

**Environmental Impact Statement
3713 Borrisokane Rd. – Western Parcel**

Full Report

December 13, 2019

KILGOUR & ASSOCIATES LTD.
www.kilgourassociates.com
Project Number: CAIV836



TABLE OF CONTENTS

1.0 INTRODUCTION	1
2.0 PROPERTY INFORMATION	1
3.0 SITE AND THE NATURAL ENVIRONMENT	1
3.1 SURFACE WATER, GROUNDWATER AND FISH HABITAT	1
3.2 VEGETATION AND LAND COVER	1
3.2.1 Site Trees.....	4
3.3 SITE FAUNA.....	4
3.4 SPECIES AT RISK.....	4
3.5 OTHER NATURAL HERITAGE FEATURES	9
4.0 PROJECT DESCRIPTION.....	9
5.0 IMPACT ASSESSMENT.....	11
5.1 IMPACTS TO SURFACE WATER AND FISH HABITAT	11
5.2 IMPACTS TO SITE TREES	11
5.3 IMPACTS TO SPECIES AT RISK.....	11
6.0 MITIGATIONS	11
6.1 MITIGATIONS FOR SURFACE WATER FEATURES	11
6.2 MITIGATIONS FOR TREES	11
6.3 MITIGATIONS FOR SPECIES AT RISK	12
6.4 MITIGATIONS FOR NATURAL FEATURES	12
6.5 MITIGATIONS FOR WILDLIFE	13
7.0 SUMMARY AND RECOMMENDATIONS.....	13
8.0 REFERENCES	14

List of Figures

Figure 1. Existing site conditions	3
Figure 2. Proposed development	10

List of Tables

Table 1. Site Trees.....	4
Table 2. Species-at-risk potential	5

List of Appendices

Appendix 1 Qualifications of Report Author	
--	--

1.0 INTRODUCTION

This report is an Environmental Impact Statement (EIS) prepared by Kilgour & Associates Ltd. (KAL) on behalf of the Caivan Communities (Caivan) in relation to a proposed new commercial development on the western portion of 3713 Borrisokane Rd. This EIS considers the potential for the presence of Species at Risk (SAR) within 120 m of the new community. The EIS must also address the potential for habitat of SAR on or adjacent to the site and/or the presence of other significant natural heritage system features or elements. This EIS also includes an inventory of trees present on the and thereby serves as the Tree Conservation Report (TCR) for the proposed development.

2.0 PROPERTY INFORMATION

The proposed new development will be located on the western portion of the property at 3713 Borrisokane Rd. (Con 3RF Part Lot 9 RP 5R-6254; Part 2 Less RP 5R-13374 Parts; 9 & 10 Rd Widening). The total property is a 32.1 ha parcel located in the southwest end of Ottawa; the development proposed development area is portion this property. The City's urban boundary crosses the property north to south approximately one-third of the way from the western end. The proposed commercial development will occur on a 7.79 ha section in the southwest corner of the property, just outside of the urban area. Sand and gravel extraction on the broader property date back to before 1976, but extraction activities ceased in December of 2019. As per the requirements of the Ministry Natural Resources and Forestry (MNR) and the pit's closing plan, the entire site is currently being rehabilitated. The major focus of site rehabilitations is re-grading to remove the steep topography of the pit for human health and safety considerations. Site rehabilitation/regrading will be completed by the early spring of 2020.

For this report, the "site" will refer to areas on the property subject to commercial development by Caivan.

3.0 SITE AND THE NATURAL ENVIRONMENT

3.1 Surface Water, Groundwater and Fish Habitat

There are no surface water features on the site. No ditches or other channelized water features cross the site or run along or near its perimeter. The 2017 air photo for the presence of low-lying area at the western end of the broader property (i.e. outside the site) that holds ponded water, but that feature had since been regraded as part of ongoing pit operations and is now dry.

