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Environmental Impact Statement
Building Application - Industrial Development
225 Maple Creek Court
Ottawa, Ontario

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Submitted to:

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Environmental Impact Statement
Building Application - Industrial Development
225 Maple Creek Court
Ottawa, Ontario

September 28, 2023
Project: 100227.103

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EXECUTIVE SUMMARY

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Glenview Iron and Metal to complete an Environmental Impact Statement (EIS) for a proposed industrial development on the property located on Part of Lot 7, Concession 2, in the Geographic Township of Huntley, Ottawa, Ontario, municipally addressed as 225 Maple Creek Court, Carp, Ontario. This EIS has been completed in support of a proposed industrial development application and was completed in accordance with all federal, provincial and municipal policies and guidelines, as applicable.

In support of this EIS, a desktop review and a single field investigation was completed in summer 2023 to identify the presence or absence of natural heritage features and species at risk (SAR) on-site. The focus of the site investigation was to describe, in general, the natural and physical setting of the subject property with a focus on confirming the presence or absence of natural heritage features and potential SAR or their habitat as identified in the desktop review.

Following completion of the desktop review and site investigation the following natural heritage features were identified on-site or within the study area: significant woodlands, local wetlands, fish habitat, *candidate* bat maternity colonies, *candidate* turtle wintering areas, *candidate* woodland and wetland amphibian breeding habitat, special concern and rare wildlife habitat (eastern wood-pewee, wood thrush and snapping turtle) and *candidate* animal movement corridors. The following SAR and their habitat were identified as having a potential to occur on-site: eastern small-foot myotis, little brown myotis, tri-colored bat and Blanding's turtle. Regulated Category 2 and 3 habitat was identified on-site for Blanding's turtle.

Potential impacts to the natural heritage features were primarily associated with indirect impacts to the on-site flood plain associated with off-site Huntley Creek, fish habitat and associated significant wildlife habitat. Indirect impacts include potential alterations to water quality and quantity through increased nutrient and sediment loading and stormwater runoff.

Given the proposed development and minimal impact potential to Blanding's turtle and their habitat, it is GEMTEC's opinion that standard avoidance and mitigation measures will be sufficient to mitigate impacts of the proposed project and no ministry consultation is required.

Potential impacts to natural heritage features on-site are likely to be mitigated through the implementation of development setbacks from surface water features. A 15 m setback from the local wetlands is proposed. The setbacks are sufficient to provide protection for the majority of SWH on-site as well as providing protection to fish habitat.

Additionally, to provide protection to potential SAR and their habitat on-site, exclusion fencing around the entire construction envelope of each future residential dwelling should be installed to prevent the immigration of SAR turtle species into the construction area. Should any SAR be

discovered throughout the course of the proposed works, operations should stop and the species at risk biologist with the local MECP district should be contacted immediately for further direction. Furthermore, to ensure compliance with all applicable legislation, all best management practices and adherence to vegetation clearing windows for birds and bats, outlined in Section 7 should be followed to ensure no negative impacts occur to natural heritage features on-site.

The proposed project complies with the natural heritage policies of the Provincial Policy Statement and the City of Ottawa Official Plan. No significant residual negative impacts to identified natural heritage features or their ecological functions are anticipated as a result of the proposed development as long as all mitigation measures in Section 7 are enacted and best management practices followed.

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Glenview Iron and Metal to complete an Environmental Impact Statement (EIS) for the property located on Part of Lot 7, Concession 2, in the Geographic Township of Huntley, Ottawa, Ontario. The property is municipally addressed as 225 Maple Creek Court, Carp, Ontario, and is hereafter referred to as "the subject property". The general location of the subject property is illustrated on Figure A.1 in Appendix A.

1.1 Purpose

The proponent is seeking to develop an iron recycling operation on an approximately 1.84 hectare (ha) property. Based on Section 5 of the Transects – City of Ottawa Official Plan (Ottawa, 2021) an EIS is required demonstrating that the proposed development will not negatively impact potential natural heritage features which may be present within the study area. The study area is defined as the property boundary and the adjacent lands encompassing an area of 120 m beyond the property boundary. The subject project and the extents of the study area are illustrated on Figure A.2.

1.2 Objective

The 2020 Provincial Policy Statement (MMAH, 2020) issued under Section 3 of the Planning Act states that "development and site alteration shall not be permitted in: habitats of species at risk, significant wetlands, significant woodlands and significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions." Similarly, the 2020 Provincial Policy Statement dictates that 'development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements."

The objective of the work presented herein is twofold; 1) to identify and evaluate the significance of any natural heritage features, as defined in the Provincial Policy Statement (MMAH, 2020), on the subject property and within the broader study area and; 2) to assess the potential impacts from the proposed development on any natural heritage features identified and to recommend appropriate and defensible mitigation measures to ensure the long-term protection of any natural heritage features identified.

To meet these objectives, the EIS presented herein has been completed in accordance with the following provincial and municipal regulations, policies and guidelines:

- Provincial Policy Statement (MMAH, 2020);
- Endangered Species Act (Ontario, 2007);
- Conservation Authorities Act (Ontario, 1990);
- Natural Heritage Reference Manual (OMNR, 2010); and
- City of Ottawa Official Plan (Ottawa, 2021).

1.3 Physical Setting

The subject property is located at 225 Maple Creek Court, Carp, Ontario, and is currently occupied by a scale house, scale, fencing and gravel covered ground. Vegetation within the lot is comprised mostly of the gravel covered ground with sparse herbaceous vegetation, deciduous forest and local wetland. The site is bound to the west by 215 Maple Creek Court, east and south by vacant lands of Part of Lot 7, Concession 2, and north by 220 Maple Creek Court.

1.4 Land Use Context

The subject property is situated within a broader rural industrial area. The existing land use designation from the Official Plan (Ottawa, 2021) is rural industrial and logistics and the zoning is rural general industrial zone – Carp Road Corridor (RG5). The City of Ottawa and the Mississippi Valley Conservation Authority (MVCA) have also identified flood plain on the subject property.

2.0 METHODOLOGY

2.1 Desktop Review

A desktop information gathering exercise was completed to aid in the scoping of field investigations and to gather information relating to natural heritage features which may be present on the subject project or within 1 km of the subject property. An additional component of the desktop review was to assess the potential presence of species at risk (SAR) to occur on the subject property or within the study boundary based on a review of publicly accessible occurrence records, and review of SAR habitat requirements and range maps.

Information regarding the potential presence of natural heritage features and SAR within the vicinity of the site was obtained from the following sources:

- Make A Map: Natural Heritage Areas (OMNRF, 2022a);
- Land Information Ontario (OMNR, 2011);
- City of Ottawa Official Plan (Ottawa, 2021);
- Ontario Geological Survey (OGS, 2019);
- Fisheries and Oceans Canada SAR Maps (DFO, 2019);
- Natural Heritage Information Centre Biodiversity Explorer (OMNRF, 2022b);
- Breeding Bird Atlas of Ontario (Cadman et al., 2007)
- Ontario Herpetofaunal Atlas (Oldham and Weller, 2000);
- Wildlife Values Area (OMNRF, 2023a);
- Wildlife Values Site (OMNRF, 2023b);
- Mississippi Valley Conservation Authority Geoportal (MVCA, undated);
- Geo Ottawa (Undated); and
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2019).

2.2 Field Investigations

A single field investigation was undertaken to describe, in general, the natural and physical setting of the subject property with a focus on identifying natural heritage features and any potential SAR or their habitat that may exist at the subject property.

The field investigation was completed on July 19, 2023 from 6:30 to 8:15. Conditions during the site investigation were as follows 15°C, no cloud cover, Beaufort wind 2, no precipitation.

2.2.1 Ecological Land Classification

Vegetation communities on the subject property were delineated during the desktop review stage of this EIS using publicly available air photos and confirmed in the field on July 19, 2023 following the Ecological Land Classification System for Southern Ontario (Lee et al., 2008). Vegetation communities were confirmed in the field by employing the random meander methodology while

documenting dominant vegetation species within the various vegetation community forms and the dominant soil types within each community.

2.3 Data Analysis

An evaluation of the significance of natural heritage features, the sensitivity of identified flora and fauna and the potential impacts posed by the proposed development was undertaken through an analysis of desktop and field investigation data using the approaches and criteria outlined in the following documents:

- Natural Heritage Reference Manual (OMNR, 2010);
- Significant Wildlife Habitat Technical Guide (OMNR, 2000);
- Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015); and
- Significant Wildlife Habitat Mitigation Support Tool (OMNRF, 2014b).

3.0 EXISTING ENVIRONMENT

3.1 Ecoregion

The site is situated in Ecoregion 6E-16 (Lake Simcoe-Rideau), which extends from Lake Huron in the west to the Ottawa River in the east. The climate of Ecoregion 6E is categorized as humid, high to moderate temperate ecoclimate with a mean annual temperature range between 4.9°C to 7.8°C and an annual precipitation ranging between 759 mm to 1,087 mm (Crins et al., 2009).

The eastern portion of the Ecoregion, where the subject property is located, is underlain by glaciomarine deposits as a result of the brief post-glacial incursion of salt water from the Champlain Sea along the St. Lawrence Valley. This Ecoregion falls with Rowe's (1972) Great Lakes-St. Lawrence Forest Region, including its Huron-Ontario and Upper St. Lawrence sections and a small part of the Middle Ottawa Forest section (Crins et al., 2009).

3.2 Study Area Land Use

Figure 1 below provides an illustration of the temporal changes in land use within the study area from 1976, 1991, 2008, and 2022 aerial imagery taken from GeoOttawa.

In 1976, the subject property and surrounding lands were primarily populated with agricultural fields, farmhouses, and some fallow fields. The extent of the Carp airport are visible in the northwest corner of the greater study area.

By 1991, significant development occurred along Carp Road and surrounding land, primarily for commercial and industrial use. Much of the land south of the property had entered a regenerative state with trees colonizing historic agricultural fields. Two large stormwater management ponds had been created south of the site.

By 2008, the northern surrounding area had continued to intensify with more commercial and industrial development. Agricultural land to the south west continued to be abandoned and reclaimed by woodlands.

By 2022, land use has not changed significantly. Minimal further industrial development had occurred north west of the site. The remaining surrounding lands are in present day configuration.

Figure 1 – Temporal Changes in Land Use within Study Area

3.2.1 Carp River Watershed/Subwatershed Study and Carp Road Corridor Community Design Plan

The Carp River Watershed/Subwatershed Study (Robinson, 2004) was completed, in part, to provide initial guidance on approaches required to protect and restore environmental values within the Carp River watershed. The Carp River watershed encompasses an area of approximately 30,600 ha surrounding the former municipalities of West Carleton, Kanata and Goulbourn. The Carp River Watershed/Subwatershed Study (CRSWS) identifies opportunities and constraints for improvement of the Carp River Watershed while providing a series of Best Management Practices (BMPs) that may be implemented in order to protect, enhance or restore the environment. The desktop review has identified Huntley Creek as occurring within the study area and the CRSWS has classified it as a cold-warm water stream. As such, under the recommendations provided by the CRSWS, the watercourse should receive a 15 m – 30 m setback and revegetating up to 50% - 75% of the total stream length with native wood, riparian vegetation.

The Carp Road Corridor Community Design Plan (CRCCDP) is a Council approved guide to the long-term growth and development of the Carp Road Corridor. The CRCCDP provides guidelines for the day-to-day decision-making on land use planning and sets out the community's priorities for the future (Ottawa, 2004). The Carp Road Corridor extends from Stittsville to Fitzroy Harbour and is a significant rural employment area. Schedule 2 of the CRCCDP identifies the subject property as a moderate recharge area, and therefore requires a groundwater impact assessment.

3.3 Landforms, Soils and Bedrock Geology

Topography of the site is relatively flat, gently sloping from a topographical high of 116 mASL at the eastern edge of the property, to a low of 110 mASL towards the watercourse at the southern corner of the property.

A single topographical landform, as mapped by Chapman and Putnam (1984) is described on-site; sand plains of the Ottawa Valley Clay Plains physiographic region.

The Ontario Geological Survey (OGS, 2019) identified one surficial soil unit on the subject property: coarse-textured glaciomarine deposits consisting of sand, gravel, minor silt and clay with foreshore and basinal deposits.

As described by OGS (2019), bedrock at the site consists of the Ottawa Group, Simcoe Group and Shadow Lake Formation comprised of limestone, dolostone, shale, arkose and sandstone.

3.4 Surface Water, Groundwater and Fish Habitat

Surface water features on-site and within the study area consist of Huntley Creek and associated flood plain.

As identified by GeoOttawa mapping and the MVCA geoportal, portions of the 1: 100 year floodplain for Huntley Creek extend on-site.

Huntley Creek occurs off-site just south of the property border, with the flood plain extending onto the southwest corner of the property. Huntley Creek originates approximately 14.2 km southwest of the site and eventually confluences with the Carp River approximately 3.7 km northeast of site.

A fisheries assessment was not completed as part of this EIS. However, based on a review of the Huntley Creek Catchment Report (MVCA, 2017), Huntley Creek, which is a tributary of the Carp River, is assumed to provide fish habitat for cool-warm species. The species found in Huntley Creek by the report include but are not limited to blacknose dace, central mudminnow, fathead minnow, greater redhorse, hornyhead chub, northern redbelly dace and white sucker. None of the species within the report are indicative of SAR or SAR habitat.

Groundwater investigations were not completed in support of this EIS.

3.5 Vegetation Communities

Vegetation communities on-site were confirmed by GEMTEC in 2023, following protocols utilized in the Southern Ontario Ecological Land Classification System (Lee et al., 2008). In accordance with ELC protocol, only polygons larger than 0.5 ha in size are considered their own vegetation community. Polygons less than 0.5 ha in size are considered inclusions within the larger surrounding ELC community. Vegetation at the site represents a mosaic of light industrial, deciduous forest and local wetlands.

A single vegetation was present on-site, occupying the entire 1.84 ha site: light industry (ELC code CVC_2), and was dominated by vacant land primarily covered with gravel. Sparse herbaceous vegetation occurred within the community consisting of Queen Anne's lace (*Daucus carota*), black-eyed Susan (*Rudbeckia hirta*), common reed (*Phragmites* sp.) and various grass species (*Poaceae* sp.).

Along the rear of the property, three vegetation community inclusions occurred, all smaller than 0.5 ha. The first inclusion was a small band of deciduous forest, consisting of bur oak (*Quercus macrocarpa*), Manitoba maple (*Acer negundo*), trembling poplar (*Populus tremuloides*), eastern white cedar (*Thuja occidentalis*), common buckthorn (*Rhamnus cathartica*) and willow species (*Salix* sp.). The second and third inclusions were associated with the local wetland comprised of a meadow marsh and open water community. Vegetation within the meadow marsh included reed canary grass (*Phalaris arundinacea*), goldenrod (*Solidago sp.*), purple loosestrife (*Lythrum lysimachia*), wild parsnip (*Pastinaca sativa*) and cattail species (*Typha* sp.). The open water inclusion on-site was contained cattails, white water-lily (*Nymphaea odorata*), pondweed species (*Potamogeton* sp.) and other emergent vegetation.

