 provides development effects and mitigation measures.	No savannah.
Tallgrass Prairie Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover.	No minimum size to site. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. <u>Information Sources</u> <ul style="list-style-type: none">Natural Heritage Information Center (NHIC) has location information available on their websiteOMNRF DistrictsField Naturalist clubsConservation Authorities	Field studies confirm one or more of the Prairie indicator species listed in Appendix N should be present. Note: Prairie plant spp. list from Ecoregion 6E should be used. <ul style="list-style-type: none">Area of the ELC Ecosite is the SWH.Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotic sp.).SWHMiST Index #19 provides development effects and mitigation measures.	No tallgrass prairie.
Other Rare Vegetation Communities Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M The OMNRF/NHIC will have up to date listing for rare vegetation communities. <u>Information Sources</u> <ul style="list-style-type: none">Natural Heritage Information Center (NHIC) has location information available on their websiteOMNRF DistrictsField Naturalist clubsConservation Authorities	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG. <ul style="list-style-type: none">Area of the ELC Vegetation Type polygon is the SWH.SWHMiST Index #37 provides development effects and mitigation measures.	No rare vegetation communities observed on or adjacent to property – Not Applicable.

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Waterfowl Nesting Area Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant.	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 Note: includes adjacency to Provincially Significant Wetlands	A waterfowl nesting area extends 120 m from a wetland (> 0.5 ha) or a wetland (>0.5ha) and any small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120 m of each individual wetland where waterfowl nesting is known to occur. <ul style="list-style-type: none">Upland areas should be at least 120 m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests.Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. <u>Information Sources</u> <ul style="list-style-type: none">Ducks Unlimited staff may know the locations of particularly productive nesting sites.OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat.Reports and other information available from Conservation Authorities.	Studies confirmed: <ul style="list-style-type: none">Presence of 3 or more nesting pairs for listed species excluding Mallards, or;Presence of 10 or more nesting pairs for listed species including Mallards.Any active nesting site of an American Black Duck is considered significant.Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120 m from the wetland and will provide enough habitat for waterfowl to successfully nest.SWHMiST Index #25 provides development effects and mitigation measures.	No abundance of potentially nesting waterfowl detected during breeding bird surveys – Not Applicable.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat Rationale: Nest sites are fairly uncommon in Eco-region 6E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey Special Concern Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. <ul style="list-style-type: none">Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree’s canopy.Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). <u>Information Sources</u> <ul style="list-style-type: none">Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario.MNRF values information (LIO/NRVIS) will list known nesting locations. Note: data from NRVIS is provided as a point and does not represent all the habitat.Nature Counts, Ontario Nest Records Scheme data.OMNRF DistrictsCheck the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documentedReports and other information available from Conservation Authorities.Field Naturalists clubs	Studies confirm the use of these nests by: <ul style="list-style-type: none">One or more active Osprey or Bald Eagle nests in an area.Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH.For an Osprey, the active nest and a 300 m radius around the nest or the contiguous woodland stand is the SWH, maintaining undisturbed shorelines with large trees within this area is important.For a Bald Eagle the active nest and a 400-800 m radius around the nest is the SWH. Area of the habitat from 400-800m is dependent on site lines from the nest to the development and inclusion of perching and foraging habitat.To be significant a site must be used annually. When found inactive, the site must be known to be inactive for > 3 years or suspected of not being used for >5 years before being considered not significant.Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #26 provides development effects and mitigation measures.	No stick nests observed on or adjacent to the property and Osprey and Bald Eagle not observed during breeding bird surveys – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Woodland Raptor Nesting Habitat <u>Rationale:</u> Nests sites for these species are rarely identified; these area sensitive habitats and are often used annually by these species.	Northern Goshawk Cooper’s Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands >30ha with >10ha of interior habitat. Interior habitat determined with a 200m buffer <ul style="list-style-type: none">Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers Hawk nest along forest edges sometimes on peninsulas or small off-shore islands.In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. <u>Information Sources</u> <ul style="list-style-type: none">OMNRF Districts.Check the Ontario Breeding Bird Atlas or Rare Breeding Birds in Ontario for species documented.Check data from Bird Studies Canada.Reports and other information available from Conservation Authorities.	Studies confirm: <ul style="list-style-type: none">Presence of 1 or more active nests from species list is considered significant.Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha area of habitat is the SWH . (The 28 ha habitat area would be applied where optimal habitat is irregularly shaped around the nest).Barred Owl – A 200m radius around the nest is the SWH.Broad-winged Hawk and Coopers Hawk– A 100m radius around the nest is the SWH.Sharp-Shinned Hawk – A 50m radius around the nest is the SWH.Conduct field investigations from mid-March to end of May. The use of call broadcasts can help in locating territorial. (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area.SWHMiST Index #27 provides development effects and mitigation measures.	No stick nests observed on or adjacent to the property – Not Applicable.
