

# Appendix **B**

## Technical Reports

# Appendix **B1**

## Natural Environment Report

Metrolinx

# Highway 27-Woodbine Station Natural Environment Report

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## Revision History

| Rev # | Date            | Revision Description  |
|-------|-----------------|---|
| 2     | June 27, 2019   | AECOM Internal Review   |
| 3     | July 9, 2019    | AECOM Internal Revisions and Review                             |
| 4     | July 12, 2019   | Initial draft submission to client.                             |
| 5     | August 15, 2019 | Final submission to client.                                     |
| 6     | January 6, 2020 | Revised Final NER to address comments from the City of Toronto. |

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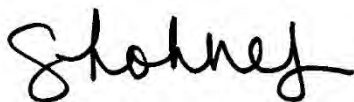
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# 1. Introduction

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Woodbine Entertainment Group (WEG) has proposed a new GO Station to be developed in partnership with Metrolinx, located at 555 Rexdale Boulevard (Woodbine Racetrack) in the City of Toronto (the Project). The Project has been assessed under the Transit Project Assessment Process (TPAP). For TPAP purposes, Metrolinx is the proponent. WEG will be constructing the Project and will be responsible for the corresponding mitigation and commitments to future work.

AECOM Canada Limited (AECOM) was retained by WEG to undertake an environmental impact assessment for the Highway 27-Woodbine Station per the TPAP. AECOM prepared a Natural Environment Report (NER) for the Project. This NER is one of a number of environmental studies that was completed as a part of the TPAP, under which project impacts have been assessed as prescribed in Ontario Regulation (O. Reg.) 231/08 under the *Environmental Assessment Act*. As part of the TPAP, an Environmental Project Report (EPR) has been prepared for public review and includes the findings of this NER.

Due to future development and increased demand at the Woodbine Districts, an early stage initiative calls for the expansion of new public transit options to service the area. Metrolinx and WEG have partnered together to develop the proposed Project, which is anticipated to evolve from the proposed GO station into a multi-modal transportation hub that will increase annual visits to the Woodbine Districts to potentially over 16 million. GO Transit currently operates train service along the Kitchener Rail Corridor, from Union Station in Toronto to Kitchener GO Station in Kitchener. The new proposed Project will provide a new station stop along the Kitchener Rail Corridor.

The proposed Project will include:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Plaza plaza;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g., integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

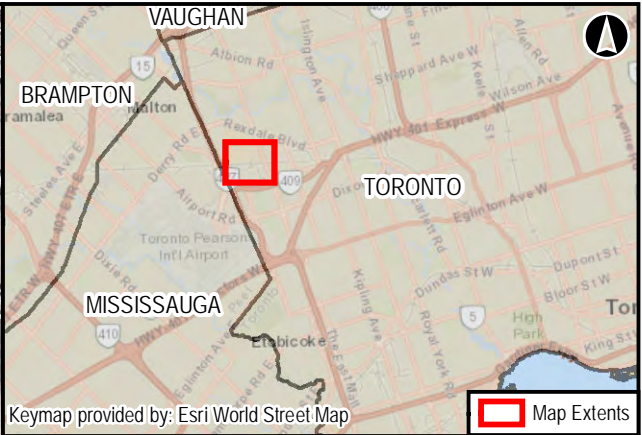
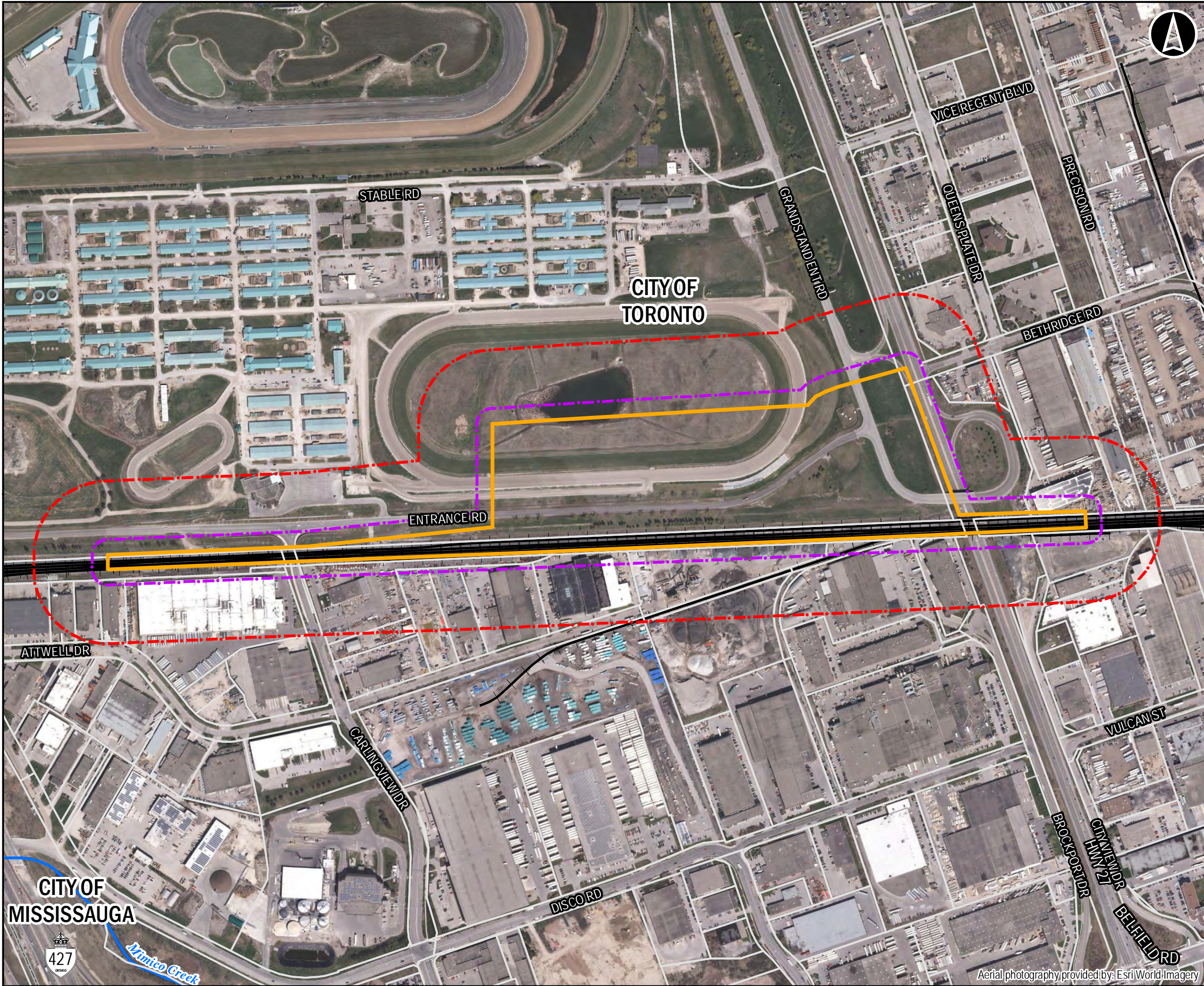
The site is an approximate 17-acre parcel of land located on the southeast corner of Woodbine Districts west of Highway 27 and south of Rexdale Boulevard in the City of Toronto (the Project Site), which is represented by the yellow boundary in **Figure 1-1**. The Project Site encompasses the southeastern portion of the practice racetrack, the southern portion of the southeast stormwater pond, the eastern portion of Entrance Road, the southern portion of Grandstand Entrance Road, a portion of rail tracks east and west of Highway 27, and the Highway 27 underpass structure. For the purposes of this NER, the area of investigation and assessment includes a 120 m buffer for a desktop background information review and a 25 m buffer from the limits of disturbance for in-field investigations as represented on **Figure 1-1** (collectively referred to as the Natural Environment Study Area).

This NER describes the existing terrestrial and aquatic conditions within the Natural Environment Study Area relevant to the Project through a review of background information and field reconnaissance. This Study also determines the potential effects on terrestrial and aquatic environments during construction and operation phases of the Project, and provides a mitigation strategy for any issues identified.

The purpose of this NER is to:

- Conduct a Background Information Review through review of secondary sources;
- Conduct and present results of a Species at Risk (SAR) Habitat Screening;
- Present the methods and results of the natural environment field investigations;
- Identify constraints, environmental impacts and recommend appropriate mitigation measures and monitoring commitments; and
- Identify anticipated future Project permitting needs.





- Legend**
- Project Site
  - Desktop Background Information Review Study Area (120m buffer)
  - Field Investigation Study Area (25m buffer)
  - Property Boundary
  - Municipal Boundary
  - Metrolinx owned Railway
  - Watercourse

**Woodbine GO Station**

**Natural Environment Study Area**



DATUM: NAD 1983 UTM Zone 17N

|             |         |  |
|-------------|---------|--|
| Aug, 2019   | 1:6,000 | Data Sources:<br>MNRF, City of Toronto |
| P#:60606819 | Rev:00  |  |

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**Figure 1-1**

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## 2. Methods

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### 2.1 Background Information Review

Terrestrial and aquatic features and functions that may be relevant to the Project were identified within the Desktop Background Information Review Study Area through a desktop review of available secondary sources, including:

- Land Information Ontario (LIO) base mapping data for fish community records and thermal regime information, Areas of Natural and Scientific Interest (ANSI), Woodlands, Wetlands and Provincial Parks (MNRF, 2019a)
- Ontario Ministry of Natural Resources and Forestry (MNRF) Make-a-Map: Natural Heritage Areas Application (2019b)
- MNRF Natural Heritage Information Centre (NHIC) Rare Species Database (2019c)
- MNRF Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 7E (2015)
- Ontario Butterfly Atlas Online (OBA; McNaughton et al., 2019)
- Ontario Breeding Bird Atlas (OBBA) Website (BSC et al., 2006)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019)
- Atlas of the Mammals of Ontario (Dobbyn, 1994)
- Bat Conservation International (BCI) Species Profiles (2019)
- Fisheries and Oceans Canada (DFO) SAR Online Mapping Tool (2019)
- City of Toronto Official Plan (Office Consolidation, 2015)
- City of Toronto Interactive Map (2019a);
- City of Toronto Open Data Portal (2019b);
- Toronto and Region Conservation Authority (TRCA) Open Data Portal (2019); and,
- Aerial photography.

#### 2.1.1 Agency Consultation

It should be noted that on June 29, 2018, the Ministry of Environment, Conservation and Parks (MECP) assumed responsibility for the Endangered Species Act, 2007 (ESA). The Act was formerly the responsibility of the MNRF. As of April 1, 2019, the provincial government officially transitioned all duties regarding administration of the ESA to MECP. Furthermore, it is both MECP's and MNRF's current direction for proponents to conduct a desktop screening for SAR and natural heritage records, respectively, using online secondary sources, including those listed above in **Section 2.1**, and as such information requests were not sent to MECP or MNRF (given that SAR records could be pulled from online sources and there were no designated natural areas identified by MNRF present within the Desktop Background Information Review Study Area). In addition, given the simplicity of the site and data available from the City of Toronto and TRCA's online open portals, data requests to these agencies were not needed. The information collected from the desktop review and the field reconnaissance investigations (refer to **Section 2.2**) was sufficient to establish existing site conditions, provided in **Section 3**.