Figure A.3 in Appendix A illustrates the various vegetation communities.

3.6 Wildlife

Wildlife observed on-site and within the study area during the site investigation are provided in Table C.1 in Appendix C.

4.0 NATURAL HERITAGE FEATURES

Natural heritage features are defined in the PPS as “features and area, including *significant wetlands, significant coastal wetlands, fish habitat, significant woodlands* south and east of the Canadian Shield, *significant valleylands* south and east of the Canadian shield, *habitats of endangered species and threatened species, significant wildlife habitat* and *significant areas of natural and scientific interest*, which are important for their environmental and social values as a legacy of the natural landscape of an area”.

4.1 Significant and Local Wetlands

As described in the Natural Heritage Reference Manual (OMNR, 2010), wetlands “mean lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface.” While *significant* in regards to wetlands means “an area identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time.”

No provincially significant wetlands (PSW) or local wetlands were identified on-site during the desktop review or field investigation. As such, significant and local wetlands are not discussed or evaluated further in this EIS.

4.2 Significant Woodlands

Significant woodlands are defined in the Natural Heritage Reference Manual (OMNR, 2010) as “an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.”

At the local scale, significant woodlands are defined and designated by the local planning authority. Generally, most planning authorities have defined significant woodlands as any woodland that contains any of the four criteria listed in Section 7.2 of the Natural Heritage Reference Manual (OMNR, 2010), including woodland size, ecological functions, uncommon characteristics and economic and social functional values.

The subject site is located within the rural policy area of the City of Ottawa, as established in the City of Ottawa Significant Woodlands Guidelines (Ottawa, 2022b), rural policy area woodlands are to be assessed based on the criteria established in the Significant Woodlands Guidelines and Natural Heritage Reference Manual (NHRM). The subject site falls into the rural planning area of the Ottawa West Catchment, and as established in the City of Ottawa Significant Woodland Guidelines, the percent forest cover for this area is 38%. Therefore, the minimum size criteria for significant woodlands in the Ottawa West Catchment planning jurisdiction is 50 ha. Furthermore, the minimum size criteria for interior woodland habitat is 8 ha.

Based on the results of the significant woodland screening presented in Table C.2, significant woodlands are present on-site based on their size and ecological functions. Impacts to significant woodlands from the proposed development are discussed in Section 6.

4.3 Significant Valleylands

Valleylands are defined in the Natural Heritage Reference Manual (OMNR, 2010) as ‘a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of time”. The identification and evaluation of significant valleys lands in Ontario is based on the recommended criteria from the MNRF and is the responsibility of local planning authorities.

In Southern Ontario, conservation authorities have identified valleylands as part of their regulation mapping (i.e., floodplain mapping); however, where valleys lands have not been defined, their physical boundaries are generally determined as the ‘top-of-bank’ or ‘top-of-slope’ associated with a watercourse. For less well-defined valleys, the physical boundary may be defined by riparian vegetation, flooding hazard limits, ordinary high water marks or the width of the stream meander belt (OMNR, 2010).

No valleylands were identified on-site during the desktop review or during the site investigation. However, as discussed in Section 1.4 and 3.4 above, portions of the 1:100 year flood plain for Huntley Creek have been identified on-site, as identified by MVCA and GeoOttawa mapping. In accordance with City of Ottawa and MVCA policies, no development is permitted within the 1:100 year flood plain.

Impacts to significant valleylands associated with the 1:100 year flood plain are discussed in Section 6 below.

4.4 Significant Areas of Natural and Scientific Interest

The MNRF identifies two types of areas of natural and scientific interest (ANSI) in Ontario: life sciences ANSIs typically represent significant segments of Ontario’s biodiversity and natural landscapes, while earth science ANSIs typically represent significant examples of bedrock, fossils or landforms in Ontario (OMNR, 2010).

No ANSIs have been identified on-site or adjacent to the site during the desktop review or during site investigations. Therefore, ANSIs are not discussed or evaluated further in this EIS.

4.5 Significant Wildlife Habitat

The Natural Heritage Reference Manual (OMNR, 2010), in combination with the Significant Wildlife Habitat Technical Guide (OMNR, 2000) and the Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015) were used to identify and evaluate potential significant wildlife habitat (SWH) on-site. SWH is broadly categorized as habitats of seasonal concentration

of animals, rare vegetation communities, specialized habitats for wildlife, habitats of species of conservation concern and animal movement corridors. Tables C.3, C.4, C.5 and C.6 in Appendix C provide the screening rationale for each category of SWH, respectively.

4.5.1 Habitats of Seasonal Concentration Areas of Animals

Seasonal concentration areas are habitats where large numbers of species congregate at one particular time of the year. The Significant Wildlife Habitat Technical Guide (OMNR, 2000) and Significant Wildlife Habitat Ecoregion 6E Criterion Schedules (OMNRF, 2015) identify 11 types of seasonal concentration habitats that may be considered SWH. These 11 types of seasonal habitats are presented in Table C.3 in Appendix C, including a brief description of the rationale as to why or why they are not assessed further in this EIS.

Following a review of Table C.3 in Appendix C, two habitats of seasonal concentration areas of animals are present on-site or within the study area, bat maternity colonies and turtle wintering areas.

4.5.1.1 Bat Maternity Colonies

Candidate bat maternity colonies were identified within the deciduous forest inclusion in the south and along the eastern border of the subject property (ELC code FOD). Snag surveys to confirm bat maternity colonies were outside of the scope of this EIS.

Impacts to *candidate* bat maternity colonies SWH from the proposed development are discussed in Section 6.

4.5.1.2 Turtle Wintering Areas

Candidate turtle wintering areas were identified within the on-site flood plain and riparian areas of Huntley Creek and the off-site portions of Huntley Creek.

Basking turtle surveys were outside of the scope of this EIS. *Candidate* significant wildlife habitat for turtle wintering areas correspond with the watercourse present on-site with sufficient depths of open water.

Potential impacts to *candidate* turtle wintering areas from the proposed development are discussed in Section 6.

4.5.2 Rare Vegetation Communities

Rare vegetation communities in the province are described generally as those with an S1 to S3 ranking by the NHIC, and typically include communities such as sand barrens, alvars, old growth forests, savannahs and tallgrass prairies.

The vegetation communities identified on-site and described in Section 3.4 of this report are not ranked by the NHIC as S1, S2 or S3 and are therefore not considered to be rare vegetation

communities. As such, rare vegetation communities are not discussed or evaluated further in this EIS.

4.5.3 Specialized Habitats for Wildlife

Specialized wildlife habitats are microhabitats that provide a critical resource to some groups of wildlife. The Significant Wildlife Habitat Technical Guide (OMNR, 2000) defines eight specialized habitats that may constitute SWH, these eight types of specialized wildlife habitat are evaluated in Table C.4 in Appendix C.

Following a review of Table C.4 in Appendix C, one specialized habitat for wildlife has been identified on-site or within the study area: woodland amphibian breeding habitat.

4.5.3.1 Woodland Amphibian Breeding Habitat

Suitable aquatic habitat for *candidate* woodland amphibian breeding habitat was identified within the adjacent Huntley Creek and the 1:100 year flood plain and riparian zone, located both on-site and adjacent to site.

Breeding amphibian surveys were outside of the scope of this EIS. Based on the description provided in the Significant Wildlife Habitat Criteria Schedules (OMNRF, 2015a), woodland amphibian habitat is considered to be the wetland, pond or woodland pool, plus a 230 m radius of surrounding woodland area.

Potential impacts to *candidate* woodland amphibian breeding habitat from the proposed development are discussed in Section 6.

4.5.4 Habitats of Species of Conservation Concern

Provincial rankings are used by the Natural Heritage Information Centre to set protection priorities for rare species, similar to those described in Section 4.5.2 above for vegetation communities. Provincial rankings (S-ranks) are not legal designations such as those used to define the various protection statuses of species at risk, they are only intended to consider factors within the political boundaries of Ontario that might influence a particular species abundance, distribution or population trend.

Based on the guidance provided in the Significant Wildlife Habitat Ecoregion Criterion Schedules (MNRF, 2015), when a plant or animal element occurrence is recorded for any species with an S-rank of S1 (extremely rare), S2 (very rare), S3 (rare to uncommon) or SH (historically present), the corresponding vegetation ecosite is considered to provide *candidate* habitat for species of conservation concern and further consideration within the EIS is warranted.

The Significant Wildlife Habitat Ecoregion Criterion Schedules (OMNRF, 2015), provides five general habitat types known to support a wide range of species of conservation concern in Ontario. The five general habitat types for Ecoregion 6E-16 are provided in Table C.5 in

Appendix C, including a brief rationale as to why they are or are not considered further in this EIS. Following review of Table C.5 in Appendix C, one habitat of species of conservation concern has been identified on-site: habitat for special concern and rare wildlife species for barn swallow, eastern wood-pewee, wood thrush, and snapping turtle.

4.5.4.1 Special Concern and Rare Wildlife Species SWH

Based on observational data from the field investigation combined with occurrence data from various online databases (i.e., NHIC, DFO SAR Maps, Ontario HerpAtlas), four species of special concern have been identified on-site or within the broader study area: barn swallow, eastern wood-pewee, wood thrush and snapping turtle. No other species of special concern or rare wildlife species were identified on-site or within the broader study area.

Barn Swallow

Barn swallow is a medium-sized songbird with an S-rank of S4B (breeding is uncommon but not rare) in Ontario; the most recent Ontario Breeding Bird Atlas indicated a significant decline of 60% between the start of the first atlas and the end of the second atlas with a steady significant annual decline of 3.5% in Ontario (Cadman et al, 2007). Barn swallow is often found in close association with humans, using man-made structures, such as barns, to supplement suitable nesting sites and foraging over open areas, such as grasslands and agricultural fields. Barn swallow was observed foraging on-site during the field investigation. As such, there is a high potential of barn swallow or suitable habitat to occur on-site.

Eastern Wood-pewee

The eastern wood-pewee is a small flycatcher bird with an S-rank of S4B (breeding is uncommon but not rare) in Ontario; the most recent Ontario Breeding Bird Atlas indicated that the eastern wood-pewee has a probability of occurrence of over 80% (Cadman et al, 2007). Furthermore, the area extending from Ottawa to Lake Ontario is considered to have some of the highest density of wood-pewee in Ontario (Cadmen et al, 2007). Eastern wood-pewee is a woodland species that is often found near clearings and edges. The NHIC has identified historic observations for the subject property and surrounding study area. Given the availability of forest edge habitat on-site and within the study area, there is a moderate potential for eastern wood-pewee or suitable habitat to occur on-site.

Wood Thrush

The wood thrush is a medium-sized songbird with an S-rank of S4B (breeding is uncommon but not rare) in Ontario; the most recent Ontario Breeding Bird Atlas indicated that the wood thrush populations in Ontario have shown a significant annual increase of 4.4% between the first and second atlas (Cadman et al., 2007). The NHIC has identified historic observations for the subject property and surrounding study area. Wood thrush is a woodland species often found in moist, deciduous hardwood or mixed forests stands, with dense deciduous undergrowth and tall trees.

Furthermore, wood thrush was observed on-site during field investigations. Given the availability of forest habitat within the study area, there is a moderate chance of wood thrush or suitable habitat to occur on-site.

Snapping Turtle

The snapping turtle is a highly aquatic turtle species with an S-rank of S3 (rare to uncommon) and is listed as a species of special concern in Ontario. The NHIC identified snapping turtle as having occurred within 1 km of the site. Snapping turtles are aquatic generalists, found in a variety of wetlands, water bodies and watercourses. As a highly aquatic species, snapping turtles prefer wetlands and waterbodies to be permanently flooded. The flood plain on-site and open areas of Huntley Creek off-site may provide suitable habitat conditions for snapping turtle. Given the availability of potentially suitable aquatic habitat on-site there is a moderate potential for snapping turtle and its habitat to occur on-site.

4.5.5 Animal Movement Corridors

Animal movement corridors are elongated areas used by wildlife to move from one habitat to another and allow for the seasonal migration of animals (OMNRF, 2015a). The Significant Wildlife Habitat Ecoregion Criterion Schedules for Ecoregion 6E-16 (OMNRF, 2015a) identifies two types of animal movement corridors: amphibian movement corridors and deer movement corridors. As per guidance presented in OMNRF, 2015a, animal movement corridors should only be identified as SWH when a *confirmed or candidate* SWH has been identified by the MNRF district office or by the regional planning authority.

The MNRF has not identified any animal movement corridors on the publicly available data sets for wildlife values area (OMNRF, 2023a) or wildlife values site (OMNRF, 2023b); however, the City of Ottawa has identified a natural linkage area associated with Huntley Creek and surrounding forest of the subject property. This corridor provides connections between the Huntley Provincially Significant Wetland in the west and the Kizel Drain Provincially Significant Wetland in the east.

4.5.5.1 Natural Heritage System Linkage Area

The City of Ottawa natural heritage system is comprised of strongly protected core areas and connecting linkages shown on Schedule C11 of the Official Plan. Based on Section 5.6.4.1, development and site alteration shall have no negative impact on the Natural Heritage System.

The natural linkage areas in the Official Plan were determined through the City of Ottawa Natural Landscape Linkage Analysis. Natural linkage areas were determined though a “least cost corridor” analysis, in which 1 km wide linkages were identified between core natural features where the connecting landscapes offered the least resistance to the dispersal and movement of plants and animals.

The function of the natural linkage areas is to provide connectivity between identified core natural areas while mitigating the impact of movement on plants and animals to create a functioning natural heritage system. The corridor identified on-site provides connections between the Huntley Provincially Significant Wetland in the west and the Kizel Drain Provincially Significant Wetland in the east.

Potential impacts to the natural linkage area are presented in Section 6.

4.6 Fish Habitat

The protection of fish and fish habitat is a federal responsibility and is administered by the Department of Fisheries and Oceans Canada (DFO). Fish habitat as defined in the Fisheries Act (Canada, 1985) means, “spawning grounds and nursery, rearing food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.”

When development is unable to avoid resulting in the harmful alteration, disturbance or destruction of fish habitat from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under the Fisheries Act is required for the project to proceed.

A fisheries assessment was not conducted as part of this EIS; however, as discussed in Section 3.3, Huntley Creek is assumed to provide year-round fish habitat.

Fish habitat is illustrated on Figure A.5 in relation to other site features. Impacts to fish habitat on-site are discussed in Section 6.