Turtle Nesting Areas <u>Rationale:</u> These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle <u>Special Concern Species</u> Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	<ul style="list-style-type: none">Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals.For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH.Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. <u>Information Sources</u> <ul style="list-style-type: none">Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels).Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them.Natural Heritage Information Center (NHIC)Field Naturalist clubs	Studies confirm: <ul style="list-style-type: none">Presence of 5 or more nesting Midland Painted Turtles.One or more Northern Map Turtle or Snapping Turtle nesting is a SWH.The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH.Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat.Field investigations should be conducted in prime nesting season typically late spring to early summer. Observational studies observing the turtles nesting is a recommended method.SWHMiST Index #28 provides development effects and mitigation measures for turtle nesting habitat.	No turtles observed during repeat observation at times and under conditions amenable to observing turtles. No predated egg nests detected in vicinity of constructed pond – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Seeps and Springs <u>Rationale:</u> Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams.	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system. <ul style="list-style-type: none">Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species. <u>Information Sources</u> <ul style="list-style-type: none">Topographical MapThermographyHydrological surveys conducted by Conservation Authorities and MOE.Field Naturalists clubs and landowners.Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped.	Field Studies confirm: <ul style="list-style-type: none">Presence of a site with 2 or more seeps/springs should be considered SWH.The area of a ELC forest ecosite or an ecoelement within ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation the habitat.SWHMiST Index #30 provides development effects and mitigation measures.	No seeps and springs detected on the property during multiple site visits – Not Applicable.
Amphibian Breeding Habitat (Woodland). <u>Rationale:</u> These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations.	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	<ul style="list-style-type: none">Presence of a wetland, pond or woodland pool (including vernal pools) >500m² (about 25m diameter) within or adjacent (within 120m) to a woodland (no minimum size). Some small wetlands may not be mapped and may be important breeding pools for amphibians.Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat. <u>Information Sources</u> <ul style="list-style-type: none">Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records.Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property.OMNRF DistrictOMNRF wetland evaluationsField Naturalist clubsCanadian Wildlife ServiceAmphibian Road Call SurveyOntario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm; <ul style="list-style-type: none">Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog species with Call Level Codes of 3.A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands.The habitat is the wetland area plus a 230m radius of woodland area. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat.SWHMiST Index #14 provides development effects and mitigation measures.	Results of evening calling amphibian surveys revealed no breeding by woodland amphibians within wetlands/vernal pool areas of the property. Calling activity on adjacent lands to the east was limited to full chorus (Call Code 3) on one listed frog species – Spring Peeper. No significant amphibian breeding on or adjacent to the property – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Breeding Habitat (Wetlands) Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario landscapes.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (<i>e.g.</i> Bull Frog) may be adjacent to woodlands.	<ul style="list-style-type: none">Wetlands>500m² (about 25m diameter), supporting high species diversity are significant; some small or ephemeral habitats may not be identified on MNRF mapping and could be important amphibian breeding habitats.Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators.Bullfrogs require permanent water bodies with abundant emergent vegetation. <u>Information Sources</u> <ul style="list-style-type: none">Ontario Herpetofaunal Summary Atlas (or other similar atlases)Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count.OMNRF Districts and wetland evaluationsReports and other information available from Conservation Authorities	Studies confirm: <ul style="list-style-type: none">Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. or; Wetland with confirmed breeding Bullfrogs are significant.The ELC ecosite wetland area and the shoreline are the SWH.A combination of observational study and call count surveys will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the wetlands.If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule.SWHMiST Index #15 provides development effects and mitigation measures.	Wetlands/vernal pool habitat of property and adjacent lands have characteristics for evaluation as woodland amphibian breeding habitat (within or adjacent [within 120m] to a woodland – Not Applicable (see above).
Woodland Area-Sensitive Bird Breeding Habitat Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Special Concern: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series; FOC FOM FOD SWC SWM SWD	Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha. <ul style="list-style-type: none">Interior forest habitat is at least 200 m from forest edge habitat. <u>Information Sources</u> <ul style="list-style-type: none">Local bird clubs.Canadian Wildlife Service (CWS) for the location of forest bird monitoring.Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species.Reports and other information available from Conservation Authorities.	Studies confirm: <ul style="list-style-type: none">Presence of nesting or breeding pairs of 3 or more of the listed wildlife species.Note: any site with breeding Cerulean Warblers or Canada Warblers is to be considered SWH.Conduct field investigations in spring and early summer when birds are singing and defending their territories.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #34 provides development effects and mitigation measures.	Woodlands of property and adjacent lands utilized as possible/probable breeding habitat by 3 or more of listed species – Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)