## 2.2 Field Reconnaissance Investigations

### 2.2.1 Aquatic Field Reconnaissance

#### 2.2.1.1 Fish and Fish Habitat Assessments

On May 23, 2019, AECOM biologists conducted detailed fish habitat assessments to document the existing conditions within 25 m of the limit of disturbance (i.e., the Field Investigation Study Area). Field reconnaissance investigations were limited to the right-of-way (ROW) of Entrance Road, Grandstand Entrance Road, and Highway 27 North within the Field Investigation Study Area as shown on **Figure 1-1** as PTE was not granted to private lands within the fenced-in areas containing the racetracks. Where access was not permitted, observations were made from a combination of aerial photography interpretation and the fence line. Site reconnaissance focused on identifying and describing fish habitat features that may influence fish community composition.

Data collection during field investigations included the following:

- Documentation of surrounding natural features and land uses (i.e., wetland, agriculture, etc.)
- Channel dimensions, substrate composition, channel morphology and bank stability
- Stream morphology dimensions:
  - Runs – typically deep, fast moving water with little to no turbulence of water
  - Riffles – shallow, fast moving water typically running over rocks; riffles providing areas of high oxygenation
  - Flats – low flowing water with a smooth un-agitated surface
  - Pools – deep pockets of slow-moving water that provide ideal habitat for fish
  - Substrate composition (i.e., clay, silt, sand, gravel, cobble, rock, boulder, muck and detritus)
- Water clarity, water colour, presence and type of macrophytes and algal growth, evidence of runoff
- Identification of pollution sources (i.e., tile drain discharges, other piped discharges and road runoff)

Fish community surveys were not undertaken given the lack of suitable fish habitat and lack of connection to fish-bearing watercourses within the Field Investigation Study Area.

#### 2.2.2 Terrestrial Field Reconnaissance

Field reconnaissance investigations were limited to the ROW of Entrance Road, Grandstand Entrance Road, and Highway 27 North within the Field Investigation Study Area as shown on **Figure 1-1** as PTE was not granted to private lands within the fenced-in areas containing the racetracks. Where access was not permitted, observations were made from a combination of aerial photography interpretation and the fence line. Detailed surveys, including ecological land classification (ELC) mapping following the *Ecological Land Classification (ELC) Manual for Southern Ontario: First Approximation and its Application* (Lee et al., 1998) and botanical inventory, were not completed given the general lack of vegetation or natural areas within the Field Investigation Study Area. AECOM Ecologists completed a high-level reconnaissance visit on May 23, 2019 to document the following general information:

- Site conditions
- List of wildlife species incidentally observed, and evidence of wildlife habitat on man-made structures including direct observation and incidental evidence (e.g., scat, trails, tracks, etc.)

- Assessment of SWH potential based on site conditions (refer to **Section 2.2.2.1**)
- Location of any Species of Conservation Concern (SOCC), SAR or their habitats

Targeted surveys for wildlife (e.g., breeding birds, amphibians or mammals) were not undertaken given the limited vegetation and wildlife habitat and the timing of the field visit as it was outside of most wildlife survey timing windows. Incidental observations were made of wildlife during the field visit.

### 2.2.2.1 Significant Wildlife Habitat

The Field Investigation Study Area is located within the Ecoregion – 7E (Lake Erie-Lake Ontario Ecoregion). The *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF, 2015) contains information and criteria for identifying SWH, which are defined as areas that have important ecological features and functions and which support sustainable populations of plants, wildlife and other organisms within this Ecoregion. The MNRF generally categorizes SWH into the following five categories:

- Seasonal Concentration Areas
- Rare Vegetation Communities
- Specialized Habitats for Wildlife
- Habitats of SOCC
- Animal Movement Corridors

Field data such as general habitat conditions and habitat characteristics was collected to identify the presence of SWH within the Field Investigation Study Area based on the habitat criteria identified in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF, 2015).

According to the *Natural Heritage Reference Manual* (MNRF, 2010), which was developed to provide technical guidance for implementing the natural heritage policies of the *Provincial Policy Statement, 2014* (PPS) (MMAH; 2014), SWH includes the habitat of SOCC, which consists of the following:

- Species with Provincial S-rank assigned by the Natural Heritage Information Centre (NHIC) as S1 (critically imperiled), S2 (imperiled) or S3 (vulnerable)
- Species listed as Special Concern under ESA
- Species identified as nationally endangered or threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), which are not protected under the ESA

Although SOCC do not receive legal protection under the ESA, they may be afforded protection under the PPS, the *Migratory Bird Convention Act, 1994* (MBCA), *Ontario Fish and Wildlife Conservation Act, 1997*, and other planning documents. A screening for SOCC was completed as per **Section 2.3** below.

## 2.3 Species at Risk and Species of Conservation Concern

Special consideration was given to identifying any SOCC or SAR within or in the vicinity of the Field Investigation Study Area. SAR includes species that are listed as Extirpated, Endangered or Threatened on the Species at Risk in Ontario (SARO) list and receive both individual and habitat protection under the ESA.

A desktop SOCC and SAR habitat screening was conducted using the sources listed in **Section 2.1** within the Desktop Background Information Review Study Area. SAR and SOCC with ranges overlapping with, or recent occurrence records within the Field Investigation Study Area were identified and then screened by comparing their habitat requirements to the habitat conditions present on-site as determined through the field investigations

(Section 2.2). The potential for the species to occur within the Field Investigation Study Area was determined through a probability of occurrence where by the following rankings were applied:

- **Low Probability:** no suitable habitat for the species within the Field Investigation Study Area but there is a known species record in the general area
- **Medium Probability:** potentially suitable SAR habitat identified within the Field Investigation Study Area, but no occurrence of the species incidentally observed through field reconnaissance although there is a known species record in the general area
- **High Probability:** good quality SAR habitat identified within the Field Investigation Study Area and known species record in the Field Investigation Study Area (either through current field assessment or background information)

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## 3. Existing Conditions

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Existing terrestrial and aquatic natural environment conditions were determined through a combination of background review, and field investigations which were conducted on May 23, 2019.

### 3.1 Aquatic Environment

#### 3.1.1 *Watershed Description*

The Desktop Background Information Review Study Area lies within the Lower Humber River sub-watershed within the Humber River watershed. The Humber River watershed land use is approximately 54% rural, 33% urbanized and 13% urbanizing (TRCA, 2013).

#### 3.1.2 *Fish Habitat*

Aquatic features identified within the Field Investigation Study Area were limited to ephemeral drainage conveyance. Water was contained within road and rail-side ditches and swales with no observable flow. There was no direct fish habitat within the Field Investigation Study Area and the features did not contribute to a downstream fish-bearing watercourse.

#### 3.1.3 *Fish Community Composition*

Historically, 75 fish species (64 native) have been documented within the watershed, however sampling in 2004 only identified 39 native species. A total of 17 fish species have been identified as being of local concern (TRCA, 2008); however, there was no watercourses supporting direct fish habitat within the Field Investigation Study Area (refer to **Section 3.1.2**).

A photographic log representative of the site conditions present at the time of the field reconnaissance investigations is provided in **Appendix A**.

### 3.2 Terrestrial Environment

#### 3.2.1 *Designated Natural Areas*

Designated natural areas include Provincially Significant Wetlands (PSWs), Locally Significant Wetlands (LSWs), ANSIs, environmentally significant areas and significant woodlands. PSWs, LSWs and ANSIs are evaluated and the significance (i.e., provincially or locally/regionally significant) is determined by the MNRF at a provincial level; while, environmentally significant areas are designated by the City of Toronto and form portions of the City's Natural Heritage System (NHS). Significant woodlands are determined using the evaluation criteria presented in the *Natural Heritage Reference Manual* (MNRF, 2010) and municipal official plan policies, if available.

There were no designated areas identified in the Desktop Background Information Review Study Area.



### 3.2.2 Land Use Planning Policy Areas

For the purposes of this report, policy areas include land use planning designations pertaining to natural heritage systems from provincial plans (e.g., Oak Ridges Moraine Conservation Plan, Greenbelt Plan, etc.), municipal official plans, and conservation authorities (e.g., regulated areas).

The Desktop Background Information Review Study Area does not fall within any provincial policy areas (e.g., Oak Ridges Moraine, Greenbelt, etc.) nor within any City of Toronto or TRCA policy areas.

### 3.2.3 Terrestrial Site Conditions

At the time of the field reconnaissance investigations, the northern portion of the Field Investigation Study Area within WEG lands was bounded by fencing; otherwise the site was generally surrounded by busy roads and bounded to the south by the rail tracks. It was located in a highly urbanized area of Toronto, consisting of residential, industrial, commercial, employment area, institutional and recreational land uses. The Field Investigation Study Area primarily consisted of manicured open space with scattered planted trees.

There were no natural areas greater than 0.5 ha and therefore, there were no ELC communities delineated or a formal plant list created; however, some common plant species were noted. Vegetation within the property was largely managed as manicured open space although there were some planted trees present. Vegetation primarily consisted of weedy herbaceous species including Kentucky bluegrass (*Poa pratensis*), common plantain (*Plantago major*), wild strawberry (*Fragaria virginiana*), common dandelion (*Taraxacum officinale*), bird's foot trefoil (*Lotus corniculatus*), white sweet-clover (*Melilotus albus*), chicory (*Cichorium intybus*), Canada thistle (*Cirsium arvense*), goldenrod species (*Solidago* sp.) and wild carrot (*Daucus carota*). Planted trees included white spruce (*Picea alba*), willow (*Salix* sp.), and silver maple (*Acer saccharinum*). Isolated shrubs along fences were Russian olive (*Elaeagnus angustifolia*) and common buckthorn (*Rhamnus cathartica*). A narrow strip of shallow marsh consisting of common reed (*Phragmites australis*) and narrow-leaved cattail (*Typha angustifolia*) was present south of Entrance Road and east of Grandstand Entrance Road associated with surface drainage.

A photographic log representative of the site conditions present at the time of the field reconnaissance investigations is provided in **Appendix B**. No regionally or provincially significant plants or plant SAR were observed during field investigations.

### 3.2.4 Wildlife and Wildlife Habitat

#### 3.2.4.1 Migratory Birds

The OBBA has records of 92 bird species from the 10 km by 10 km square (ID 17PJ14) that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix C**. The majority of the birds are common and tolerant of urban disturbances and many are also protected under the MBCA. Records of bird SOCC and SAR were also identified and are discussed further in **Section 3.3**.

As described in **Section 3.2.3**, there was minimal vegetation present and as such there is limited habitat for nesting migratory birds.

#### 3.2.4.2 Mammals

According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994) and *Bat Conservation International* (BCI, 2017), there are records of 28 mammal species within and in the vicinity of the Desktop Background Information Review Study Area. The full list is provided in **Appendix C**. The majority of the mammals are common and tolerant of urban

disturbances. The Field Investigation Study Area was fenced and therefore it is anticipated that only small mammals would occur within the property limits. Records of bat SAR were also identified and are discussed further in **Section 3.3**; however, there was no suitable habitat for bat species since there were no wooded areas present.

#### 3.2.4.3 *Reptiles and Amphibians*

According to the ORAA, records of a total of 16 reptile and amphibian species were identified within the 10 km by 10 km square (ID 17PJ14) that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix C**. The majority of these species are common and tolerant of urban disturbances. Records of reptile and amphibians SOCC and SAR were also identified and further discussed in **Section 3.3**.