4.7 Species at Risk

The probability of occurrence for species at risk (SAR) to occur on-site and within the broader study area was determined through the desktop review stage of this EIS, as described in Section 2.1, and through the site-specific surveys conducted as part of this EIS, outlined in Section 2.2.

Table C.7 in Appendix C, provides a summary of all SAR that were determined to have the potential to occur on-site or within the broader study area, their protection status under the provincial Endangered Species Act (Ontario, 2007), their probability of occurrence and a brief rationale of that probability. Impacts to endangered or threatened SAR determined to have a moderate or high potential to occur on-site or within the broader study area are discussed further in Section 6.

5.0 PROPOSED PROJECT

The proposed project assessed for potential impacts on the natural heritage features determined to be present within the study area is a building permit for future industrial use of an iron recycling operation on an approximately 1.84 hectare (ha) property. Figure A.4 in Appendix A provides an illustration of the proposed development.

The subject property already contains an existing fence, scale house and scale. The proposed project includes creation of a new 553.2 m² cement pad, positioned in an already cleared area with only gravel. The proposed project is not expected to require any vegetation clearing.

Future components of the development activities anticipated on the subject property considered in the impact assessment presented in Section 6 will include: fill placement and/or elevation grading and general landscaping activities.

6.0 IMPACT ASSESSMENT

Potential impacts to natural heritage features on-site and within the broader study area are assessed for direct, indirect and cumulative effects based on the proposed project outlined in Section 5. Natural heritage features identified in Section 4 of this report as present or likely to be present are discussed in the subsections below.

Potential effects to the natural environment from the proposed development outlined in Section 5 include: increased noise generation during construction, increased human disturbance, increased storm water generation and potentially increased nutrient loading to adjacent surface water features.

6.1 Significant Woodlands

As discussed in Section 4.2, woodlands on-site are considered significant due to their size, ecological functions and association within a City of Ottawa Natural Heritage System Linkage Area. As the fence has already been constructed no impacts are anticipated to occur to significant woodlands as a result of the proposed development. As such, no mitigation measures are provided and significant woodlands are not discussed further in this EIS.

6.2 Significant Valleylands – Flood Plain

As discussed in Section 4.3, significant valleylands are present on-site in conjunction with MVCA and City of Ottawa mapping for the 1:100 year floodplain.

In accordance with MVCA and City of Ottawa policies, no development is permitted within the 1:100 year floodplain. Figure A.4 illustrates the 1:100 year floodplain, demonstrating all development will occur outside of the 1:100 year floodplain.

No development is proposed to occur within the 1:100 year floodplain. As such no negative impacts to significant valleylands – floodplain are anticipated as a result of the proposed development.

6.3 Significant Wildlife Habitat

The potential presence of significant wildlife habitat (SWH) on-site and within the study area was evaluated in Section 4.5. As a result of this assessment, 5 types of significant wildlife habitat were determined to be present on-site or within the study area: *candidate* bat maternity colonies, *candidate* turtle wintering areas, *candidate* woodland amphibian breeding habitat, habitats of special concern and rare wildlife species and *candidate* animal movement corridors.

Potential impacts to each type of significant wildlife habitat are discussed in greater detail in the following subsections, while mitigation measures intended to prevent such impacts are presented in Section 7.

6.3.1 Bat Maternity Colonies

Candidate bat maternity colonies are limited to the wooded areas on-site and adjacent buildings within the study area. No development is proposed to occur within woodland habitat and as such no direct impacts are anticipated.

Potential indirect impacts include increased human presence, increased human and wildlife interaction and disturbances, and increased noise levels. However, given the nature of the proposed development, light industrial development, and surrounding industrial development impacts from increased human presence and disturbance are anticipated to be minimal.

Mitigation measures intended to protect *candidate* bat maternity colonies habitat from impacts are discussed in Section 7.

6.3.2 Turtle Wintering Areas

Candidate turtle wintering areas have been identified within the on-site flood plain and riparian area of Huntley Creek and off-site Huntley Creek. No in-water work is anticipated as part of the proposed development; therefore impacts to the turtle wintering areas are anticipated to be indirect in nature.

Potential indirect impacts are primarily associated with changes to the surface water and groundwater water balance through increased storm water runoff resulting from an increase in the impervious surface area. Other potential impacts include short duration construction impacts, including: heavy machinery encroachment, fill placement and long term human disturbance such as noise generation, dumping or refuse and yard waste and trampling and increased road mortality, particularly during nesting season, when turtles are more transient.

However, given the nature of the proposed development, light industrial, and the surrounding industrial infrastructure, impacts from increased human presence and disturbance are anticipated to be minimal.

Mitigation measures to protect the turtle overwintering areas within the watercourses are provided in Section 7.

6.3.3 Woodland Amphibian Breeding Habitat

Candidate woodland amphibian breeding habitat is confined to the aquatic habitat associated with Huntley Creek and the surrounding forested areas. Based on the description provided in the Significant Wildlife Habitat Criteria Schedules (OMNRF, 2015), woodland amphibian habitat is considered to be the wetland, pond or woodland pond, plus a 230 m radius of surrounding woodland area. *Candidate* woodland amphibian breeding habitat is illustrated on Figure A.5 in Appendix A.

As no in-water work is proposed as part of the development, potential impacts to *candidate* woodland amphibian breeding SWH are anticipated to be associated with indirect impacts to woodland and wetland habitat. Indirect impacts to woodland and wetland habitat may include alterations to water quality due to nutrient and sediment loading as well as alterations to the hydrologic regime from increases in impermeable surfaces and increases in storm water runoff. The proposed development is not anticipated to require any tree or vegetation clearing.

Other potential impacts include short-duration construction impacts, including: heavy machinery encroachment, fill placement, and long-term human disturbances such as noise generation, dumping of refuse and yard waste and trampling.

Mitigation measures to reduce impacts to *candidate* woodland amphibian breeding habitat SWH are provided in Section 7.

6.3.4 Significant Wildlife Habitat of Special Concern and Rare Wildlife Species

Barn Swallow

The barn swallow (*Hirondelle rustique*) is a medium-sized, insectivorous bird with a slightly flattened head and broad shoulders that taper to long, pointed wings. The forked tail is long and extends beyond wingtips when perched. Barn swallows have blue-black coloured wings and tail, with a whitish to orange underside and dark rufus throat.

While most abundant in Ontario south of the Shield, the breeding range for barn swallow in Ontario extends from the Carolinian region in extreme southwest Ontario to the Hudson Bay Lowlands (Cadman et al., 2007). In Ontario, breeding bird survey data demonstrated a decline in barn swallow populations of 60-75% between the first and second breeding bird atlas.

Barn swallows typically build their nests out of mud on ledges or walls on barns or other human made structures. Natural sites, including cliffs and caves are rarely used for nesting (Cadman et al., 2007). Foraging occurs fields and ponds. Barn swallows are less common in highly urban area and areas with higher forest cover (Cadman et al., 2007).

Barn swallow were observed foraging during site investigations however, no nests were observed on-site. As development is not proposed to occur within suitable barn swallow foraging or nesting habitat on-site, no negative impacts are anticipated to occur to barn swallow as a result of the proposed development and no mitigation measures are provided in Section 7 for the protection of barn swallow and they are not discussed or evaluated further in this EIS.

Eastern Wood-Pewee

Eastern wood-pewee (*Contupus virens*) is a small, avian insectivore that lives in a variety of deciduous, mixed, and to a lesser extent, coniferous woodland habitat (COSEWIC, 2012a). Adult eastern wood-pewee are grey-olive with pale wing-bars, the breast and sides are slightly darker green than the wings. It is best identified by its three-phrased song, often paraphrased as a whistled ‘pee-ah-wee’ (COSEWIC, 2012a). In Ontario, the eastern wood-pewee is listed as a species of special concern.

Threats to eastern wood-pewee are not well understood however, loss of suitable forest habitat does not appear to be a significant issue across their Canadian breeding range (COSEWIC, 2012a). Furthermore, research indicates that the species is not very sensitive to forest fragmentation effects or forest size (COSEWIC, 2012a). Eastern wood-pewee may be sensitive to human habitation, in Ontario they occur less frequently in woods with surrounding development than those without houses (COSEWIC, 2012a). Other threats to eastern wood-pewee may include changes in the availability of aerial insects, mortality during migration and/or wintering, nest predation and habitat changes due to white-tailed deer browsing (COSEWIC, 2012a).

Impacts to eastern wood-pewee and their habitat on-site from the proposed development is limited to the wooded and forest habitat on-site (ELC codes FOD on Figure A.3), which may provide nesting and foraging habitat. Impacts to eastern wood-pewee habitat may include increased human presence.

The proposed development will result in no loss of suitable forest habitat on-site and impacts from increased human presence are anticipated to be negligible given the availability of suitable habitat within the greater study area.

Mitigation measures intended to prevent negative impacts to nesting and foraging eastern wood-pewee are presented in Section 7.

Wood Thrush

The wood thrush (*Hylocichla mustelina*) is a medium-sized songbird, similar in shape to an American robin, but slightly smaller. Generally wood thrush plumage is distinct from other thrush species, with rusty-brown upper parts, white underparts and large blackish spots on the breast and sides.

In Ontario, the wood thrush breeding range extends from southern Ontario north to northern Georgian Bay and eastern Lake Superior (COSEWIC, 2012b). While wood thrush populations have declined over most of its North American range, between 1981 and 2005, breeding bird data indicates populations in Ontario have increased by 4%, likely due to increases in woodland cover south of the Canadian Shield (Cadman et al., 2007). The probability of occurrence in Ontario however, has decreased by 15% between the first and second breeding bird atlas (Cadman et al., 2007). The wood thrush is listed as a species of special concern in Ontario.

During the breeding season, the wood thrush is found in moist, deciduous hardwood or mixed forest stands, often in previously disturbed sites with dense, deciduous undergrowth and tall trees that are used as singing perches (COSEWIC, 2012b). For wood thrush, habitat selection is based more on the structure of the forest, preferring sites with lower elevations, trees taller than 16 m, closed canopy (>70%), with a high variety of deciduous species, moist soil and decaying leaf litter (COSEWIC, 2012b).

Impacts to wood thrush and their habitat on-site from the proposed subdivision are limited to the forest habitat on-site, which may provide suitable nesting and foraging habitat. Impacts to wood thrush habitat may include increased human interaction. The proposed development will result in no loss of suitable forest habitat on-site and impacts from increased human presence are anticipated to be negligible given the availability of suitable habitat within the greater study area.

Mitigation measures intended to prevent negative impacts to nesting and foraging wood thrush are presented in Section 7.

Snapping Turtle

Snapping turtle is the largest freshwater turtle found in Canada; in central Ontario males average 32 cm in carapace length and have an average mass of 9.3 kg (COSEWIC, 2008). The carapace is keeled and can be brown, black or olive in colour (COSEWIC, 2008). The plastron is cross-shaped and is small, leaving the limbs and sides of the body exposed (COSEWIC, 2008). The head of a snapping turtle is large with a hooked upper jaw, relatively long neck and tail that can be as long as the carapace (COSEWIC, 2008). In Ontario the snapping turtle is listed as a species of special concern.

Threats to snapping turtle are primarily related to their life-history, their slow recruitment, late maturity, long lifespan and high adult survival make them extremely vulnerable to a variety of anthropogenic impacts (COSEWIC, 2008). Short, cool summers also reduce hatching success.

In Canada, snapping turtles are most impacted by events that increase adult mortality, such as harvesting of adults, persecution and road mortality (COSEWIC, 2008). Other threats include loss of habitat, environmental contamination and nest predation (COSEWIC, 2008).

Snapping turtle observations were provided by the NHIC within 1 km of the subject property. The open water areas of the flood plain and riparian area of Huntly Creek on-site, and open water areas of Huntley Creek off-site may provide suitable habitat conditions for snapping turtle however, snapping turtle were not observed on-site during the site investigation.

As no in-water work is proposed as part of the future development, potential impacts to snapping turtle and their habitat are anticipated to be indirect in nature. Potential indirect impacts may include changes to surface water quality and quantity through increased storm water runoff resulting from an increase in impervious surface area.

Other potential impacts include short duration construction impacts, including: heavy machinery encroachment and long-term human disturbance such as increased road mortality, human-wildlife conflict, noise generation, dumping of refuse and yard waste and trampling.

Mitigation measures to protect snapping turtle and their habitat from the proposed development are presented in Section 7.

6.3.5 Animal Movement Corridors

Animal movement corridors were identified within the City of Ottawa Natural Heritage System Linkage Area. The NHS Linkage Area occurs within the flood plains and forested areas surrounding Huntley Creek in the eastern section of the property.

6.3.5.1 Natural Heritage System Linkage Area

As mentioned in Section 4.5.5.1, natural linkage areas provide connections between natural core areas which Huntley Creek and its associated flood plains provide.

Based on the proposed development no site alteration is to occur within the natural linkage area and as such no direct impacts area anticipated. Indirect impacts may include an increase in human-wildlife interactions and noise generation. However, given the nature of the proposed development, light industrial, and the surrounding industrial infrastructure, impacts from increased noise generation and human presence and disturbance are anticipated to be minimal.

Mitigation measures for animal movement corridors are provided in Section 7.

6.4 Fish Habitat

According to the Provincial Policy Statement (MMAH, 2020), “development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.” Fish habitat as defined in the Fisheries Act (Canada, 1985) means “spawning

grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes."

Under the Fisheries Act, protection is afforded to all fish and fish habitat, not just those that support either a recreational, commercial or Aboriginal fishery. Under the Fisheries Act, work that is conducted in or near waterbodies must avoid "the death of fish, other than by fishing" (Canada, 1985). Furthermore, the Fisheries Act states that work must avoid "the harmful alteration, disruption or destruction (HADD) of fish habitat" (Canada, 1985).

When activities are unable to avoid or mitigate harm to fish or fish habitat from typical project impacts such as temperature change, sedimentation, infilling, reduction of nutrient and food supply, etc., an authorization under Subsection 35 (2) of the Fisheries Act is required for the project to proceed without contravening the Act.

As no in-water work is proposed, direct impacts to fish habitat are not anticipated. However, considering the scope of the project and abundance of available habitat, impacts are anticipated to be minimal, mostly indirect and temporary in nature.

Potential indirect impacts to surface water features resulting from construction activities and from increased runoff following construction may include alterations to water quality, increased storm water runoff, overland flow and concomitant sediment transport caused by an increase in impervious surface area and vegetation loss, as well as increased nutrient loading through both overland and subsurface pathways, and landscaping practices. However, impacts are anticipated to be negligible when considering the scope of the project, surrounding existing land use, and abundance of habitat available up and downstream of site.

Mitigation measures intended to protect fish and fish habitat from negative impacts are discussed in Section 7.