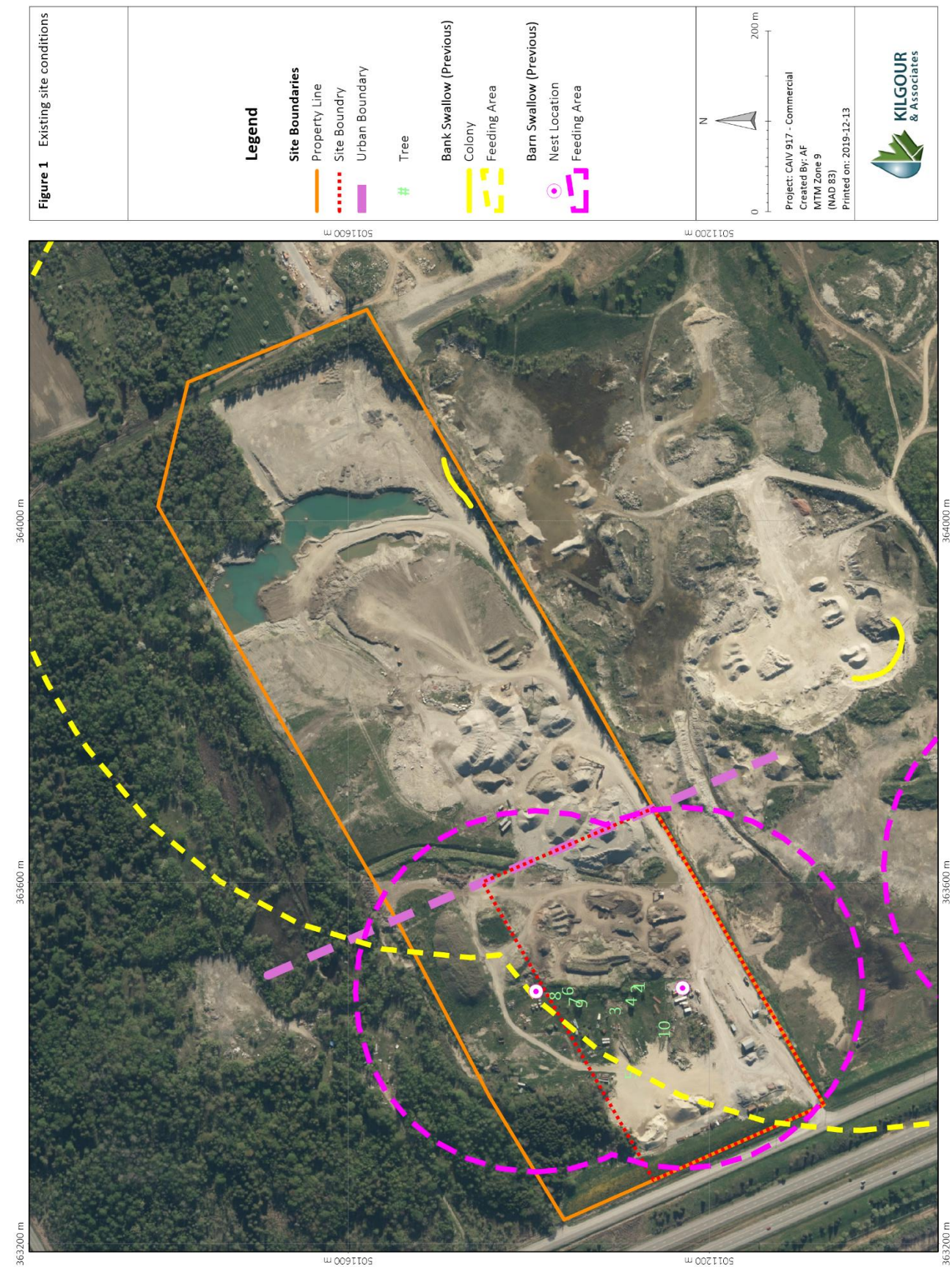
3.2 Vegetation and Land Cover

The area land cover for the site is shown in Figure 2. The entire Drummond property has been worked over the years, leaving only narrow bands of trees along some portions of the periphery and two small woodlots in the northeast and northwest corners of the broader parcel. Within the site itself, the eastern half had, until late 2019, still been subject to extraction activity and had large windrows of aggregate piled in preparation for export. The western half of the site consisted of coarse patches of cultural meadow, with dirt roads, piles of equipment and sea-can containers scattered about. In the summer of 2019, vegetation in the cultural meadow area consisted of common forbs and grasses with a small number of scattered trees. The area had originally consisted of sand and gravel soils - Uplands and Mille-Isles

formations in the west (strongly acid fine to coarse sand with limited fine gravel), to a Kars formation in the east (slightly acid to neutral, gravelly and cobbly coarse to moderately coarse textures glaciofluvial materials with a surface generally worked into beach deposits; Marshall et al. 1979).

Borrisokane Rd. and Highway 416 are located adjacent to the western end of the site. The portion of the property to the east has been planned for redeveloped as a residential community following the area rehabilitation/regrading with the pit closure. The parcel to the south was an active pit that also closed in 2019. That former pit is currently being rehabilitated/regraded following a similar closure plan the Drummond pit (i.e. the ground will be filled and levelled and all pit related equipment, material and structures will be removed by early spring of 2020).

Land to the north of the broader subject property had previously been covered in a forest area that was contiguous with the Cambrian Woods 325 m to the north. Most of that area, however, has recently been stripped of vegetation in preparation for ongoing residential development there by other builders. As such the small woodlots in the northeast and northwest corners of the broader property are now isolated remnants. Regardless, neither of these remnant woodlots is located on the site.



3.2.1 Site Trees

A tree inventory survey was performed on the Drummond site on August 12, 2019, by KAL biologists Katherine Black and Heather Lindsay. Trees observed on the site at the time are described in Table 1.

Table 1. Site Trees

Tree Number	Species	Mainstem DBH (cm)	Notes
1	Manitoba Maple	15cm	
2	Manitoba Maple	10cm	
3	Manitoba Maple	30cm	4 stems
4	Manitoba Maple	20cm	
5	Manitoba Maple	10cm	
6	Crack Willow	20cm	
7	2 Manitoba Maples	10&15cm	Multiple stems
8	Large Tooth Aspen	20cm	
9	Manitoba Maple	15cm	Multiple stems
10	Large Tooth Aspen	30cm	

These trees will likely be removed as part of the total site regrading. If they are retained, however, their isolation and extremely limited canopy potential will limit their ecological functionality to the broader area to negligible.

3.3 Site Fauna

Faunae on the site were not studied directly as part of a site review for the proposed project. With the total site rehabilitation/regrading associated with the pit closure occurring presently, no habitat suitable for any species will be present by 2020.

Birds in the broader area were studied by KAL biologists through EIS work completed for the property parcel immediately to the south of the site (Kilgour, 2019). That study noted the presence of two Bank Swallow nesting colonies (on the property to the south and one the Drummond property to the east of the site). Barn Swallow nests were also observed in two locations directly on the site during the tree survey of August 12, 2019. Barn Swallows occurred in temporary maintenance-shed structures created from piled sea-can containers. Importantly, however, all habitat features that permit the presence of both these bird species (human-made structures capable of supporting Barn Swallow nests, and vertical sand banks capable of supporting Bank Swallow nesting colonies) are currently being removed from both Drummond pit and the pit to the south per the closure plans of those facilities. As such, no habitat or habitat potential will be present on the site by early 2020.

3.4 Species at Risk

Table 2 indicates the habitat requirements of SAR known to be potentially present within the broader area and whether the property may provide significant habitat.

Table 2. Species-at-risk potential

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site
Birds				
Bank Swallow (<i>Riparia riparia</i>)	Threatened	Nest in banks or earthen walls cut by meandering streams and rivers, but artificial banks created by mining may also be used. Foraging occurs over fields, streams, wetlands, farmlands, and still water.	Vertical banks both on and adjacent to the sites provided nesting habitat in 2019. Feeding habitat at the time extended out 500 m from nesting areas fully covering portions of the proposed development site.	<p>Aggregate pits having SAR present must complete a Notice of Activity with MECP under O.Reg 242/08 Section 23.14. Both the Drummond pit and the Brazeau pit to the south have been duly registered (Brazeau on October 4, 2019, Confirmation ID M-102-5329320036, and Drummond on October 21, 2019, Confirmation ID M-102-8330859947). Per the requirement of the Notice, each pit operator has developed a management plan implementing best management practices (BMPs) to minimize the impact of mining activities on the identified species. Filing the Notice of Activity exempts the pits from Sections 9 and 10 of the ESA (i.e., prohibitions on impacting individuals or habitat, respectively).</p> <p>Under the management plan, the pit must (as per BMPs):</p> <ol style="list-style-type: none"> 1) be operated to allow for the continued presence of the species while the facility is active, but 2) have all Bank Swallow nesting habitat removed at site closure once the birds have left for the season. <p>As the site and all neighbouring areas will have been regraded per the closure plans of the two pits at the time of development, no habitat will present near the site and there will be no species related constraints on that development.</p>

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site
Barn Swallow (<i>Hirundo rustica</i>)	Threatened	Terrestrial open & manmade structures for nesting, near open areas for feeding.	Barn Swallows have built nests on the only potentially habitat-supporting structure on the site. The structure (shipping containers stacked to form a vehicle shed), and the space within 5 m of it, are considered protected nesting habitat. Feeding habitat extends over open areas up to 200 m from the structure. Feeding areas are thus limited to the western half of the site outside of the proposed development area.	<p>Aggregate pits having SAR present must complete a Notice of Activity with MECP under O.Reg 242/08 Section 23.14. Both the Drummond pit and the Brazeau pit to the south have been duly registered (Brazeau on October 4, 2019, Confirmation ID M-102-5329320036, and Drummond on October 21, 2019, Confirmation ID M-102-8330859947). Per the requirement of the Notice, each pit operator has developed a management plan implementing best management practices (BMPs) to minimize the impact of mining activities on the identified species. Filing the Notice of Activity exempts the pits from Sections 9 and 10 of the ESA (i.e., prohibitions on impacting individuals or habitat, respectively).</p> <p>Under the management plan, the pit must (as per BMPs):</p> <ol style="list-style-type: none"> 3) be operated to allow for the continued presence of the species while the facility is active, but 4) have all Barn Swallow nesting habitat removed at site closure once the birds have left for the season. <p>As the site and all neighbouring areas will have been regraded per the closure plans of the two pits at the time of development, no habitat will present near the site and there will be no species related constraints on that development.</p>
Bobolink (<i>Dolichonyx oryzivorus</i>)	Threatened	Periodically mown, dry meadow for nesting. Habitat (meadow) should be > 10 ha, and preferably > 30 ha before Bobolink are attracted to the site. Not near tall trees.	Vegetation on the site was sufficiently sparse and site activity was sufficiently noisy to generally limit site suitability. After site regrading, no vegetation will be left	<p>No individuals were observed in the area and no habitat will be present at the time of development.</p> <p>The species does not impose any constraints on this project.</p>

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site
			and the site will be entirely unsuitable for the species.	
Chimney Swift (<i>Chaetura pelagica</i>)	Threatened	Nests in open chimneys and sometimes in tree hollows (tree > 60 cm dbh). Tend to forage close to water as this is where the flying insects they eat congregate.	No suitable habitat on or adjacent to site.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Common Nighthawk (<i>Chordeiles minor</i>)	Special Concern	Nests in a wide variety of open sites, including beaches, fields and gravel rooftops.	Ground of site is potentially suitable but is subject to too much disturbance to provide general utility as habitat.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Eastern Meadowlark (<i>Sturnella magna</i>)	Threatened	Periodically mown, dry meadow for nesting. Habitat (meadow) should be > 10 ha, and preferably > 30 ha before bobolink are attracted to the site. Not near tall trees	Vegetation on the site was sufficiently sparse and site activity is sufficiently noisy to generally limit site suitability. After site regrading, no vegetation will be left and the site will be entirely unsuitable for the species.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Least Bittern (<i>Ixobrychus exilis</i>)	Threatened	Found in large quiet marshes and, usually near cattails.	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	Endangered	Short, sparsely vegetated “pasture land” with scattered shrub species (e.g., Hawthorn).	No suitable habitat on or adjacent to site.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Eastern Whip-poor-will (<i>Caprimulgus vociferus</i>)	Threatened	Mix of open and forested areas, such as savannahs, open woodlands, or openings in more mature, deciduous, coniferous, and mixed forests.	No suitable habitat on or adjacent to site.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Eastern Wood-pewee (<i>Contopus virens</i>)	Special Concern	Woodland species, often found near clearings and edges.	No suitable habitat on or adjacent to site.	Eastern Wood-pewee was observed in the forest habitat well to the south of the site that will be fully retained regardless. The remnant woodlots on the broader property are now too small to support the species and no suitable habitat will remain on site. The species does not impose any constraints on this project.

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site
Wood Thrush (<i>Hylocichla mustelina</i>)	Special Concern	Mature deciduous and mixed (conifer-deciduous) forests.	No suitable habitat on or adjacent to site.	No individuals were observed in the area and no habitat will be present at the time of development. The species does not impose any constraints on this project.
Mammals				
Little Brown Bat (<i>Myotis lucifuga</i>)	Endangered	Widespread, roosting in trees and buildings. Hibernate in caves or abandoned mines.	No suitable habitat on or adjacent to site.	Negligible potential for presence.
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	Endangered	Associated with boreal forests, choosing to roost under loose bark and in the cavities of trees. Hibernate in caves or abandoned mines.	No suitable habitat on or adjacent to site.	Not a concern for this project.
Eastern Small-footed Bat (<i>Myotis leibii</i>)	Endangered	Coniferous forest in hilly country. Hibernate in smaller caves. Subject to air movement.	No suitable habitat on or adjacent to site.	Negligible potential for presence.
Tri-coloured Bat (<i>Perimyotis subflavus</i>)	Endangered	Forage over watercourses or open fields with large trees nearby. They never forage in deep woods. Hibernate in caves or abandoned mines.	No suitable habitat on or adjacent to site.	Not a concern for this project.
Turtles				
Blanding's Turtle (<i>Emydoidea blandingii</i>)	Threatened	Quiet lakes, streams, wetlands with abundant emergent vegetation and hummock development and associated upland areas. Overwinters in wetlands.	No suitable habitat on or adjacent to site.	Not a concern for this project.
Vascular Plants				
Butternut (<i>Juglans cinerea</i>)	Endangered	Variable but typically on well-drained soils.	The site historically could have supported the species but none were found to be present on or near the site.	Not a concern for this project.

3.5 Other Natural Heritage Features

The Cambrian Woods UNA is located 325 m north of the north side of the Drummond property. At this distance, and given that the intervening areas are currently under residential development, nor review of this feature is required in the context of this EIS. There are no Provincially Significant Wetlands, wetlands found in association with Significant Woodlands, Significant Valleylands or Life Science Areas of Natural and Scientific Interest on or adjacent to the site.

4.0 PROJECT DESCRIPTION

The project addressed by this EIS is a proposed commercial facility on the western half of the Drummond property (Figure 2).

Extraction activities have now permanently ceased at the Drummond site and at the Brazeau pit to the south. Both pit areas are currently being regraded as part of the rehabilitation required under their closing plans. Impacts to SAR and SAR habitat of the rehabilitation work are permitted and managed under the Notice of Activity filed with the MECP. The pit closures and rehabilitations will precede the proposed site development. As such, they are not directly addressed by this EIS; this EIS aims to address impacts and mitigations for the proposed commercial development.

Site rehabilitation of both the Brazeau and Drummond pits is anticipated to be completed before the spring of 2020. With the area fully regraded, groundworks for construction will begin with an anticipated start date in mid-summer of 2020. All construction is anticipated to be completed by the summer of 2021.



5.0 IMPACT ASSESSMENT

5.1 Impacts to Surface Water and Fish Habitat

No surface water features exist on or adjacent to the site. No negative impacts can be expected to surface water features and/or fish habitat.

5.2 Impacts to Site Trees

Both the Brazeau and Drummond properties are currently being filled and regraded as part of their required site rehabilitation prior to the commencement of the re-development of the areas. This process will remove all trees from both properties. As such, no trees are expected to be present at the start of site development by Caivan. Details of trees to be planted on the site will be provided within the landscape plan for the proposed development.

5.3 Impacts to Species at Risk

Two SAR protected under the *ESA* (Bank Swallow and Barn Swallow) were observed near the site in 2019. The rehabilitation and regrading, however, of both the Brazeau and Drummond properties will be completed in accordance with Notices of Activity to be filed (separately for each property) prior to the commencement of site development by Caivan.

The regrading of the properties will remove all Bank Swallow habitat from the site and its broader vicinity. As such, the proposed development itself will have no impact on that species. Barn Swallows on site are currently nesting in temporary garage structures made of piled cargo containers, which also must be removed from the area as part of the broader site rehabilitation (i.e., prior to the proposed community development). When Barn Swallow nesting structures are removed, they must be replaced with new nesting structures to be located within approximately 1 km of the site. The new nest structures must then be maintained for three years. These new nest structures will be located in open areas more than 200 m from the proposed development. As such, the proposed development by Caivan will not be considered to have any impact on the new habitat area.

6.0 MITIGATIONS

6.1 Mitigations for surface water features

To protect surface water features in the broader vicinity of the project, standard erosion and sediment control measures must be implemented on the site during construction to limit the potential for sediment deposition off of the site by either surface water flows or by wind erosion. Details of the erosion and sediment control mitigation measures must be included in either the environmental management or servicing plan for the site.

6.2 Mitigations for Trees

Please note that the City's acceptance of this report does not directly constitute permission to remove any trees. As no trees are anticipated to remain on the site at the time of development, no removal should be required regardless. If some trees are still present following the pit rehabilitation, however, the City

planner on the file must be duly notified prior to their removal if undertaken as part of the proposed commercial development.

To minimize impacts to any remaining trees located adjacent to the development area, the following protection measures are indicated as necessary during construction:

- Erect a fence beyond the critical root zone (CRZ; i.e., 10 x the trunk diameter at breast height) of trees. The fence should be highly visible (e.g., orange construction fence) and paired with erosion control fencing. Pruning of branches is recommended in areas of potential conflict with construction equipment;
- Do not place any material or equipment within the CRZ of trees;
- Do not attach any signs, notices or posters to any tree;
- Do not raise or lower the existing grade within the CRZ of trees without approval;
- Tunnel or bore when digging within the CRZ of a tree;
- Do not damage the root system, trunk or branches of any tree; and
- Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.
- The *Migratory Bird Convention Act* (Canada, 1994) protects the nests and young of migratory breeding birds in Canada. The City of Ottawa guidelines stipulate no clearing of trees or vegetation between April 1 and August 15, unless a qualified biologist has determined that no nesting is occurring within 5 days prior to the clearing.

Specific trees to be planted on the site will be identified in the landscape plan for the development. Tree species to be planted must be non-invasive and should be native to the Ottawa area. Recommended tree species to consider in the landscaping plan include Red Maple, White Pine, White Spruce, White Birch, Black Cherry, and White Cedar. Burr Oak may be considered where spacing allows for future showcase trees. Common Juniper, Maple-leaf Viburnum, Nannyberry, Serviceberry and Northern Bush-honeysuckle may be considered as appropriate shrub species.

6.3 Mitigations for Species at Risk

The Brazeau and Drummond properties have both been observed to support SAR. As such, the pit operators have filed Notices of Activity with the MNFR using the on-line, “One-Key” system. With the pits both duly registered, the species and their habitats occurring on those properties are no-longer subject to protection by the MECP under the *ESA*. The properties are currently being regraded and rehabilitated following their management plans as they have now both formally ceased excavation operations.

Following the rehabilitation of the pit areas, no SAR will occur on or near the development site, and no further SAR specific mitigations would thus be required for the proposed development.

6.4 Mitigations for Natural Features

As per standard tree protection measures indicated in Section 6.2, construction fencing should be run along the south and north edges of the site during the development period to prevent intrusion into that feature. As no other significant natural features occur on the site or within 120 m of the site, no other specific mitigations are required.

6.5 Mitigations for Wildlife

Wildlife is generally anticipated to be absent from the immediate development area if groundworks begin during the winter of 2019/2020. Some common, urban-tolerant wildlife, however, may occur within areas near the site and could, on occasion, traverse the development area. The following mitigation measures must be implemented on the site during construction of the project:

- Do not harm, feed, or unnecessarily harass wildlife.
- Keep food wastes and other such garbage in secured wildlife-proof containers, and promptly remove this material from the site (especially in warm weather).
- Drive slowly and avoid hitting wildlife where possible.
- Avoid providing unintended wildlife shelters. Effective mitigation measures include:
 - Covering or containing piles of soil, fill, brush, rocks and other loose materials;
 - Capping ends of pipes where necessary to keep wildlife out;
 - Ensuring that trailers, bins, boxes, and vacant buildings are secured at the end of each workday to prevent access by wildlife.
- Check the worksite (including previously cleared areas) for wildlife prior to beginning work each day.
- Inspect protective fencing or other installed measures daily and after each rain-event to ensure their integrity and continued function.
- Monitor construction activities to ensure compliance with the project-specific protocol (where applicable) or any other requirements.
-

7.0 SUMMARY AND RECOMMENDATIONS

It is my professional opinion that no negative impacts are anticipated to listed SAR or other natural heritage features under the proposed development.

Anthony Francis, PhD
KILGOUR & ASSOCIATES LTD.

File: \\kalfserver\kilgouractive\30000 kal projects\caivan communities\caiv 836 - brazeau\5 reports\caiv 836 eis - 190801.docx

8.0 REFERENCES

Kilgour & Associates Ltd. 2019. Environmental Impact Statement - 3809 Borrisokane Rd. - Full Report. Report prepared for Caivan Brazeau Development Corporation. Project #: CAIV836. Report Date: August 1, 2019.

Marshall, I. B., Durnanski, J., Huffrnan, E. C. and Lajoie, P. J. 1979. Soils, capability and land use in the Ottawa urban fringe. Ontario Soil Survey Report no. 47, Ontario Ministry of Agriculture and Food, Toronto, Ont. 59 pp

Appendix 1
Qualifications of Report Author

Anthony Francis, PhD

Dr. Francis is an ecologist with over 18 years of experience in both terrestrial and aquatic projects. His doctoral thesis work on global plant diversity patterns included conducting tree surveys across North America. As a consulting ecologist, he has worked on diverse ecological projects including literature reviews of forestry management and species-at-risk; environmental studies of contaminants (metals and suspended particulates); geomatic and statistical analyses for federal and provincial ministries as well as for private industry; and aquatic and terrestrial species inventories. He has contributed to environmental impact statements and federal environmental screening assessments for creek realignments and other infrastructure projects across Ontario.