Generally, there was limited habitat for reptiles or amphibians. As mentioned above, the Field Investigation Study Area was fenced, surrounded by roads and isolated from any nearby natural areas. As such reptile or amphibian movement is significantly impeded. The pond feature on the Woodbine Districts property could provide marginal habitat but it is fenced, isolated, and surrounded by manicured open space and urban development. The small shallow marsh feature was dominated by *Phragmites* and there was little water to provide aquatic habitat for amphibians or reptiles; any water that may be present was likely very ephemeral in nature due to the feature being situated within a drainage swale. Furthermore, although there were some small areas of exposed gravel, which is often used by nesting turtles, access to the Field Investigation Study Area from natural areas was impeded by fencing, roads and other urban development. As such, it is not anticipated that turtles are nesting within the Field Investigation Study Area.

#### 3.2.4.4 *Butterflies*

According to the OBA, records of a total of 53 butterfly species were identified within the 10 km by 10 km square ID 17PJ14 that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix C**. Records of butterfly SOCC and SAR were also identified and further discussed in **Section 3.3**. There was limited foraging habitat within the Field Investigation Study Area due to the general lack of abundant vegetation or natural areas. However, there were some isolated flowering herbaceous plants that could provide limited foraging habitat for butterflies.

#### 3.2.4.5 *Incidental Wildlife and Bird Nest Observations*

**Table 3-1** summarizes the incidental wildlife that was encountered within the Field Investigation Study Area during the field reconnaissance site visit. All are common species that are typically found in urban environments; however, several of the incidental bird species receive protection under the MBCA.

The Highway 27 underpass structure was inspected for the presence of bird nests. Although no Barn Swallow nests were observed, there was an abundance of Pigeon nests under the bridge (refer to **Appendix C** for photos), which are not protected under the MBCA. The limits of disturbance were extended to the west following the reconnaissance site visit to a second underpass structure over Carlingview Drive. The Carlingview Drive underpass structure was reviewed through the street view function on Google Earth, based on the Google Earth street view imagery from September 2018, there were no bird nests present and it is unlikely that Pigeons nest under this underpass given its structure (i.e., there were no beams or pier caps present for Pigeons to sit/nest on). However, both the Highway 27 and Carlingview Drive underpass structures may provide suitable nesting habitat for Barn Swallow, even though no Barn Swallow nests were identified (refer to **Section 3.3** for more details).

**Table 3-1: Incidental Wildlife Observations within the Field Investigation Study Area**

| Taxon | Common Name          | Scientific Name             | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> | MBCA Protected (Yes/No) | Evidence      |
|-------|----------------------|-----------------------------|---------------------|-------------------------|-------------------------|---------------|
| Bird  | Killdeer             | <i>Charadrius vociferus</i> | S5B,S5N             | -                       | Yes                     | Visual record |
| Bird  | Gull species         | <i>Larus sp.</i>            | -                   | -                       | Yes                     | Visual record |
| Bird  | Mourning Dove        | <i>Zenaida macroura</i>     | S5                  | -                       | Yes                     | Visual record |
| Bird  | Canada Goose         | <i>Branta canadensis</i>    | S5                  | -                       | Yes                     | Visual record |
| Bird  | Red-winged Blackbird | <i>Agelaius phoeniceus</i>  | S4                  | -                       | No                      | Visual record |
| Bird  | Pigeon               | <i>Columba livia</i>        | S5                  | -                       | No                      | Visual record |

<sup>1</sup> **S-rank:** The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. The following status definitions were taken from NatureServe Explorer's (2015) National and Subnational Conservation Status Definitions available at <http://explorer.natureserve.org/nsranks.htm>:

**SX** - Presumed Extirpated—Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

**SH** - Possibly Extirpated (Historical)—Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40-year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for.

**S1** - Critically Imperiled—Critically imperiled in the 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 province.

**S2** - Imperiled—Imperiled in the 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 province.

**S3** - Vulnerable—Vulnerable in the 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.

**SNR** - Unranked—Province conservation status not yet assessed.

**SU** - Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

**SNA** - Not Applicable —A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

**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).

#### Breeding Status Qualifiers

**B** - Breeding—Conservation status refers to the breeding population of the species in the province.

**N** - Nonbreeding—Conservation status refers to the non-breeding population of the species in the province.

**M** - Migrant—Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

**Note:** A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the province, and/or a migrant-status S-rank if the species occurs regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. The two (or rarely, three) status ranks are separated by a comma (e.g., "S2B,S3N" or "SHN,S4B,S1M").

#### Other Qualifiers

**?** - Inexact or Uncertain—Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)

<sup>2</sup> **ESA Status:** The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:

**END** (Endangered) – A species facing imminent extinction or extirpation in Ontario.

**THR** (Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.

**SC** (Special Concern) – A species that may become threatened or endangered due to 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.

**Note:** species with “-” represent those that were not evaluated by COSSARO.

### 3.2.4.6 Significant Wildlife Habitat

The *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF, 2015) was reviewed against the information collected during the field reconnaissance visit to identify the following potential SWH within the Field Investigation Study Area.

As mentioned above, the Field Investigation Study Area generally had vegetation with the northern portion that was fenced and thus the potential to provide SWH was limited. Due to the lack of vegetation communities and isolation from nearby natural areas, the Field Investigation Study Area does not support any candidate SWH, aside from habitat for SOCC (refer to **Section 3.3** below for more information).

### 3.3 Species at Risk and Species of Conservation Concern

Special consideration was given to identifying any SOCC or SAR within or in the vicinity of the Field Investigation Study Area. SAR listed as Extirpated, Endangered or Threatened receive individual and habitat protection under the ESA; while, SOCC do not but may be afforded protection under other Acts and planning documents as stated in **Section 2.2.2.1**.

Records of SOCC and SAR were collected from a review of wildlife atlases. A total of two SOCC and six SAR records were identified and are summarized in **Table 3-2** and **Table 3-3**, respectively. An assessment was completed to determine the presence of suitable habitat and probability of occurrence for each SOCC and SAR species within the Field Investigation Study Area as described in **Section 2.3**. Species with observation records that are more than 20 years old are considered to be historical and were deemed to have a low probability of occurrence in the Field Investigation Study Area. These species are unlikely to persist in the general area given the high rate of urbanization in Toronto which limits the amount of suitable habitat available for many species.

#### Species of Conservation Concern:

Based on **Table 3-2** below, Monarch (*Danaus plexippus*) had a medium probability of occurrence due to the presence of some isolated flowering herbaceous plants that could provide limited foraging habitat for Monarchs and other butterfly species; however, large concentrations of high quality, foraging or breeding habitat for Monarchs were considered absent. There is a medium probability that individuals of this species may be incidentally encountered flying through the Field Investigation Study Area while foraging or during fall migration.

The remaining SOCC listed in **Table 3-2** had low probabilities of occurrence. The pond at the Woodbine Districts is unlikely to provide suitable overwintering and foraging habitat for Snapping Turtle as it is entirely fenced in and it is not anticipated that this species is nesting within the Field Investigation Study Area.

Common Nighthawk primarily nests in open, barren areas with rocky soils (Brigham *et al.*, 2011). In urban areas, this species can nest in agricultural fields, gravel pits, railways, footpaths and airports and prefers to nest on flat, gravel rooftops of buildings when found in cities (Brigham *et al.*, 2011; Cadman *et al.*, 2007). This species does not build nests but rather lays eggs directly on the ground which may consist of gravel, sand, bare rock, wood chips, leaves, needles, moss and/or lichens (Brigham *et al.*, 2011). Some females have been known to return and reuse gravel roofs in consecutive years (Brigham *et al.*, 2011). As such, the Field Investigation Study Area which consisted of few areas of barren ground was not likely suitable habitat for this species.

As there were no woodland habitats present within the Field Investigation Study Area, suitable habitat for Wood Thrush and Eastern Wood-pewee was not present.

#### Species at Risk:

Based on **Table 3-3**, Barn Swallow is the only SAR determined to have a medium probability of occurrence. All of the other SAR listed in **Table 3-3** had low probabilities of occurrence within the Field Investigation Study Area.

Barn Swallow habitat consists almost exclusively of human-made structures such as barns, bridges and culverts. This species typically builds their cup-shaped nests out of mud on open structures with ledges or vertical walls that provide support for nest building (MECP 2019). Barn swallows are aerial-insectivores which can often be found foraging over open areas including pastures, meadows, wetlands as well as anthropogenic habitats such as agricultural fields and parks. As such, although no Barn Swallow nests were observed within the Field Investigation Study Area during field investigations, rail bridge structures over Highway 27 and Carlingview Road provide suitable nesting habitat for this species, while the adjacent open vegetated areas within the Field Investigation Study Area provide suitable foraging habitat.

**Table 3-2: Summary of Species of Conservation Concern Records Within or In the Vicinity of the Field Investigation Study Area**

| <b>Taxon</b> | <b>Common Name</b> | <b>Scientific Name</b>      | <b>S-Rank<sup>1</sup></b> | <b>ESA Status<sup>2</sup></b> | <b>Year Last Observed</b> | <b>Historical Record (i.e., Older than 20 years)</b> | <b>Source of Record</b> | <b>Suitable Habitat Present within the Field Investigation Study Area (Yes/No)</b>                 | <b>Probability of Occurrence within the Field Investigation Study Area</b> |
|--------------|--------------------|-----------------------------|---------------------------|-------------------------------|---------------------------|--|-------------------------|--|--|
| Insect       | Monarch            | <i>Danaus plexippus</i>     | S2N,S4B                   | SC                            | 2018                      | No   | OBA                     | Yes – limited foraging habitat due to presence of isolated flowering herbaceous weeds.             | Medium – individuals may be migrating through the area.                    |
| Reptile      | Snapping Turtle    | <i>Chelydra serpentina</i>  | S3                        | SC                            | 2018                      | No   | ORA                     | No – although a pond was present on the WEG lands, it was fenced and there was no nesting habitat. | Low  |
| Bird         | Wood Thrush        | <i>Hylocichla mustelina</i> | S4B                       | SC                            | 2005                      | No   | OBBA                    | No – there were no forests present.  | Low  |
| Bird         | Eastern Wood-pewee | <i>Contopus virens</i>      | S4B                       | SC                            | 2005                      | No   | OBBA                    | No – there were no forests present.  | Low  |
| Bird         | Common Nighthawk   | <i>Chordeiles minor</i>     | S4B                       | SC                            | 2005                      | No   | OBBA                    | No – there were no barren areas suitable for this species.   | Low  |

Notes: 1, 2: See notes under **Table 3-1**.

**Table 3-3: Summary of Species of Risk Records Within or In the Vicinity of the Field Investigation Study Area**

| Taxon  | Common Name                 | Scientific Name               | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> | Year Last Observed                          | Historical Record (i.e., Older than 20 years) | Source of Record               | Suitable Habitat Present within the Field Investigation Study Area (Yes/No)   | Probability of Occurrence within the Field Investigation Study Area |
|--------|-----------------------------|-------------------------------|---------------------|-------------------------|---|---|--------------------------------|---|---|
| Bird   | Bank Swallow                | <i>Riparia</i>                | S4B                 | THR                     | 2005  | No  | OBBA                           | No – there were no banks present.   | Low   |
| Bird   | Barn Swallow                | <i>Hirundo rustica</i>        | S4B                 | THR                     | 2005  | No  | OBBA                           | Yes – presence of rail bridge structures over Highway 27 and Carlingview Drive may provide suitable nesting habitat | Medium  |
| Bird   | Bobolink                    | <i>Dolichonyx oryzivorus</i>  | S4B                 | THR                     | 2005  | No  | OBBA                           | No – there were no hayfield, tall grass prairies or pastures present.   | Low   |
| Bird   | Chimney Swift               | <i>Chaetura pelagica</i>      | S4B, S4N            | THR                     | 2005  | No  | OBBA                           | No – there were no chimneys present.  | Low   |
| Bird   | Eastern Meadowlark          | <i>Sturnella magna</i>        | S4B                 | THR                     | 2005  | No  | OBBA                           | No – there were no hayfield, tall grass prairies or pastures present.   | Low   |
| Mammal | Eastern Small-footed Myotis | <i>Myotis leibii</i>          | S2S3                | END                     | N/A   | N/A   | Bat Conservation International | No – there were no forested areas or suitable buildings.  | Low   |
| Mammal | Little Brown Myotis         | <i>Myotis lucifugus</i>       | S4                  | END                     | 2010  | No  | Bat Conservation International | No – there were no forested areas or suitable buildings.  | Low   |
| Mammal | Northern Myotis             | <i>Myotis septentrionalis</i> | S3                  | END                     | 2015  | No  | Bat Conservation International | No – there were no forested areas or suitable buildings.  | Low   |
| Mammal | Tricolored Bat              | <i>Perimyotis subflavus</i>   | S3?                 | END                     | N/A   | N/A   | Bat Conservation International | No – there were no forested areas or suitable buildings.  | Low   |
| Turtle | Blanding's Turtle           | <i>Emydoidea blandingii</i>   | S3                  | THR                     | 1986<br>(Historical records > 20 years old) | Yes   | ORA                            | No – although a pond was present on the WEG lands, it was fenced and there was no nesting habitat.                  | Low   |

Notes: 1, 2: See notes under **Table 3-1**.

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## 4. Effects Assessment

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The following sections identify potential effects on the terrestrial and aquatic natural heritage features as a result of proposed construction and operation of the Project, and recommend avoidance and mitigation measures, additional surveys, future commitments and required monitoring to avoid or minimize potential effects. The effects assessment as presented herein was completed based on the preliminary design available at the time of preparation of this NER (further detail below). Should there be any significant design changes from current design as the Project develops through the preliminary and detailed design phases, additional field work, effects assessments, mitigation measures and monitoring, and permitting requirements may be required with respect to both terrestrial and aquatic environments.

As described in **Section 1**, the following are the Project components based on preliminary design:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Plaza structure;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g., integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

Potential environmental effects within the limits of disturbance associated with construction and operational activities of the proposed project were assumed to include the entire area of the Project Site plus a 120 m buffer (the Natural Environment Study Area), as shown on **Figure 1-1**. Potential environmental effects are further discussed in the following sections. A summary of the potential effects, mitigation measures, environmental monitoring requirements, and additional surveys/future commitments during detailed design are summarized in **Table 4-1**, provided under **Section 4.6**.

### 4.1 Potential Effects to Fish and Fish Habitat

No fish habitat was present within the Field Investigation Study Area and the drainage features on site do not contribute to a downstream fish-bearing watercourse. As such, there are no anticipated effects to fish and fish habitat from construction activities or operations associated with the Project.

### 4.2 Potential Effects to Designated Natural Areas

There are no potential effects anticipated on designated natural areas during the construction or operational phases of the Project as there were none identified in the Desktop Background Information Review Study Area.

## 4.3 Potential Effects to Vegetation Communities

### Construction

Removal of the limited vegetation such as weedy, herbaceous plants and trees identified to occur sporadically throughout the property will be required to accommodate the construction of the Project. No plant SAR or SOCC plants were present within the construction disturbance footprint or surrounding areas. As such there are negligible potential effects anticipated for vegetation provided that the mitigation measures described in **Table 4-1** are implemented and given the general lack of naturally occurring vegetation communities and the developed nature of the Natural Environment Study Area.

### Operations

It is not anticipated that there will be any potential effect on vegetation as a result of operations beyond the initial removal at the construction phase.

## 4.4 Potential Effects to Wildlife and Wildlife Habitat

### Construction

Although limited vegetation and wildlife habitat were identified, incidental observations of urban wildlife were noted during the site reconnaissance suggesting presence of common and disturbance-tolerant wildlife despite the developed nature of the Field Investigation Study Area. Limited nesting habitat for migratory birds in the form of the few isolated trees or shrubs could also be present within the Field Investigation Study Area. In addition, stockpiles of suitable materials (e.g., gravel) and any suitable ledges created by idle construction equipment or materials can also provide suitable nesting habitats for migratory birds during active construction within the work area. As such, Project activities may displace or cause incidental injury or mortality to urban wildlife that may be passing through the Natural Environment Study Area and entering the work area during construction. Vegetation removal during the regional nesting period (approximately April 1 to August 31; ECCC 2019) could cause displacement of breeding migratory birds and/or destruction of their active nests, which is prohibited under the MBCA.

It is not anticipated that breeding birds or other wildlife will be significantly affected by the potential increase in noise and vibration during the construction phase of the Project, as the species occurring in the area within and in the vicinity of the Natural Environment Study Area are tolerant to disturbances associated with urban settings.

The potential effects on wildlife, including migratory breeding birds, as a result of construction of the Project are considered low with the exception of species addressed in **Section 4.5**, provided that the avoidance and mitigation measures described in **Table 4-1** are implemented.

### Operations

It is not anticipated that breeding birds or other wildlife will be significantly affected by the potential increase in noise during the operations phase in the backdrop of existing noise produced by the adjacent rail corridor, road traffic, industries and aircraft as the species occurring in the area within and in the vicinity of the Natural Environment Study Area are tolerant to disturbances associated with urban settings. Furthermore, vibration produced by mechanical and electrical equipment during operations is considered to be negligible and as such no effects on wildlife as result of operational vibration are anticipated.



## 4.5 Potential Effects to Species at Risk and Species of Conservation Concern

### Construction

As described in **Section 3.3**, the Field Investigation Study Area was considered to contain potentially suitable habitat for the following SAR and SOCC:

SOCC:

- Monarch

SAR:

- Barn Swallow

Monarch may be incidentally encountered flying through the Natural Environment Study Area, particularly during their fall migration. This species is an SOCC, and therefore does not receive protection under the ESA but are protected under other acts and planning documents (e.g., PPS). Avoidance and mitigation measures during the construction phase are provided in **Table 4-1** and are anticipated to minimize effects on this SOCC, provided that they will be implemented.

Although Barn Swallow nests were not observed within the Field Investigation Study Area during field investigations, rail bridge structures over Highway 27 and Carlingview Road may provide suitable nesting habitat for this species, while the adjacent open vegetated areas provide suitable foraging habitat. Should nests be present, construction of new tracks or realignment of existing tracks could displace nesting Barn Swallow by disturbance through noise and vibration in addition to that normally present on their nesting structure (the rail bridge). Foraging habitat is not limiting in the general area and the proposed vegetation removal in open habitats is considered to be negligible in the context of the greater landscape. The avoidance and mitigation measures, when properly implemented as described in **Table 4-1**, are anticipated to minimize/negate any effects on Barn Swallow.

### Operations

It is not anticipated that there will be potential effects on Monarch beyond the initial removal of potential habitat at the construction phase. For the same reasons described in **Section 4.4**, terrestrial SOCC are not anticipated to be affected by operational noise or vibration.

Similarly, potential effects on Barn Swallow are expected to be limited to the construction phase. Avoidance and mitigation measures to minimize effects to Barn Swallow are provided in **Table 4-1**.

## 4.6 Mitigation Measures, Monitoring and Additional Surveys

A summary of the potential effects identified in the above sections and recommended mitigation measures, additional surveys, future commitments, and environmental monitoring to minimize these potential effects are provided in **Table 4-1** below.

Table 4-1: Summary of Potential Effects, Mitigation Measures, Monitoring, and Additional Surveys

| Affected Terrestrial Feature | Project Phase              | Potential Effects  | Mitigation and Compensation Measures  | Required Environmental Monitoring   | Additional Surveys Required during Detailed Design  |
|------------------------------|----------------------------|--|---|---|---|
| Designated Natural Areas     | Construction and Operation | <ul style="list-style-type: none"><li>No effects on designated natural areas as none are identified within the Study Area.</li></ul> | <ul style="list-style-type: none"><li>None required.</li></ul>  | <ul style="list-style-type: none"><li>None required.</li></ul>  | <ul style="list-style-type: none"><li>None required.</li></ul>  |
| Vegetation                   | Construction               | <ul style="list-style-type: none"><li>Negligible effects as minimal vegetation is present within the Study Area.</li></ul>           | <ul style="list-style-type: none"><li>Existing vegetation will be retained to the extent practicable. Removals will be kept to a minimum to limit direct effects to vegetation communities and vascular flora, as well as indirect effects (e.g., soil compaction and changes to topography and drainage).</li><li>Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction footprint and prevent accidental damage to adjacent vegetation or street trees.<ul style="list-style-type: none"><li>Any damaged trees will be pruned through the implementation of proper arboricultural techniques by or under supervision of an Arborist or Forester.</li><li>All equipment and vehicles will be cleaned and inspected prior to arriving onsite to reduce the introduction and/or spread of invasive plant species in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013).</li><li>Mitigation measures specific to trees shall be adhered to, including municipal by-law permitting requirements where applicable shall be further detailed in an Arborist Report to be completed during detailed design.</li></ul></li><li>Disturbed areas will be re stabilized, incorporating revegetation using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as appropriate.</li></ul> | <ul style="list-style-type: none"><li>Regular inspection in areas of vegetation removal will be undertaken as required during construction to ensure that fencing is intact, only specified trees are removed and no damage is caused to the remaining trees and adjacent vegetation communities.</li><li>Construction and/or silt fencing will be repaired if it is damaged.</li><li>Any damaged trees will be pruned through the implementation of proper arboricultural techniques and under supervision of an Arborist or Forester.</li></ul>   | <ul style="list-style-type: none"><li>As trees were identified on the fence line and within the Field Investigation Study Area, a tree inventory and an Arborist Report will be completed during detailed design and shall contain and meet the following:<ul style="list-style-type: none"><li>The Arborist Report will meet regulatory requirements and be completed by a Certified Arborist. The report will also be completed with regard to the Forestry Act and other regulations as applicable.</li><li>The Arborist Report will include, but not be limited to:<ul style="list-style-type: none"><li>The identification of all trees within the Project Site and adjacent lands that require removal or preservation, or trees that may be injured as a result of the Project. Trees identified will include those on WEG-owned property, as well as any trees on public and private lands and boundary trees, if applicable.</li><li>Collection of information that provides a comprehensive GIS database for trees (trees may be tagged in field for ease of reference).</li><li>Assessment of the health and condition of the trees, including identification of those affected by invasive species and/or disease.</li><li>Details of proposed works and impacts.</li><li>Details of tree pruning.</li><li>Details of all trees recommended for removal, including removal measures.</li><li>Recommended mitigation and monitoring measures, to promote success of preservation (e.g., identification of Tree Protection Zones [TPZs] and barriers) and/or removal measures.</li><li>Where required, preparation of property specific landscaping and/or restoration and compensation plans for tree removals.</li><li>Consideration of opportunities to salvage potentially affected existing trees, particularly sensitive species if applicable, for transplanting.</li><li>Vegetation compensation plan at a minimum 1:1 ratio.</li><li>Permitting requirements associated with tree injury or removal, in accordance with City of Toronto by-laws.</li></ul></li></ul></li></ul> |
|                              | Operation                  | <ul style="list-style-type: none"><li>Operational effects are not anticipated.</li></ul>   | <ul style="list-style-type: none"><li>None required.</li></ul>  | <ul style="list-style-type: none"><li>None required.</li></ul>  | <ul style="list-style-type: none"><li>None required.</li></ul>  |
| Migratory Breeding Birds     | Construction               | <ul style="list-style-type: none"><li>Displacement of breeding migratory birds and/or destruction of their active nests.</li></ul>   | <ul style="list-style-type: none"><li>Vegetation removal will be kept to a minimum and should be scheduled to occur outside of the primary bird nesting season of approximately April 1 to August 31 (ECCC 2019). If a nest of a migratory bird is found within the construction area outside of this nesting period it still receives protection. If vegetation must be removed during the overall bird nesting season, nest and nesting activity searches will be conducted by a qualified Biologist no more than 24 hours prior to vegetation removal (refer to Environmental Monitoring Plan for more details). Depending on the breeding bird survey and nests found, the Canadian Wildlife Service may need to be contacted for specific mitigation methods (depending on species) prior to impacts occurring. Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by the Ontario Breeding Bird Atlas criteria (Cadman <i>et al.</i>, 2007).</li><li>If construction activities occur during the bird nesting season (approximately April 1 to August 31; ECCC 2019), bird exclusion methods</li></ul>  | <ul style="list-style-type: none"><li>Nest searches by a qualified Biologist will be required no more than 48 hrs prior to vegetation removal, if construction activities are scheduled during the overall bird nesting season of approximately April 1 to August 31 (ECCC 2019). Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by OBBA criteria (OBBA, 2001).</li><li>Regular monitoring, to be defined prior to pre-construction clearing activities, will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.<ul style="list-style-type: none"><li>At any time, if nests containing eggs or young are encountered, the immediate area should be avoided until nesting is complete (i.e., the young have naturally left the vicinity of the nest) even if the dates differ from those of</li></ul></li></ul> | <ul style="list-style-type: none"><li>None required.</li></ul>  |

| Affected Terrestrial Feature       | Project Phase              | Potential Effects   | Mitigation and Compensation Measures  | Required Environmental Monitoring  | Additional Surveys Required during Detailed Design |
|------------------------------------|----------------------------|---|---|--|--|
|                                    |                            |   | such as covering potentially suitable nesting locations on idle machinery, structures, equipment or stockpiled materials in addition to other types of exclusion methods such as those found in <i>Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures</i> (MNRF, 2017) should be implemented to prevent migratory birds from accessing and building nests in the construction site. <ul style="list-style-type: none"><li>• In addition, if construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC 2019), exclusion measures should be installed to prevent access of birds outside of the breeding bird season (approximately April 1 to August 31; ECCC 2019) and prior to construction work. If not possible, a nest search will be conducted by a qualified Biologist no more than 24 hours prior to installation. If a nest of an MBCA protected bird species is found in the construction site, all work in the immediate vicinity must stop and a Qualified Biologist be contacted to determine appropriate avoidance measures in order to avoid contravention of the MBCA and other applicable law.</li><li>• To minimize disturbance, the construction area will be clearly demarcated and kept as small as possible. Use of already cleared access routes will be used, where possible, to avoid further vegetation clearing and/or disturbance to migratory breeding birds and nests.</li></ul> | the general breeding period for the area. Any nest found will be protected with a buffer zone determined by a setback distance appropriate to the species, the level of the disturbance and the landscape context, until the young have permanently left the vicinity of the nest. A species-specific buffer area following ECCC guidelines will be applied to the nest, or confirmed nesting activity, wherein no vegetation removal will be permitted until the young have fledged from the nest. The radius of the buffer will depend on the species, level of disturbance and landscape context (ECCC, 2019), which will be confirmed by a qualified Biologist, but a minimum 10 metre buffer or setback distance will be established around the nest or nesting activity. <ul style="list-style-type: none"><li>– The results of all nest searches will be documented at the end of each survey day in a technical memorandum, including information on the searcher, date, time conducted, weather conditions, habitat type, vegetation community type, observations of breeding activity, observations of confirmed nests including co-ordinates, and, if required, the buffer applied to identified breeding/nesting sites.</li><li>– Vegetation removal or construction activities within the assigned protection buffer around active nest or confirmed nesting activity of a migratory bird will not be permitted until the young have fledged from the nest as confirmed by a qualified Biologist.</li></ul> |  |
|                                    | Operation                  | • Operational effects are not anticipated.  | • Not required  | • None required  | • None required.                                   |
| Wildlife                           | Construction               | • Although effects to common and urban adapted wildlife are anticipated to be minimal, there is potential for wildlife to enter the construction area and be incidentally injured or killed.    | • Prior to construction, investigation will be completed a Qualified Biologist for wildlife and wildlife habitat that may have established following the completion of previous survey(s). <ul style="list-style-type: none"><li>• Any wildlife incidentally encountered during vegetation clearing or subsequent construction activities will not be knowingly harmed and will be allowed to exit the site on their own, via safe routes.</li><li>• In the event that the wildlife does not move or is injured, the Environmental Monitor/Qualified Biologist will be contacted to assess and rescue/relocate wildlife if necessary.</li></ul>   | • Regular inspections under and around equipment and vehicles left overnight will be conducted.  | • None required.                                   |
|                                    | Operation                  | • Operational effects are not anticipated.  | • None required.  | • None required.   | • None required.                                   |
| Significant Wildlife Habitat (SWH) | Construction and Operation | • No effects on SWH as none were identified within the Study Area.  | • None required   | • None required.   | • None required.                                   |
| Aquatic Features                   | Construction               | • Risk of water contamination as result of spills (e.g., grease, soils, and/or fuel) from equipment use. <ul style="list-style-type: none"><li>• Increased sedimentation and erosion.</li></ul> | <b>Erosion and Sediment Control</b> <ul style="list-style-type: none"><li>• Work will be scheduled to avoid wet, windy and rainy periods that may increase erosion and sedimentation.</li><li>• Erosion and sediment control (ESC) measures will be implemented, monitored and maintained and modified as necessary throughout the construction period until all disturbed ground has been permanently stabilized.</li><li>• ESC will include measures to contain and stabilize any waste material (e.g., dredging soils, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) to prevent to the drainage features.</li><li>• Non-biodegradable ESC materials will be removed once site is stabilized.</li><li>• Any dewatering required for construction activities will be discharged to an appropriate sediment control measure for treatment prior to release to a</li></ul>   | • ESC measures will be monitored and repaired as necessary throughout the construction period and will be removed and disposed of accordingly, post-construction. <ul style="list-style-type: none"><li>• The Environmental Monitor will be on-site during key construction activities and weather events as required. The site will be monitored at least weekly and within 48 hours following a heavy rain event to ensure the effectiveness of mitigation measures.</li></ul>   | • None required.                                   |

| Affected Terrestrial Feature                       | Project Phase | Potential Effects   | Mitigation and Compensation Measures  | Required Environmental Monitoring  | Additional Surveys Required during Detailed Design             |
|--|---------------|---|---|--|--|
|  |               |   | well vegetated area setback a minimum of 30 metres from waterbodies or wetlands, where feasible.<br><b>Operation of Machinery and Industrial Equipment</b> <ul style="list-style-type: none"><li>Activities near water will be planned to ensure that such materials such as paint, primers, blasting abrasives, rust, solvents, degreasers, grout or other chemicals do not enter the drainage features.</li><li>Building material used in a drainage feature will be handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious.</li><li>All construction materials will be removed from site upon project completion.</li><li>Confirm that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.</li><li>Wash, refuel and service machinery; and, store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.</li></ul>  |  |  |
|  | Operation     | <ul style="list-style-type: none"><li>Operational effects are not anticipated</li></ul>   | <ul style="list-style-type: none"><li>None required</li></ul>   | <ul style="list-style-type: none"><li>None required</li></ul>  | <ul style="list-style-type: none"><li>None required</li></ul>  |
| <b>Species at Risk and Special Concern Species</b> | Construction  | <ul style="list-style-type: none"><li>Potential loss/degradation of habitat, displacement from noise disturbance and possible mortality of the following terrestrial SAR or SOCC:<br/><br/><b>SOCC:</b><ul style="list-style-type: none"><li>Monarch (SC);</li></ul><b>SAR:</b><ul style="list-style-type: none"><li>Barn Swallow (THR)</li></ul></li></ul> | <ul style="list-style-type: none"><li>Same mitigation measures as identified for vegetation above for during construction apply herein.</li><li>Same mitigation measures as identified for migratory breeding birds above for during construction apply herein.</li><li>If construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC 2019), appropriate exclusion measures for Barn Swallow, such as those found in Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNR, 2017) should be applied to prevent Barn Swallows from accessing and building nests under the bridge(s). Installation of exclusion measures should occur outside of the breeding bird season (approximately April 1 to August 31; ECCC 2019) and prior to construction start, if possible. However, if installation is to occur within this period, a nest search will be conducted by a qualified Biologist within 48 hours prior to installation. If a Barn Swallow nest is found in the construction site, all work in the immediate vicinity must stop and the MECP must be consulted in order to avoid contravention of the ESA.</li><li>Same mitigation measures as identified for wildlife above during construction apply herein.</li><li>Same mitigation measures as identified above for aquatic features apply herein.</li><li>Common Milkweed and native flowering plants will be incorporated into the restoration or landscaping plan to compensate for Monarch habitat removals.</li></ul> | <ul style="list-style-type: none"><li>Required environmental monitoring as described above for Migratory Breeding Birds will be implemented to avoid mortality/avoidance to any SOCC birds.</li><li>Prior to commencement of daily works, the Environmental Monitor will ensure that there are no SAR or SOCC in the work area as wildlife SAR or SOCC can move into an area at any given time.<ul style="list-style-type: none"><li>If SOCC are encountered, they will be relocated outside of the construction footprint in suitable habitat by an individual qualified in the safe handling of wildlife.</li><li>In the very unlikely event that SAR are encountered, work must be stopped until the SAR clear the area and MECP should be notified of the encounter. If SAR do not do so of their own accord, the MECP must be consulted prior to handling to ensure appropriate measures, permits and protocols are in place.</li></ul></li></ul> | <ul style="list-style-type: none"><li>None required.</li></ul> |
|  | Operation     | <ul style="list-style-type: none"><li>Operational effects are not anticipated</li></ul>   | <ul style="list-style-type: none"><li>None required</li></ul>   | <ul style="list-style-type: none"><li>None required.</li></ul>   | <ul style="list-style-type: none"><li>None required</li></ul>  |

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## 5. Project Permitting and Regulatory Considerations

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### 5.1 Federal

#### 5.1.1 *Species at Risk Act (2002)*

The federal SARA protects provides recovery strategies for SAR listed as Extirpated, Endangered or Threatened species under Schedule 1 found to be occurring on federal lands. In the case of aquatic SAR, SARA provides protection for aquatic species and habitat on both federal and non-federal lands. Species are listed as Special Concern under Schedule 1 of SARA receive management initiatives under SARA to prevent them from becoming Endangered and Threatened but do not receive individual or habitat protection. . In the context of this Project, SARA applies only to aquatic species and all of the waters including private or crown that those species may be found in, as well as birds regulated under the MBCA. Bird species protected under Schedule 1 of SARA on federal and non-federal lands are addressed under the MBCA in **Section 5.1.3**. As project activities will not affect habitat for aquatic SAR (as none were identified) or MBCA protected birds provided that the mitigation measures prescribed in **Section 4.6** is implemented, no permits under this Act are anticipated to be required

**Applicability to the Project:** Given that project activities will not occur within or adjacent to federal lands, no further action is required.

#### 5.1.2 *Fisheries Act (1985 as Amended)*

On June 21, 2019, Bill C-68 (An Act to amend the Fisheries Act and other Acts in consequence) was passed into law. This included several changes to the habitat provisions and associated sections. However, Coming into Force provisions of Bill-C68 specifically exclude the following (Section and Subsection references are for Bill C-68), several of which are related to the habitat provisions:

- Subsections 1(1), (5) and (10)
- Sections 8, 13 and 19 to 24
- Subsections 25(2), (4), (5), (6), (8), (10) and (11)
- Subsections 27(1) to (6), (8) and (9)
- Sections 28 to 30
- Subsections 31(6) and (13)
- Sections 52, 53 and 55 to 57 and
- Subsection 58(2)

The listed Sections and Subsections are excluded until fixed by Order(s) in Governor in Council. This would typically occur following development of regulations and policies by Fisheries and Oceans Canada (DFO). Therefore, it is AECOM's understanding that impact assessment under the Fisheries Act and determining the need for DFO review should proceed as per the Fisheries Act 2012 process of Self-Assessment and Request for Review, until the new regulations, policies and associated approach and tools (e.g., Standards and Codes of Practice) are released by DFO for use.

Under the June 29, 2012 amendments to the *Fisheries Act*, the previous section 32 (killing of fish by means other than fishing) and section 35 (prohibiting the harmful alteration, disruption or destruction of fish habitat) are

combined to create a new injunction. The new injunction focuses on protecting against 'serious harm to fish,' including the death of fish, or any permanent alteration or destruction of fish habitat.

Along with the changes to the *Fisheries Act*, Fisheries and Oceans Canada's (DFO) Habitat program was also changed to the Fisheries Protection Program (FPP). Under this new program, a streamlined approvals process was created where-by applicants are now able to self-assess their projects to determine if the DFO is required to review the Project. Potential applicants intending to perform work or activities that may affect fish or fish habitat are encouraged to engage a Qualified Environmental Professional to determine whether the proposed works near water requires a review by DFO.

**Applicability to the Project:** Given that project activities will not occur within fish habitat and the aquatic features within the Study Area do not contribute to a downstream fish-bearing watercourse, a Self-Assessment under the federal *Fisheries Act* is not required for the proposed project activities.

### 5.1.3 *Migratory Birds Convention Act (1994)*

The federal MBCA is intended to protect migratory birds, their eggs and their active nests. The MBCA prohibits the possession, destruction and harm of migratory birds and / or their active nests and prohibits the release of harmful substances in areas frequented by migratory birds. In order to remain in compliance with the *MBCA 1994*, it is recommended that any vegetation removal that may be required take place outside of the primary breeding bird season for this region (approximately April 1 to August 31; ECCC 2019) and if construction occurs during the breeding bird season, then appropriate bird exclusion methods are considered to prevent migratory birds from nesting in the Study Area. No permits under this Act are anticipated to be required, should the recommended avoidance measures be implemented.

**Applicability to the Project:** Given that vegetation removal will be required for the proposed works, the conditions of this Act and prescribed avoidance timing windows and associated mitigation measures as described in **Table 4-2** apply.

## 5.2 Provincial

### 5.2.1 *Endangered Species Act (2007)*

SAR listed as Threatened or Endangered under the ESA are provided both species and habitat protection on provincial crown and private lands. It is stated in Sections 9 and 10 of the ESA that "*no person shall kill, harm, harass, capture or take a living member or shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario List as an Extirpated, Endangered or Threatened.*" Therefore, where a proposed activity will impact protected species or habitat, changes to timing, location and methods of the proposed activity should be considered, wherever feasible, to avoid impacts to SAR. Where impacts cannot be avoided or mitigated, a permit process can be entered into. The MECP may grant a permit, or other authorization, for activities that would otherwise not be allowable under the Act. Several permit types are available, depending on the nature of the proposed work and may include conditions for the activity to meet and aid in protection or recovery of the targeted SAR.

With the exception of Barn Swallow, there were no other SAR identified with a medium or high probability of occurrence within the Study Area. The proposed works may potentially impact candidate Barn Swallow nesting habitat. As no Barn Swallow nesting was identified during field investigations, the proposed mitigation measures are expected to be adequate to address any potential effects of the Project. As such, should an active Barn Swallow nest be identified prior to or during construction, it is anticipated that email correspondence (in lieu of an Information Gathering Form formal submission) with MECP will be sufficient.

**Applicability to the Project:** The ESA applies to the Project because medium potential for Barn Swallow has been identified and therefore further consultation with the MECP may be warranted should an active Barn Swallow nest be identified prior to or during construction.

## 5.3 Municipal

### 5.3.1 City of Toronto

A tree inventory and Arborist Report will be completed during detailed design. In accordance with City of Toronto by-laws, the Arborist Report will identify municipal permitting requirements if removal and/or damage of woody vegetation is required.

**Applicability to Project:** As the Project is being developed on land owned by WEG, applicable permits will be obtained from City of Toronto Urban Forestry if removal and/or damage of woody vegetation is required.

### 5.3.2 Toronto and Region Conservation Authority Regulation 166/06

This is not applicable as the Natural Environment Study Area does not fall within the TRCA Regulated Area.

Proponents are responsible for obtaining appropriate approvals independent of TRCA under the *Fisheries Act*, though the proponent can voluntarily seek confirmation from TRCA as to whether the proposed project includes appropriate *measures to avoid causing harm to fish and fish habitat* as per the DFO Self-Assessment process requirements.

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## 6. Limitations of the Report

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The observations and results obtained during the terrestrial investigations are representative of the conditions encountered during the 2019 field surveys only. Many of the species surveyed are migratory and may occur within the Field Investigation Study Area during some years and not others. Habitat (vegetation communities, SWH, SAR habitat, etc.) also changes over time and may become more or less suitable for SAR or other wildlife. AECOM has used its best professional judgement to interpret the survey results and provide accurate conclusions.

Although proposed amendments to the ESA have been announced by the provincial government and received royal assent on June 6, 2019, this report has been prepared based on the understanding of the current and active ESA process and the O. Reg. 242/08 (as of July 3, 2019), as there was not enough information associated with the proposed amendments to make recommendations and it was not known at the time of preparation the mechanisms by which these amendments will be enacted. Changes that may occur as a result of the provincial government's review of the ESA or Bill 108, have the potential to alter the conclusions presented in this report as they relate to SAR. When changes to the ESA are formalized, a review of this document should occur to identify potential discrepancies resulting from the changes in legislation or policy.

Changes to the Fisheries Act are proposed in Bill C-68, An Act to amend the Fisheries Act and other Acts in consequence, which was passed by the House of Commons on June 18, 2019 and is awaiting Royal Assent. Bill C-68 proposes to restore lost protections and incorporate modern safeguards to the Fisheries Act that better protect fish and fish habitat and that increase the sustainability of Canadian fisheries. The DFO is presently developing new regulations and policy to streamline implementation of the new Act when it comes into force. Our understanding is that there is the potential for the changes to receive Royal Assent and come into force in before the end of June 2019. Projects that have already been submitted to DFO for approval will fall under the transition provisions, but new projects involving work that could affect aquatic ecosystems should be assessed, as appropriate, under the new provisions of Fisheries Act when Bill C-68 it comes into force.



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# Appendix **A**

## Photographic Log of Aquatic Existing Conditions

**Client Name:**  
Woodbine Entertainment Group

**Site Location**  
Highway 27-Woodbine Station EA

**Project No.**  
60606819

|  |                          |   |
|--|--------------------------|---|
| <b>Photo No.</b><br><b>1</b>   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>West   |                          |   |
| <b>Description</b><br>Dry swale with n connectivity to a fish-bearing watercourse. |                          |   |

|  |                          |  |
|--|--------------------------|--|
| <b>Photo No.</b><br><b>2</b>   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>East   |                          |  |
| <b>Description</b><br>Ephemeral drainage conveyance feature adjacent to Entrance Road. |                          |  |



**Client Name:**  
Woodbine Entertainment Group

**Site Location**  
Highway 27-Woodbine Station EA

**Project No.**  
60606819

|  |                          |   |
|--|--------------------------|---|
| <b>Photo No.</b><br><b>3</b>   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>West   |                          |   |
| <b>Description</b><br>Drainage conveyance feature adjacent to existing rail line; dry at time of assessment. |                          |   |

|   |                          |  |
|---|--------------------------|--|
| <b>Photo No.</b><br><b>4</b>  | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>West  |                          |  |
| <b>Description</b><br>Drainage conveyance feature within manicured lawn; dry at time of assessment. |                          |  |

# Appendix **B**

## Photographic Log of Terrestrial Existing Conditions



**Client Name:**  
Woodbine Entertainment Group

**Site Location**  
Highway 27-Woodbine Station EA

**Project No.**  
60606819

|  |                          |   |
|--|--------------------------|---|
| <b>Photo No.</b><br><b>1</b>   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>East   |                          |   |
| <b>Description</b><br><p>Manicured lawns with planted trees within the right-of-way of Entrance Road, looking east towards Grandstand Entrance Road.</p> |                          |   |

|   |                          |  |
|---|--------------------------|--|
| <b>Photo No.</b><br><b>2</b>  | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>South   |                          |  |
| <b>Description</b><br><p>Manicured lawns with planted trees and weedy herbaceous species. A narrow strip of shallow marsh consisting of common reed in a surface drainage area.</p> |                          |  |



**Client Name:**  
Woodbine Entertainment Group

**Site Location**  
Highway 27-Woodbine Station EA

**Project No.**  
60606819

|   |                          |   |
|---|--------------------------|---|
| <b>Photo No.</b><br><b>3</b>  | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>West  |                          |   |
| <b>Description</b><br>Planted White Spruce and willows in rows along Entrance Road with common reed patch in a wet drainage area. |                          |   |

|  |                          |  |
|--|--------------------------|--|
| <b>Photo No.</b><br><b>4</b>                                   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>West                           |                          |  |
| <b>Description</b><br>Manicured lawns along the rail corridor. |                          |  |

**Client Name:**  
Woodbine Entertainment Group

**Site Location**  
Highway 27-Woodbine Station EA

**Project No.**  
60606819

|  |                          |   |
|--|--------------------------|---|
| <b>Photo No.</b><br><b>5</b>   | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>East   |                          |   |
| <b>Description</b><br>West side of the rail track bridge over Highway 27 North. No presence of Barn Swallow nests. |                          |   |

|   |                          |  |
|---|--------------------------|--|
| <b>Photo No.</b><br><b>6</b>  | <b>Date</b><br>5/23/2019 |  |
| <b>Direction Photo Taken</b><br>East  |                          |  |
| <b>Description</b><br>Presence of several Pigeon nests under the rail track bridge over Highway 27 North. |                          |  |

# Appendix **C**

## **Wildlife Records from Secondary Sources**

## Appendix C. Wildlife Records from Secondary Sources

**Table C-1. Ontario Breeding Bird Atlas Records (Cadman et al., 2006) in or in the Vicinity of the Study Area (Square ID 17PJ14)**

| Common Name                   | Scientific name                   | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> |
|-------------------------------|-----------------------------------|---------------------|-------------------------|
| Green Heron                   | <i>Butorides virescens</i>        | S4B                 | -                       |
| Canada Goose                  | <i>Branta canadensis</i>          | S5                  | -                       |
| Wood Duck                     | <i>Aix sponsa</i>                 | S5                  | -                       |
| American Black Duck           | <i>Anas rubripes</i>              | S4                  | -                       |
| Mallard                       | <i>Anas platyrhynchos</i>         | S5                  | -                       |
| Hooded Merganser              | <i>Lophodytes cucullatus</i>      | S5B,S5N             | -                       |
| Turkey Vulture                | <i>Cathartes aura</i>             | S5B                 | -                       |
| Northern Harrier              | <i>Circus cyaneus</i>             | S4B                 | -                       |
| Sharp-shinned Hawk            | <i>Accipiter striatus</i>         | S5                  | -                       |
| Cooper's Hawk                 | <i>Accipiter cooperi</i>          | S4                  | -                       |
| Red-tailed Hawk               | <i>Buteo jamaicensis</i>          | S5                  | -                       |
| Ring-necked Pheasant          | <i>Phasianus colchicus</i>        | SNA                 | -                       |
| Virginia Rail                 | <i>Rallus limicola</i>            | S5B                 | -                       |
| Sora                          | <i>Porzana carolina</i>           | S4B                 | -                       |
| Killdeer                      | <i>Charadrius vociferus</i>       | S5B,S5N             | -                       |
| Spotted Sandpiper             | <i>Actitis macularia</i>          | S5                  | -                       |
| American Woodcock             | <i>Scolopax minor</i>             | S4B                 | -                       |
| Ring-billed Gull              | <i>Larus delawarensis</i>         | S5B,S4N             | -                       |
| Mourning Dove                 | <i>Zenaida macroura</i>           | S5                  | -                       |
| Black-billed Cuckoo           | <i>Coccyzus erythrophthalmus</i>  | S5B                 | -                       |
| Yellow-billed Cuckoo          | <i>Coccyzus americanus</i>        | S4B                 | -                       |
| Great Horned Owl              | <i>Bubo virginianus</i>           | S4                  | -                       |
| Common Nighthawk              | <i>Chordeiles minor</i>           | S4B                 | SC                      |
| Chimney Swift                 | <i>Chaetura pelagica</i>          | S4B,S4N             | THR                     |
| Ruby-throated Hummingbird     | <i>Archilochus colubris</i>       | S5B                 | -                       |
| Belted Kingfisher             | <i>Ceryle alcyon</i>              | S4B                 | -                       |
| Yellow-bellied Sapsucker      | <i>Sphyrapicus varius</i>         | S5B                 | -                       |
| Downy Woodpecker              | <i>Picoides pubescens</i>         | S5                  | -                       |
| Hairy Woodpecker              | <i>Picoides villosus</i>          | S5                  | -                       |
| Northern Flicker              | <i>Colaptes auratus</i>           | S4B                 | -                       |
| Pileated Woodpecker           | <i>Dryocopus pileatus</i>         | S5                  | -                       |
| American Kestrel              | <i>Falco sparverius</i>           | S4                  | -                       |
| Eastern Wood-Pewee            | <i>Contopus virens</i>            | S4B                 | SC                      |
| Alder Flycatcher              | <i>Empidonax alnorum</i>          | S5B                 | -                       |
| Willow Flycatcher             | <i>Empidonax traillii</i>         | S5B                 | -                       |
| Least Flycatcher              | <i>Empidonax minimus</i>          | S4B                 | -                       |
| Eastern Phoebe                | <i>Sayornis phoebe</i>            | S5B                 | -                       |
| Great Crested Flycatcher      | <i>Myiarchus crinitus</i>         | S4B                 | -                       |
| Eastern Kingbird              | <i>Tyrannus tyrannus</i>          | S4B                 | -                       |
| Horned Lark                   | <i>Eremophila alpestris</i>       | S5B                 | -                       |
| Tree Swallow                  | <i>Tachycineta bicolor</i>        | S4B                 | -                       |
| Northern Rough-winged Swallow | <i>Stelgidopteryx serripennis</i> | S4B                 | -                       |
| Bank Swallow                  | <i>Riparia riparia</i>            | S4B                 | THR                     |
| Cliff Swallow                 | <i>Petrochelidon pyrrhonota</i>   | S4B                 | -                       |
| Barn Swallow                  | <i>Hirundo rustica</i>            | S4B                 | THR                     |
| Purple Martin                 | <i>Progne subis</i>               | S4B                 | -                       |
| Blue Jay                      | <i>Cyanocitta cristata</i>        | S5                  | -                       |
| American Crow                 | <i>Corvus brachyrhynchos</i>      | S5B                 | -                       |
| Black-capped Chickadee        | <i>Poecile atricapillus</i>       | S5                  | -                       |
| Red-breasted Nuthatch         | <i>Sitta canadensis</i>           | S5                  | -                       |
| White-breasted Nuthatch       | <i>Sitta carolinensis</i>         | S5                  | -                       |



## Appendix C. Wildlife Records from Secondary Sources

| Common Name            | Scientific name                  | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> |
|------------------------|----------------------------------|---------------------|-------------------------|
| House Wren             | <i>Troglodytes aedon</i>         | S5B                 | -                       |
| Carolina Wren          | <i>Thryothorus ludovicianus</i>  | S4                  | -                       |
| Blue-gray Gnatcatcher  | <i>Poliophtila caerulea</i>      | S4B                 | -                       |
| Wood Thrush            | <i>Hylocicla mustelina</i>       | S4B                 | SC                      |
| Veery                  | <i>Catharus fuscescens</i>       | S4B                 | -                       |
| American Robin         | <i>Turdus migratorius</i>        | S5B                 | -                       |
| Northern Mockingbird   | <i>Mimus polyglottus</i>         | S4                  | -                       |
| Gray Catbird           | <i>Dumetella carolinensis</i>    | S4B                 | -                       |
| Brown Thrasher         | <i>Toxostoma rufum</i>           | S4B                 | -                       |
| Cedar Waxwing          | <i>Bombycilla cedrorum</i>       | S5B                 | -                       |
| European Starling      | <i>Sturnus vulgaris</i>          | SNA                 | -                       |
| Warbling Vireo         | <i>Vireo gilvus</i>              | S5B                 | -                       |
| Red-eyed Vireo         | <i>Vireo olivaceus</i>           | S5B                 | -                       |
| Nashville Warbler      | <i>Vermivora ruficapilla</i>     | S5B                 | -                       |
| Yellow Warbler         | <i>Dendroica petechia</i>        | S5B                 | -                       |
| Pine Warbler           | <i>Dendroica pinus</i>           | S5B                 | -                       |
| American Redstart      | <i>Setophaga ruticilla</i>       | S5B                 | -                       |
| Mourning Warbler       | <i>Oporornis philadelphia</i>    | S4B                 | -                       |
| Common Yellowthroat    | <i>Geothlypis trichas</i>        | S5B                 | -                       |
| Northern Cardinal      | <i>Cardinalis cardinalis</i>     | S5                  | -                       |
| Rose-breasted Grosbeak | <i>Pheucticus ludovicianus</i>   | S4B                 | -                       |
| Indigo Bunting         | <i>Passerina cyanea</i>          | S4B                 | -                       |
| Eastern Towhee         | <i>Pipilo erythrophthalmus</i>   | S4B                 | -                       |
| Chipping Sparrow       | <i>Spizella passerina</i>        | S5B                 | -                       |
| Field Sparrow          | <i>Spizella pusilla</i>          | S4B                 | -                       |
| Savannah Sparrow       | <i>Passerculus sandwichensis</i> | S4B                 | -                       |
| Song Sparrow           | <i>Melospiza melodia</i>         | S5B                 | -                       |
| Swamp Sparrow          | <i>Melospiza georgiana</i>       | S5B                 | -                       |
| White-throated Sparrow | <i>Zonotrichia albicollis</i>    | S5B                 | -                       |
| Bobolink               | <i>Dolichonyx oryzivorus</i>     | S4B                 | THR                     |
| Red-winged Blackbird   | <i>Agelaius phoeniceus</i>       | S4                  | -                       |
| Eastern Meadowlark     | <i>Sturnella magna</i>           | S4B                 | THR                     |
| Common Grackle         | <i>Quiscalus quiscula</i>        | S5B                 | -                       |
| Brown-headed Cowbird   | <i>Molothrus ater</i>            | S4B                 | -                       |
| Orchard Oriole         | <i>Icterus spurius</i>           | S4B                 | -                       |
| Baltimore Oriole       | <i>Icterus galbula</i>           | S4B                 | -                       |
| House Finch            | <i>Carpodacus mexicanus</i>      | SNA                 | -                       |
| American Goldfinch     | <i>Carduelis tristis</i>         | S5B                 | -                       |
| House Sparrow          | <i>Passer domesticus</i>         | SNA                 | -                       |

<sup>1</sup> **S-rank:** The natural heritage provincial ranking system (provincial S-rank) is used by the MNRF Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. The following status definitions were taken from NatureServe Explorer's (2015) National and Subnational Conservation Status Definitions available at <http://explorer.natureserve.org/nsranks.htm>:

**SX** - Presumed Extirpated—Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

**SH** - Possibly Extirpated (Historical)—Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40 year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for.

**S1** - Critically Imperiled—Critically imperiled in the 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 province.

**S2** - Imperiled—Imperiled in the 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 province.

**S3** - Vulnerable—Vulnerable in the 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.

**SNR** - Unranked—Province conservation status not yet assessed.

**SU** - Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

**SNA** - Not Applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

**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).

*Breeding Status Qualifiers*

## Appendix C. Wildlife Records from Secondary Sources

**B** - Breeding—Conservation status refers to the breeding population of the species in the province.

**N** - Nonbreeding—Conservation status refers to the non-breeding population of the species in the province.

**M** - Migrant—Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

**Note:** A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the province, and/or a migrant-status S-rank if the species occurs regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. The two (or rarely, three) status ranks are separated by a comma (e.g., "S2B,S3N" or "SHN,S4B,S1M").

### *Other Qualifiers*

? -Inexact or Uncertain—Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)

**<sup>2</sup>ESA Status:** *The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:*

**END** (Endangered) – A species facing imminent extinction or extirpation in Ontario.

**THR** (Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.

**SC** (Special Concern) – A species that may become threatened or endangered due to 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.

**Note:** species with “-” represent those that were not evaluated by COSSARO.

## Appendix C. Wildlife Records from Secondary Sources

**Table C-2. Mammal Records in or in the Vicinity of the Study Area**

| <b>Taxon</b>     | <b>Common Name</b>          | <b>Scientific Name</b>           | <b>S-Rank<sup>1</sup></b> | <b>ESA Status<sup>2</sup></b> |
|------------------|-----------------------------|----------------------------------|---------------------------|-------------------------------|
| <b>Bat</b>       | Little Brown Myotis         | <i>Myotis lucifugus</i>          | S4                        | END                           |
|                  | Hoary Bat                   | <i>Lasiurus cinereus</i>         | S4                        | -                             |
|                  | Silver-haired Bat           | <i>Lasionycteris noctivagans</i> | S4                        | -                             |
|                  | Eastern Red Bat             | <i>Lasiurus borealis</i>         | S4                        | -                             |
|                  | Eastern Small-footed Myotis | <i>Myotis leibii</i>             | S2S3                      | END                           |
|                  | Northern Long-eared Myotis  | <i>Myotis septentrionalis</i>    | S3                        | END                           |
|                  | Big Brown Bat               | <i>Eptesicus fuscus</i>          | S5                        | -                             |
|                  | Tri-coloured Bat            | <i>Perimyotis subflavus</i>      | S3?                       | END                           |
| <b>Carnivore</b> | American Mink               | <i>Mustela vison</i>             | S4                        | -                             |
|                  | Common Raccoon              | <i>Procyon lotor</i>             | S5                        | -                             |
|                  | Coyote                      | <i>Canis latrans</i>             | S5                        | -                             |
|                  | Striped Skunk               | <i>Mephitis</i>                  | S5                        | -                             |
|                  | Red Fox                     | <i>Vulpes</i>                    | S5                        | -                             |
| <b>Hare</b>      | European Hare               | <i>Lepus europaeus</i>           | SNA                       | -                             |
| <b>Mole</b>      | Star-nosed Mole             | <i>Condylura cristata</i>        | S5                        | -                             |
| <b>Opossum</b>   | Virginia Opossum            | <i>Didelphis virginiana</i>      | S4                        | -                             |
| <b>Rabbit</b>    | Eastern Cottontail          | <i>Sylvilagus floridanus</i>     | S5                        | -                             |
| <b>Rodent</b>    | Beaver                      | <i>Castor canadensis</i>         | S5                        | -                             |
|                  | Deer Mouse                  | <i>Peromyscus maniculatus</i>    | S5                        | -                             |
|                  | Eastern Gray Squirrel       | <i>Sciurus carolinensis</i>      | S5                        | -                             |
|                  | Eastern Chipmunk            | <i>Tamias striatus</i>           | S5                        | -                             |
|                  | Groundhog                   | <i>Marmota monax</i>             | S5                        | -                             |
|                  | House Mouse                 | <i>Mus musculus</i>              | SNA                       | -                             |
|                  | Meadow Vole                 | <i>Microtus pennsylvanicus</i>   | S5                        | -                             |
|                  | Porcupine                   | <i>Erethizon dorsatum</i>        | S4                        | -                             |
|                  | Norway Rat                  | <i>Rattus norvegicus</i>         | SNA                       | -                             |
|                  | Muskrat                     | <i>Ondatra zibethicus</i>        | S5                        | -                             |
|                  | White-footed Mouse          | <i>Peromyscus leucopus</i>       | S5                        | -                             |

Notes: 1, 2: See notes under Table C-1.

## Appendix C. Wildlife Records from Secondary Sources

**Table C-3. Ontario Reptile and Amphibian Atlas (ON, 2019) Records in or in the Vicinity of the Study Area (Square ID 17PJ14)**

| Taxon            | Common Name   | Scientific Name                     | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> | Year of Observation |
|------------------|---|-------------------------------------|---------------------|-------------------------|---------------------|
| <b>Amphibian</b> | American Toad   | <i>Anaxyrus americanus</i>          | S5                  | -                       | 2016                |
|                  | Eastern Red-backed Salamander   | <i>Plethodon cinereus</i>           | S5                  | -                       | 2007                |
|                  | Gray Treefrog   | <i>Hyla versicolor</i>              | S5                  | -                       | 1993                |
|                  | Green Frog  | <i>Lithobates clamitans</i>         | S5                  | -                       | 2018                |
|                  | Mink Frog   | <i>Lithobates septentrionalis</i>   | S5                  | -                       | 2003                |
|                  | Northern Leopard Frog   | <i>Lithobates pipiens</i>           | S5                  | NAR                     | 2016                |
|                  | Spring Peeper   | <i>Pseudacris crucifer</i>          | S5                  | -                       | 2001                |
|                  | Western Chorus Frog - Great Lakes - St. Lawrence - Canadian Shield population | <i>Pseudacris maculata pop. 1</i>   | S3                  | NAR                     | 2016                |
|                  | Wood Frog   | <i>Lithobates sylvaticus</i>        | S5                  | -                       | 2011                |
| <b>Snake</b>     | Dekay's Brownsnake  | <i>Storeria dekayi</i>              | S5                  | NAR                     | 2016                |
|                  | Eastern Gartersnake   | <i>Thamnophis sirtalis sirtalis</i> | S5                  | -                       | 2016                |
|                  | Eastern Milksnake   | <i>Lampropeltis triangulum</i>      | S4                  | NAR                     | 1955                |
|                  | Smooth Greensnake   | <i>Opheodrys vernalis</i>           | S4                  | -                       | 1998                |
| <b>Turtle</b>    | Blanding's Turtle   | <i>Emydoidea blandingii</i>         | S3                  | THR                     | 1986                |
|                  | Midland Painted Turtle  | <i>Chrysemys picta marginata</i>    | S4                  | -                       | 2017                |
|                  | Snapping Turtle   | <i>Chelydra serpentina</i>          | S3                  | SC                      | 2018                |

Notes: 1, 2: See notes under Table C-1.



## Appendix C. Wildlife Records from Secondary Sources

**Table C-4. Ontario Butterfly Atlas (Macnaughton et al., 2018) Records in or in the Vicinity of the Study Area (Square ID 17PJ14)**

| Common Name                | Scientific Name                    | S-Rank <sup>1</sup> | ESA Status <sup>2</sup> |
|----------------------------|------------------------------------|---------------------|-------------------------|
| Silver-spotted Skipper     | <i>Epargyreus clarus</i>           | S4                  | -                       |
| Juvenal's Duskywing        | <i>Erynnis juvenalis</i>           | S5                  | -                       |
| Columbine Duskywing        | <i>Erynnis lucilius</i>            | S4                  | -                       |
| Wild Indigo Duskywing      | <i>Erynnis baptisiae</i>           | S4                  | -                       |
| Least Skipper              | <i>Ancyloxypha numitor</i>         | S5                  | -                       |
| European Skipper           | <i>Thymelicus lineola</i>          | SNA                 | -                       |
| Peck's Skipper             | <i>Polites peckius</i>             | S5                  | -                       |
| Tawny-edged Skipper        | <i>Polites themistocles</i>        | S5                  | -                       |
| Crossline Skipper          | <i>Polites origenes</i>            | S4                  | -                       |
| Long Dash Skipper          | <i>Polites mystic</i>              | S5                  | -                       |
| Northern Broken-Dash       | <i>Wallengrenia egeremet</i>       | S5                  | -                       |
| Little Glassywing          | <i>Pompeius verna</i>              | S4                  | -                       |
| Delaware Skipper           | <i>Anatrytone logan</i>            | S4                  | -                       |
| Hobomok Skipper            | <i>Poanes hobomok</i>              | S5                  | -                       |
| Dun Skipper                | <i>Euphyes vestris</i>             | S5                  | -                       |
| Black Swallowtail          | <i>Papilio polyxenes</i>           | S5                  | -                       |
| Eastern Giant Swallowtail  | <i>Papilio cresphontes</i>         | S4                  | -                       |
| Eastern Tiger Swallowtail  | <i>Papilio glaucus</i>             | S5                  | -                       |
| Canadian Tiger Swallowtail | <i>Papilio canadensis</i>          | S5                  | -                       |
| Cabbage White              | <i>Pieris rapae</i>                | SNA                 | -                       |
| Clouded Sulphur            | <i>Colias philodice</i>            | S5                  | -                       |
| Orange Sulphur             | <i>Colias eurytheme</i>            | S5                  | -                       |
| Harvester                  | <i>Feniseca tarquinius</i>         | S4                  | -                       |
| American Copper            | <i>Lycaena phlaeas</i>             | S5                  | -                       |
| Bronze Copper              | <i>Lycaena hyllus</i>              | S5                  | -                       |
| Acadian Hairstreak         | <i>Satyrium acadica</i>            | S4                  | -                       |
| Banded Hairstreak          | <i>Satyrium calanus</i>            | S4                  | -                       |
| Striped Hairstreak         | <i>Satyrium liparops</i>           | S5                  | -                       |
| Eastern Tailed Blue        | <i>Cupido comyntas</i>             | S5                  | -                       |
| Northern Azure             | <i>Celastrina lucia</i>            | S5                  | -                       |
| Summer Azure               | <i>Celastrina neglecta</i>         | S5                  | -                       |
| Azure sp.                  | <i>Celastrina sp.</i>              | S5                  | -                       |
| Silvery Blue               | <i>Glaucopsyche lygdamus</i>       | S5                  | -                       |
| Great Spangled Fritillary  | <i>Speyeria cybele</i>             | S5                  | -                       |
| Pearl Crescent             | <i>Phyciodes tharos</i>            | S4                  | -                       |
| Northern Crescent          | <i>Phyciodes cocyta</i>            | S5                  | -                       |
| Question Mark              | <i>Polygonia interrogationis</i>   | S5                  | -                       |
| Eastern Comma              | <i>Polygonia comma</i>             | S5                  | -                       |
| Compton Tortoiseshell      | <i>Nymphalis l-album</i>           | S5                  | -                       |
| Mourning Cloak             | <i>Nymphalis antiopa</i>           | S5                  | -                       |
| Milbert's Tortoiseshell    | <i>Aglaia milberti</i>             | S5                  | -                       |
| American Lady              | <i>Vanessa virginiensis</i>        | S5                  | -                       |
| Painted Lady               | <i>Vanessa cardui</i>              | S5                  | -                       |
| Red Admiral                | <i>Vanessa atalanta</i>            | S5                  | -                       |
| White Admiral              | <i>Limenitis arthemis arthemis</i> | S5                  | -                       |
| Red-spotted Purple         | <i>Limenitis arthemis astyanax</i> | S5                  | -                       |
| Viceroy                    | <i>Limenitis archippus</i>         | S5                  | -                       |
| Northern Pearly-Eye        | <i>Lethe antheodon</i>             | S5                  | -                       |
| Appalachian Brown          | <i>Lethe appalachia</i>            | S4                  | -                       |
| Little Wood-Satyr          | <i>Megisto cymela</i>              | S5                  | -                       |
| Common Ringlet             | <i>Coenonympha tullia</i>          | S5                  | -                       |
| Common Wood-Nymph          | <i>Cercyonis pegala</i>            | S5                  | -                       |
| Monarch                    | <i>Danaus plexippus</i>            | S2N,S4B             | SC                      |

Notes: 1, 2: See notes under Table C-1.