6.5 Species at Risk

As outlined in the Endangered Species Act (ESA) (Ontario, 2007), only species listed as threatened or endangered and their general habitat receive automatic protection. When a species-specific recovery strategy is developed, a specific habitat regulation will be established, which eventually replaces the automatic habitat protection. Species of special concern and their habitat do not receive protection under the ESA.

Potential impacts associated with the proposed project to threatened or endangered species identified as having a moderate or high potential to occur on-site in Section 4.8 are discussed on a species-by-species basis in the subsections below.

6.5.1 Eastern Small-footed Myotis

Eastern small-footed myotis (*Myotis leibii*) is the smallest (typically 3-5 g), insectivorous bat found in Ontario. The fur of an eastern small-footed myotis is golden-brown in colour, with a distinct black mask across the face. The eastern small-footed myotis is very similar in appearance to the little brown myotis and is distinguishable by their small foot and keeled calcar (Fraser, MacKenzie & Davy, 2007).

The eastern small-footed myotis is found throughout eastern North America. In Ontario, the species has been observed in the areas south of Lake Superior across to the Ontario-Quebec border (Humphrey, 2017).

Eastern small-footed myotis overwinter primarily in caves and abandoned mines with low humidity and temperatures and stable microclimates (Humphrey, 2017). In comparison to other Ontario bat species, they are able to tolerate much colder temperatures, drier conditions and draftier locations for hibernating (Humphrey, 2017). During the spring and summer months, they utilize a variety of habitats for roosting, including under rocks or rock outcrops, in buildings, under bridges, or in caves, mines or hollow trees (Ontario, 2021a).

The forest habitat on-site may meet the requirements to support bat maternity colonies and given the availability of suitable habitat and potentially suitable anthropogenic buildings within the study area, there is a potential for eastern small-footed Myotis to occur on the property, for foraging and maternal roosting. Impacts to eastern small-footed Myotis are primarily associated with encroachment and increased wildlife-human interaction. Mitigation measures intended to protect eastern small-footed myotis from impacts of the proposed development are discussed in Section 7.

6.5.2 Little Brown Myotis

Little brown myotis (*Myotis lucifugus*) is a small (typically 4-11 g), insectivorous bat. The fur of a little brown myotis is bi-coloured; fur is a glossy brown with a darker coloured base. The tragus of the little brown myotis is long and thin, with a rounded tip (Fraser, MacKenzie & Davy, 2007).

In Canada, little brown myotis' occur throughout all of the provinces and territories (except Nunavut), with its range extending south through the majority of the United States as well. In Ontario, the little brown myotis is widespread in southern Ontario and has been found as far north as Moose Factory and Favourable Lake (Ontario, 2021b).

Little brown myotis overwinter in caves and abandoned mines, they require highly humid conditions and temperatures that remain above the freezing mark (Ontario, 2021b). During the summer months, maternity colonies are often located in buildings or large-diameter trees. Little brown myotis roost in trees and buildings. Foraging occurs over water and along waterways, forest edges and in gaps in the forest. Open fields and clear-cuts are not typically utilized for foraging (COSEWIC, 2013).

The forest habitat on-site may meet the requirements to support bat maternity colonies and given the availability of suitable habitat and potentially suitable anthropogenic buildings within the study area, there is a potential for eastern little brown Myotis to occur on the property, for foraging and maternal roosting. Impacts to little brown Myotis are primarily associated with encroachment and increased wildlife-human interaction. Mitigation measures intended to protect little brown Myotis from impacts of the proposed development are discussed in Section 7.

6.5.3 Tri-colored Bat

Tri-colored bat (*Perimyotis subflavos*) is a small (typically 5-7 g), insectivorous bat. The fur is uniformly coloured on the ventral and dorsal sides, however, when parted fur shows three distinct colour bands. The base of the hair is blackish, with a blonde middle and brownish tip. The snout of the tri-coloured bat is also distinct, with swollen bulbous glands present (Fraser, MacKenzie & Davy, 2007).

In Canada, the tri-colored bat has only been recorded in southern parts of Nova Scotia, New Brunswick, Quebec and central Ontario. In Ontario, it occurs primarily from the southern edge of Lake Superior across to the Ontario-Quebec border and south (COSEWIC, 2013).

Tri-colored bat overwinter in caves or mines and have very rigid habitat requirements; they typically roost in the deepest parts where temperatures are the least variable and have the strongest correlation with humidity levels and warmer temperatures (COSEWIC, 2013). In the spring and summer, tri-colored bat utilizes trees, rock crevices and buildings for maternity colonies. Foraging is mainly done over watercourses and streamside vegetation (COSEWIC, 2013).

The forest habitat on-site may meet the requirements to support bat maternity colonies and given the availability of suitable habitat and potentially suitable anthropogenic buildings within the study area, there is a potential for eastern tri-colored bat to occur on the property, for foraging and maternal roosting. Impacts to tri-colored bat are primarily associated with encroachment and increased wildlife-human interaction. Mitigation measures intended to protect tri-colored bat from impacts of the proposed development are discussed in Section 7.

6.5.4 Blanding's Turtle

Blanding's turtles (*Emydoidea blandingii*) have a highly domed, smooth black carapace with small, irregular tan or yellow flecking. The most distinctive characteristic of this species is the bright yellow chin and throat. Their hinged plastron is yellow with a large dark blotch in the corner of each scute, but may also be entirely black (Oldham and Weller, 2000).

In Canada, Blanding's turtles are found throughout southern and south-central Ontario from south of Manitoulin Island to western Quebec. In Ontario, Blanding's turtles are often observed utilizing eutrophic habitats with clear water (COSEWIC, 2005a). This turtle species occurs primarily in shallow water; adults are generally found in open or partially vegetated sites, where as juveniles

prefer areas that contain thick aquatic vegetation. Blanding's turtles are known to make large overland journeys between connected lakes, rivers, streams, marshes or ponds, upwards of 6 km in a single active season. Overwintering occurs in permanent pools that average about one metre in depth, or slow flowing streams (COSEWIC, 2005a).

While targeted basking turtle surveys were not completed in support of this EIS, the site is located within a greater area of known Blanding's turtle occurrences. During the site investigation Blanding's turtles were not detected on-site.

As outlined in the MNRF general habitat description for Blanding's turtle, Category 1 habitat is defined as "the nest and the area within 30 m of the nest or overwintering sites and the area within 30 m of the site", Category 2 habitat is defined as "the wetland complex (i.e. all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from an occurrence and the area within 30 m around those suitable wetlands or waterbodies" and Category 3 habitat is defined as "the area between 30 m and 250 m around suitable wetlands and waterbodies identified as Category 2, within 2 km of an occurrence." The MNRF general habitat description for Blanding's turtle is provided in Appendix D.

As regulated Blanding's turtle habitat extends up to 2 km from on observation, based conservatively on the NHIC observation data, the flood plain on-site and Huntley Creek off-site are assumed to provide at a minimum Category 2 and 3 habitat. As discussed in Section 4.5.1.2, the flood plain on-site and Huntley Creek off-site has the potential to provide suitable conditions for overwintering habitat, however no Category 1 habitat has been confirmed for the site.

As no in-water work will occur within the flood plain associated with Huntley Creek on-site, potential indirect impacts to the flood plain on-site are primarily associated with changes to the surface water and groundwater water balance through increased storm water runoff resulting from an increase in the impervious surface area and encroachment resulting in compaction of soils. Other potential impacts include short duration construction impacts, including: heavy machinery encroachment, fill placement and long term human disturbance such as noise generation, dumping or refuse and yard waste and trampling and increased road mortality, particularly during nesting season, when turtles are more transient. However, the migratory function and essential movement corridor from the existing Category 3 habitat mapped on-site is severely limited due to the existing fence that runs the perimeter of the property. The fence provides pre-existing exclusionary measures to transient Blanding's turtle and prohibits migration through the site.

Further, the general habitat description for Blanding's turtle outlines that generally compatible activities include small-scale alterations to land cover that do not impede overland movements or impair nesting sites. No suitable areas of nesting are present on-site. The proposed addition of a concrete pad within an area of pre-disturbance within the existing fence is not anticipated to impede overland movement, as the pre-existing fence does not provide suitable Category 3 habitat or contribute to movement corridors.

In consideration of the proposed project, and considering that the habitat on-site is not accessible to Blanding's turtle for migratory purposes, the proposed development is not anticipated to impede overland movements of Blanding's turtle or the function of Category 2 or Category 3 habitat in the surrounding area.

Given the proposed development and minimal impact potential to Blanding's turtle and their habitat, it is GEMTEC's opinion that standard avoidance and mitigation measures will be sufficient to mitigate impacts of the proposed project and no ministry consultation is required.

Avoidance and mitigation measures intended to prevent harm to Blanding's turtles who have the potential to occur on-site are present in Section 7.

6.5.5 Butternut

Butternut (*Juglans cinerea*) is a relatively short lived, medium-sized tree that can reach heights of up to 30 metres. It is easily distinguished by its compound leaves, made up of 11 to 17 leaflets, arranged in a feather-like pattern. Each leaflet is 9 to 15 centimetres in length. The bark is grey and smooth on young trees, becoming more ridged with age. Butternut is a member of the walnut family and produces edible nuts in the fall.

The Canadian range for Butternut extends through southern Ontario into southern Quebec, and New Brunswick (COSEWIC, 2003). Butternut is a shade intolerant tree that is commonly found in riparian habitats, and sites in a regenerative state. Butternut can also be found on rich, moist, well-drained gravels, favouring those of limestone origin. Common associates of Butternut trees include: basswood, black cherry, beech, black walnut, elm, hickory, oak, red maple, sugar maple, yellow poplar, white ash and yellow birch.

Butternut observation records were provided by the NHIC within 1 km grid square of the site however, no butternut trees were observed on-site during the field investigation. As no butternuts were documented on-site, no mitigation measures are provided in Section 7 in relation to butternut and they are not discussed or evaluated further in this EIS.

6.6 Cumulative Impacts

Potential cumulative impacts associated with the proposed project include an increase in storm water generation, increases in nutrient loading to aquatic features, albeit very minimal when considering the nature of the project.

Cumulative impacts to the natural environment at the site due to increased human presence, increased wildlife and human interaction and increased noise, are expected to be negligible given the existing industrial land use on-site and within the surrounding project area.

Cumulative impacts such as those listed above can be mitigated by implementing the proposed setbacks and recommended mitigation measures outlined in Section 7 below.

7.0 RECOMMENDED AVOIDANCE AND MITIGATION MEASURES

The following avoidance and mitigation measures have been recommended by GEMTEC in order to minimize or eliminate potential environmental impacts identified in Section 6. As such, the following avoidance and mitigation measures should be enforced throughout the development through application of Site Plan Controls.

For the purpose of this report, a setback is defined as the minimum required distance between any structure, development or disturbance and a specified line. A buffer, for the purpose of this report, is defined as the area located between a natural heritage feature and the prescribed setback. For the purpose of the following subsections, buffers should be located between natural heritage features and lands subject to development or alteration, be permanently vegetated by native or non-invasive, self sustaining vegetation and protect the natural heritage feature against the impact of the adjacent land use.

Vegetated buffers, particularly buffers that are vegetated with a mix of grassy herbaceous vegetation and shrubby or woody vegetation are most effective in mitigating impacts associated with anthropogenic activities in adjacent lands (Beacon, 2012). Buffers recommended in the following subsections and illustrated on Figure A.6, are done so within the context of the existing environmental disturbances and to promote reasonable natural rehabilitation.

Where applicable, mitigation measures provided in the subsections below follow the guidelines as outlined in the City of Ottawa Protocol for Wildlife Protection during Construction (Ottawa, 2022b).

7.1 Significant Valleylands – Flood Plain

All development is proposed to occur outside of the 1:100 year flood plain. Figure A.6 illustrates a 15 m setback from the flood plain, and demonstrates that all development, including the existing fence occurs outside of the flood plain.

7.2 Fish Habitat

No negative impacts on the function or integrity of the floods plains or Huntley Creek are anticipated as a result of the proposed development if all mitigation measures recommended below area enacted and best management practices followed.

Watercourse buffer widths have a moderate risk of not providing adequate mitigation for water quality impacts and for human disturbance/land use change impacts at widths between 11 metre and 30 metre and high risk at widths of less than 5 metre to 10 metre. Watercourse buffer widths have a high risk of not providing adequate mitigation for core habitat protection at widths between 5 metre and 20 metre (Beacon, 2012). In consideration of the flood plains associated with Huntley Creek and the nature of the proposed development, a minimum 15 metre setback from the watercourse is recommended and is sufficient to protect the watercourse and its associated

habitat. No development, site alteration or vegetation removal is permitted within this 15 metre setback. The 15 m setback is consistent with the recommendations from the Carp River Watershed/Subwatershed Study (Robinson, 2004). Figure A.6 illustrates a 15 m setback from the flood plain, which is sufficient to protect Huntley Creek.

Based on comments from the MVCA during the pre-application consultation development, filling and lot grading within the flood plain are not permitted. The recommended 15 m buffer is sufficient to protect the flood plains from the listed impacts. The MVCA pre-application also indicated that the site fencing should be located along the meander belt erosion hazard which, at the time of this EIS, has been constructed as required.

General mitigation measures recommended for the protection of water quality and watercourse habitat include:

- A 15 metre wide buffer from the identified watercourse should be adhered to in order to protect ecological function and associated habitat.
- Buffers should be comprised of a mixture of native, self-sustaining trees, shrubs and tall grasses. Planting along the back edge of the proposed campground area are encouraged.
- All future development and construction activities within the study area, including ditching, culvert installation, erosion and sediment control and storm water management should be completed in accordance with Ontario Provincial Standard Specification 182 and OPSS 805.
- No in-water work should occur. All in-water habitat features, including aquatic vegetation, natural woody debris and boulders should be left in their current locations in the near shore area. Riparian areas within the 15 m buffer should remain in a natural state.
- When native soil is exposed, sediment and erosion control work in the form of heavy-duty sediment fencing shall be positioned along the down gradient edge of any construction envelopes adjacent to waterbodies.
- Erosion and Sediment Control (ESC) fencing is recommended at the limit of the development to reduce impacts to the adjacent watercourse. No construction activities (i.e. grading, equipment storage, vegetation removal, refueling, etc.) are to be completed beyond the limits of the ESC fencing.
- In order to protect fish habitat from contamination, it is recommended that all machinery be maintained in good working condition and that all machinery be fueled a minimum of 30 m from the highwater mark.
- Any temporary storage of aggregate material shall be set back from the water's edge by no less than 40 m and be contained by heavy-duty silt fencing.

