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MEMORANDUM

To: Brian Zeman and Carly Marshall, MHBC Planning
Kevin Mitchell and Jessica Ferri, CRH Canada Group Inc.

From: Anthony Goodban, Goodban Ecological Consulting Inc. (GEC)

Date: June 21, 2019

Re: Teedon Pit Extension
Response to SSEA and Township of Tiny Comments with respect to
Significant Wildlife Habitat (SWH)

1.0 INTRODUCTION

The Severn Sound Environmental Association (SSEA) prepared a comment letter dated February, 2019. Most of the comments from the SSEA's letter were included in the Township of Tiny's objection letter dated March 25, 2019.

In the SSEA's letter, the following commentary was made with respect to Significant Wildlife Habitat (SWH):

The NETR references the MNR's Significant Wildlife Habitat Technical Guide (2000), and indicates that the Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 6E (MNR 2015) were also consulted. The SWH Ecoregion Schedules provide specific criteria for identifying candidate and confirmed SWH. Clarification is required regarding the following types of SWH:

- *Amphibian Breeding Habitat (Woodland) - according to the NETR, swamp community SWDM4a is within approximately 120 m of the proposed extraction area (see Figure 5), and several amphibian species including wood frog, spring peeper and gray treefrog were documented on site (section 5.4). As per the SWH Ecoregion Schedule, if these amphibians are present in sufficient numbers, the wetland plus a 230m radius of woodland area would be considered SWH and the NETR would have to address any potential negative impacts. The NETR does not discuss whether or not this area qualifies as candidate or confirmed SWH, and further information is required.*
- *Woodland Area-Sensitive Bird Breeding Habitat - area-sensitive bird species were documented in the NETR at station 3 and 4 (see Attachment E, Point Count Data*

Summary), however these station locations were not included in the SWH mapping shown on Figure 8. Further explanation is required.

This memorandum provides the further information and explanation requested by the SSEA. Table 1 provides excerpts from the *Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 6E* (MNR 2015), dealing with Amphibian Breeding Habitat (Woodland) and Woodland Area-Sensitive Bird Breeding Habitat.

2.0 AMPHIBIAN BREEDING HABITAT (WOODLAND)

SSEA Comment:

Amphibian Breeding Habitat (Woodland) - according to the NETR, swamp community SWDM4a is within approximately 120 m of the proposed extraction area (see Figure 5), and several amphibian species including wood frog, spring peeper and gray treefrog were documented on site (section 5.4). As per the SWH Ecoregion Schedule, if these amphibians are present in sufficient numbers, the wetland plus a 230m radius of woodland area would be considered SWH and the NETR would have to address any potential negative impacts. The NETR does not discuss whether or not this area qualifies as candidate or confirmed SWH, and further information is required.

GEC Response:

There are two ponds located east of the proposed Teedon Pit Extension extraction area that could potentially support amphibian breeding functions, namely Ponds B and C. Both ponds are located beyond the 120 m adjacent lands limit. Pond B is located immediately downstream of Pond A (Sump Pond for the existing pit) and it is just outside the 120 m adjacent lands. It is a dugout feature. Pond B is small and it does not have the minimum 25 m diameter to be considered Candidate SWH; this pond is approximately 450 m² in size. Also, much of the habitat between Pond B and the extraction area is Red Pine conifer plantation (TAGM1-1c) which is typically not considered as Candidate SWH for Amphibian Breeding Habitat (Woodland).

Further downstream in Unit SWDM4a is Pond C, which is located at the northern boundary of the Dufferin Aggregates property (see **Figure 1** attached). It appears to be slightly more than 25 m in diameter. Pond C is located more than 283 m from the proposed extraction area, so even if Pond C and the surrounding 230 m of suitable habitat was determined to be SWH for Amphibian Breeding Habitat (Woodland), the extraction footprint would still be 53 m away from the outer limit of the SWH.

