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Southgate Meadows Inc.

**Environmental Impact Study
Glenelg Phase 2
Residential Subdivision
231 Glenelg Street, Dundalk Ontario**

**September 2020
SLR Project No.: 209.40385.00000**



ENVIRONMENTAL IMPACT STUDY
GLENELG PHASE 2: RESIDENTIAL SUBDIVISION
231 GLENELG STREET, DUNDALK ON
SLR Project No.: 209.40385.00000

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1.0 INTRODUCTION

SLR Consulting (Canada) Ltd. was retained by Southgate Meadows Inc. to undertake an Environmental Impact Study (EIS) in support of a County of Grey, Township of Southgate Official Plan Amendment, Zoning By-law Amendment and Draft Plan of Subdivision. The lands are described legally as Part of Lots 225 and 226, Concession 2, Southwest of the Toronto and Sydenham Roads, in the Township of Southgate within the County of Grey. The present work represents Phase 2 of a two-part initiative. An EIS for Phase 1 was submitted on 25 March 2020 under a separate cover. **Figure 1** shows the limits for Phase 1 and Phase 2. This report serves to document an EIS for the northern portion of the Property Boundary, to be known as Glenelg Phase 2 (Phase 2).

1.1 Study Area

Phase 2 is located in the northern portion of 231 Glenelg Street in the Community of Dundalk (Figure 1). Phase 2 is entirely agricultural, with adjacent land designations that include hazard lands, industrial and neighbourhood areas (Map 1, Township of Southgate Official Plan). The residential core of the community occurs to the east and south of Phase 2 with agriculture being the main land use to the north and west. Phase 2 falls within the jurisdiction of Saugeen Valley Conservation Authority (SVCA).

1.2 Goals and Objectives

The goal of the EIS is to demonstrate that the proposed development complies with the requirements of the Township of Southgate and Grey County Official Plans, and SVCA. The objectives include the following:

- Document the natural features and functions of Phase 2 and adjacent lands within the Property Boundary and demonstrate that the proposed development will not create an unacceptable impact to the natural heritage features and areas identified within the Official Plans of the Township of Southgate and Grey County; and,
- Provide recommendations and mitigation measures to ensure the protection of adjacent natural features in the context of applicable legislation, including the Provincial Policy Statement (PPS, 2014), the City's Official Plan and Ontario Regulation 150/06 and 169/06 administered by the SVCA respectively and associated policies.

2.0 PLANNING CONTEXT

Development within Phase 2 is subject to a number of federal, provincial and local environmental acts, regulations and policies which provide direction and guidance regarding proposed changes in land use and the protection of natural heritage features and functions. The following instruments provide the applicable natural heritage regulatory framework that applies to the subject lands which include:

- PPS (2020);
- Grey County Official Plan;
- Township of Southgate Official Plan;
- SVCA Ontario Regulation 169/06: *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*;
- *Endangered Species Act* (ESA, 2007); and,

- *Migratory Birds Convention Act (MBCA, 1994).*

Methodology

Existing conditions on Phase 2 and adjacent lands were determined through a literature review and desktop analysis of secondary source material from the Ministry of Natural Resources and Forestry (MNR) and the Natural Heritage Information Centre (NHIC) database. Information from those sources was combined with field investigations to assess and delineate the natural heritage features and functions within and adjacent to Phase 2. Additional information with respect to fisheries, wildlife and Species at Risk (SAR) was obtained through targeted surveys and field reconnaissance. This information was used to develop the description of the natural environment and to identify potential impacts related to proposed land use changes.

Field investigations occurred throughout the entire property during preparation of the Phase 1 EIS. Relevant observations from those investigations were supplemented by targeted field observations undertaken while on site for other purposes. Observations made during Phase 1 and supplemental studies were used in this Phase 2 EIS to characterize existing conditions, assess potential effects associated with proposed Phase 2 development and to recommend mitigation strategies and techniques to protect sensitive natural features and functions.

The following table (**Table 1**) provides a summary of site visits and field tasks completed for Phase 1 and Phase 2 EIS reports.

Table 1. Summary of Field Investigations

Date	Task Description	Weather Conditions ₁
April 22, 2016	Identification of key natural heritage features	
June 16, 2016	Vegetation investigation (ELC)	Sunny/Beaufort:1-2/Temp: 25°C
June 23, 2016	Breeding Bird Survey #1	Sunny/Beaufort:1-2/Temp: 14°C Time 05:30-10:00
April 13, 2017	Amphibian Breeding Survey #1	Partly cloudy/Beaufort:0/Temp: 5°C Time 21:00-22:00
May 21, 2017	Amphibian Breeding Survey #2	Light rain/Beaufort:0/Temp: 14°C Time 21:30-22:50
June 7, 2017	Breeding Bird Survey #2	Sunny/Beaufort:0/Temp: 18°C Time 05:30-10:00
June 19, 2017	Site Reconnaissance	Sunny/Beaufort:2/Temp: 22°C
June 26, 2017	Breeding Bird Survey #3	Sunny/beaufort:0/Temp: 14°C Time 05:30-10:00
November 14, 2017	Site visit to establish preliminary wetland boundary	Sunny/Beaufort:2/Temp: 5°C
April 26, 2018	Mark wetland boundary in advance of site visit with GRCA, Headwater Drainage Feature (HDF) evaluation	Sunny, Beaufort 1-2, Air temperature 5°C at 10:00
May 25, 2018	Confirm field conditions, HDF evaluation	Sunny, Beaufort 1-2, Air temperature 25°C at 16:00

Date	Task Description	Weather Conditions ¹
June 21, 2018	Wetland boundary staking with GRCA	Sunny/Beaufort:0/Temp: 25°C
July 24, 2018	HDF evaluation	Sunny, Beaufort 1, Air temperature 24°C at 15:00
September 7, 2018	Assess potential effects of SWM pond discharge	Sunny, Beaufort 1-2, Air temperature 22°C
May 21, 2020	Assess potential effects associated with Phase 2 SWM pond discharge	Sunny, Beaufort 1; Air temperature 21 °C at 17:30

¹The Beaufort Wind Scale is a tool used to estimate wind conditions. [0] Air calm, smoke rises vertically [1] Light air movement, smoke drifts, [2] Wind felt on face, leaves rustle [3] Leaves and small twigs in continual motion, wind extends light flags [4] Wind raises dust, loose paper, moves small branches [5] Small trees begin to sway, white crested wavelets form on inland waters [6] Large branches in motion

2.1 Hydrogeology

Hydrogeological investigations are completed. The objectives of the study include characterization of the geological setting and to determine the relationship of the groundwater interactions and maintenance of surface water features. A report will be provided under a separate cover.

2.2 Aquatic Habitat Assessment

The NHIC and the Fisheries and Oceans Canada (DFO) *Distribution Maps for Fish and Mussel Species at Risk* were consulted for occurrences of federally (COSEWIC) and provincially (COSSARO) designated aquatic SAR and Provincially Rare Species (S1-S3) within Phase 2 and its adjacent lands. GRCA was contacted to obtain fish and fish habitat information for the headwater drainage feature (HDF) adjacent to Phase 2.

The objective of field investigations was to identify, map, and describe the existing aquatic habitat and evaluate the HDF adjacent to Phase 2. The HDF was evaluated using the Rapid Method provided in the *Evaluation, Classification and Management of Headwater Drainage Features Guideline* (TRCA and CVC, 2014). This approach is appropriate for low sensitivity sites and documents the HDF form and flow conditions, riparian vegetation and site features that are important components of habitat. Observations were made by walking the entire length of the feature. Understanding sensitivities associated with the HDF is crucial in order to identify potential effects of the proposed stormwater management (SWM) pond and discharge on that feature, and the adjacent wetland communities.

2.3 Vegetation

Aerial photography, soils mapping, contour mapping and Land Information Ontario data were used to delineate vegetation communities in adjacent lands according to principles of the Ecological Land Classification (ELC) for Southern Ontario: First Approximation and its Application (Lee et. al., 1998). Site investigations were undertaken in April, June and November within Phase 2 and its adjacent lands to inventory plant species, refine the ELC, and obtain soil samples. The wetland boundary adjacent to and abutting Phase 2 was staked by SLR and GRCA on June 21, 2018 and surveyed. The classification was completed to the most detailed level in the hierarchy to reflect the differences within the vegetation communities that relate to species composition, architecture and ecosystem function.

2.4 Wildlife and Wildlife Habitat

Evidence of wildlife presence was determined from direct sightings, and indirectly from such indicators as calls, nests, tracks, scat, browse and burrows during all field investigations.

To better refine habitat communities for wildlife surveys, the broader Property Boundary was divided into units following the ELC. Wildlife activity roughly follows differences in vegetation height and structure, and proximity of water resources, therefore the units reflect these characteristics. Unit 1 is the swamp thicket south-west of Phase 2. Unit 2 is the treed deciduous swamp surrounding the thicket to the southwest and north and the woodland. Agricultural and residential lands that comprise the majority of Phase 1 were included in Unit 3. Unit 4 refers to this report's Phase 2 study area.