7.3 Significant Wildlife Habitat

7.3.1 *Candidate* Bat Maternity Colonies

The 15 m setback for the local wetland, is sufficient to provide a wooded buffer to protect forest cover and maintain habitat for *candidate* bat maternity colonies. No loss of treed habitat is anticipated and as such no negative impacts to bat maternity colonies or the size and ecological functions of the forest habitat on-site.

In accordance with MECP best management practices, to protect roosting and foraging bats, tree removal where required should take place outside of the spring and summer active season (typically March 15 to November 30), when bats are more likely to be using forest habitat. If vegetation clearing must be conducted during the spring and summer timing window than a roost survey should be conducted be a qualified professional.

To further protect bat species during vegetation removal, trees and vegetation should be cleared in stages, working from the outer edge, in towards the centre, in order to provide wildlife in the forest time to migrate out.

Should any components of the proposed project require tree clearing within between March 15 and November 30, further consultation with the MECP may be required.

7.3.2 *Candidate* Turtle Overwintering Areas, Snapping Turtle

The 15 m setback for the flood plain, is sufficient to protect *candidate* SWH associated the flood plain on-site and off-site Huntley Creek from negative impacts.

To further protect potential migrating reptiles, exclusion fencing should be installed around the entire construction area prior to construction commencing to prohibit the movement of reptiles into the construction area. Exclusion fencing should follow the protocols outlined in the Species at Risk Branch: Best Practices Technical Note: Reptile and Amphibian Exclusion Fencing Version 1.1 (MNRF, July 2013). Following the installation of exclusion fencing, the construction area should be swept daily by a qualified professional to remove any reptiles which may be trapped within the exclusion fencing.

7.3.3 *Candidate* Woodland Amphibian Breeding Habitat

The 15 m setback presented in Section 7.1 above, to protect the flood plain on-site is sufficient to protect the core *candidate* woodland amphibian breeding habitat. Furthermore, the proposed setbacks ensure that surrounding forest cover is maintained, which is important for wildlife moving between habitats throughout the year.

To protect migrating amphibians associated with *candidate* breeding habitat on-site, exclusion fencing should be installed around the entire construction area prior to construction commencing to prohibit the movement of turtles and amphibians into the construction area.

7.3.4 Habitats of Special Concern and Rare Wildlife Species

7.3.4.1 Eastern Wood-Pewee and Wood Thrush

Impacts to eastern wood-pewee and wood thrush primarily concern increased human disturbance, the 15 m setback presented above to protect the flood plain on-site is sufficient to protect special concern and rare wildlife habitat from increased disturbance during on-site construction. To further minimize the impact of the proposed development on eastern wood-pewee and wood thrush habitat, vegetation removal should occur outside the key breeding bird period (typically March 31 to August 31) as identified by Environment Canada for the protection of nesting and foraging eastern wood-pewee and wood thrush and to avoid contravention of the Migratory Bird Convention Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest survey shall be conducted by a qualified professional.

7.3.5 Animal Movement Corridors

The 15 m setback presented in Section 7.1 above, is sufficient to protect the flood plains and forest cover within the natural linkage area. No development is to occur within the natural linkage area and as such no direct negative impacts on the integrity of the area is anticipated. Furthermore, the already installed fencing restricts the movement of animals on to the property reducing potential for human-wildlife encounters.

7.3.5.1 Natural Heritage System Linkage Area

The City of Ottawa Official Plan has a no negative impact policy for the effect of development on the Natural Heritage System. Evaluation of impacts on the Natural Heritage System as provided in Section 5.6.4.1 says:

- In Natural Heritage System Linkage areas, development or site alteration shall maintain or improve the ecological and recreational connectivity of the area; and, not compromise the potential for long-term enhancement and restoration of ecological and recreational connectivity of the area

The 15 m setback established above, as well as the existing fence line for the property is sufficient to ensure no negative impact to the linkage area identified by the City of Ottawa.

7.4 Species at Risk

7.4.1 Eastern Small-footed Myotis, Little Brown Myotis and Tri-Colored Bat

In addition to no SAR observations, no critical habitat for SAR bats (cave, crevice or maternity roosts) were identified on-site. In accordance with MECP best management practices, to protect roosting and foraging bats, tree removal where required should take place outside of the spring and summer active season (typically March 15 to November 30), when bats are more likely to be using forest habitat. If vegetation clearing must be conducted during the spring and summer timing window than a roost survey should be conducted be a qualified professional.

To further protect bat species during vegetation removal, trees and vegetation should be cleared in stages, working from the outer edge, in towards the centre, in order to provide wildlife in the forest time to migrate out.

In GEMTECs experience on similar development applications and consultation with the MECP for projects and properties of similar size and scale, the above mitigation/avoidance measures are sufficient to ensure no negative impacts to SAR bats. In eastern Ontario habitat is not a limiting factor, as such the MECP recommends the use of avoidance timing window for clearing of trees (>10cm in diameter) in order to avoid impacts to SAR bat species. As long as timing windows can be adhered to, the project will not impact SAR bats, and it is GEMTECs opinion that no further consultation with the MECP is required to address impacts to SAR bats.

Should any components of the proposed project require tree clearing within between March 15 and November 30, further consultation with the MECP may be required.

7.4.2 Blanding's Turtle

Regulated Blanding's turtle habitat Is not anticipated to be impacted by the proposed project, given the presence of the existing perimeter fence, limiting the habitat function of the subject property. Given the proposed development and minimal impact potential to Blanding's turtle and their habitat, it is GEMTEC's opinion that standard avoidance and mitigation measures will be sufficient to mitigate impacts of the proposed project and no ministry consultation is required.

The following general mitigation measures are provided to avoid contravention of the ESA:

- Prior to any site work, reptile and amphibian exclusion fencing should be installed around the entire perimeter of the construction area to prevent the migration of Blanding's Turtles and other wildlife into the construction zone. The temporary exclusion fencing will also provide a visual demarcation of the development area for workers during construction. Exclusion fencing should follow the protocols outlined in the Species at Risk Branch: Best Practices Technical Note: Reptile and Amphibian Exclusion Fencing Version 1.1 (MNRF, July 2013).
- Each day of construction a daily pre-work sweep of the construction area should occur to ensure no SAR are present and to remove any wildlife from inside the construction area.
- All staff working on-site should be provided Species at Risk training to identify species at risk which a potential to occur on-site including: Blanding's turtle. Training will also outline the stop work procedures and MECP reporting/consultation prior to resuming work.
- During construction if any SAR is identified on-site all work should stop and a qualified professional and the MECP should be contacted for next steps. SAR sightings should be reported to the MECP and the NHIC.
- Heavy-duty silt fencing should be installed and maintained during construction and whenever soil is exposed; the incorporation of lot-side swales and gravel laneways are

intended to promote infiltration and direct stormwater runoff to road side ditches instead of towards adjacent waterbodies.

- Cover all stockpiled material with a geotextile to prevent turtles from nesting in the material between May 1 and August 1 of any year.
- To protect aquatic habitat for Blanding's turtles, machinery should be maintained in good working condition and all machinery should be fueled a minimum of 30 m from the high water mark.
- During business operation the existing permitter fencing should be maintained to ensure Blanding's turtles cannot access the property.

7.5 Wildlife

The following avoidance and mitigation measures are provided in effort to minimize impacts to on-site and off-site wildlife:

- To protect wildlife during construction, construction should be completed in accordance with the best practices outlined in Protocols for Wildlife During Construction, from the City of Ottawa (Ottawa, 2022b), and Bird-Safe Design Guidelines from the City of Ottawa (Ottawa, 2022a)
- While vegetation removal is not anticipated to be required, should any vegetation removal be needed, removal should occur outside of March 15 to November 30 to avoid the key breeding bird period, bat summer active season, and reptile and amphibian active season. The timing windows provides protection of migratory birds, roosting bats, migrating reptiles and amphibians and avoids contravention of the Migratory Bird Convention Act and Endangered Species Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest and roost survey shall be conducted by a qualified professional.
- Silt fence barriers should be installed around the entire construction envelope to prohibit the emigration of wildlife into the construction area. Silt fencing should be checked daily and following each precipitation event.
- Reptile exclusion fencing should be installed around the entire construction area prior to construction commencing to prohibit the movement of turtles and amphibians into the construction area. Reptile exclusion fencing should follow guidelines established in *Species at Risk Branch Best Practices Technical Note – Reptile and Amphibian Exclusion Fencing* (OMNRF, 2013b).
- Cover all stock piled material with a geotextile to prevent turtles from nesting in the material between April 1 and October 31.
- Perform daily pre-work sweeps of the construction area to ensure no species at risk are present and to remove any wildlife from inside the construction area.
- Should any species at risk be discovered throughout the course of the proposed works, the species at risk biologist with the local MECP district should be contacted immediately

and operations modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by the MECP.

7.6 Best Practice Measures for Mitigation of Cumulative Impacts

The following best management practice measures are provided for the mitigation of cumulative impacts resulting from general construction and development activities;

- To protect trees identified to be retained during construction, the Critical Root Zone (CRZ) should be identified and fenced. The CRZ is defined as 10 cm from the base of the tree for every centimetre in diameter of the tree trunk measured at breast height.
- Maintain as much permeable surface as possible in future development plans to minimize the generation of storm water runoff.
- Silt fencing should be installed along all setbacks to provide visual demarcation of the setbacks and to prevent machinery encroachment and sediment transport.
- Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized.
- In effort to offset the effect of vegetation clearing, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as white cedar, white spruce, red maple and red oak.

8.0 CONCLUSIONS

The proposed project supported by this EIS is the development of an industrial iron recycling operation on Part of Lot 7, Concession 2, in the Geographic Township of Huntley, Ottawa, Ontario, municipally addressed as 225 Maple Creek Court, Carp, Ontario,

Based on the results of the impact analysis, impacts to the natural heritage features are anticipated to be minimal. Provided that mitigation measures recommended in Section 7 are implemented as proposed, no significant residual negative impacts are anticipated from the proposed development.

Following review of the information pertaining to the natural heritage features of the site, the following general conclusions are provided by GEMTEC in regards to the Environmental Impact Statement.

- No significant impacts to natural heritage features identified on-site, including, local wetlands, significant woodlands, fish habitat, significant wildlife habitat or habitats of species at risk are anticipated as a result of future industrial development.
- The proposed project complies with the natural heritage policies of the Provincial Policy Statement.
- The proposed development complies with the natural heritage policies of the City of Ottawa Official Plan and the Carp River Watershed/Subwatershed Study.

9.0 LIMITATION OF LIABILITY

This report and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Ltd (GEMTEC), and prepared for Glenview Iron and Metal and is intended for the exclusive use of Glenview Iron and Metal. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Glenview Iron and Metal. Nothing in this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This report has been prepared for the application noted and it is based, in part, on visual observations made at the site, all as described in the report. Unless otherwise stated, the findings contained in this report cannot be extrapolated or extended to previous or future site conditions, or portions of the site that were unavailable for direct investigation.

Should new information become available during future work, including excavations, borings or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions presented herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Emily Young, B.Sc.
Junior Biologist

Taylor Warrington, B.Sc.
Biologist

10.0 REFERENCES

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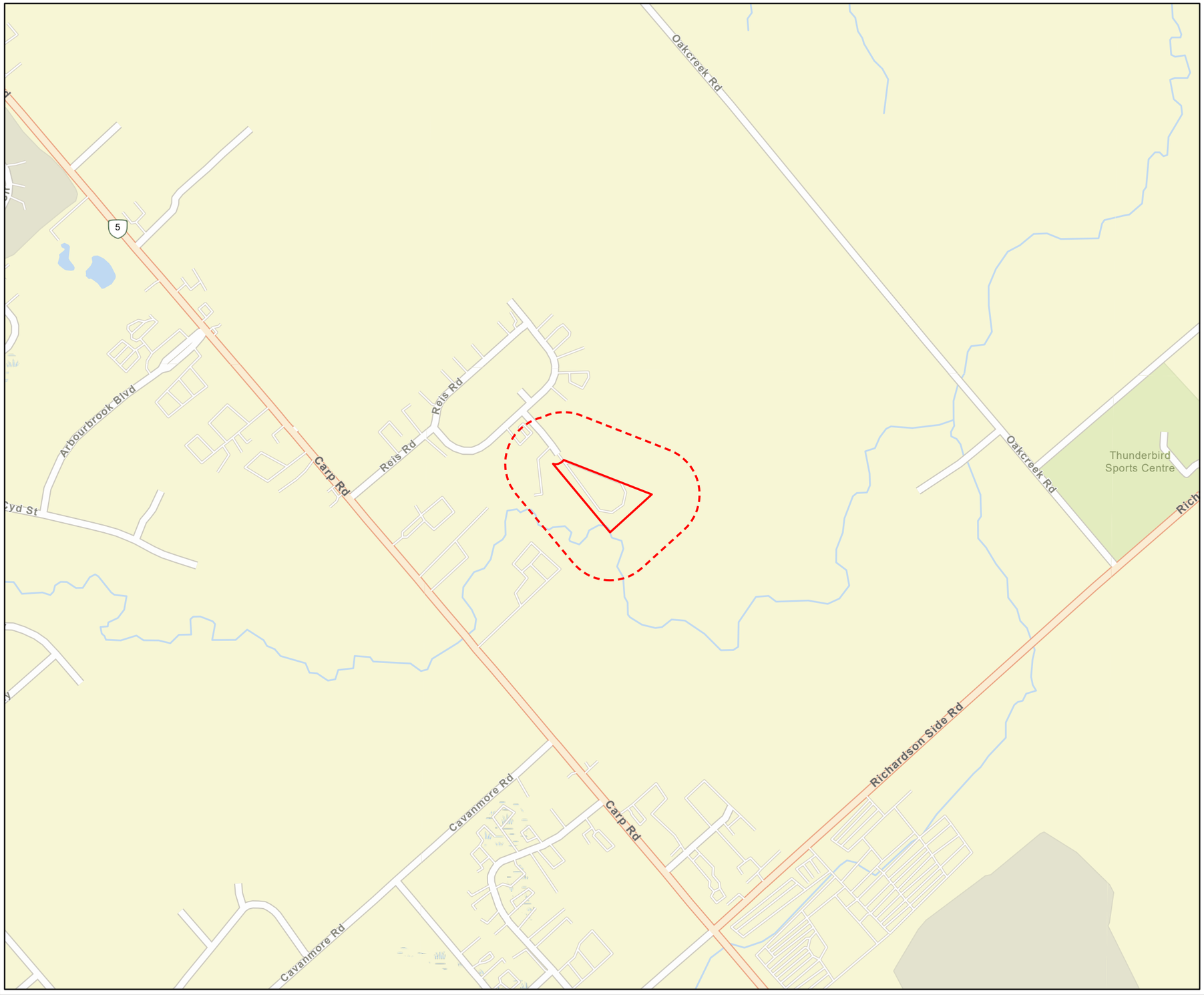
APPENDIX A