1.3 Habitat for Species of Conservation Concern (Not including Endangered or Threatened Species)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Marsh Breeding Bird Habitat Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Moorhen American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Sandhill Crane Green Heron Trumpeter Swan Special Concern: Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites.	<ul style="list-style-type: none">Nesting occurs in wetlands.All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present.For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. <u>Information Sources</u> <ul style="list-style-type: none">OMNRF District and wetland evaluations.Field Naturalist clubsNatural Heritage Information Center (NHIC) Records.Reports and other information available from Conservation Authorities.Ontario Breeding Bird Atlas	Studies confirm: <ul style="list-style-type: none">Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or 1 pair of Sandhill Cranes; or breeding by any combination of 5 or more of the listed species.Note: any wetland with breeding of 1 or more Black Terns, Trumpeter Swan, Green Heron or Yellow Rail is SWH.Area of the ELC ecosite is the SWH.Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #35 provides development effects and mitigation measures.	No wetlands of value to marsh nesting birds on or adjacent to property and none of listed species observed during breeding bird surveys – Not Applicable.
Open Country Bird Breeding Habitat Sources Defining Criteria Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30 ha. <ul style="list-style-type: none">Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years).Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older.The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. <u>Information Sources</u> <ul style="list-style-type: none">Agricultural land classification maps, Ministry of Agriculture.Local bird clubs.Ontario Breeding Bird AtlasReports and other information available from Conservation Authorities.	Field Studies confirm: <ul style="list-style-type: none">Presence of nesting or breeding of 2 or more of the listed species.A field with 1 or more breeding Short-eared Owls is to be considered SWH.The area of SWH is the contiguous ELC ecosite field areas.Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #32 provides development effects and mitigation measures.	No large grasslands on or adjacent to property and none of listed species observed during breeding bird surveys – Not Applicable.
Shrub/Early Successional Bird Breeding Habitat Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern: Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat for some bird species	Large field areas succeeding to shrub and thicket habitats>10ha in size. <ul style="list-style-type: none">Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (<i>i.e.</i> no row-cropping, haying or live-stock pasturing in the last 5 years).Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species.Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. <u>Information Sources</u> <ul style="list-style-type: none">Agricultural land classification maps, Ministry of Agriculture.Local bird clubsOntario Breeding Bird AtlasReports and other information available from Conservation Authorities.	Field Studies confirm: <ul style="list-style-type: none">Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species.A habitat with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat.The area of the SWH is the contiguous ELC ecosite field/thicket area.Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories.Evaluation methods to follow “Bird and Bird Habitats: Guidelines for Wind Power Projects”.SWHMiST Index #33 provides development effects and mitigation measures.	No large fields succeeding to shrub and thicket habitat on or adjacent to property and none of listed species observed during breeding bird surveys – Not Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria	
Terrestrial Crayfish <u>Rationale:</u> Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.	Chimney or Digger Crayfish; <i>(Fallicambarus fodiens)</i> Devil Crayfish or Meadow Crayfish; <i>(Cambarus Diogenes)</i>	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh or swamp ecosites can be used by terrestrial crayfish.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish. <ul style="list-style-type: none">Constructs burrows in marshes, mudflats, meadows, the ground can’t be too moist. Can often be found far from water.Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. <u>Information Sources</u> <ul style="list-style-type: none">Information sources from “Conservation Status of Freshwater Crayfishes” by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: <ul style="list-style-type: none">Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable meadow marsh, swamp or moist terrestrial sites.Area of ELC ecosite or an ecoelement area of meadow marsh or swamp within the larger ecosite area is the SWH.Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult.SWHMiST Index #36 provides development effects and mitigation measures.	No crayfish chimneys observed on property – Not Applicable.
Special Concern and Rare Wildlife Species <u>Rationale:</u> These species are quite rare or have experienced significant population declines in Ontario.	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre.	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites <u>Information Sources</u> <ul style="list-style-type: none">Natural Heritage Information Centre (NHIC) will have Special Concern and Provincially Rare (S1-S3, SH) species lists with element occurrences data.NHIC Website “Get Information” : http://nhic.mnr.gov.on.caOntario Breeding Bird AtlasExpert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: <ul style="list-style-type: none">Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable.The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs be easily mapped and cover an important life stage component for a species <i>e.g.</i> specific nesting habitat or foraging habitat.SWHMiST Index #37 provides development effects and mitigation measures.	Field studies revealed the following species associated with the property: Eastern Wood-pewee (Special Concern) – Applicable.