GEC has walked the entire length of Unit SWDM4a (Mineral Deciduous Swamp Ecosite) on May 8, 2018 and April 13, 2019. The only habitat within Unit SWDM4a that is suitable as amphibian breeding habitat is Pond C. In the rest the swamp, the presence of standing water limited and it appears too shallow and ephemeral to support amphibian breeding functions.

In our opinion, there is no SWH for Amphibian Breeding Habitat (Woodland) within the proposed extraction area or the 120 m adjacent lands.

3.0 WOODLAND AREA-SENSITIVE BIRD BREEDING HABITAT

SSEA Comment:

Woodland Area-Sensitive Bird Breeding Habitat - area-sensitive bird species were documented in the NETR at station 3 and 4 (see Attachment E, Point Count Data Summary), however these station locations were not included in the SWH mapping shown on Figure 8. Further explanation is required.

GEC Response:

Figure 6 from the NETR shows the locations of the Point Count Stations (see attached). At Point Count Station 3, two area-sensitive forest bird species listed in the SWH Ecoregion Schedules were recorded in 2018, Ovenbird and Yellow-bellied Sapsucker. Both species occurred north of the subject property. Ovenbird was recorded on both June 6 and 28, 2018, more than 100 m north of the property boundary and more than 120 m from the proposed extraction area. Yellow-bellied Sapsucker was recorded north of the site on June 6, 2018, less than 120 away from the proposed extraction area. Only two area-sensitive forest bird species were recorded at Point Count Station 3; the SWH Ecoregion Schedule requires the "...presence of nesting or breeding pairs of 3 or more of the listed wildlife species" for the identification of Woodland Area-Sensitive Bird Breeding Habitat.

The habitat located north of the subject property, in the vicinity of Point Count Station 3 is a mix of Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type (FODM5-9a) and Red Pine Coniferous Plantation (TAGM1-1e). The Red Pine plantation covers approximately 50% of the area near Point Count Station 3 and conifer plantations do not qualify as SWH for Woodland Area-Sensitive Bird Breeding Habitat.

At Point Count Station 4, one area-sensitive forest bird species listed in the SWH Ecoregion Schedules was recorded, Ovenbird. On June 6, 2018 Ovenbird was recorded from both less than 100 m and more than 100 m from Station 4, north of the subject property. On June 28, 2018 Ovenbird was recorded from less than 100 m north of Station 4. Only one area-sensitive forest bird species was recorded at Point Count Station 4; the SWH Ecoregion Schedule requires the "...presence of nesting or breeding pairs of 3 or more of the listed wildlife species" for the identification of Woodland Area-Sensitive Bird Breeding Habitat.

The habitat located north of the subject property, in the vicinity of Point Count Station 4 is a mix of Red Pine Coniferous Plantation (TAGM1-1d) and Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type (FODM5-9a). The deciduous forest is limited to a narrow strip (20-30 m wide) just north of the property line and the area north of a Red Pine Coniferous Plantation (TAGM1-1d). The plantation extends as far as 75 to 150 m north of the property line. Most of Unit 5-9a was previously in agricultural use and the stand is relatively young. See Natural Environment Technical Report (GEC 2019) **Attachment B: Photo 18**. A 1954 aerial photograph is shown on **Figure 7** of the Natural Environment Technical Report (GEC 2019) and the area north of Station 4 was in agricultural use at that time (see attached). The Red Pine plantation covers approximately 70% of the area near Station 4 and conifer plantations do not qualify as SWH for Woodland Area-Sensitive Bird Breeding Habitat.

For sites supporting area-sensitive species, page 123 (Table 10-6) of the SWH Technical Guide (MNR 2000) recommends selecting "mature, closed canopy forests with multiple vegetation strata preferred by many species of forest birds". Large, natural blocks of mature woodland habitat are important habitats for area-sensitive woodland songbirds. These habitats are typically large (>30 ha) and mature (>60 years old) forest stands or woodlots (MNR 2015).

In our opinion, SWH for Woodland Area-Sensitive Bird Breeding Habitat was mapped correctly on **Figure 8** of the Natural Environment Technical Report (GEC 2019)(see attached). The 2018 breeding bird surveys revealed the presence of breeding bird species that are considered area sensitive by certain authorities. The area mapped on **Figure 8** as candidate SWH for woodland area-sensitive bird species is habitat for the following seven area sensitive bird species listed in the Ecoregion Criteria Schedules (MNR 2015):

- Cerulean Warbler
- Black-throated Blue Warbler
- Black-throated Green Warbler
- Ovenbird
- Scarlet Tanager
- Veery
- Yellow-bellied Sapsucker

The woodlands located northwest and west of the proposed license area are mature and form part of a much larger forest patch. MNR recommends identifying SWH for woodland area-sensitive breeding bird habitat when the presence of nesting or breeding pairs of three or more of the listed bird species is confirmed. In this case, seven of the listed area sensitive bird species were identified during the breeding season.

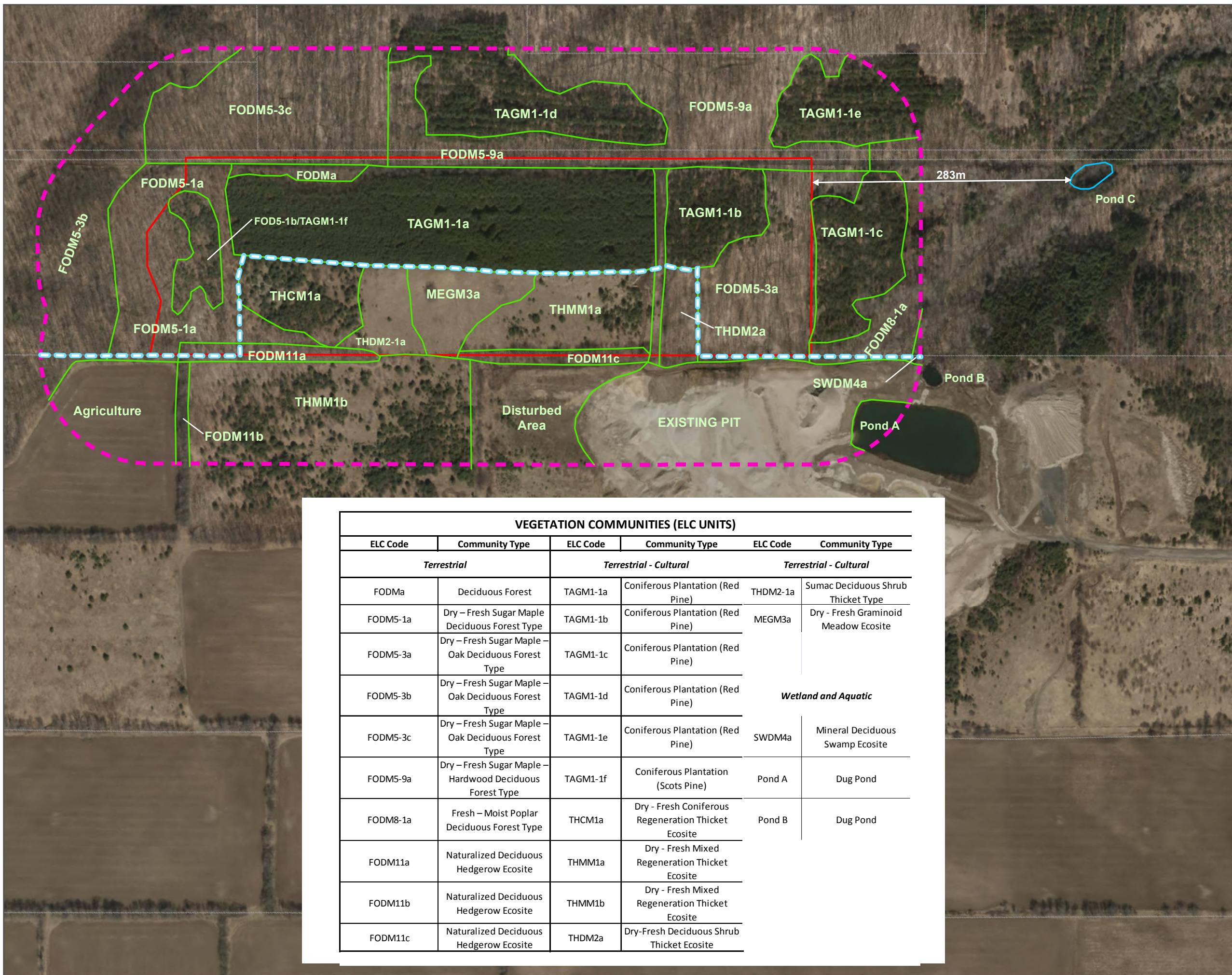
In contrast, in the habitats located north of Point Count Stations 3 and 4 the diversity of area-sensitive forest bird species is relatively low (only two of the species listed in the Ecoregion Criteria Schedules), the deciduous forest is relatively young (i.e. mostly less than 60 years old) and more than half of this area is Red Pine coniferous plantation which is not suitable habitat. It is noted that these habitats are not part of the extraction footprint and this area will be well buffered from extraction activities, even though it was not identified as SWH for Woodland Area-Sensitive Breeding Bird Habitat.

**FIGURE 1
VEGETATION COMMUNITIES
(ELC Units)**

TEEDON PIT EXTENSION
2 Darby Road,
Part of Lot 80, Concession 1 W.P.R. &
Part of original road allowance between
lots 80 & 81, Concession 1, W.P.R.
Geographic Township of Tiny
County of Simcoe

Legend

- Licensed Boundary
- 120m Buffer from Licensed Boundary
- Recommended Significant Woodland Boundary (GEC)

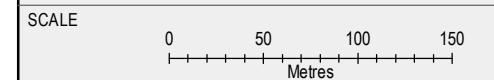


VEGETATION COMMUNITIES (ELC UNITS)					
ELC Code	Community Type	ELC Code	Community Type	ELC Code	Community Type
<i>Terrestrial</i>		<i>Terrestrial - Cultural</i>		<i>Terrestrial - Cultural</i>	
FODMa	Deciduous Forest	TAGM1-1a	Coniferous Plantation (Red Pine)	THDM2-1a	Sumac Deciduous Shrub Thicket Type
FODM5-1a	Dry - Fresh Sugar Maple Deciduous Forest Type	TAGM1-1b	Coniferous Plantation (Red Pine)	MEGM3a	Dry - Fresh Graminoid Meadow Ecosite
FODM5-3a	Dry - Fresh Sugar Maple - Oak Deciduous Forest Type	TAGM1-1c	Coniferous Plantation (Red Pine)		
FODM5-3b	Dry - Fresh Sugar Maple - Oak Deciduous Forest Type	TAGM1-1d	Coniferous Plantation (Red Pine)	<i>Wetland and Aquatic</i>	
FODM5-3c	Dry - Fresh Sugar Maple - Oak Deciduous Forest Type	TAGM1-1e	Coniferous Plantation (Red Pine)	SWDM4a	Mineral Deciduous Swamp Ecosite
FODM5-9a	Dry - Fresh Sugar Maple - Hardwood Deciduous Forest Type	TAGM1-1f	Coniferous Plantation (Scots Pine)	Pond A	Dug Pond
FODM8-1a	Fresh - Moist Poplar Deciduous Forest Type	THCM1a	Dry - Fresh Coniferous Regeneration Thicket Ecosite	Pond B	Dug Pond
FODM11a	Naturalized Deciduous Hedgerow Ecosite	THMM1a	Dry - Fresh Mixed Regeneration Thicket Ecosite		
FODM11b	Naturalized Deciduous Hedgerow Ecosite	THMM1b	Dry - Fresh Mixed Regeneration Thicket Ecosite		
FODM11c	Naturalized Deciduous Hedgerow Ecosite	THDM2a	Dry-Fresh Deciduous Shrub Thicket Ecosite		



DATE: May 24, 2019

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6a - BREEDING BIRD SURVEY POINT COUNT STATIONS



6b - EASTERN WHIP-POOR-WILL SURVEY ROUTE & POINT COUNT STATIONS

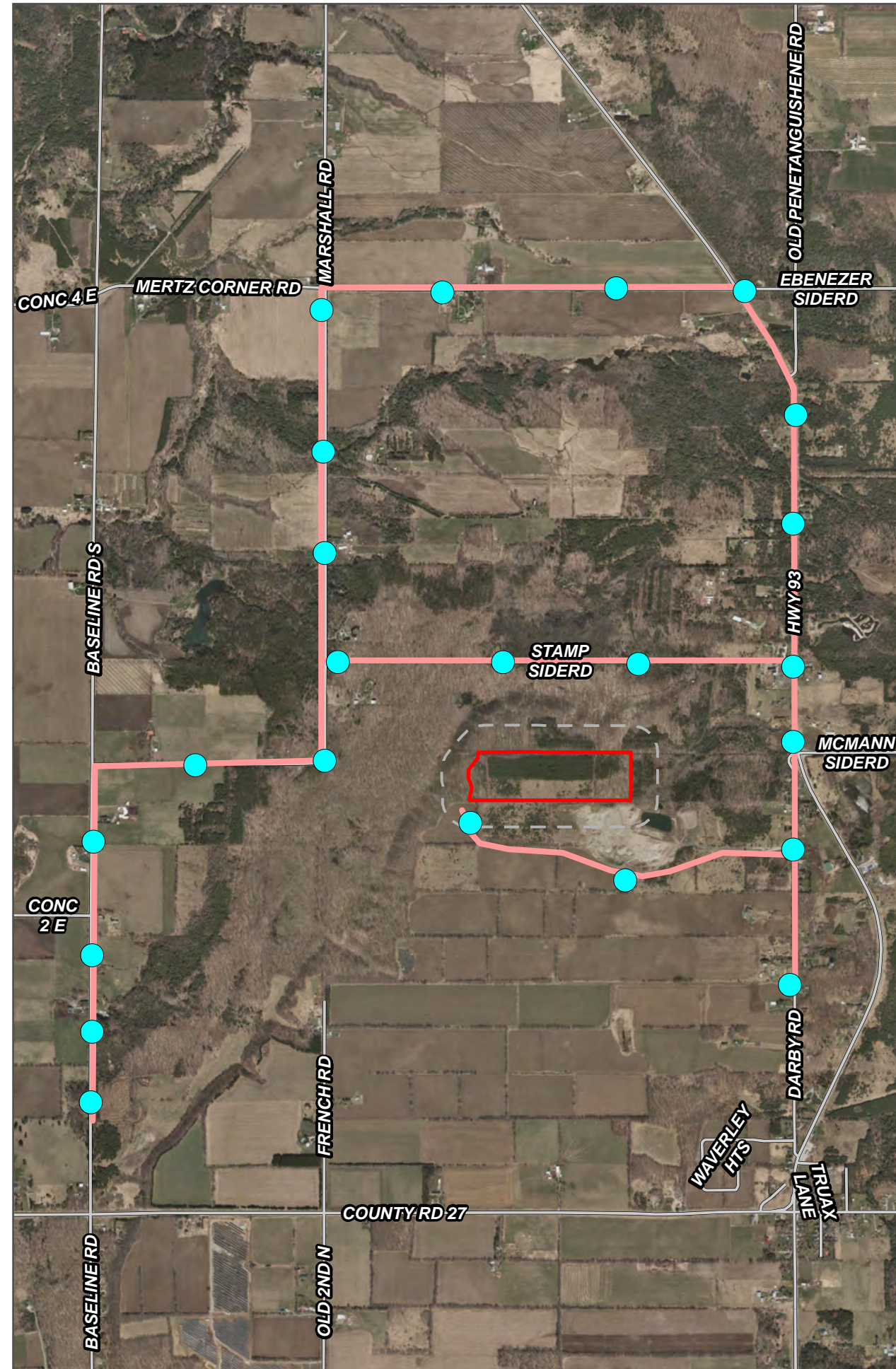








FIGURE 6
2018 - BREEDING BIRD SURVEYS
Natural Environment Report
TEEDON PIT EXTENSION
2 Darby Road,
Part of Lot 80, Concession 1 W.P.R. &
Part of original road allowance between
lots 80 & 81, Concession 1, W.P.R.
Geographic Township of Tiny
County of Simcoe

Legend

-  Licensed Boundary
-  120m Buffer from Licensed Boundary
-  Whip-poor-will Point Count Station
-  Whip-poor-will Survey Route
-  Breeding Bird Point Count Station
-  Breeding Bird Point Count Location 100m Buffer



DATE December 2018

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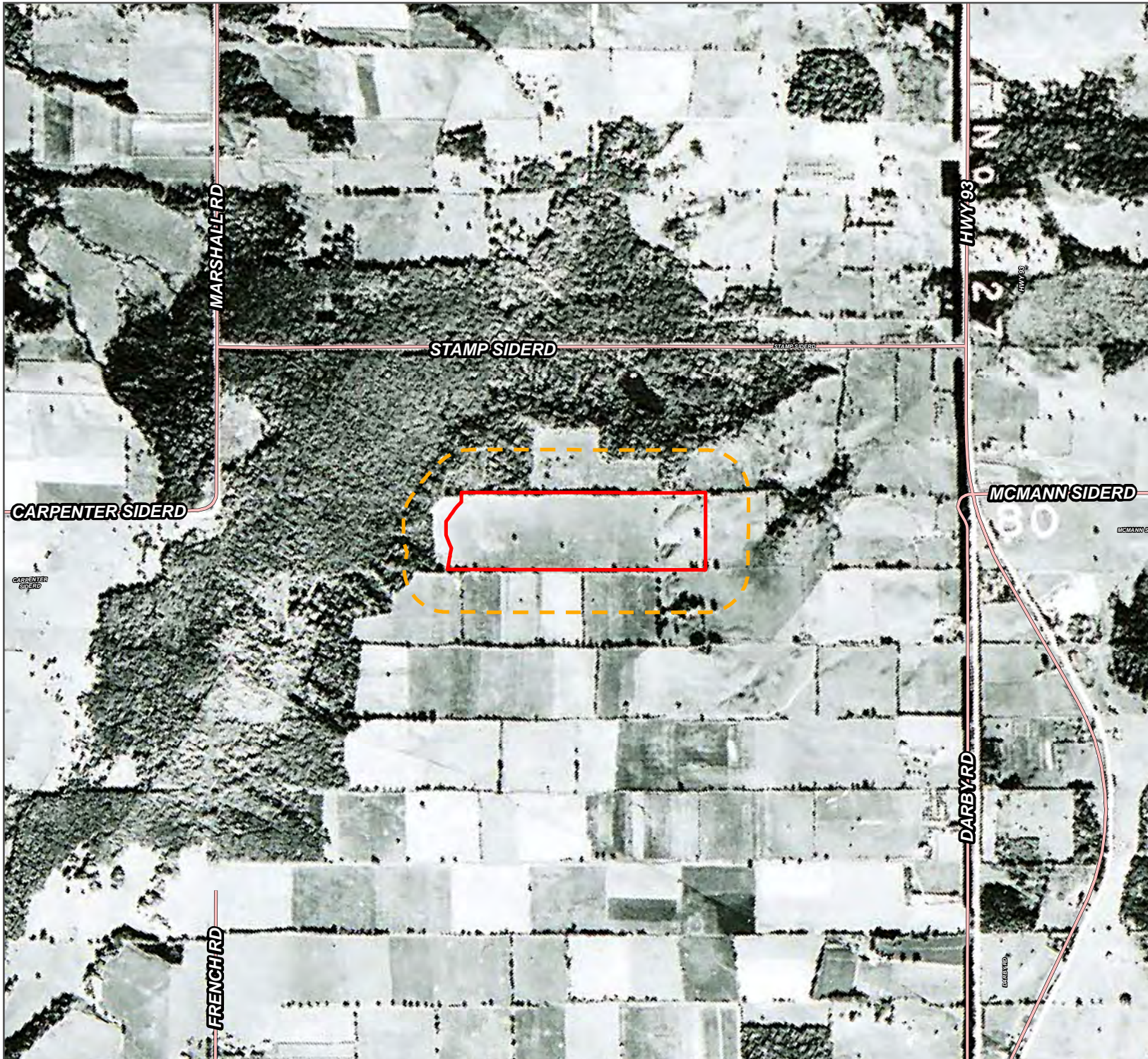




FIGURE 7
1954 AERIAL
PHOTOGRAPH

Natural Environment Report
TEEDON PIT EXTENSION
2 Darby Road,
Part of Lot 80, Concession 1 W.P.R. &
Part of original road allowance between
lots 80 & 81, Concession 1, W.P.R.
Geographic Township of Tiny
County of Simcoe

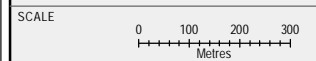
Legend

-  Licensed Boundary
-  120m Buffer from Licensed Boundary



DATE December 2018

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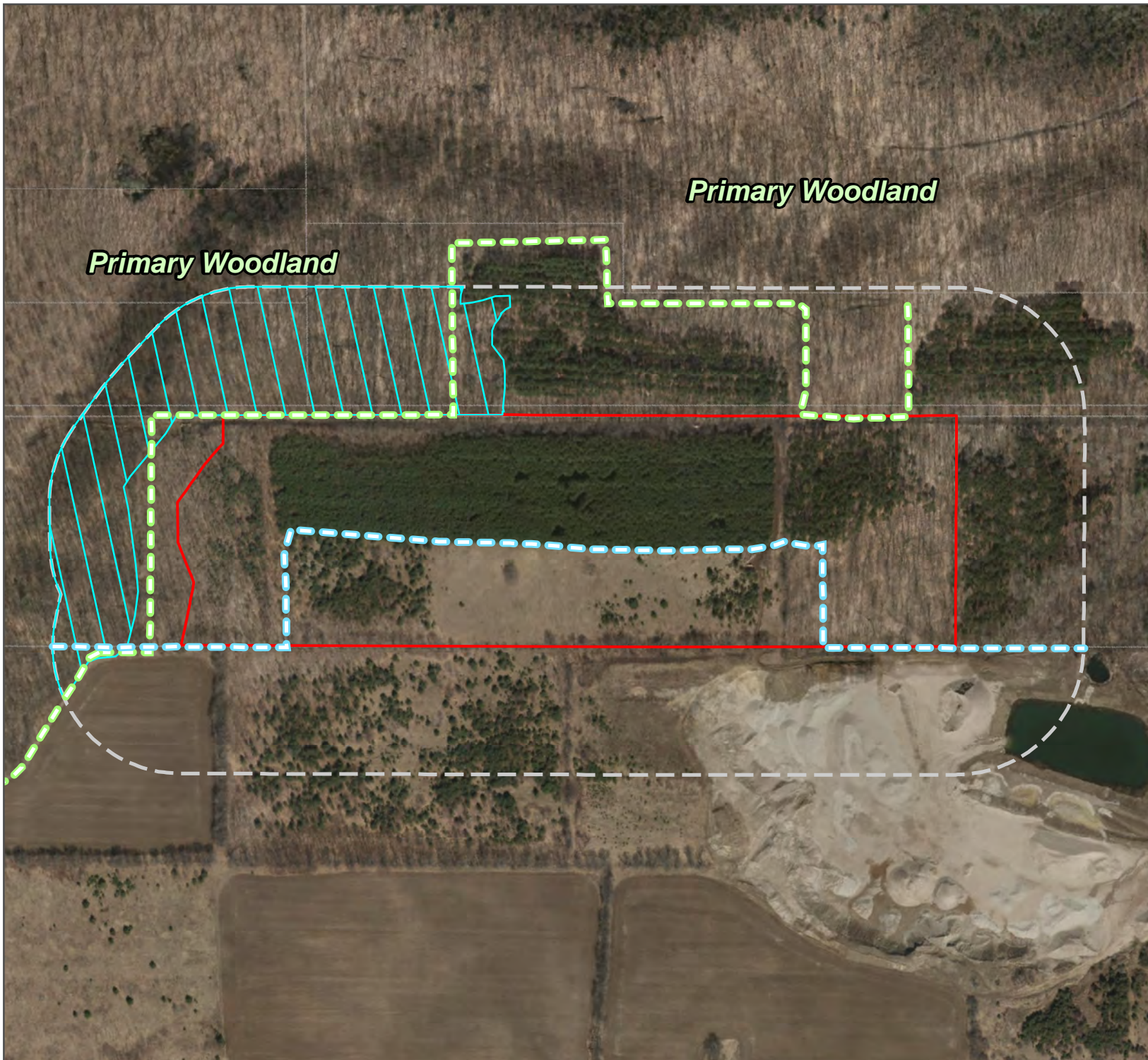


FIGURE 8
SIGNIFICANT FEATURES

Natural Environment Report
TEEDON PIT EXTENSION
2 Darby Road,
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Part of original road allowance between
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Geographic Township of Tiny
County of Simcoe

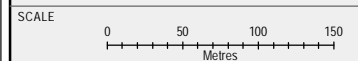
Legend

- Licensed Boundary
- 120m Buffer from Licensed Boundary
- Primary Woodland Boundary
- Significant Wildlife Habitat for Woodland Area Sensitive Bird Species and Special Concern Bird Species
- Recommended Significant Woodland Boundary (GEC)



DATE December 2018

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Report



TABLE 1: EXCERPTS FROM SIGNIFICANT WILDLIFE HABITAT CRITERIA SCHEDULES FOR ECOREGION 6E

Ontario Ministry of Natural Resources and Forestry - January 2015

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria
<p>Amphibian Breeding Habitat (Woodland).</p> <p>Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations</p>	Eastern Newt	<p>All Ecosites associated with these ELC Community Series:</p> <p>FOC FOM FOD SWC SWM SWD</p> <p>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</p>	<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... <p>Information Sources</p> <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 District. • OMNRF wetland evaluations • Field Naturalist clubs • Canadian Wildlife Service Amphibian Road Call Survey 	<p>Studies confirm;</p> <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.
	Blue-spotted Salamander			
	Spotted Salamander			
	Gray Treefrog			
	Spring Peeper			
	Western Chorus Frog			
Wood Frog				

TABLE 1: EXCERPTS FROM SIGNIFICANT WILDLIFE HABITAT CRITERIA SCHEDULES FOR ECOREGION 6E

Ontario Ministry of Natural Resources and Forestry - January 2015

Specialized Wildlife Habitat	Wildlife Species	CANDIDATE SWH		CONFIRMED SWH
		ELC Ecosite Codes	Habitat Criteria and Information Sources	Defining Criteria
<p>Woodland Area-Sensitive Bird Breeding Habitat</p> <p>Rationale:</p> <p>Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.</p>	<p>Yellow-bellied Sapsucker</p> <p>Red-breasted Nuthatch</p> <p>Veery</p> <p>Blue-headed Vireo</p> <p>Northern Parula</p> <p>Black-throated Green Warbler</p> <p>Blackburnian Warbler</p> <p>Black-throated Blue Warbler</p> <p>Ovenbird</p> <p>Scarlet Tanager</p> <p>Winter Wren</p> <p>Special Concern:</p> <p>Cerulean Warbler</p> <p>Canada Warbler</p>	<p>All ecosites associated with these ELC Community Series:</p> <p>FOC FOM FOD SWC SWM SWD</p>	<ul style="list-style-type: none"> Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs old) forest stands or woodlots >30 ha... Interior forest habitat is at least 200 m from forest edge habitat. <p><u>Information Sources</u></p> <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. 	<p>Studies confirm:</p> <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.