Report Figures



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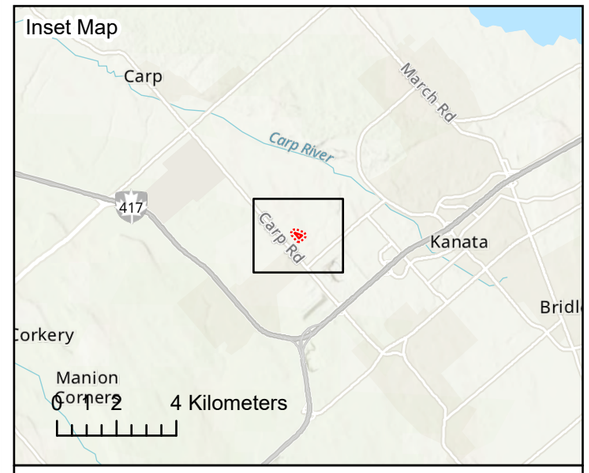

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Client:	Project:
Zanderplan Inc.	100227.103

Location
225 Maple Creek Court
Ottawa, Ontario

Drwn By:	Chkd By:	
C.Z.	A.A.	Site Location

Date: August 2023	Rev.	
	0	Figure: A.1

Coordinate System: NAD 1983 UTM Zone 18N
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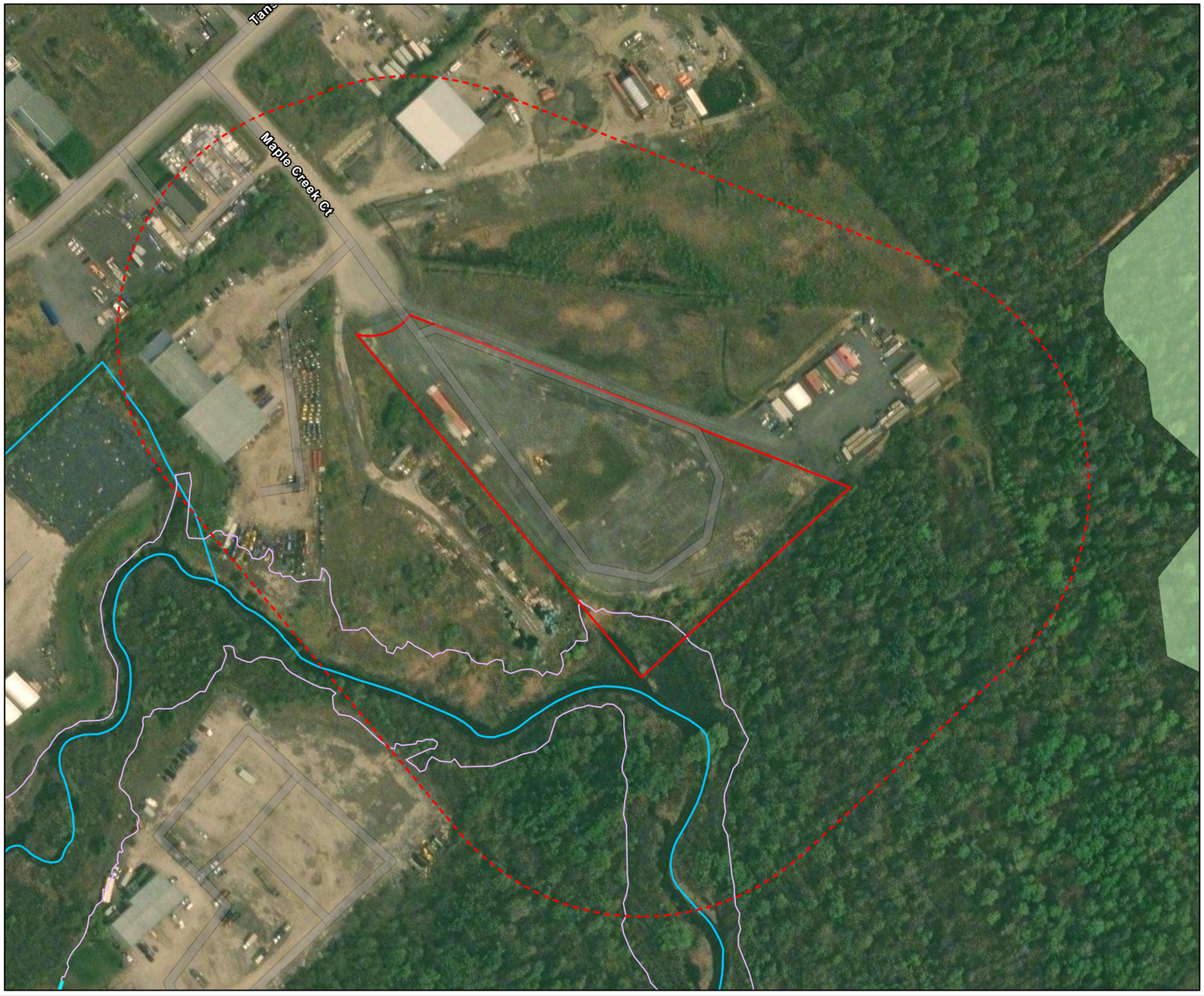
World Street Map: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada



Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- 1:100 Year Flood Plain

Scale

1:2,000

0 15 30 60 90 120 Meters

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Zanderplan Inc.	100227.103

Location

225 Maple Creek Court
Ottawa, Ontario

Drwn By:	Chkd By:	
C.Z.	A.A.	Site Layout

Date: September 2023	Rev.	Figure: A.2
	0	

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- 1:100 Year Flood Plain
- Vegetation Community

CVR_2: Light Industry

Scale
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Project: 100227.103

Location: 225 Maple Creek Court
Ottawa, Ontario

Drwn By: C.Z.

Chkd By: A.A.

Vegetation Communities

Date: September 2023

Rev. 0

Figure: A.3

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- 1:100 Year Flood Plain

Proposed Development:

- Cement Pad
- Existing Fence
- Existing Scale
- Existing Scale House

Scale
1:2,000
0 15 30 60 90 120 Meters

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Location
225 Maple Creek Court
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Drwn By:	Chkd By:	
C.Z.	A.A.	Development Plan

Date: September 2023	Rev.	
	0	Figure: A.4

Coordinate System: NAD 1983 UTM Zone 18N
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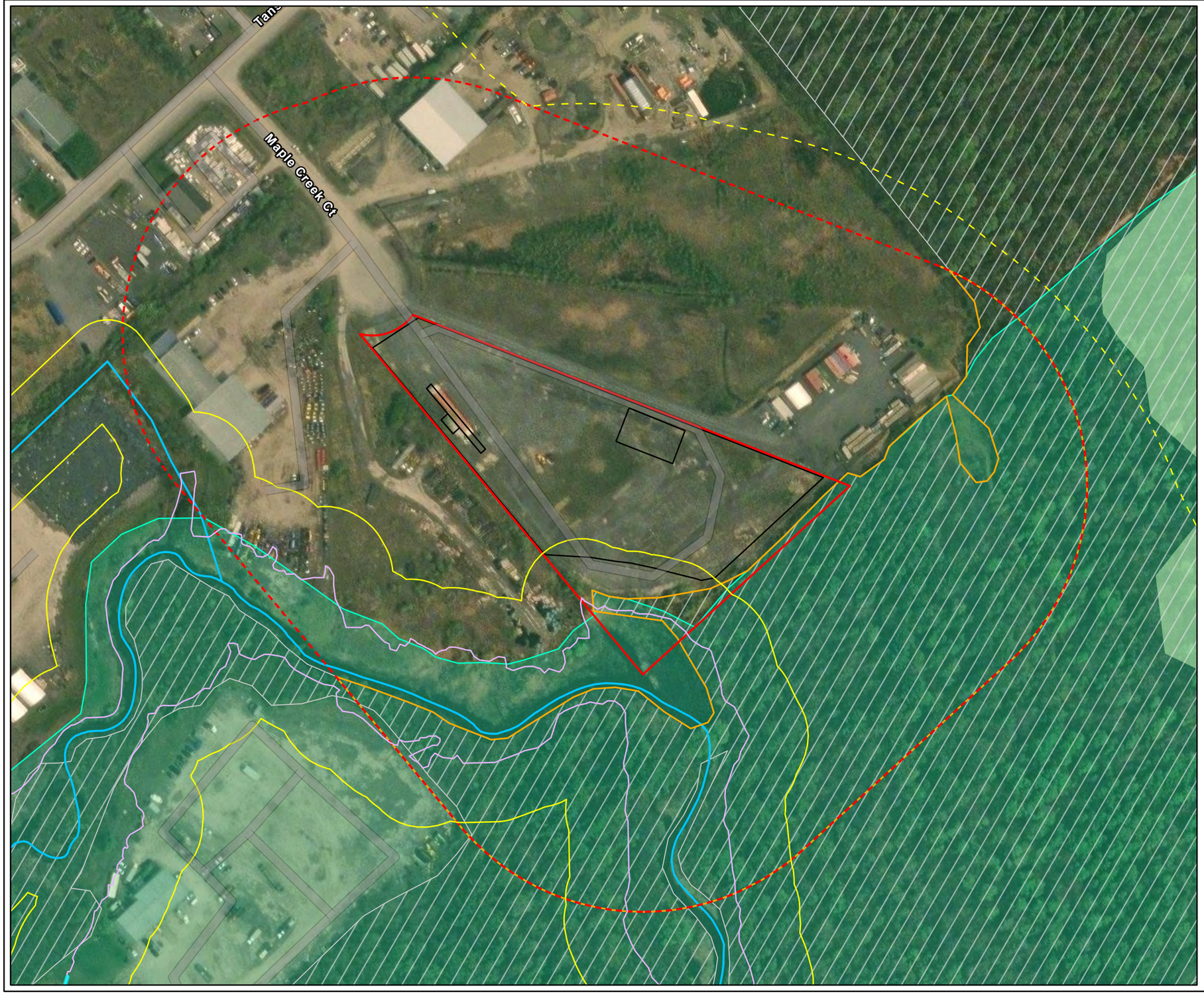

Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- 1:100 Year Flood Plain
- Proposed Development
- Significant Woodlands
- Woodland Amphibian Breeding Habitat
- Natural Heritage System Linkage Area
- Blanding's Turtle Habitat - Category 2
- Blanding's Turtle Habitat - Category 3

Scale
1:2,000
0 15 30 60 90 120 Meters

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Chkd By: A.A.

Natural Heritage Features

Date: September 2023

Rev. 0

Figure: A.5

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
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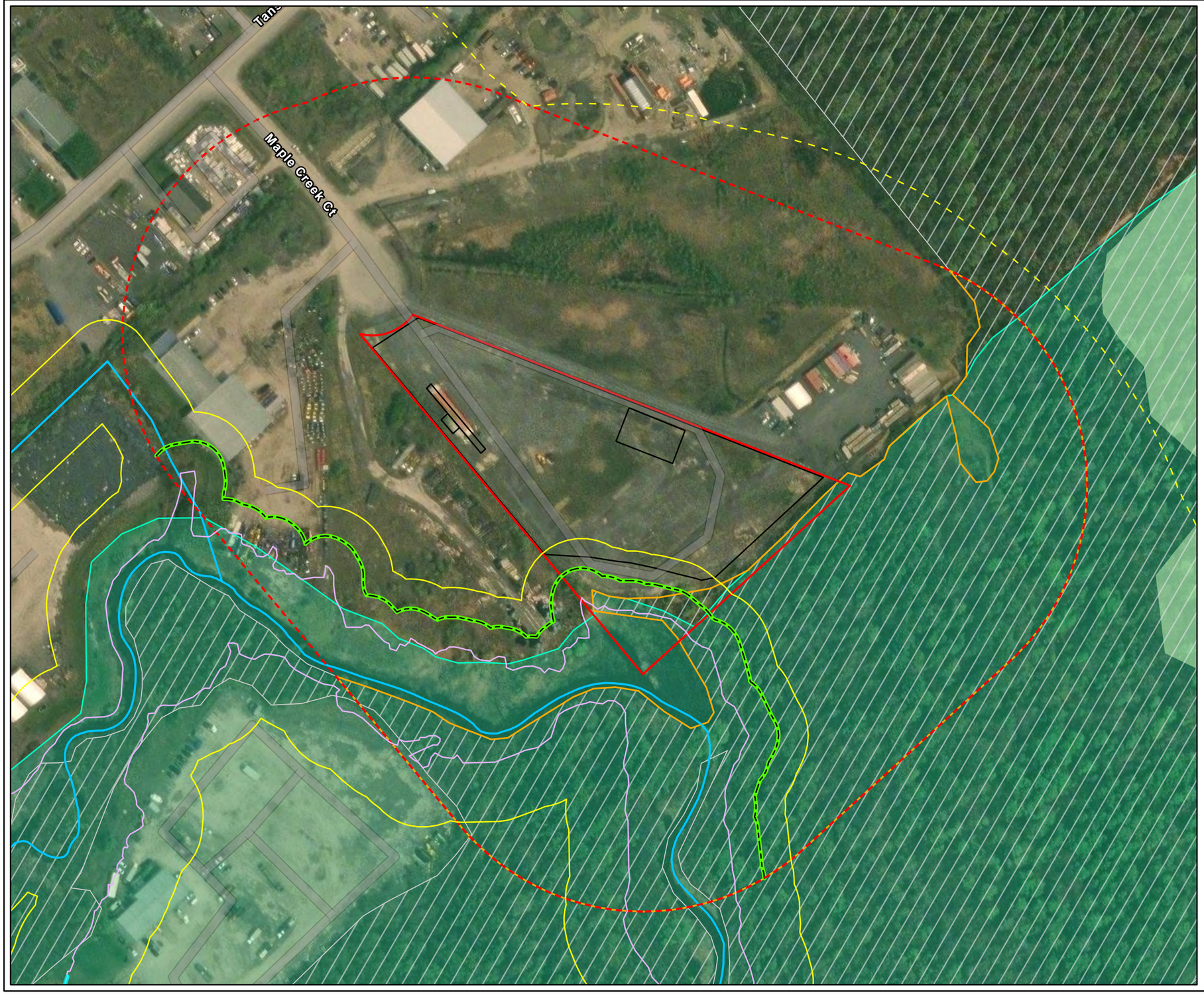

Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- 1:100 Year Flood Plain
- Proposed Development
- Significant Woodlands
- Woodland Amphibian Breeding Habitat
- Natural Heritage System Linkage Area
- Blanding's Turtle Habitat - Category 2
- Blanding's Turtle Habitat - Category 3
- 15m Setback

Scale
1:2,000
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Project: 100227.103

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Chkd By: A.A.