SWH Assessment - 1500 Sandy Bay Road (Penetanguishene)
1.4 Animal Movement Corridors

Wildlife Habitat	Wildlife Species	Candidate SHW		Confirmed SWH	Assessment
		ELC Ecosite	Habitat Criteria and Information Sources	Defining Criteria	
Amphibian Movement Corridors Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	Corridors may be found in all ecosites associated with water. <ul style="list-style-type: none">Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1	Movement corridors between breeding habitat and summer habitat. <ul style="list-style-type: none">Movement corridors must be determined when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat –Wetland) <u>Information Sources</u> <ul style="list-style-type: none">MNRF District OfficeNatural Heritage Information Center (NHIC)Reports and other information available from Conservation Authorities.Field Naturalist Clubs	<ul style="list-style-type: none">Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites.Corridors should consist of native vegetation, with several layers of vegetation.Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant.Corridors should have at least 15m of vegetation on both sides of waterway or be up to 200m wide of woodland habitat and with gaps <20m.Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat.SWHMiST Index #40 provides development effects and mitigation measures.	No Amphibian Breeding Habitat – Wetland attributable to the property or adjacent lands – Not Applicable.
Deer Movement Corridors Rationale: Corridors important for all species to be able to access seasonally important life-cycle habitats or to access new habitat for dispersing individuals by minimizing their vulnerability while travelling.	White-tailed Deer	Corridors may be found in all forested ecosites. A Project Proposal in Stratum II Deer Wintering Area has potential to contain corridors.	Movement corridor must be determined when Deer Wintering Habitat is confirmed as SWH from Table 1.1 of this schedule. <ul style="list-style-type: none">A deer wintering habitat identified by the OMNRF as SWH in Table 1.1 of this Schedule will have corridors that the deer use during fall migration and spring dispersion.Corridors typically follow riparian areas, woodlots, areas of physical geography (ravines, or ridges). <u>Information Sources</u> <ul style="list-style-type: none">MNRF District OfficeNatural Heritage Information Center (NHIC).Reports and other information available from Conservation Authorities.Field Naturalist Clubs	<ul style="list-style-type: none">Studies must be conducted at the time of year when deer are migrating or moving to and from winter concentration areas.Corridors that lead to a deer wintering habitat should be unbroken by roads and residential areas.Corridors should be at least 200m wide with gaps <20m and if following riparian area with at least 15m of vegetation on both sides of waterway.Shorter corridors are more significant than longer corridors.SWHMiST Index #39 provides development effects and mitigation measures.	No deer yarding habitat associated with the property or adjacent lands – Not Applicable.

EcoDistrict	Wildlife Habitat and Species	Candidate			Confirmed SWH	Assessment
		Ecosites	Habitat Description	Habitat Criteria and Information	Defining Criteria	
6E-14 <u>Rationale:</u> The Bruce Peninsula has an isolated and distinct population of black bears. Maintenance of large woodland tracts with mast-producing tree species is important for bears.	Mast Producing Areas Black Bear	All Forested habitat represented by ELC Community Series: FOM FOD	<ul style="list-style-type: none">Black bears require forested habitat that provides cover, winter hibernation sites, and mast-producing tree species.Forested habitats need to be large enough to provide cover and protection for black bears.	Woodland ecosites >30ha with mast-producing tree species, either soft (cherry) or hard (oak and beech). <u>Information Sources</u> Important forest habitat for black bears may be identified by OMNRF.	All woodlands > 30ha with a 50% composition of these ELC Vegetation Types are considered significant: FOM1-1 FOM2-1 FOM3-1 FOD1-1 FOD1-2 FOD2-1 FOD2-2 FOD2-3 FOD2-4 FOD4-1 FOD5-2 FOD5-3 FOD5-7 FOD6-5 SWHMiST Index #3 provides development effects and mitigation measures.	Not on Bruce Peninsula.
6E- 17 <u>Rationale:</u> Sharp-tailed grouse only occur on Manitoulin Island in Eco-region 6E, Leks are an important habitat to maintain their population	Lek Sharp-tailed Grouse	CUM CUS CUT	<ul style="list-style-type: none">The lek or dancing ground consists of bare, grassy or sparse shrubland. There is often a hill or rise in topography.Leks are typically a grassy field/meadow >15ha with adjacent shrublands and >30ha with adjacent deciduous woodland. Conifer trees within 500m are not tolerated.	Grasslands (field/meadow) are to be >15ha when adjacent to shrubland and >30ha when adjacent to deciduous woodland. <ul style="list-style-type: none">Grasslands are to be undisturbed with low intensities of agriculture (light grazing or late haying)Leks will be used annually if not destroyed by cultivation or invasion by woody plants or tree planting <u>Information Sources</u> <ul style="list-style-type: none">OMNRF district officeBird watching clubsLocal landownersOntario Breeding Bird Atlas	Studies confirming lek habitat are to be completed from late March to June. <ul style="list-style-type: none">Any site confirmed with sharp-tailed grouse courtship activities is considered significantThe field/meadow ELC ecosites plus a 200 m radius area with shrub or deciduous woodland is the lek habitatSWHMiST Index #32 provides development effects and mitigation measures	Not on Manitoulin Island.



APPENDIX I

Species at Risk Assessment

Species at Risk Assessment - 1500 Sandy Bay Road (Penetanguishene)

Taxa	Common Name	ESA Status	Habitat Requirements	Habitat on Subject Lands?	Surveys Completed?	Observed	Issue Related to Proposed Severance?
Bird	Bank Swallow	THR	Nest in burrows it constructs in sand banks associated with valleylands and in fill piles/gravel pits having near vertical faces.	No	Yes	No	No
Bird	Barn Swallow	THR	Build nests in manmade structures like sheds, barns, etc. and under bridges/in culverts, etc.	No	Yes	No	No
Bird	Bobolink	THR	Large grasslands	No	Yes	No	No
Bird	Chimney Swift	THR	Build nests in chimneys and/or on walls of built structures (barns, houses, churches, etc.)	No	Yes	No	No
Bird	Eastern Meadowlark	THR	large grasslands	No	Yes	No	No
Bird	Eastern Whip-poor-will	THR	Usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests.	No	Yes	No	No
Bird	Red-headed Woodpecker	THR	Open woodland and woodland edges often associated with parks, golf courses and cemeteries. Prefer habitats with an abundance of large dead trees used for nesting, perching and foraging.	No	Yes	No	No
Bird	Cerulean Warbler	THR	Mature deciduous forests with large trees and an open under storey	Yes - mature woodlands	Yes	No	No
Fish	Lake Sturgeon (Great Lakes - Upper St. Lawrence populations)	END	Freshwater lakes and rivers with soft bottoms of mud, sand or gravel. Spawn in relatively shallow, fast-flowing water (usually below waterfalls, rapids, or dams) with gravel and boulders at the bottom	No - drainage feature not habitat (Note: not reported in area by DFO)	No	No	No
Mammal	Eastern Small-footed Myotis	END	Cliffs, caves, mines, talus slopes, hollow trees, buildings, bridges	Yes - mature woodlands	No	NA - no acoustic sampling	Potential - mature woodlands

Taxa	Common Name	ESA Status	Habitat Requirements	Habitat on Subject Lands?	Surveys Completed?	Observed	Issue Related to Proposed Severance?
Mammal	Little Brown Myotis	END	Mature woodlands (snag/cavity trees) and buildings (churches, older homes with attics, etc.)	Yes - mature woodlands	No	NA - no acoustic sampling	Potential - mature woodlands
Mammal	Northern Myotis	END	Mature woodlands (snag/cavity trees)	Yes - mature woodlands	No	NA - no acoustic sampling	Potential - mature woodlands
Mammal	Tri-coloured Bat	END	Mature woodlands (snag/cavity trees) and occasionally in barns or other buildings	Yes - mature woodlands	No	NA - no acoustic sampling	Potential - mature woodlands
Plant	Black Ash ¹	END	Swamp wetlands/riparian woodlands	Yes, wetlands	Yes	Yes	Not until January 26, 2024
Plant	Butternut	END	Forests, woodlands, fencerows, open lands	Yes	Yes	No	No
Reptile	Blanding's Turtle	THR	Shallow water usually associated with large wetlands and shallow lakes that provide an abundance of aquatic vegetation	No, pooling in wetland small and ephemeral not permanent, no abundance of aquatic vegetation	Yes	No, no turtles of any species observed	No
Reptile	Restricted Species (Turtle) ²	END	Prefers ponds, marshes, bogs but will use ditches with slow-moving, unpolluted water that have an abundant supply of aquatic vegetation	No, pooling in wetland and ditch small and ephemeral not permanent, no abundance of aquatic vegetation	Yes	No, no turtles of any species observed	No

¹ Black Ash listed as endangered in January 2022 but not receiving protection under the ESA until January 26, 2024

²Identity confirmed by NHIC

SAR assessment list compiled based on NHIC data (1km X 1km squares covering 15km² of landscape covering subject and adjacent lands), OBBA data (10km X 10km square 17TPK24 - first and second atlas periods), Reptile & Amphibian Atlas (10km X 10km square 17PK24), Ontario Mammal Atlas, DFO SAR Data, iNaturalist and familiarity with SAR of the general area/Simcoe County.

Jim Broadfoot

From: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Sent: November-07-22 7:09 PM
To: Jim Broadfoot
Cc: NHIC-Requests (MNRF)
Subject: RE: Restricted Species Record for 17NK8761 (1500 Sandy Bay Road, Town of Penetanguishene, Simcoe County)

Hi Jim,

Thank you for contacting the Ontario Natural Heritage Information Centre.

The species with known occurrences that intersect the 1-kilometre square 17NK8761 is 
Turtle 

Best regards,
Martina

Martina Furrer
Ontario Natural Heritage Information Centre
Ministry of Natural Resources and Forestry
NHICrequests@ontario.ca

<https://www.ontario.ca/page/natural-heritage-information-centre>

Please note: As part of providing [accessible customer service](#), please let me know if you have any accommodation needs or require communication supports or alternate formats.

From: Jim Broadfoot <Jim@Azimuthenvironmental.Com>
Sent: November 7, 2022 4:45 PM
To: NHIC-Requests (MNRF) <nhicrequests@ontario.ca>
Subject: Re: Restricted Species Record for 17NK8761 (1500 Sandy Bay Road, Town of Penetanguishene, Simcoe County)

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

NHIC Peterborough

To Whom it May Concern:

Our firm has been retained to complete a Species at Risk Assessment related to a property located at 1500 Sandy Bay Road in the Town of Penetanguishene (Simcoe County). Our search of NHIC data through LIO/Make a Map revealed Restricted Species for NHIC grid square 17NK8761 (adjacent lands) as follows:

OGF ID	Element Type	Common Name	Scientific Name	SRank	SARO Status	COSEWIC Status	AT ID
988705	RESTRICTED SPECIES	Restricted Species	Restricted Species				17
988705	RESTRICTED SPECIES	RESTRICTED SPECIES	RESTRICTED		END	END	17

			SPECIES				
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Please provide the identity of the Restricted Species so that our SAR assessment gives the species due consideration. We will not identify the species in reporting.

Please do not hesitate to call to discuss.

Jim Broadfoot, Terrestrial Ecologist

Azimuth Environmental

642 Welham Road

Barrie, ON

L4N 9A1

(705) 623-1161 Mobile – Currently working remotely, please use mobile #

(705) 721-8451 x 206

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