2.4.1 Breeding Bird Surveys

Breeding bird surveys were undertaken within the recognized surveying window in Ontario for breeding birds (typically June and early July) within the Property Boundary lands adjacent to Phase 2. Surveys followed standard methodologies and conditions established by the Ontario Breeding Bird Atlas (OBBA) (i.e. between 05:30 and 10:00, low winds, no precipitation and suitable temperatures). Breeding evidence was recorded for each wildlife unit and evaluated as possible, probably or confirmed (e.g. singing male, pair observed or adult carrying food) in accordance with the standard protocols. Given the land use, the transect method suggested by MNR for evaluating habitat use by Bobolink and Eastern Meadowlark was not utilized. Instead, wandering transects within Unit 1 and 2 and peripheral edge of Unit 3 (where grassland or meadow occurred). This allowed for optional listening and viewing while leaving potential nesting areas undisturbed. Where SAR birds were observed, information including sex, behaviour and interaction with other SAR and non-SAR birds were recorded.

2.4.2 Amphibian Surveys

Amphibian surveys were undertaken to review the potential of the hazard lands and associated wetland features within Phase 2 and adjacent lands to support breeding amphibians. Three surveys were completed in April, May and early June following Marsh Monitoring Program standards. Surveys followed the basic principles that include ensuring at least 15 days between each survey beginning one half hour after sunset, ending by midnight, and undertaken on evenings with little wind and minimum night air temperatures (5°C, 10°C, and 17°C). Survey times were coordinated with several other ecologists throughout Southern Ontario via an email circulation used to assist surveyors in targeting the prime breeding window for early and late breeders, targeting Western Chorus Frog (*Pseudacris triseriata*). As climate change has the potential to shift the incidence of calling amphibians, it is increasingly important to coordinate surveys based on weather conditions and seasonal trends. Calling evidence was recorded on a scale of L0-L3 and interpreted as follows:

- L0 – No calling;
- L1 – Individuals can be accurately counted; calls do not overlap;
- L2 – Some calls simultaneous, number of individuals can be estimated; and,
- L3 – Full chorus, calls overlap, individuals cannot be estimated.

2.5 Species of Conservation Concern

For the purpose of this EIS, species that are designated federally, provincially or considered of regional or local interest (e.g. rare to the watershed or municipality) are collectively identified as Species of Conservation Concern (SOCC). Species protected under the *ESA, 2007* are also included in this category. A habitat-based approach was applied to evaluate the potential for SOCC to occur within Phase 2 and adjacent lands in conjunction with the desktop review and inquiry with the MNRF and NHIC database. The information obtained through this exercise was confirmed through site investigations and targeted surveys.

2.6 Significant Wildlife Habitat

The criteria provided in the MNRF Significant Wildlife Habitat Technical Guide (SWHTG) and updated Ecoregion Criterion Schedules 6E (MNRF, 2012) for significant wildlife habitat (SWH) were reviewed. Anthropogenic features do not qualify as SWH and therefore were not assessed. The potential for candidate SWH is limited given the context of Phase 2 (residential, agricultural lands)

3.0 EXISTING CONDITIONS

3.1 Geology, Hydrology and Soils

Dundalk Island, a topographic high area in southern Ontario, is characterized by a drumlinized sandy silt till plain where peat-dominated wetlands occur in the areas between the drumlins (Chapman and Putnam, 1984). Phase 2 lies largely to the south of the drumlins, but fluting maintains the rolling aspect and mineral wetland occurs in the depression to its southwest. The till is stone-poor, sandy silt to silty sand-textured till with glaciofluvial deposits underlying the wetlands (Surficial Geology of Southern Ontario, 2010). Soil samples reflect a “plough layer” created by agriculture over silty sands.

The broader Property Boundary for Phase 2 is crossed by the watershed divide between a tributary to the Grand River and the Saugeen River. The wetland to its south-west is the headwater to both systems, shifting in response to the volume of rain that falls in the area. The Melancthon Wetland Complex #1 Provincially Significant Wetland occurs downstream to the southeast, while the Ventry or Riverview Locally Significant Wetlands occurs in the Saugeen watershed to the southeast.

The groundwater table in Phase 2 ranges between 0.02 m and 1.45 m below ground surface (SLR, 2020). The agricultural lands have been tile-drained and discharge at the edge of the meadow marsh to the south-west of Phase 2.

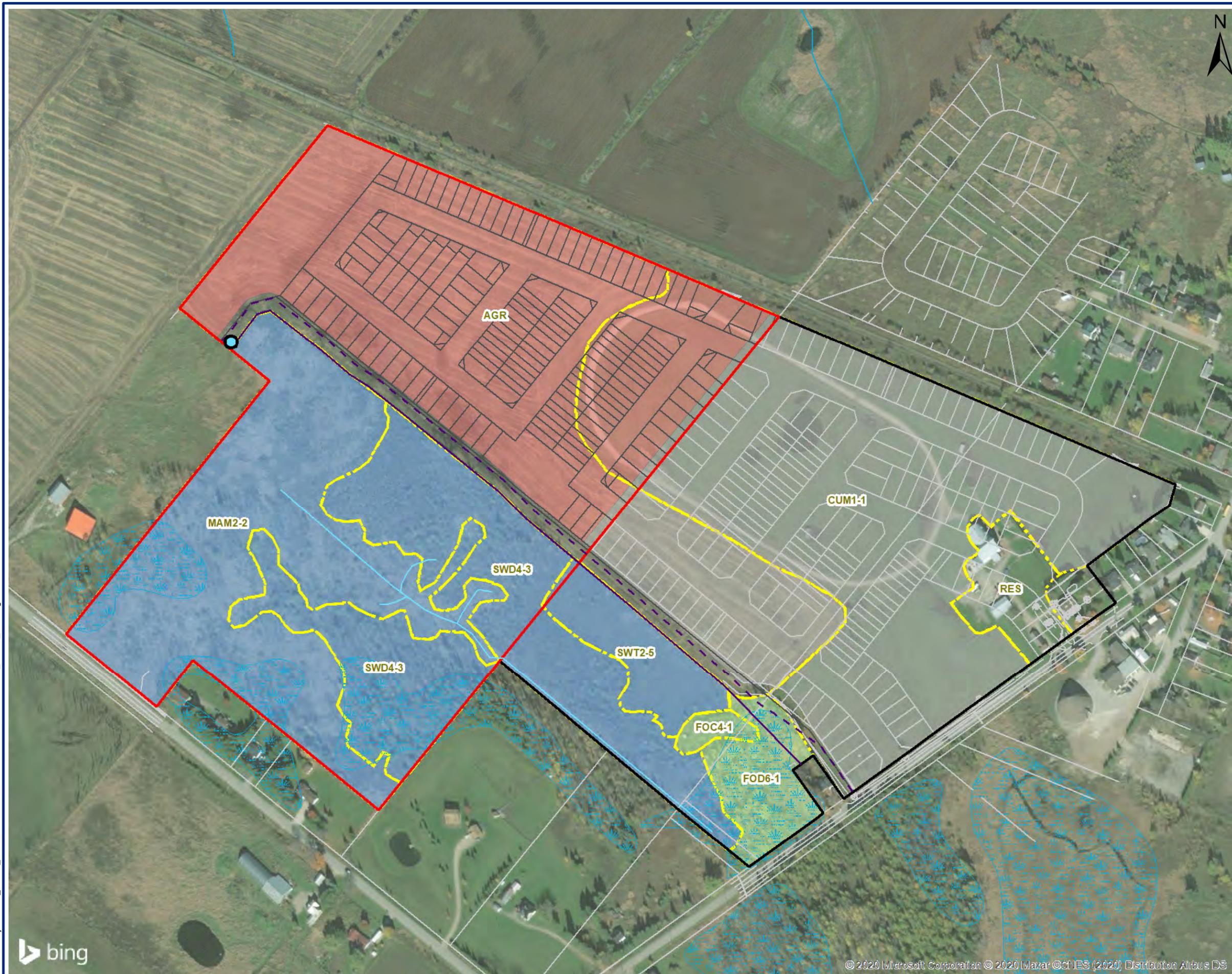
3.2 Aquatic Environment

No drainage features occur within Phase 2. A constructed channelized drain was found within a meadow marsh deciduous swamp identified in Phase 2 west of the proposed development (**Figure 1**). Flow conditions were observed early and late spring and mid-summer in conjunction with other visits such as wetland staking and vegetation surveys undertaken to record hydrological conditions during wet and dry seasons (**Table 2**).

Table 2: Channel Conditions in Adjacent Meadow Marsh and Deciduous Swamp

Date of Observation	Observations	Representative Photos	
April 26, 2018	<ul style="list-style-type: none"> • Water gently flowing to northwest through deciduous swamp • Standing water in meadow marsh (photo) 		
May 25, 2018	<ul style="list-style-type: none"> • Standing water in channel through swamp; no discernible flow 		
July 24, 2018	<ul style="list-style-type: none"> • Standing water only in deeper sections of channel extending through meadow marsh and swamp 		

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LEGEND

- Phase 2 Study Area
- Phase 1 Study Area
- Tile Drain Outlet
- Site Plan (MHBC, Sept 24 ,2020)
- Phase 2 Site Plan (MHBC, Sept 24 ,2020)
- Drain
- Permanent Watercourse
- Staked Dripline (Schaeffer Dzaldov Bennett Ltd., Staked June 25, 2018)
- Wetland and Dripline Buffer (10m)
- Cartographic Wetland
- Ecological Land Classification (SLR, 2018)
- 1: Wetland
- 2: Woodland
- 3: Phase 3 Development Envelope
- 4: Phase 2 Study Area

Red-osier Dogwood Mineral Swamp Thicket	SWT2-5
Reed-canary Grass Mineral Meadow Marsh	MAM2-2
Poplar Mineral Deciduous Swamp	SWD4-3
Fresh-Moist White Cedar Coniferous Forest	FOC4-1
Fresh-Moist Sugar Maple - lowland Ash Deciduous Forest	FOD6-1
Fresh Mineral Cultural Meadow	CUM1-1
Agricultural Lands	AGR
Residential Campus	RES



SCALE: 1:3,200
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NOTES
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RESIDENTIAL DEVELOPMENT

EXISTING CONDITIONS

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No GRCA or MNRF fish collection records were found for the adjacent lands. A review of fisheries distribution maps (Fisheries and Oceans Canada) and screening of provincial sources (MNRF, SARO List, NHIC) did not identify fish and mussel SAR in Phase 2. This is consistent with observations on Phase 2.

According to the headwater drainage feature evaluation (TRCA and CVC 2014), the feature is considered to support important hydrologic function because it contains standing water in a wetland environment in mid-summer. Fish habitat is classified as contributing function limited to providing allochthonous transport to downstream habitat owing to intermittent flow.

3.3 Vegetation

No natural vegetation communities occur within Phase 2; the entire parcel is agricultural in nature. ELC conducted for the Phase 1 Property Boundary in the lands adjacent to Phase 2 are, however, relevant to this report. Communities identified through those 2017 SLR studies which immediately abut or are adjacent to the south-western border of Phase 2 are presented in **Figure 2**, mapped on a 2014 aerial photo. The vegetation mapping reflects the conditions as of the summer of 2017.

The natural areas occur to the southwest of Phase 2, consisting of wetlands and small patches of remnant forests. At the time of SLR's ELC in 2017, Cultural Meadow was present in the Phase 1 lands to the south-southeast; aerial photography review of those lands indicates they have since been actively ploughed and that vegetation community no longer exists. The vegetation communities that occur adjacent to the Phase 2 include:

1. Reed-canary Grass Mineral Meadow Marsh (MAM2-2)
2. Poplar Mineral Deciduous Swamp (SWD4-3)
3. Agricultural Lands

An inventory of plants observed during field investigations was also completed and is provided in **Appendix A**.

The following describes the vegetation communities observed within Phase 2.

3.3.1 *Reed-canary Grass Mineral Meadow Marsh (MAM2-2)*

This community occurs in a narrow band adjacent to the channelized drain and expanding to the northwest corner of Phase 2. The outlet of the tile drain is located in the extreme north end of this community. It is dominated by Reed-canary Grass with several species of sedge (*Carex retrosa*, *C. vulpinoidea*, *C. gracillima*, *C. lacustris*, *C. flava*), Broad-leaved Water Plantain (*Alisma subcordatum*) and Narrow-leaved Cattail (*Typha angustifolia*). Species that intermix include Purple-stemmed Aster (*Symphotrichum puniceus*) and Marsh Bedstraw (*Galium palustris*). Occasional trees and shrubs occur throughout.

Of note is the occurrence of Yellow Sedge (*Carex flava*) that similar to the Balsam Groundsel, is a species that may be indicative of near fen-like conditions.

3.3.2 *Poplar Mineral Deciduous Swamp (SWD4-3) modified by Black Ash and Cedar*

This treed unit occurs on the west side of Phase 2, surrounding the thicket swamp and interspersed by the meadow marsh. Although dominated by Balsam Poplar, there are elements that include Black Ash (*Fraxinus nigra*) and Swamp Maple (*Acer xfreemanii*) that speaks to past disturbance. Eastern White Cedar (*Thuja occidentalis*) occurs sporadically, and White Spruce

(*Picea glauca*) occupy slightly drier knolls. The shrub layer includes Red-osier Dogwood and Alderleaf Buckthorn (*Entropis alnifolia*), the latter being another element of these near-fen conditions. Ground flora includes Dwarf Raspberry (*Rubus pubescens*), Fowl Bluegrass and Broad-leaved Water-plantain.

3.3.3 Agricultural Lands

The northeast portion of the site consists of a field of rotating annual row crops such as wheat and soybean. In 2018 cultivation was expanded to include the cultural meadows by the tenant farmer.

3.3.4 Floristics

All of the species documented adjacent to Phase 2 are common and secure in Ontario. Approximately 26.3% of the inventory is non-native (30% is average for southern Ontario) although this number approaches 90% if the cultural meadows are evaluated separately. The relatively low incidence of non-native species in the wetlands speaks to relatively stable conditions in spite of historical disturbance.

Of note is the small number of species (Balsam Groundsel, Yellow Sedge, Alderleaf Buckthorn) that indicate that the adjacent wetland areas tend toward a fen, although no strong fen indicators were observed. This is an effect of the rise and fall of the shallow groundwater table.

3.4 Wildlife

Formal surveys were undertaken within the lands adjacent to Phase 2 for birds and amphibians during one of their most vulnerable life cycle stages: breeding. It is at this time that they are anchored to breeding activity (nests, breeding ponds) that they migrate from when breeding is complete. These species inform the functions of landscape feature in terms of diversity, species richness and the importance of the underlying vegetation and water resources that support wildlife habitat. The wildlife units that were sampled, together with stations for amphibian calling counts are illustrated on **Figure 3**.

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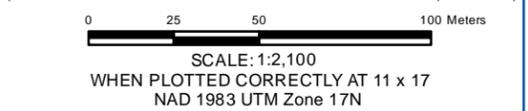


LEGEND

- Phase 2 Study Area
- Phase 1 Study Area
- Amphibian Survey Stations (2017)
- Tile Drain Outlet
- Drain
- Staked Dripline (Schaeffer Dzaldov Bennett Ltd., Staked June 25, 2018)
- - - Wetland and Dripline Buffer (10m)
- Wildlife Units (Breeding Birds)(2017)
- 1: Wetland
- 2: Woodland
- 3: Phase 3 Development Envelope
- 4: Phase 2 Study Area

Ecological Land Classification

Red-osier Dogwood Mineral Swamp Thicket	SWT2-5
Reed-canary Grass Mineral Meadow Marsh	MAM2-2
Poplar Mineral Deciduous Swamp	SWD4-3
Fresh-Moist White Cedar Coniferous Forest	FOC4-1
Fresh-Moist Sugar Maple – lowland Ash Deciduous Forest	FOD6-1
Fresh Mineral Cultural Meadow	CUM1-1
Agricultural Lands	AGR
Residential Campus	RES



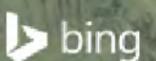
NOTES
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**GLENELG PHASE 2
 RESIDENTIAL DEVELOPMENT**

WILDLIFE SURVEY LOCATIONS

September 29, 2020	Rev 0.0	Figure No.
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3.4.1 Breeding Birds (General)

The breeding bird survey in the spring of 2016 and 2017 documented 43 species (**Appendix B**) for the broader Property Boundary. Of these, evidence of breeding in the Phase 2 area and adjacent wetland was recorded for 33 species. The remaining were species with wide ranges that were observed flying over for which there is no breeding habitat (e.g., Herring Gull), or that were not in appropriate habitat (e.g., Northern Harrier).

The majority of the species recorded are urban tolerant and typical of cultural and agricultural landscapes (e.g. American Goldfinch, American Robin). These species are tolerant to disturbances within the landscape and able to adapt to changing environments.

Species such as Savannah Sparrow, Grasshopper Sparrow and Bobolink and Eastern Meadowlark are characteristic of open grasslands, such as the former cultural meadows on south-eastern portion of Phase 2, and associated with the Phase 1 portion, as well. The cultural meadow has returned to active agricultural cultivation; thus, such bird species typically associated with open grassland are unlikely to occur within the Phase 2 lands, or within the broader Phase 1 Property Boundary.

Bobolink and Eastern Meadowlark, both Threatened species, were observed along the property boundaries and adjacent lands. The cultural meadow was heavily grazed by farm animals making the habitat not suitable for these species for nesting. Individuals observed are incidental and are utilizing the fence line as a perch for singing and the property as foraging opportunity and are likely breeding on adjacent lands.

Field Sparrow, despite its name, favours edges and thickets, together with Indigo Bunting, Gray Catbird and Song Sparrow, both at upland and wetland sites. The cross-over to wetland conditions, specifically to the west of Phase 2, is indicated by the documented presence of Alder Flycatcher, Yellow Warbler and Common Yellowthroat.

In summary, Phase 2 lands which are in active agricultural cultivation, offer little to no bird breeding habitat and very limited foraging habitat.

3.4.2 Amphibian Breeding Habitat

Amphibian breeding habitat is limited to the western portion of Phase 2 consistent with the wetland locations. Two locations were surveyed at the edges of the thicket swamp and treed swamp (**Figure 2**).

- 4A: Ida Street in northwest corner; and,
- 4B at interface with cultivated lands.

Results for points 4A and 4B were combined as the calling was evenly distributed throughout the north end of the wetland.

The most concentrated populations are associated with the treed deciduous swamp that extends south to Glenelg to the west of Phase 2, and in the northern meadow marsh. The occurrence of Western Chorus Frog was limited to this corner at Ida Street. As this species can be censused during the day due to its inclination to call in greater numbers diurnally, it is with confidence that we locate the important breeding site for Western Chorus Frogs in the northwest.

Table 3: Amphibian Survey Results

Survey Dates	Station	Common Name	Scientific Name	Calling Level	Count
April 13, 2017 Weather: Partly cloudy Beaufort:0 Temp: 5°C Time 21:00-22:00	4A and 4B	Spring Peeper Wood Frog Western Chorus Frog Northern Leopard Frog	<i>Pseudacris crucifer</i> <i>Lithobates sylvaticus</i> <i>Pseudacris triseriata</i> <i>Lithobates pipiens</i>	L3 L3 L2 L1	chorus chorus 15 1
May 21, 2017 Weather: Light rain Beaufort:0 Temp; 14°C Time 21:30-22:50	4A and 4B	Spring Peeper Wood Frog Western Chorus Frog Northern Leopard Frog	<i>Pseudacris crucifer</i> <i>Lithobates sylvaticus</i> <i>Pseudacris triseriata</i> <i>Lithobates pipiens</i>	L2 L2 L2 L1	15 7 7 5

3.4.3 Miscellaneous Wildlife

3.4.3.1 Mammals

Evidence of White-tailed Deer (*Odocoileus virginianus*) (tracks, browse) was observed throughout Phase 2 and the broader Property Boundary. A doe and fawn were observed on 23 June 2016 in the deciduous swamp.

Other mammal sightings include Eastern Chipmunk (*Tamias striatus*), Northern Raccoon (*Procyon lotor*) and Red Fox (*Vulpes vulpes*). A dead Wild Boar (*Sus scrofa*) was observed in the northwest corner of the thicket swamp. This is likely an escape from production in the neighbourhood, but as this species has the potential to naturalize and become a serious pest, it was worthy of mention.

A dead Eastern Gartersnake (*Thamnophis sirtalis*) was observed on Glenelg Road, and reported by the former owners to occur in the area.

Digger Crayfish (*Fallicambarus fodiens*) chimneys were noted along the wetland boundary extending up to 5 m into the agricultural fields.

3.4.4 Species of Conservation Concern and Significant Wildlife Habitat

The background screening identified potential species that could occur on and adjacent to Phase 2. The list in **Table 3** was scoped to include species for which suitable habitat is present and

excluded those for which no habitat opportunities occur within Phase 2 or are historical in nature (i.e. greater than 40 years). The scoped review below includes a summary of relevance to the proposed application.

Table 4. Species of Conservation Concern Screening

Common Name	Scientific Name	Designation ⁴	Habitat Affinities Present Within or Adjacent to Phase 2	Proximity
<i>Mammals</i>				
¹ Tri- Coloured Bat	<i>Perimyotis subflavus</i>	Endangered ESA regulated	Marginal – Mature trees present	Adjacent
¹ Little Brown	<i>Myotis lucifugus</i>	Endangered ESA regulated	Yes – Suitable trees and structures present	Adjacent
¹ Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered ESA regulated	Low / None – Lacks forested habitats, only some mature trees are present	Adjacent
¹ Eastern Small-footed Bat	<i>Myotis leibii</i>	Endangered ESA regulated	No – Typically found in areas where rock structure occurs (e.g. escarpment, alvars, quarries)	Adjacent
<i>Avifauna</i>				
¹ Barn Swallow	<i>Hirundo rustica</i>	Threatened ESA regulated	Foraging habitat – observed in 2016 survey.	Within
¹ Chimney Swift	<i>Chaetura pelagica</i>	Threatened ESA regulated	No – chimney is capped. None were observed during field investigations.	N/A
¹ Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Special Concern	Yes - Hazard lands	Adjacent
^{1, 2} Eastern Meadowlark	<i>Sturnella magna</i>	Threatened ESA regulated	Yes - Suitable habitat on adjacent lands	Adjacent – crop-dependent
^{1, 2} Bobolink	<i>Dolichonyx oryzivorus</i>	Threatened ESA regulated	Yes - Suitable habitat on adjacent lands	Adjacent – crop-dependent
¹ Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Special Concern	Not currently – historically observed within Phase 1	Adjacent – crop-dependent
<i>Reptiles/Amphibians</i>				
¹ Western Chorus Frog	<i>Pseudacris triseriata</i>	Threatened	Yes - Hazard lands	Adjacent
<i>Vegetation</i>				
¹ Butternut	<i>Juglans cinerea</i>	Endangered ESA Regulated	Not observed during field investigations.	N/A
<i>Other</i>				
¹ Monarch	<i>Danaus plexippus</i>	Special Concern	Yes – milkweed observed on site	Adjacent

Source: (1) MNRF, SARO List, SLR expertise; (2) NHIC (2017)

Designation Status

Provincial Status - Species at Risk in Ontario list maintained by the Ontario Ministry of Natural Resources and Forestry, O.Reg. 230/08. Endangered Species Act Regulation OMNR S.O. 2007, Chapter 6. Schedules 1 thru 5.4. O. Reg. 242/08.

Regional or Local

Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC). S3 [Vulnerable] Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

Of the species identified above, the following are relevant to Phase 2 and its proposed application:

- Monarch Butterfly.

3.4.4.1 *Monarch*

The host plant for Monarch, Common Milkweed (*Asclepias syriaca*), was observed sporadically on the site. One Monarch was observed in flight during the site investigations late in 2018, a year

in which record numbers of Monarchs have emerged in Ontario. The potential for the site to be productive for Monarch was determined to be low due to the large area of cultivation and low numbers of Common Milkweed providing limited feeding opportunities for egg-laying and forage for the caterpillar stage of the life cycle.

3.5 Significant Wildlife Habitat

Habitats as outlined within the SWHTG include *Seasonal Concentrations of Wildlife*, *Rare Vegetation Communities*, *Specialized Habitat for Wildlife [excludes Endangered and Threatened Species]*, and *Animal Movement Corridors*. Criteria for Ecoregion 6E provide more detailed descriptions. The following candidate SWH features adjacent to the site were identified: Amphibian Breeding Habitat (Wetlands) and Terrestrial Crayfish.

3.5.1 Amphibian Breeding Habitat (Wetlands)

Amphibian surveys confirmed the presence of three species listed in the SWHTG by MNRF (2002). The threshold for designation is:

“...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.”

The data indicate that the treed swamp (SWD4-3)/meadow marsh (MAM2-3) is borderline SWH since both Spring Peeper and Gray Treefrog were recorded as a full chorus, but not on the same evening. Due to fluctuations in populations, an additional year of monitoring would provide greater certainty if necessary. While Gray Treefrog was not recorded in the stations listed above in **Table 3**, it was documented in the broader Property Boundary field investigations in support of the Phase 1 report, and within vegetation communities contiguous with the wetlands adjacent to Phase 2. Based on these observations, the Gray Treefrog should remain in consideration and the SWH classification of these adjacent wetlands should remain in place.

3.5.2 Terrestrial Crayfish

Site investigation confirmed the presence of Chimney or Digger Crayfish listed in the SWHTG by MNRF (2002). The chimneys were observed in lands currently under cultivation, and not in the ELC ecosites identified although “moist terrestrial sites” are mentioned. The SWH is limited to the area of meadow marsh or swamp. Therefore, the Poplar Mineral Deciduous Swamp (SWD4-3) and Reed-canary Grass Mineral Meadow Marsh (MAM2-2) constitute candidate SWH, although no chimneys were observed directly within those wetland communities, due to the dense vegetation obscuring visibility.

3.6 Corridors and Wildlife Linkages

Although the wetlands adjacent to Phase 2 provide important wildlife functions, they are virtually isolated by development to the southeast and east, and by agriculture to the north and west. The hazard lands mapped in the Southgate Township OP and County’s OP will be protected and the connection to the nearby significant woodland to the south and adjacent wetland will be maintained.

4.0 SIGNIFICANCE AND SENSITIVITY

4.1 Aquatic Environment

Although the adjacent aquatic environment provides low fish habitat function, the headwater drainage feature evaluation (TRCA and CVC 2014) recommends protection based on hydrological function associated with the channelized drainage feature that occurs within the meadow marsh and deciduous swamp along the west side of Phase 2.

4.2 Significant Woodlands

There are no Significant Woodlands within, or immediately adjacent to, Phase 2.

4.3 Wetlands

Three types of wetland comprise the large unit on the west side of the subject lands. The unit is identified in the Grey County Natural Heritage System Study (2017) but they have not been evaluated. The Melancthon Provincially Significant wetland occurs some distance to the southeast, however, the wetlands do not appear to discharge to the south and are therefore hydrologically isolated from that complex. Identified wetland complexes to the west and south are not provincially significant. Therefore, the applicable policy framework consists of the two Official Plans and the two Conservation Authority regulations.

The wetlands are maintained by a combination of surface water contributions (precipitation, runoff from lands to the east) and a fluctuating groundwater table. The latter is weakly indicated by the presence of Balsam Groundsel, Yellow Sedge and Alderleaf Buckthorn together with the Digger Crayfish. It will be important to maintain groundwater recharge and to ensure that sufficient water collects to support the amphibian breeding pools.

Note that the terrain within and around Phase 2 is relatively flat and the wetland water is slow to discharge. When it does, the direction is generally northward, where the water level remaining in the wetland will be controlled by the elevation of the outlet. These wetlands generally dry-out in summer except for the area around the drainage ditch where the excavation may have intersected the water table. The water volume in spring is a result of the spring freshet, controlled by outlet and subject to variations in climate. Volumes in excess of the storage capacity of the wetland will decant. In other words, the excess water flows through the system, while the ephemeral breeding pools are maintained, and dry-out through a combination of infiltration and evaporation. This mechanism makes the pools less sensitive to variation in water supply.

4.4 Wildlife

The community of birds, amphibians and mammals observed on the site are generally secure in Ontario and common in rural agricultural landscapes. Those that are designated as SOCC are discussed in the following section.

4.5 SAR and SWH

Candidate SWH identified adjacent to Phase 2 includes:

- The treed swamp (SWD4-3)/meadow marsh (MAM2-2);
- Terrestrial Crayfish.

The Reed-canary Grass Mineral Meadow Marsh and Poplar Mineral Deciduous Swamp are likely SWH for amphibian breeding, and together with the Reed-canary Grass Mineral Meadow Marsh likely provide habitat for Digger Crayfish as well. The habitat for the latter within the agricultural fields is excluded from designation but will be protected within the 10m buffer to the wetland as a precautionary approach. Advice published in 2005 concluded that while “never locally common there are many occurrences of this species in southern Ontario” (Environment Canada 2005). To date, neither the provincial nor federal government has listed the species beyond noting its sensitivity to development.

With respect to SAR Endangered and Threatened Species, although individuals were observed visiting the site, breeding was not confirmed except for Western Chorus Frog. This species is listed as Threatened both provincially and federally. Both the species and its habitat are protected under the ESA, 2007. Any removal of habitat is subject to discussion with the Ministry of Environment, Conservation and Parks and a permit and commitment to creating an overall benefit to the species may be required.

4.6 Corridors and Wildlife Linkage

The linkage across Glenelg Street is the most important connection adjacent to Phase 2 through the Fresh-Moist Sugar Maple – Lowland Ash Deciduous Forest.

5.0 DESCRIPTION OF THE DEVELOPMENT

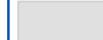
Phase 2 development footprint measures 8.58 ha in size for this draft plan. The development proposed for Phase 2 includes a Low-Density Residential Plan consisting of 83 single detached lots (3.09 ha) and 66 townhouse units (1.48 ha). **Figure 3** illustrates the concept plan prepared by MHBC, showing the 1.22 ha Stormwater Management Facility (SWM Facility) at the north portion, mix of housing units, walkways, open space, setbacks/buffers, the 0.35 ha park and other features. The 9.78 ha adjacent Open Block includes the thicket swamp, portions of the meadow marsh and deciduous swamp and a channelized drain, and the 10 m buffer. The total area of both the Open Space (wetlands) and concept plan amount to 18.36 ha.

All drainage will be directed north into the stormwater management area. Two outlets for the SWM Facility are specified. One outlet will be discharging to the wetlands to the west during minor events in order to meet runoff water balance rates. Due to grading constraints, including the CP Rail Trail to the east of Phase 2, a small portion of the proposed development’s stormwater will be directed west to the wetlands via a second outlet (Crozier, 2020). Such major flow will discharge to a proposed channel, directing flow to the current wetland outlet along Ida Street, northwest of the Phase 2 site.

D:\GIS\Projects\209_40385_Dundak\1_MXD\3.WRK\GIS\Phase2Dundak\209_40385_SitePlanOverlay.mxd



LEGEND

-  Phase 2 Study Area
-  Phase 1 Study Area
-  Tile Drain Outlet
-  Site Plan (MHBC, Sept 24 ,2020)
-  Phase 2 Site Plan (MHBC, Sept 24 ,2020)
-  Drain
-  Staked Dripline (Schaeffer Dzaldov Bennett Ltd., Staked June 25, 2018)
-  Wetland and Dripline Buffer (10m)
-  1: Wetland
-  3: Phase 3 Development Envelope
-  4: Phase 2 Study Area



SCALE: 1:1,700
WHEN PLOTTED CORRECTLY AT 11 x 17
NAD 1983 UTM Zone 17N

NOTES

This map is for conceptual purposes only and should not be used for navigational purposes.

FLATO DEVELOPMENT INC.

GLENELG PHASE 2
RESIDENTIAL DEVELOPMENT

DRAFT PLAN OVERLAY

September 29, 2020	Rev 0.0	Figure No.
Project No. 209.40385.00000		3



6.0 IMPACT ASSESSMENT

The development has been located to protect most of the natural features (**Figure 3**). No wetlands will be removed, and the mid-wetland drain will remain intact. The primary potential source of impact to ecosystem functions is the anticipated change in the distribution of surface water and the potential for groundwater drawdown.

6.1 Aquatic Environment

Protection is provided to the intermittently flowing channelized drain within the meadow marsh and deciduous swamp by the buffer along the western limit of Phase 2, thus minimizing potential effects from the proposed development.

Post-development peak storm water flows will be controlled to pre-development conditions, thus protecting channelized features. In addition, storm water management design of 80% removal efficiency for total suspended solids will provide enhanced protection (Crozier 2018, MOECP standard).

6.2 Vegetation

There will be no wetland or woodland removed as a result of the draft plan.

The soils are silty sands that permit some infiltration. Grades on the plan are anticipated to be 2%. On the basis that runoff will have an opportunity to infiltrate, and the low grade allows the water to remain in the backyards due to the low velocity of runoff, the buffer to the wetland required for water quality can be reduced to 10 m. The wildlife inventories did not record any sensitive species breeding close to the edge of the swamp, therefore there is not a requirement to provide wider buffers to protect wildlife function, especially as the draft plan anticipates that backyards will abut the buffer.

The buffer will be ecologically restored using a native meadow seed mix that will provide suitable water quality control, in order to enhance the water quality improvement function of the buffer. The buffer should be allowed to naturally revegetate thereafter.

It is expected that the hydrogeology report will demonstrate a minimal drawdown effect with respect to the groundwater table associated with the wetland; wetland function will be maintained provided mitigation recommendations are implemented. The Functional Servicing Report (Crozier 2020) anticipates that water that currently reaches the wetland through sheet flow will now be diverted through the subdivision to the SWM Facility at the north portion of Phase 2. Very limited amounts will be directed to the wetland to the west.

This diversion of water runoff could be important if it resulted in desiccation of the soils and a failure to maintain wetland conditions. However, most of the plants in the wetland are those that are tolerant of drier conditions and are called facultative wetland species. These are species that are routinely found in upland sites about 30% of the time. The wet conditions on Phase 2 are maintained by a combination of groundwater and surface water supply. The presence of the three near-fen plants and Digger Crayfish indicates that groundwater plays an important role and the surface water a lesser one in maintaining wetland conditions. The important function is the trapping of the spring freshet that creates suitable amphibian breeding habitat for several species of frogs, including a Threatened species. This habitat will be maintained through a combination of relatively flat grades in the wetland and the invert of the outlet. Note that an existing drainage

channel excavated in the middle of the wetland failed to drain it. The spring freshet will continue to fill the wetland, with excess decanting to the north as in the current condition.

As a precautionary measure, the runoff from the roofs and backyards adjacent to the wetland should be directed toward the wetland to the west.

6.3 Wildlife

Wildlife habitat occurs on Phase 2 in the form of agricultural areas. Species associated with agricultural lands will return to the neighbourhood following construction.

All of the wetlands will remain with the implementation of the Plan. The 10 m buffer to this feature captures the chimneys produced by the Digger Crayfish, therefore it is expected that the population will not be affected. The 10 m buffer will be naturalized and function to increase the size of these natural areas to the advantage of wildlife.

6.4 Species at Risk and Significant Wildlife Habitat

Western Chorus Frog is the only federally- ranked Threatened species breeding in the northern wetland. Its habitat will be maintained through mitigation that addresses infiltration of groundwater; accordingly, no effects are anticipated. The 10 m buffer will provide water quality improvements for runoff directed to the feature from the backyards.

The agricultural verges provide foraging habitat for Monarch (Endangered). MNRF/MECP will be contacted with respect to appropriate compliance with the ESA, 2007, if any.

6.5 Summary of Impact Analysis

Table 5 provides a synopsis of the key features and/or functions that occur on the site together with the potential impact that could be created by the proposed draft plan, and the recommended mitigation.

Table 5. Summary of Impacts and Recommended Mitigation

Feature/Function	Sensitivity	Mitigation
Wetland	Desiccation through groundwater drawdown and diversion of surface water runoff; Changes in water quality discharged to the wetland	The hydrogeology report will provide mitigation to prevent a drawdown associated with the installation of services, or a blockage of groundwater flow to the wetland. No further mitigation is required. Surface water will be diverted away from the wetland to the SWM Facility in the north; however, the critical amphibian breeding functions will still occur since they are

Feature/Function	Sensitivity	Mitigation
		<p>maintained by spring freshet that is retained behind the invert of the outlet.</p> <p>Water quality impairment is not an issue since nearly all water originating on the subdivision will be directed to the SWM Facility in the north of Phase 2.</p> <p>The area of the wetland will be enhanced through the addition of a 10 m buffer that will be planted in native meadow and allowed to naturalize.</p>
Wildlife Habitat	Habitat removal consisting of agricultural fields and pasture.	<p>Wildlife habitat will be maintained in the Open Space block that has been enlarged through the application of buffers.</p> <p>An array of urban tolerant wildlife will continue to occur on Phase 2.</p>
<p>Species of Conservation Concern</p> <ul style="list-style-type: none"> • Western Chorus Frog 	Habitat removal consisting of agricultural fields and pasture.	<p>Wetland will be enhanced through the application of a buffer.</p> <p>Western Chorus Frog habitat will be maintained through mitigation that maintains the wetlands.</p>

7.0 POLICY CONFORMITY

The following section describes policies relevant to the natural environment and describes how the natural heritage features identified within this EIS have been addressed. Policy conformity is summarized in **Table 6**.

Table 6. Summary of Policy Conformity

Policy	Conformity	Rationale
Provincial Policy Statement	In compliance	<ul style="list-style-type: none"> • No PSW or ANSI identified on subject property or adjacent land • No woodlands occur within or adjacent to Phase 2 that would qualify as candidate features for evaluation • Fish habitat contributes allochthonous transport to downstream habitat • Sensitive features associated with the wetland will remain on the landscape • The 10 m buffer to the features captures the chimneys produced by the Digger Crayfish • Habitat for threatened species identified on Phase 2 will be protected
Grey County Official Plan	In compliance	<ul style="list-style-type: none"> • Proposed development located in Rural area, Schedule A, Map 2
Township of Southgate Official Plan	Not applicable	<ul style="list-style-type: none"> • The plan shows no significant natural environment features on or adjacent to the proposed development • Proposed development will be set back 10 m from the wetland
Ontario Regulation and 169/06 (SVCA)	Permit required	<ul style="list-style-type: none"> • Proposed development set back 10 m from wetland identified along west side of Phase 2 • Outlet of stormwater to the wetland situated west of Phase 2 will comply with MOE/MECP requirements
<i>Endangered Species Act (ESA, 2007)</i>	In compliance with MNR/MECP follow-up	Breeding habitat and summer refuge for Western Chorus Frog will be maintained in the wetland.
<i>Migratory Birds Convention Act (MBCA, 1994)</i>	Compliance anticipated	No vegetation removals from naturalized areas are anticipated.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The Phase 2 development lands are located within lands currently in agricultural land use. The proposal does not anticipate creation of impacts to fish or fish habitat and provisions have been made for the management of the terrestrial linkage associated with the wetlands to minimize the impacts on connectivity and corridor function.

We recommend that best management practices be in place with respect to sediment and erosion control, vegetation clearing and construction timing windows and stabilization of disturbed soils. The analysis of the natural heritage features and functions associated with proposed draft plan indicate that the proposed community within the Southgate Official Plan can proceed within the context of provincial and regional policies to protect essential natural heritage function and SAR within the landscape in the long term. Thus, the draft plan is supportable from a natural heritage system perspective.

8.1 Recommendations

The following operational constraints and mitigation strategies are recommended for use during the construction phase of this project for the protection of natural heritage features and functions on and adjacent to the subject lands:

- Recommendations as outlined in the accompanying application documents (i.e. Geotechnical Investigation reports and or Hydrogeology reports are to be respected);
- Permanent post and rail wire or chain-link fence are recommended along the limits of proposed buffers. This fencing should be sturdy beyond the typical rebar and sediment fabric fence. Prior to the commencement of construction, the limits of protection areas (buffers) are to be delineated and fenced to avoid inadvertent intrusion of machinery or other activities such as stockpiling of materials. Temporary sediment control fencing can be attached to the fencing and must be maintained and remain in place until final grading and landscaping has been completed.
- Grading limits are to respect minimum root protection zones for trees along the woodland and where present along the wetland edge. Minimum protection of the root zone is measured the base of the tree to the tree's dripline. Earthworks/ grading, stockpiling of material etc. is to be directed away from protection areas. Final site grading and design is to ensure these areas are not encroached upon unless approved by the Township and SVCA where minor grading intrusions may be necessary (e.g. to match grades),
- Vegetation removals associated with construction related activities are to be minimized. Additional tree hording/ fencing may be required in consultation with the SVCA to prevent intrusion and stockpiling of materials into adjacent forests and swamps.
- Stockpiling of materials should be kept away from adjacent natural features; no fill should be placed in and around the wetland communities;
- Exposed soils should be re-vegetated as soon as possible with native seed mixes to reduce erosion. If stabilization is not possible by plantings, then other appropriate erosion controls (e.g. coir mats) should be applied in the interim;
- It is the responsibility of the proponent to ensure that the works are in conformity with the MBCA, 1997, and ESA, 2007 in that no migratory bird(s) or SAR species will be harassed, harmed, killed or nests / habitats destroyed by the proposed work. The recommended

avoidance window (where vegetation removal should be avoided) is from April 1 to August 31st. No avoidance window absolves the proponent or their contractors from contriving the MBCA or ESA. If a nest, egg, fledging or SAR species is encountered work must stop and the appropriate agency (e.g. Environment Canada and Climate Change) be consulted for advice.

- Restoration of the buffer is proposed. This is to be seeded with native species meadow mix (suitable for this growing region and soils). Native Milkweed (*Asclepias* sp.) should be incorporated into any buffer planting seed mix and where possible other natural areas on Phase 2. The area is to be maintained as a maintenance free area for pollinators and edge bird species using SVCA specification and guidelines;
- To protect wildlife in general, no animals are to be knowingly harmed. If wildlife is encountered during construction, work must stop, and animals be allowed to disperse on their own. If necessary, the SVCA or MNRF should be contacted for advice;
- Construction monitoring by an ecologist/arborist and certified inspector of sediment and erosion control (CISEC) is recommended as a part of a monitoring program to be developed with the SVCA. This may include (but not limited to): photographic records, periodic SEC inspection reports and inspection of protected limits to ensure no encroachment and other mitigation measures are implemented.
- All outdoor lighting (including any new street lighting and external lighting on buildings) should be directed towards the ground and away from the natural areas.

In addition to these recommendations, the following requirements as provided through consultation with the Town, SVCA and MNRF pertain specifically to future land use planning, design and construction activities associated with Phase 2:

- A permit from SVCA will be required as Phase 2 is regulated by Ontario Regulation 169/06.

Note: SAR Information is accurate and up to date as of this report (September 2020); habitat existing conditions are accurate up to the dates of the surveys completed by SLR. New species designation's under Ontario Regulation 230/08 (SAR in Ontario List) occur periodically. It is the owner's responsibility to ensure that species and habitats regulated under ESA (2007) or those described under other policies (i.e. the MBCA, *Fish and Wildlife Conservation Act*) are protected.

9.0 REFERENCES

- Brouillet, L., F. Coursol, S.J. Meades, M. Favreau, M. Anions, P. Bélisle & P. Desmet. 2010+. VASCAN, the Database of Vascular Plants of Canada. <http://data.canadensys>. Accessed December 2017.
- CBC News, 8 August 2017. Wild boars on the loose in Ontario are likely homegrown, says official Available online at: <https://www.cbc.ca/news/canada/toronto/wild-boars-on-the-loose-ontario-1.4238689>
- C. F. Crozier and Associates Inc. (Crozier). September 2020. Functional Servicing & Stormwater Management Report: Glenelg Residential Development – Phase 2. For Southgate Meadows Inc.
- Environment Canada. 2010. Recovery Strategy for the Butternut (*Juglans cinerea*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa vii + 24 pp.
- Environment Canada. 2014. Recovery Strategy for the Western Chorus Frog (*Pseudacris triseriata*), Great Lakes / St. Lawrence – Canadian Shield Population, in Canada [Proposed], Species at Risk Act Recovery Strategy Series, Environment Canada, Ottawa, v + 46 pp
- Government of Canada, 1994. Migratory Birds Convention Act, S.C. 1994, c. 22. Available online at: <http://laws-lois.justice.gc.ca/eng/acts/M-7.01/>
- Government of Canada. 2012. Species at Risk Public Registry. Available online: http://www.sararegistry.gc.ca/default_e.cfm
- Government of Ontario. 2007. Endangered Species Act.
- Grand River Conservation Authority, 2006. Ontario Regulation 150/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.
- Grey County, 2013. Grey County Official Plan.
- Township of Southgate, 2006. Southgate Official Plan.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray, 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Ministry of Natural Resources and Forestry, 2012. Ecoregion Criterion Schedules including Significant Wildlife Habitat Technical Guide (2000).
- Ministry of Natural Resources and Forestry. 2017. Land Information Ontario. Accessed August 2017. "Map a Map" Natural Features including Element occurrence information (Natural Heritage Information Centre database).
- Ministry of Natural Resources and Forestry. 2018. Species at Risk in Ontario. Accessed on line <https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>
- Ministry of Natural Resources and Forestry. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp.
- Natural Resource Solutions Inc., 2017. Grey County Natural Heritage System Study "Green in Grey" <https://www.grey.ca/programs-initiatives/green-grey-natural-environment-study>
- Ontario Geological Survey 2010. Surficial geology of Southern Ontario; Ontario Geological Survey, Miscellaneous Release--Data 128-REV

Ontario Ministry of Municipal Affairs and Housing, 2005. Provincial Policy Statement. Available at: <http://www.mah.gov.on.ca>

Saugeen Valley Conservation Authority, 2006. Ontario Regulation 169/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Sirati & Partners Consultants Ltd., 2017 Preliminary Report on Geotechnical Investigation Proposed Residential Development, 231 Glenelg Street, Township of Southgate, Dundalk, Ontario.

SLR Consulting (Canada) Ltd. 2020. Preliminary Hydrogeological Investigation – Glenelg Development Phase 2 [pending].

Wild Pigs in Canada, 2017. Accessed online <http://wildpigscanada.ca/wild-boar-information/history/>.

Wild Species, 2005. The General Status of Species in Canada, Section 2: Crayfishes. Accessed 24 Sept 2018 <https://www.registrelep-sararegistry.gc.ca>

10.0 STATEMENT OF LIMITATIONS

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for 2358737 Ontario Inc., hereafter referred to as the "Client". The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. It is intended for the sole and exclusive use of Client. Other than by the Client and as set out herein, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

This report has been prepared for specific application to this site and site conditions existing at the time work for the report was completed. Any conclusions or recommendations made in this report reflect SLR's professional opinion.

Information contained within this report may have been provided to SLR from third party sources. This information may not have been verified by a third party and/or updated since the date of issuance of the external report and cannot be warranted by SLR. SLR is entitled to rely on the accuracy and completeness of the information provided from third party sources and no obligation to update such information.

Nothing in this report is intended to constitute or provide a legal opinion. SLR makes no representation as to the requirements of compliance with environmental laws, rules, regulations or policies established by federal, provincial or local government bodies. Revisions to the regulatory standards referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary.

The Client may submit this report to related environmental regulatory authorities or persons for review and comment purposes.

APPENDIX A
Plant List

Environmental Impact Study
Glenelg Phase 2: Residential Subdivision
231 Glenelg Street, Dundalk, Ontario
SLR Project No.: 209.40385.00000

Common Name	Scientific Name	SRank ¹	SARA ²	SARO ³	MAM2-2	SWD4-3	CUM1-1
Alderleaf Buckthorn	<i>Rhamnus alnifolia</i>	S5				x	
Alsike Clover	<i>Trifolium hybridum</i>	SNA					x
Alternate-leaf Dogwood	<i>Cornus alternifolia</i>	S5					
American Elm	<i>Ulmus americana</i>	S5				x	
American Larch	<i>Larix laricina</i>	S5				x	
Bald Spikerush	<i>Eleocharis erythropoda</i>	S5			x		
Balsam Groundsel	<i>Packera paupercula</i>	S5			x		
Balsam Poplar	<i>Populus balsamifera</i>	S5				x	
Bebb's Willow	<i>Salix bebbiana</i>	S5				x	
Bird's-foot Trefoil	<i>Lotus corniculatus</i>	SNA					x
Black Ash	<i>Fraxinus nigra</i>	S5				x	
Bracken Fern	<i>Pteridium aquilinum</i>	S5					
Broad-leaved Water-plantain	<i>Alisma subcordatum</i>	S5			x		
Choke Cherry	<i>Prunus virginiana</i>	S5					
Climbing Nightshade	<i>Solanum dulcamara</i>	SNA			x	x	
Colt's Foot	<i>Tussilago farfara</i>	SNA					x
Common Apple	<i>Malus pumila</i>	SNA					
Common Burdock	<i>Arctium minus</i>	SNA					x
Common Dandelion	<i>Taraxacum officinale</i>	SNA					x
Common Milkweed	<i>Asclepias syriaca</i>	S5					x
Crack Willow	<i>Salix euxina</i>	SNA					
Dwarf Raspberry	<i>Rubus pubescens</i>	S5				x	
European Mountain-ash	<i>Sorbus aucuparia</i>	SNA					
False Solomon's seal	<i>Maianthemum racemosum</i>	S5					
Field Horsetail	<i>Equisetum arvense</i>	S5			x	x	
Fowl Bluegrass	<i>Poa palustris</i>	S5			x		
Fowl Mannagrass	<i>Glyceria striata</i>	S5			x	x	
Fox sedge	<i>Carex vulpinoidea</i>	S5			x		
Fringed Loosestrife	<i>Lysimachia ciliata</i>	S5				x	
Graceful sedge	<i>Carex gracillima</i>	S5			x	x	
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	S5			x		
Gray-stemmed Goldenrod	<i>Solidago nemoralis</i>	S5			x		x
Green Ash	<i>Fraxinus pennsylvanica</i>	S4				x	
Hawthorn species	<i>Crataegus species</i>	--					
Kentucky Bluegrass	<i>Poa pratensis</i>	S5					x
Kentucky Fescue	<i>Lolium arundinaceum</i>	SNA					x
Lake-bank sedge	<i>Carex lacustris</i>	S5			x	x	
Manitoba Maple	<i>Acer negundo</i>	S5				x	x
Marsh Bedstraw	<i>Galium palustre</i>	S5			x		

Common Name	Scientific Name	SRank ¹	SARA ²	SARO ³	MAM2-2	SWD4-3	CUM1-1
Michaux's sedge	<i>Carex michauxiana</i>	S5?			x		
Narrow-leaved Cattail	<i>Typha angustifolia</i>	S5			x		
Narrow-leaved Meadow-sweet	<i>Spiraea alba</i>	S5			x		
Norway Spruce	<i>Picea abies</i>	SNA					
Old-field Cinquefoil	<i>Potentilla simplex</i>	S5					x
Orchard Grass	<i>Dactylis glomerata</i>	SNA					x
Oxeye Daisy	<i>Leucanthemum vulgare</i>	SNA					x
Panicled Aster	<i>Symphyotrichum lanceolatus</i>	S5			x		
Purple-stemmed Aster	<i>Symphyotrichum puniceus</i>	S5			x		
Pussy Willow	<i>Salix discolor</i>	S5					
Red-osier Dogwood	<i>Cornus sericea</i>	S5			x	x	
Reed Canary Grass	<i>Phalaris arundinacea</i>	S5			x	x	x
Retrorse sedge	<i>Carex retrorsa</i>	S5			x		
Shining Willow	<i>Salix lucida</i>	S5				x	
Silver/Fremans Maple	<i>Acer x freemanii</i>	SNA				x	
Silverweed	<i>Potentilla anserina</i>	S5					x
Smooth Brome	<i>Bromus inermis</i>	SNA					x
Soft Rush	<i>Juncus effusus</i>	S5			x		
Soft-stemmed Bulrush	<i>Schoenoplectus tabernaemontani</i>	S5			x		
Spotted Jewelweed	<i>Impatiens capensis</i>	S5		x			
Spotted Joe-pye Weed	<i>Eupatorium maculatum</i>	S5			x		
Strict Blue-eyed-grass	<i>Sisyrinchium montanum</i>	S5					x
Sugar Maple	<i>Acer saccharum</i>	S5					
Tall Buttercup	<i>Ranunculus acris</i>	SNA					x
Tall Fescue	<i>Lolium arundinadium</i>	SNA					x
Tall Goldenrod	<i>Solidago altissima</i>	S5			x		x
Timothy	<i>Phleum pratense</i>	SNA			x		x
Trembling Aspen	<i>Populus tremuloides</i>	S5				x	
Virginia Strawberry	<i>Fragaria virginiana</i>	S5					x
White Ash	<i>Fraxinus americana</i>	S5					
White Cedar	<i>Thuja occidentalis</i>	S5				x	
White Spruce	<i>Picea glauca</i>	S5					
Wild Carrot	<i>Daucus carota</i>	SNA					x
Wild Mock-cucumber	<i>Echinocystis lobata</i>	S5					x
Woolgrass Bulrush	<i>Scirpus atrovirens</i>	S5			x		
Woolly Burdock	<i>Arctium tomentosum</i>	SNA					x
Yellow sedge	<i>Carex flava</i>	S5			x		

APPENDIX B
Wildlife Observations

Environmental Impact Study
Glenelg Phase 2: Residential Subdivision
231 Glenelg Street, Dundalk, Ontario
SLR Project No.: 209.40385.00000

Common Name	Scientific Name	SRank ¹	SARA ² COSEWIC Designation then Schedule	SARO ³	Highest Breeding Evidence Observed ⁴	SWT/SWD/MAM (Wildlife Unit 1)	Agricultural Lands (Wildlife Unit 3)	Comments
Avifauna								
Alder Flycatcher	<i>Empidonax alnorum</i>	S5B,SZN			AE	x		Only observed in 2017 surveys
American Crow	<i>Corvus brachyrhynchos</i>	S5B,SZN			H	x	x	
American Goldfinch	<i>Carduelis tristis</i>	S5B,SZN			FY	x	x	
American Redstart	<i>Setophaga ruticilla</i>	S5B,SZN			S	x		Female observed during 2017 survey only
American Robin	<i>Turdus migratorius</i>	S5B,SZN			FY	x	x	Observed foraging in agricultural lands
Barn Swallow	<i>Hirundo rustica</i>	S5B,SZN	THR SCH 1 THR	THR	H		x	Observed foraging throughout property
Black-capped Chickadee	<i>Poecile atricapillus</i>	S5			A	x		
Blue Jay	<i>Cyanocitta cristata</i>	S5			S	x	x	
Bobolink	<i>Dolichonyx oryzivorus</i>	S4B,SZN	THR SCH 1 THR	THR	XX	x		Observed on adjacent lands northwest of the property limits singing on the fence post
Canada Goose	<i>Branta canadensis</i>	S5B,SZN			FY		x	Foraging and resting in agricultural lands
Chipping Sparrow	<i>Spizella passerina</i>	S5B,SZN			H		x	Only observed during 2016 surveys
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	S5B,SZN			H		x	Only observed during 2016 surveys
Common Grackle	<i>Quiscalus quiscula</i>	S5B,SZN			S	x	x	
Common Yellowthroat	<i>Geothlypis trichas</i>	S5B,SZN			DD	x		Only observed during 2017 surveys
Eastern Kingbird	<i>Tyrannus tyrannus</i>	S5B,SZN			H		x	Observed utilizing agricultral edges for foraging opportunities
Eastern Meadowlark	<i>Sturnella magna</i>	S5B,SZN	THR SCH 1 THR	THR	FY		x	Femal obsered in small grassy area within property, and perched on post of horse ring. One male observed perched and calling from fench post in small area within property near north property line; other birds were heard calling from the northeast on adjacent lands.
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B,SZN					x	
European Starling	<i>Sturnus vulgaris</i>	SE			P		x	
Field Sparrow	<i>Spizella pusilla</i>	S5B,SZN			H		x	Only observed in 2016 surveys
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	S4B,SZN	SC SCH 1 SCH	SC	H		x	
Gray Catbird	<i>Dumetella carolinensis</i>	S5B,SZN			H	x	x	
Great Egret	<i>Casmerodius albus</i>	S2B,SZN			X		x	Observed as a flyover
Herring Gull	<i>Larus argentatus</i>	S5B,S5N			X		x	
House Wren	<i>Troglodytes aedon</i>	S5B,SZN			P	x	x	
Indigo Bunting	<i>Passerina cyanea</i>	S5B,SZN			T		x	Only observed during 2016 surveys
Killdeer	<i>Charadrius vociferus</i>	S5B,SZN			FY		x	
Mourning Dove	<i>Zenaida macroura</i>	S5B,SZN			FY	x	x	
Northern Cardinal	<i>Cardinalis cardinalis</i>	S5			S	x		Only observed during 2017 surveys

Common Name	Scientific Name	SRank ¹	SARA ² COSEWIC Designation then Schedule	SARO ³	Highest Breeding Evidence Observed ⁴	SWT/SWD/MAM (Wildlife Unit 1)	Agricultural Lands (Wildlife Unit 3)	Comments
Northern Flicker	<i>Colaptes auratus</i>	S5B,SZN			S	x		
Northern Harrier	<i>Circus hudsonius</i>	S4B			H		x	
Pileated Woodpecker	<i>Dryocopus pileatus</i>	S4S5			H	x		Observed foraging in larger trees in hazard lands
Red-eyed Vireo	<i>Vireo olivaceus</i>	S5B,SZN			H		x	Only observed during 2017 surveys
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S5B,SZN			P	x	x	
Ring-billed Gull	<i>Larus delawarensis</i>	S5B,SZN			XX		x	Observed in agricultural lands and flying overhead
Rock Dove	<i>Columba livia</i>	SE			H		x	
Savannah Sparrow	<i>Passerculus sandwichensis</i>	S5B,SZN			S	x	x	
Song Sparrow	<i>Melospiza melodia</i>	S5B,SZN			FY	x	x	
Swamp Sparrow	<i>Melospiza georgiana</i>	S5B,SZN				x		
Turkey Vulture	<i>Cathartes aura</i>	S5B			X		x	
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	S5B			S			
Yellow Warbler	<i>Dendroica petechia</i>	S5B,SZN			S	x		Only observed during 2017 surveys
Wild Turkey	<i>Meleagris gallopavo</i>	S5			X		x	
Amphians / Reptiles								
American Toad	<i>Anaxyrus americanus</i>	S5				x	x	
Western Chorus Frog	<i>Pseudacris maculata</i>	S3	THR SCH 1 THR			x		
Gray Treefrog	<i>Dryophytes versicolor</i>	S5				x		
Northern Leopard Frog	<i>Lithobates pipiens</i>	S5				x		
Snapping Turtle	<i>Chelydra serpentina</i>	S3	SC SCH 1 SC	SC		x		
Spring Peeper	<i>Pseudacris crucifer</i>	S5				x	x	Small wetland pocket at Glenelg Street on south side (Wildlife Unit 3); Spread throughout the unit (Wildlife Unit 1)
Wood Frog	<i>Lithobates sylvaticus</i>	S5				x	x	Small wetland pocket at Glenelg Street on south side (Wildlife Unit 3); Spread throughout the unit (Wildlife Unit 1)
Mammals / Other								
Chimney Crayfish	<i>Cambarus diogenes</i>	S4				x		Several Chimneys within the edge of fields
Eastern Chipmunk	<i>Tamias striatus</i>	S5				x	x	
Monarch	<i>Danaus plexippus</i>	S2N,S4B	END SCH 1 SC	SC		x	x	
Raccoon	<i>Procyon lotor</i>	S5				x	x	
Red Fox	<i>Vulpes vulpes</i>					x	x	
Two-spotted Bumble Bee	<i>Bombus bimaculatus</i>	S5				x	x	
White-tailed Deer	<i>Odocoileus virginianus</i>	S5				x	x	
Wild Boar	<i>Sus scrofa</i>	SNA	NA	NA		x		Carcass

Common Name	Scientific Name	SRank ¹	SARA ² COSEWIC Designation then Schedule	SARO ³	Highest Breeding Evidence Observed ⁴	SWT/SWD/MAM (Wildlife Unit 1)	Agricultural Lands (Wildlife Unit 3)	Comments
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¹**S-Ranks** - Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for global ranks, but consider only those factors within the political boundaries of Ontario.

S1 Critically Imperiled—Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.

S2 Imperiled—Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.

S3 Vulnerable—Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 Secure—Common, widespread, and abundant in the nation or state/province.

S#S# Range Rank —A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

SX Apparently extirpated from Ontario, with little likelihood of rediscovery. Typically not seen in the province for many decades, despite searches at known historic sites.

SNA (Formally SE) Exotic; not believed to be a native component of Ontario's flora.

²**SARA** - Species at Risk Act (S.C. 2002, c. 29) Act current to 2018-07-05 and last amended on 2018-05-30.

³**SARO** - ONTARIO REGULATION 230/08 under the Endangered Species Act, 2007 species at risk in Ontario list. Act current to 2018-08-01. COSEWIC (Committee on the Status of Endangered Wildlife in Canada)

EXT Extinct - A species that no longer exists.

EXP Extirpated - A species no longer existing in the wild in Canada, but occurring elsewhere.

END Endangered - A species facing imminent extirpation or extinction.

THR Threatened - A species likely to become endangered if limiting factors are not reversed.

SC Special Concern (formerly vulnerable) - A species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

NAR Not At Risk - A species that has been evaluated and found to be not at risk of extinction given the current circumstances.

DD Data Deficient (formerly Indeterminate) - Available information is insufficient to resolve a species' eligibility for assessment or to permit an assessment of the species' risk of extinction.

* - Species on Schedule 1 of Species At Risk Act (SARA)

⁴**Highest Breeding Evidence Ontario Breeding Bird Atlas: Breeding Evidence Codes**

X - Present **XX** - Heard but not expected to be breeding (e.g. using habitat - foraging)

POSSIBLE

H - Species observed in its breeding season in suitable nesting habitat.

S - Singing male(s) present, or breeding calls heard, in suitable nesting habitat in breeding season.

PROBABLE

P - Pair observed in suitable nesting habitat in nesting season

T - Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two days, a week or more apart, at the same place

D - Courtship or display, including interaction between a male and a female or two males, including courtship feeding or copulations

V - Visiting probably nest site

A - Agitated behaviour or anxiety calls of an adult

B - Brood patch on adult female or cloacal protuberance on adult males

N - Nest building or excavation of nest hole

CONFIRMED

DD - Distraction display or injury feigning **CF** - Adult carrying food for young **NE** - Nest containing eggs

NY - Nest with young seen or heard **NU** - Used nest or egg shells found (occupied or laid within the period of the survey) **FY** - Recently fledged young (nidicolous species) or downy young (nidifugous species), including incapable of sustained flight

AE - Adult leaving or entering nest sites in circumstancing indicating occupied nest **FS** - Adult carrying fecal sac

APPENDIX C
Representative Site Photographs

Environmental Impact Study
Glenelg Phase 2: Residential Subdivision
231 Glenelg Street, Dundalk, Ontario
SLR Project No.: 209.40385.00000

Swamp Thicket (Wetland) and Woodland



Photograph 1. Overview wetland areas (SWT, view south west towards hazard lands also providing Spring Peeper habitat (November 14, 2017).



Photograph 2. Wetland Staking edge of feature (June 2018).



Photograph 3. Drainage feature within swamp thicket (April 2018).



Photograph 4. Chimney Crayfish within wetland along edge (June, 2018).



Photograph 5. Carcass of wild bore (exotic escape) found within SWT unit (April 2018).



Photograph 6. Cedar dominated Woodland abutting wetland features (June 2016).

Agricultural and Cultural Meadow



Photograph 7. Overview of agricultural lands, view south west towards hazard lands (June 2016).



Photograph 8. Pasture - grass dominant species composition providing foraging opportunities for Eastern Meadowlark (June 2016).



Photograph 9. Debris pile within pasture (June 2016).



Photograph 10. Soy fields encompassing the majority of the property (June 2016).



Photograph 11. Plowed agricultural fields. View across fields east to west towards the wetland community (background) (June 7, 2017).



Photograph 12. Overview of site from Glenelg Street. Note Woodland and wetland in background and crop in foreground (September 2018).

Aquatic Features



Photograph 13. Tile outlet mostly northerly limits of the property (May 2018).



Photograph 14. Spring Freshet of drainage feature. Representative of how the channels are braided and difficult to define (April 2018).



Photograph 15. Channelized drainage within swamp thicket along west property limits (May, 2018).



Photograph 16. Beaver evidence in channelized drainage



Photograph 17. Channelized drain with isolated standing pools (July, 2018)



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