Mitigation Measures

Date: September 2023

Rev. 0

Figure: A.6

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Imagery: Maxar, Microsoft
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada

APPENDIX B

Site Photographs

Site Photograph 1 – Light Industrial (CVC_2)

Site Photograph 2 – Light Industrial (CVC_2)

Site Photograph 3 – Huntley Creek Flood Plain

Site Photograph 4 – Huntley Creek Flood Plain

GEMTEC Consulting Engineers and Scientists	Project Environmental Impact Statement Industrial Development 225 Maple Creek Court Ottawa, Ontario	**ATTACHEMNT B** File No. 100227.103	**Site Photographs**

APPENDIX C

Report Summary Tables

TABLE C.1
SUMMARY OF WILDLIFE OBSERVED ON-SITE AND ADJCENT TO SITE

Common Name	Scientific Name	S-Rank	Evidence
Avian Species			
Alder flycatcher	*Empidonax alnorum*	S5B	Observed on-site, heard calling
American crow	*Corvus brachyrhynchos*	S5	Heard calling
American goldfinch	*Spinus tristis*	S5	Observed on-site, heard calling
American robin	*Turdus migratorius*	S5	Heard calling
Barn swallow	*Hirundo rustica*	S4B	Observed on-site, heard calling
Cedar waxwing	*Bombycilla cedrorum*	S5	Observed on-site, heard calling
Common yellowthroat	*Geothlypis trichas*	S5B,S3N	Observed on-site, heard calling
Eastern kingbird	*Tyrannus tyrannus*	S4B	Observed on-site, heard calling
European starling	*Sturnus vulgaris*	SNA	Heard calling
Red-winged blackbird	*Agelaius phoeniceus*	S5	Observed on-site, heard calling
Ring-billed gull	*Larus delawarensis*	S5	Heard calling
Savannah sparrow	*Passerculus sandwichensis*	S5B,S3N	Observed on-site, heard calling
Song sparrow	*Melospiza melodia*	S5	Observed on-site, heard calling
Yellow-bellied sapsucker	*Sphyrapicus varius*	S5B,S3N	Heard calling
Amphibian Species			
Green frog	*Lithobates clamitans*	S5	Heard calling

Notes:

* Denotes a Species at Risk

Subnational Conservation Status Ranks:

S1 - Critically Imperilled, at very high risk of extirpation, very few populations or occurrences or very steep population decline

S2 - Imperiled, at high risk of extirpation, few populations or occurrences or steep population decline

S3 - Vulnerable, at moderate risk of extirpation, relatively few populations or occurrences, recent and widespread population decline

S4 - Apparently Secure, at a family low risk of extirpation, many populations or occurrences, some concern for local population decline

S5 - Secure, at very low or no risk of extirpation, abundant populations or occurrences, little to no concern for population decline

Qualifiers:

S#B - Conservation status refers to the breeding population of the species

S#N -Conservation status refers to the non-breeding population of the species

S#M - Migrant species, conservation status refers to the aggregating transient population of the species

TABLE C.2
SCREENING RATIONAL FOR SIGNIFICANT WOODLANDS

Woodland Criteria	Further Considered in EIS	Rationale
Woodland Size	Yes	Contiguous woodlands on-site and adjacent to the site meet the minimum size requirement for the planning area (> 50 ha).
Ecological Functions		
a) Woodland Interior	Yes	Interior woodlands within the study area meets the minimum size requirement for the planning area (> 8 ha).
b) Proximity	Yes	Woodlands on-site are within 30 m of fish habitat and local wetlands and meet the minimum size requirement for the planning area (> 10 ha).
c) Linkages	Yes	Woodlands on-site meet the minimum size criteria for the planning area (> 10 ha) and occur within an identified natural landscape linkage area.
d) Water Protection	Yes	Woodlands on-site are within 30 m of fish habitat and watercourse and meet the minimum size requirement for the planning area (> 10 ha).
e) Diversity	No	Species composition within the on-site woodland is well represented on the landscape and no rare species communities were observed on-site.
Uncommon Characteristics	No	The woodlands on-site do not have a unique species composition, vegetation communities with a ranking of S1, S2 or S3, or a mature size structure.
Economical and Social Functional Values	No	The woodlands on-site do not contain high productivity in terms of economically valuable products, high social value such as recreational use, identified historical cultural or educational values.

TABLE C.3
SCREENING RATIONALE FOR HABITATS OF SEASONAL CONCENTRATION AREAS

Wildlife Habitat	Further Considered in EIS	Rationale
Deer Yarding Areas and Winter Congregation Areas	No	While there are stands of coniferous woodlands within the study area, as outlined in the the Signficant Wildlife Habitat Criteria Schedules (OMNRF, 2015) winter deer yards and deer managment are an MNRF responsibility. Based on review of publically available data from the OMNRF on Land Information Ontario Geo-hub, no deer yards or winter congregation areas have been identified on-site. The closest deer yard is 3.4 km east of the site with a second stratum 1 deer yard 4 km northwest of the site.
Colonial Bird Nesting Habitat	No	No suitable habitat located on-site or within the study area to support colonial bird nesting habitat.
Waterfowl Stopover and Staging Areas	No	Wetland habitat on-site do not provide suitable conditions for waterfowl stopover and staging areas (aquatic). Terrestrial stopover and staging areas are not present on-site.
Shorebird Migratory Stopover Area	No	Shorebird stopover sites are typically well-known and have a long history of use. The site does not contain suitable shoreline habitat for shorebird foraging.
Raptor Wintering Area	No	The site does not meet the minimum size criteria of >15 hectares of upland habitat, and lacks a combination of suitable upland and woodland habitat to support raptor wintering area.
Bat Hibernacula	No	Cave and crevice habitat is not present on-site or within the study area.
Bat Maternity Colonies	Yes	Woodlands on-site or within the study area may meet minimum snag density (>10 snags/hectare) requirement to be considered SWH for bat maternity colonies.
Turtle Wintering Areas	Yes	Potentially suitable habitat present on-site within the flood plains and off-site within Huntley Creek to support turtle wintering areas.
Reptile Hibernaculum	No	No structures such as large rock piles, bedrock outcrops, cervices or other karstic features which penetrate below the frost line occur on-site.
Migratory Butterfly Stopover Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.
Landbird Migratory Stopver Area	No	The site is not located within 5 km of Lake Ontario and therefore does not meet the defining criteria.

TABLE C.4
SCREENING RATIONALE FOR SPECIALIZED WILDLIFE HABITATS

Specialized Wildlife Habitat	Further Considered in EIS	Rationale
Waterfowl Nesting Area	No	No waterfowl indicator species were observed on-site during the field investigations. Suitbable upland habitat is not adjacent to wetlands on-site.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	No	No suitable habitat is located on-site or within the study area to support foraging bald eagles or osprey. Nesting sites for these species are uncommon in Ecoregion 6E (MNRF, 2012).
Woodland Nesting Raptor Habitat	No	Nesting may occur in any ecosite and species preference is towards mature forest stands >30 ha with >10 ha of interior habitat with a 200 m buffer. Contiguous forest stands >30 ha are present however, interior forest habitat >10 ha with a 200 m buffer does not occurr on-site. No sticks nests were observed on-site.
Turtle Nesting Habitat	No	No suitable habitat (exposed mineral soil with minimal vegetation cover) is present on-site.
Seeps and Springs	No	No seeps or springs where identified on-site.
Woodland Amphibian Breeding Habitat	Yes	Suitable wet habitat adjacent to a woodland occurs within the study area to support woodland amphibian breeding habitat.
Wetland Amphibian Breeding Habitat	No	No wetlands occur on-site to support wetland amphibian breeding habitat.
Woodland Area-Sensitive Bird Breeding Habitat	No	Woodland area-sensitive birds require interior forest habitat located >200 m from the forest edge in large (>30 ha) forest stands. Woodlands meet the definind size criteria (> 30 ha) howerver, no interior forest habitat occurs on-site or within the study area.

TABLE C.5
SCREENING RATIONALE FOR HABITATS OF SPECIES OF CONSERVATION CONCERN

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Marsh Breeding Bird Habitat	No	No marsh habitat present on-site to support marsh breeding bird habitat.
Open Country Breeding Bird Habitat	No	No suitable meadow habitat occurs on-site to support open country breeding bird habitat.
Shrub/Early Successional Breeding Bird Habitat	No	Candidate early successional breeding bird habitat typically includes fallow fields transitioning to early successional forest habitats that are >10 ha but have not been actively used for farming. No shrub or thicket habitat occurs on-site to support shrub/early succesional breeding bird habitat.
Terrestrial Crayfish Habitat	No	Terrestrial crayfish are only found within southwestern Ontario (MNRF, 2012).
Special Concern and Rare Wildlife Species	Yes	Based on site observations and occurrence data from the NHIC and Ontario HerpAtlas the following species of special concern have occurred on-site and/or within the surrounding area: barn swallow, eatern wood-pewee, wood thrush and snapping turtle.

TABLE C.6
SCREENING RATIONALE FOR ANIMAL MOVEMENT CORRIDORS

General Habitats of Species of Conservation Concern	Further Considered in EIS	Rationale
Amphibian Movement Corridor	No	No *confirmed* amphibian movement corridors have been identified on-site.
Deer Movement Corridor	No	No winter deer yards have been identified on-site.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Species	ESA Status	Habitat Use	Probability of Occurrence On-Site or Within Study Area	Rationale
Avian				
Bank Swallow	Threatened	Colonial nester, burrows in eroding silt, to sand banks, sand pit walls, etc.	Low	Site lacks suitable habitat for nesting colonies. No colonies or individuals were noted during site investigations.
Barn Swallow	Special Concern	Nests in barns and other semi-open structures. Forages over open fields and meadows.	High	Suitable grassland habitat available for foraging on-site and structures present within the broader study area to provide nesting habitat. NHIC data indicates species has been observed within 1 km of the site. Species was observed on-site during field investigations.
Bobolink	Threatened	Nests in dense tall grass fields and meadows, low tolerance for woody vegetation.	Low	No suitable grassland habitat available on-site or within the study area. NHIC data indicates species has been observed within 1 km of the site. Species was not observed on-site during field investigations.
Chimney Swift	Threatened	Nests in traditional-style open brick chimneys.	Low	Suitable nesting structures are not present on-site or within the broader study area.
Eastern Meadowlark	Threatened	Nests and forages in dense tall grass fields and meadows, higher tolerance to woody vegetation.	Low	No suitable grassland habitat available on-site or within the study area. NHIC data indicates species has been observed within 1 km of the site. Species was not observed on-site during field investigations.
Eastern Whip-poor-will	Threatened	Nests on the ground in open deciduous or mixed woodlands with little underbrush, and bedrock outcrops.	Low	No suitable forest habitat on-site or within the study area to support eastern whip-poor-will. Species was not observed on-site during field investigations.
Eastern Wood-Pewee	Special Concern	Woodland species, often found near clearings and edge habitat.	Moderate	Suitable habitat on-site and within the study area to support eastern wood pewee. NHIC data indicates species has been observed within 1 km of the site. Species was not observed on-site during field investigations.
Evening Grosbeak	Special Concern	Nests in trees or large shrubs, preference to large coniferous forests, will use deciduous. Overwinters in Ottawa.	Low	Suitable coniferous forest habitat does not occur on-site. Spceies was not observed during site investigations.
Golden-winged Warbler	Special Concern	Ground nesting, edge species. Breeds in successional scrub habitats surrounded by forests.	Low	Preferred scrub habitat surrounded by forest is not present within the study area. NHIC data indicates species has been observed within 1 km of the site. Species not observed during field investigations.
Least Bittern	Threatened	Prefers marshes, shrub swamps, usually near cattails	Low	Suitable marsh habitat on-site to support least bittern. No historical data records for species within the study area. Species was not observed during field investigations.
Loggerhead Shrike	Endangered	Prefers grazed pastures with short grass and scattered shrubs, especially hawthorn.	Low	Preferred pasture habitat and shrub vegetation does not occur on-site. NHIC data indicates species has been observed within 1 km of the site.
Olive-sided Flycatcher	Special Concern	Forest edge species, forages in open areas from high vantage points in trees.	Low	Preferred habitat present on-site and within the study area. Species was not observed during the field investigation, nor through any online databases.
Peregrine Falcon	Special Concern	Nests on cliffs near water and on more anthropogenic structures such as tall buildings, bridges, and smokestacks.	Low	Site lacks suitable nesting structure for peregrine falcon.
Red-headed Woodpecker	Endangered	Prefers open deciduous woodlands, particularly those dominated by oak and beech.	Low	Suitable edge habitat may be present in broader study area. No historical records for species in study area. Species not observed on-site.
Wood Thrush	Special Concern	Prefers deciduous or mixed woodlands.	Moderate	Suitable woodland habitat available on-site and within the broader study area. NHIC data indicates species has been observed within 1 km of the site. Species was not observed on-site during field investigations.
Mammalian				
Eastern small-footed Myotis	Endangered	Roosts in rock crevices, barns and sheds. Overwinters in abandoned mines. Summer habitats are poorly understood in Ontario, elsewhere prefers to roost in open, sunny rocky habitat and occasionally in buildings (Humphrey, 2017).	Moderate	Potentially suitable anthropogenic structures and forest habitat on-site and adjacent to site. Available habitat on-site may meet bat maternity colony requirements and provide foraging and non-maternal roost habitat.
Little Brown Myotis	Endangered	Maternal colonies known to use buildings, may also roost in trees during summer. Affinity towards anthropogenic structures for summer roosting habitat and exhibit high site fidelity (Environment Canada, 2015).	Moderate	Potentially suitable anthropogenic structures and forest habitat on-site and adjacent to site. Available habitat on-site may meet bat maternity colony requirements and provide foraging and non-maternal roost habitat.

TABLE C.7
SCREENING RATIONALE FOR POTENTIAL SPECIES AT RISK ON-SITE OR WITHIN STUDY AREA

Northern myotis (Northern Long-eared Bat)	Endangered	Occurs throughout eastern North America in associated with Boreal forests. Roosts mainly in trees, occasionally anthropogenic structures during summer (Environment Canada, 2015). Overwinters in caves and abandoned mines.	Low	Species affinity is for Boreal forests and rarely roosts in anthropogenic structures.
Tri-colored Bat	Endangered	Roosts in trees, rock crevices and occasionally buildings during summer. Overwinters in caves and mines.	Moderate	Potentially suitable anthropogenic structures and forest habitat on-site and adjacent to site. Available habitat on-site may meet bat maternity colony requirements and provide foraging and non-maternal roost habitat.
Reptilian				
Blanding's Turtle	Threatened	Inhabits quiet lakes, streams and wetlands with abundant emergent vegetation. Frequently occurs in adjacent upland forests.	Moderate	Based on data obtained from the Herp Atlas (Ontario Nature, 2019), Blanding's turtle have been observed four times between 2017 and 2019 within the 10 km2 grid square that encompasses the site. NHIC data indicates species has been observed within 2 km of the site. The site does provide potentially suitable aquatic habitat within the local wetland and watercoure for Blanding's turtle.
Snapping Turtle	Special Concern	Highly aquatic species, found in a wide variety of wetlands, water bodies and watercourses.	Moderate	Based on data obtained from the Herp Atlas (Ontario Nature, 2019), snapping turlte have been observed 13 times between 2016 and 2019 within the 10 km2 grid square that encompasses the site. Suitable habitat for snapping turtle occurs on-site. NHIC data indicates species has been observed within 1 km of the site.
Plants				
American Ginseng	Endangered	Rich, moist, relatively mature deciduous forests.	Low	Woodlands on-site are unlikely to support habitat requirements for American ginseng growth.
Black Ash	Endangered	Predominantly a wetland species, found in swamps, floodplains and fens.	Low	No suitable wet forest habitat present on-site or within the study area.
Butternut	Endangered	Inhabits a wide range of habitats including upland and lowland deciduous and mixed forests.	Moderate	Potentially suitable areas in a regenerative state on-site. Species was not observed on-site during the site investigation. NHIC database indicates species to be present within 1 km.
Insects				
American Bumble Bee	Special Concern	Habitat generalist; mixed woodlands, variety of open habitat	Moderate	Potentially suitable foraging habitat available for American bumble bee on-site.
Monarch Butterfly	Special Concern	Caterpillars require milkweed plants confined to meadow and open areas. Adult butterflies use more diverse habitat with a variety of wildflowers	Moderate	Potentially suitable foraging vegetation available for Monarch on-site.
Nine-spotted Lady Beetle	Endangered	Habitat generalist	Low	No recent occurrence reports in the area, thought to be locally extirpated.
West Virginia White Butterfly	Special Concern	Requires mature moist deciduous woods with larval host plant toothwort.	Low	Necessary vegetation and toothwort plant are not present on-site or within study area.
Yellow-banded Bumble Bee	Special Concern	Habitat generalist; mixed woodlands, variety of open habitat	Moderate	Potentially suitable foraging habitat available for yellow-banded bumble bee on-site.

APPENDIX D

MNRF General Habitat Description – Blanding's Turtle

General Habitat Description for the Blanding's Turtle (*Emydoidea blandingii*)

A general habitat description is a technical document that provides greater clarity on the area of habitat protected for a species based on the general habitat definition found in the Endangered Species Act, 2007. General habitat protection does not include an area where the species formerly occurred or has the potential to be reintroduced unless existing members of the species depend on that area to carry out their life processes. A general habitat description also indicates how the species' habitat has been categorized, as per the policy "Categorizing and Protecting Habitat Under the Endangered Species Act", and is based on the best scientific information available.

HABITAT CATEGORIZATION

1	Nest and the area within 30 m or Overwintering sites and the area within 30 m
2	The wetland complex (i.e. all suitable wetlands or waterbodies within 500 m of each other) that extends up to 2 km from an occurrence, and the area within 30 m around those suitable wetlands or waterbodies
3	Area between 30 m and 250 m around suitable wetlands/waterbodies identified in Category 2, within 2 km of an occurrence

Category 1

Nest sites and overwintering sites are essential features and along with the 30 m area surrounding them are considered to have the lowest tolerance to alteration. Blanding's Turtles depend on these areas for sensitive life processes including egg-laying, incubation, hatching of young, and hibernation. A 30 m radius (average tree height) buffer around nesting and overwintering sites is important to maintain the microclimate conditions (e.g., thermal, vegetative and lighting features). These areas are habitually used and may support concentrations of individuals.

Nesting Sites

Blanding's Turtle nests are created in open habitats with low vegetation cover and high sun exposure such as in forest clearings, meadows, shorelines, beaches, rock outcrops, cornfields, gravel roads, road shoulders, ploughed fields, gardens, powerline rights-of-ways, yards and abandoned railroad beds (Linck *et al*. 1989, Ross and Anderson 1990, Kiviat 1997, Standing *et al*. 1999, Joyal *et al*. 2001, Congdon *et al*. 2008, Downing *et al*. 2010, Refsnider and Linck 2012). Females often show high fidelity to the same general nesting areas (Congdon *et al*. 1983, McNeil 2002, Congdon *et al*. 2011).

Overwintering Sites

Overwintering sites are typically occupied for at least six months during the overwintering period in Ontario (Edge *et al*. 2009, Edge *et al*. 2010, Davy 2011 unpublished data, Paterson unpublished data 2013, NHIC 2013). Blanding's Turtles display overwintering site fidelity, using some sites year after year (Power 1989, McNeil 2002, Caverhill 2006 in Newton and Herman 2009, Edge *et al*. 2009). Many individuals may aggregate at one site while overwintering (Anderson 1990, St-Hilaire 2003 in COSEWIC 2005, Ross and, Congdon *et al*. 2008, Edge *et al*. 2009).

Suitable Blanding's Turtle overwintering habitat typically includes permanent bogs, fens, marshes, ponds, channels or other habitats with free (unfrozen) shallow water (Joyal *et al*. 2001, Edge 2010, Seburn 2010). Blanding's Turtles studied in Algonquin Provincial park overwintered in wetlands with free water depths of 7 cm - 50 cm (Edge *et al*. 2009).This species may also hibernate within graminoid shallow marsh areas of larger marsh complexes by burying into substrates in areas of pooled water (Gillingwater unpublished data 2013). Blanding's Turtle's may also overwinter in seasonal pools or small excavated areas with standing water (Joyal *et al*. 2001, Rouse unpublished data 2012).

Category 2

The wetland complex that extends up to 2 km from an occurrence and 30 m around these suitable wetlands/waterbodies (Category 2) will be considered to have a moderate level of tolerance to alteration before their function is compromised. For the purpose of general habitat protection for Blanding's Turtle, a wetland complex is defined as all wetlands that are within 500 m of each other. This definition is based on the biology of the species and its documents movement patterns between adjacent suitable wetlands/waterbodies. In cases where an occurrence is not within suitable aquatic habitat, the nearest wetland should be considered the starting point for delineating the wetland complex.

Blanding's Turtles depend on these wetlands and the surrounding habitat throughout their home range for life processes including feeding, mating, thermoregulation, movement, and protection from predators.

Blanding's Turtle home range sizes and lengths in Ontario vary significantly between individuals within the same population and between different populations. In Algonquin Provincial Park, the average range length of radio-tracked Blanding's Turtles was 1.8 km (1.2 standard deviation), with a maximum of 4.3 km (Edge 2013 unpublished data). Recent Ontario studies documented a 90th percentile home range length of radio-tracked Blanding's Turtles in Parry Sound District and Bancroft District of 2.0 and 2.3 km, respectively (Rouse unpublished data 2013, Cameron unpublished data 2013). Average range length of a population on Grenadier Island, Ontario, was 813 m, with a maximum range length just over 2 km. In a Minnesota population, average range length was just over 1.6 km, with a maximum range length just over 5 km (Pappas *et al*. 2000).

Blanding's Turtles regularly move between wetlands or other aquatic areas in order to access mates, overwintering sites, nesting sites, other seasonally required resources and thermoregulation sites (Congdon *et al*. 2008, Edge *et al*. 2010). In a study from Algonquin Provincial Park, Blanding's Turtles made an average of four movements between wetlands each year with an average movement distance of 231 m for males and 497 m for females (Edge *et al*. 2010). Average interwetland movement distances of a population in Maine was 680 ± 550 m (Joyal *et al*. 2001). Rouse and Cameron (unpublished data 2013) found that Blanding's Turtles primarily moved through wetlands and other water and were rarely located more than 200 m from water. Since interwetland movements tend to average about 500 m, wetlands that are separated by more than 500 m from other suitable wetlands have a lower likelihood of being occupied.

A 30 m radius (average tree height) buffer around suitable wetlands helps to maintain microclimate conditions. Buffers of 30 m are widely recognized as providing a range of functional benefits to aquatic features and wetlands such as maintaining water quality by filtering sediment and nutrients, input of woody debris, and cooling water temperatures by shading and infiltrating surface runoff (OMNR 2010). Blanding's Turtles have also been shown to generally bask within 30 m of wetlands (Joyal *et al*. 2001).

Suitable habitat for Blanding's Turtles during the active season includes a variety of wetlands such as marsh, swamps, ponds, fens, bogs, slow-flowing streams, shallow bays of lakes or rivers, as well as graminoid shallow marsh and slough forest habitats that are adjacent to larger marsh complexes (Joyal *et al*. 2001, Gillingwater 2001, Gillingwater and Piraino 2004, 2007, Congdon *et al*. 2008, Edge *et al*. 2010; Seburn 2010). Suitable wetlands used during the active season are typically eutrophic (mineral or organic nutrient-rich), shallow with a soft substrate composed of decomposing materials, and often have emergent vegetation, such as water lilies and cattails (COSEWIC 2005, Congdon *et al*. 2008).

Category 3

The area between 30 m and 250 m around suitable Category 2 wetlands/waterbodies will be considered to have the highest tolerance to alteration. Blanding's Turtles depend on these areas as movement corridors between wetlands, which are essential for carrying out life processes associated with Category 1 and 2 habitats.

Blanding's Turtle nests are typically close to permanent wetlands and reported average distances between nests and the nearest wetland range from 99.5 to 242 m, with maximum distances of 256 m to just over 400 m (Joyal *et al*. 2001, Beaudry *et al*. 2010, Congdon *et al*. 2011, Paterson *et al*. 2012, Refsnider and Linck 2012). Consequently, the area within 250 m of suitable aquatic habitat provides critical movement corridors through with hatchling Blanding's Turtles access wetlands after hatching. This habitat is also used by some hatchlings as overwintering habitat in their first year (Paterson *et al*. 2012).

Although Blanding's Turtles nest close to water, they often travel considerable distances from their wetland of origin during nesting migrations, with movements of 6 km being documented in some Ontario populations (Edge *et al*. 2010). Although wetlands and ponds are used as movement corridors when available, females make extensive movements through upland habitat to access nesting sites (Congdon *et al*. 2008). As mentioned in the previous section (see Category 2), Blanding's Turtles also make regular overland movements between wetlands throughout the active season in order to access Category 1 and 2 habitats within their home range. Category 3 habitat provides essential movement corridors of up to 500 m between wetlands, which will encompass the areas that are most likely to be used for overland movement.

Activities in Blanding's Turtle habitat

Activities in general habitat can continue as long as the *function of these areas for the species is maintained and individuals of the species are not killed, harmed, or harassed.*

Generally compatible:

- Recreational use of the water such as swimming, boating, and fishing.
- Small-scale alterations to land cover that do not impede overland movements or impair nesting sites.

Generally not compatible:*

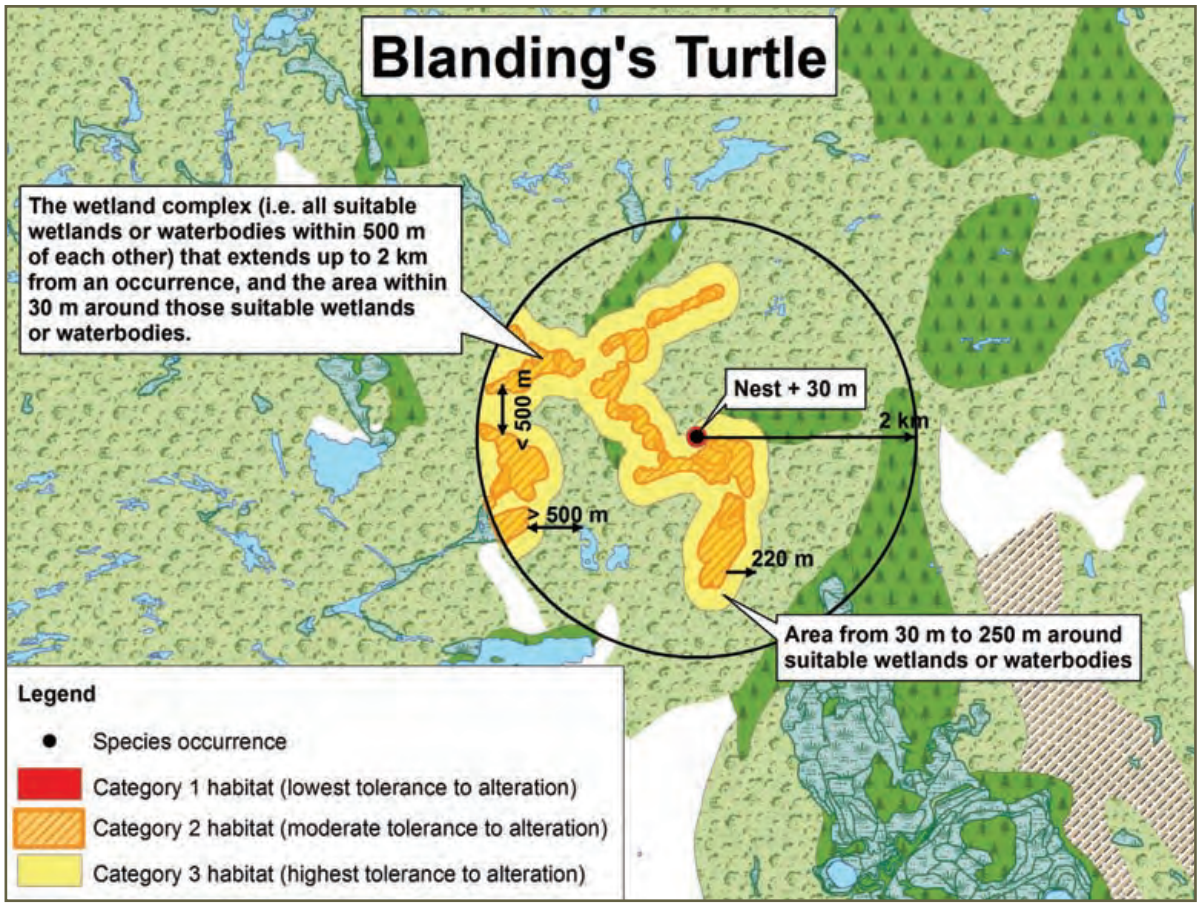
- Significant draining, infilling, dredging, or other significant alteration of wetlands or other suitable waterbodies.
- Significant alteration of shorelines, especially hardening (e.g. the use of gabion baskets, rip-rap, and rock armour).

* If you are considering an activity that may not be compatible with general habitat, please contact your local MNR office for more information.

Key terms:

- **Thermoregulation:** Some animals, such as turtles, use thermoregulation to alter their internal body temperature through behavioural patterns, such as basking in the sun to increase body temperature or seeking out cool areas to lower body temperature.

Sample application of the general habitat protection for Blanding's Turtle



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experience • knowledge • integrity

civil	civil
geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité