Environmental Impact Statement
3809 Borrisokane Rd.

Initial Report

December 21, 2018

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

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1.0 INTRODUCTION

This report is an initial Environmental Impact Statement (EIS) prepared by Kilgour & Associates Ltd. (KAL) on behalf of Caivan Communities in relation to their proposed development of 3809 Borrisokane Rd. (herein the site). The trigger for this EIS is the potential for the presence of Species at Risk (SAR) within 120 m of the site. 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 site and review of impacts to those trees, and thereby serves as the Tree Conservation Report (TCR) for the proposed development. This report provides basic mitigations required protect natural heritage features on site.

2.0 PROPERTY INFORMATION

The proposed development site, 3809 Borrisokane Rd. (Con 3 RF W Pt Lot 8; RP 5R-13403 Parts 2 and 3; Less RP 5R-13374 Parts 15 &;16; PIN-045920037), is a 37.8 ha parcel located in southwest end of Ottawa. The entire parcel is a sand/gravel pit dating back to before 1976. There are no permanent structures currently on site. Only the eastern half of the parcel (24.9 ha) is located within the City's urban boundary. The gravel pit is no longer active on the site. It is understood that Caivan Communities will be rehabilitating the entire site to allow for residential use on the eastern portion of the site within the urban boundary.

3.0 SITE AND THE NATURAL ENVIRONMENT

3.1 Surface Water, Groundwater and Fish Habitat

There are no surface water features on site. No ditches or other channelized water features cross the site or run along or near its perimeter. The 2017 air photo for the site suggests some water may have collected in low lying areas of the property in the past, though subsequent site(re) grading appears to have eliminated any potential wet pockets. There was no evidence of water collecting on site during a site visit by KAL biologist Rob Hallett on November 29, 2018 despite significant rainfall in the preceding days (Figure 1).

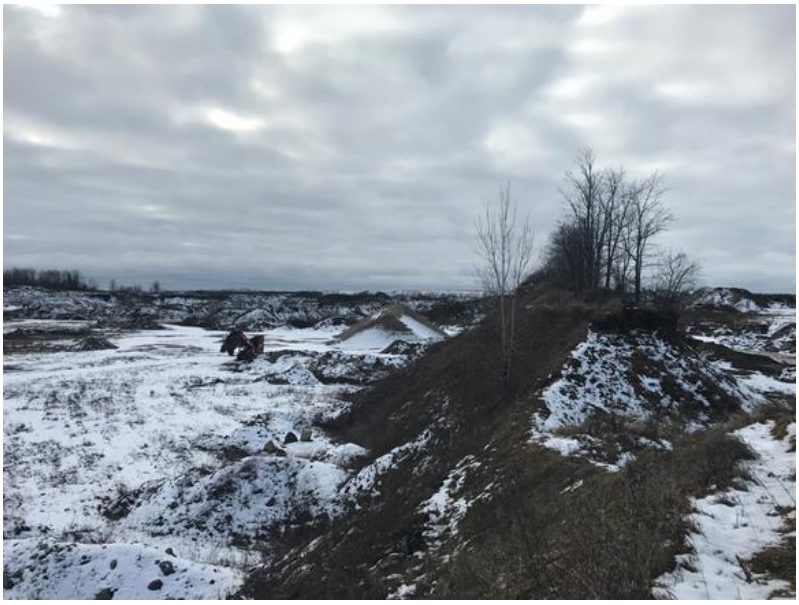

Figure 1. Site on Nov. 29, 2018

3.2 Vegetation and Land Cover

Site land cover is mapped in Figure 2. The entire site has been excavated, leaving only narrow bands of trees along the site periphery. These hedgerows were generally left perched on tall ridges of leftover material. The site 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). Remnant piles of this material are scattered about the site. The site was active until recently. As such these piles are considered very unlikely to have had time to have become useful as habitat features.

Highway 416 is located adjacent to the western end of the site. The land to the north, south and east has a similar usage history and land cover as the site, though the parcel to the east is currently being redeveloped as a residential community. The parcel to the south does have a small woodlot on near to, but set back 5 to 10 m from, the south side of the proposed development area.

The deciduous woodlot to the south of the site a 3.8 ha Dry – Fresh Sugar Maple Forest (FOD5). Large Sugar Maples with diameters of 45cm or larger dominate the upper canopy cover although they are fairly spaced out within the lot. The understory is almost entirely sugar maples smaller than 10cm DBH though some small basswoods occur near the edges of the feature. It appears as if this woodlot was previously managed as a maple sugar bush with trees being removed to facilitate the growth of the larger sugar maples. The larger maples show some signs of crown and branch dieback and many of them have significant cavities as a result.

The woodlot is located outside of the urban boundary. Its status as a Significant Woodland is therefore assessed following the MNRF's Natural Heritage Reference Manual. With over 15% forest coverage in the broader catchment area, the woodlot is too small (i.e. < 20 ha) to be deemed significant based on size alone. The feature has no interior forest space, has no appreciable proximity to other wooded areas or Natural Heritage System elements, neither provides nor is connected to wildlife corridors, is not located near any water features, has remarkably low diversity (almost 100 % sugar maples), has no rare or unique species present, no longer provides economic benefit (limited large trees are in poor condition), and does not appear to provide cultural importance (as it is isolated on private property.) The feature does not constitute Significant Woodland.

Figure 2 Existing site conditions

Legend

Site Boundaries

- Property Line
- Urban Boundary

ELC

- Quarry
- Cleared land
- FOD5

\# Tree

N

0 200 m

Project: CAIV 836
Created By: AF and RH
MTM Zone 9
(NAD 83)
Printed on: 2018-12-05

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3.2.1 Site Trees

The tree inventory survey was performed on November 29, 2018 by Rob Hallett. Site trees are described in Table 1.

Table 1. Site Trees

Tree Number	Species	Mainstem DBH (cm)	Notes
1	Bitternut Hickory	60	
2	Bitternut Hickory	25	
3	Bitternut Hickory	60	
4	Bitternut Hickory	25	
5	Bitternut Hickory	50	
6	Bitternut Hickory	30	Hollow
7	Basswood	50	Additional stem DBHs 35, 35, 35, 35, 20
8	Bitternut Hickory	35	
9	Manitoba Maple	15	
10	Bitternut Hickory	85	Fungal growth on branches
11	Trembling Aspen	12	
12	Bitternut Hickory	15	
13	Bitternut Hickory	20	
14	Bitternut Hickory	25	
15	Bitternut Hickory	30	Additional stem DBHs 15, 25, 20, 20
16	White Birch	12	
17	Bitternut Hickory	15	
18	Bitternut Hickory	15	
19	Basswood	15	Additional stem DBHs 10, 10, 30
20	Basswood	45	Additional stem DBHs 15, 20, 13
21	Basswood	30	
22	Basswood	30	Additional stem DBHs 15
23	Basswood	15	Additional stem DBHs 15
24	Basswood	10	
25	Basswood	10	
26	Green Ash	15	Additional stem DBHs 15, 15
27	Basswood	30	Additional stem DBHs 20, 20, 15, 15, 15
28	American Elm	20	
29	American Elm	20	
30	Basswood	30	
31	Basswood	30	
32	Basswood	30	
33	Basswood	40	
34	Basswood	30	
35	Basswood	30	
36	Basswood	30	
37	American Elm	30	
38	Basswood	20	
39	Sugar Maple	110	Branch Dieback
40	American Elm	45	
41	Basswood	20	
42	Basswood	20	
43	Basswood	20	
44	Manitoba Maple	20	
45	Basswood	20	
46	Sugar Maple	15	
47	Basswood	15	
48	Basswood	80	
49	Sugar Maple	100	
50	Red Maple	20	
51	Basswood	20	
52	Basswood	40	Additional stem DBHs 20, 20, 30
53	Basswood	25	
54	Basswood	20	
55	Basswood	30	

Tree Number	Species	Mainstem DBH (cm)	Notes
56	Basswood	25	
57	Basswood	30	
58	Green Ash	35	
59	Basswood	30	
60	Basswood	25	Additional stem DBHs 25, 25, 20, 25, 25, 25, 20
61	Basswood	40	Additional stem DBHs 20, 25, 20
62	Red Maple	30	
63	American Elm	20	
64	Basswood	20	Additional stem DBHs 20. 20. 20. 30
65	Apple	20	Additional stem DBHs 15, 15, 5
66	Siberian Elm	30	
67	Balsam Poplar	35	
68	Willow	20	
69	Bitternut Hickory	15	
70	Manitoba Maple	15	
71	Bitternut Hickory	20	Fence through trunk
72	American Elm	35	
73	Balsam Poplar	10	
74	Balsam Poplar	15	
75	Balsam Poplar	15	
76	Balsam Poplar	15	Additional stem DBHs 15, 10, 15
77	Balsam Poplar	10	Additional stem DBHs 10, 10
78	Honey Locust	10	
79	Balsam Poplar	15	
80	Manitoba Maple	10	
81	Balsam Poplar	45	
82	Balsam Poplar	20	
83	Balsam Poplar	20	
84	Balsam Poplar	20	
85	Balsam Poplar	20	
86	Manitoba Maple	20	Additional stem DBHs 20, 15, 15, 10
87	Manitoba Maple	35	
88	Manitoba Maple	30	
89	Balsam Poplar	15	
90	Manitoba Maple	15	
91	Green Ash	45	
92	Basswood	45	
93	Basswood	15	Additional stem DBHs 15, 15, 10
94	Balsam Poplar	10	
95	Basswood	15	
96	abs	15	
97	Basswood	75	Additional stem DBHs 20, 35, 30, 15, 15, 25
98	American Elm	25	
99	American Elm	20	
100	American Elm	10	
101	Basswood	40	Additional stem DBHs 18, 15, 10, 10
102	Bitternut Hickory	20	
103	Manitoba Maple	10	
104	Bitternut Hickory	35	
105	Bitternut Hickory	15	Additional stem DBHs 10
106	Bitternut Hickory	15	Additional stem DBHs 10, 10
107	Manitoba Maple	15	
108	Manitoba Maple	15	
109	Manitoba Maple	15	
110	Manitoba Maple	15	
111	Manitoba Maple	15	
112	Manitoba Maple	15	
113	Manitoba Maple	15	
114	Manitoba Maple	15	
115	Manitoba Maple	15	
116	Willow Sp.	10	
117	Bitternut Hickory	30	

Trees located along the north and south side of the property are perched somewhat precariously along the raised edges of the site. Many tree previously occurring there have already toppled over into the former pit area. While remaining individual trees provide some shading and possible nesting space for local fauna, this functionality is likely very limited. As a row, they do not lead to any other natural features cannot provide service as a corridor. All trees on site will be removed as the area is rehabilitated

3.3 Species at Risk

KAL has filed an info-request with the Kemptville office of the MNRF for a review of their Natural Heritage Information Centre (NHIC) database and internal records, but the response was not yet available at the time of writing this report.

For full due diligence, 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 (*Riparia riparia*)	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.	No suitable nesting habitat is located on site or adjacent to the site (too recently subject to major disturbance).	Negligible potential for presence. Not a concern for this project.
Barn Swallow (*Hirundo rustica*)	Threatened	Terrestrial open & manmade structures for nesting, near open areas for feeding.	No suitable nesting structures occur nearby. The bare, dry sand/gravel of the site is unlikely to provide suitable feeding space.	Negligible potential for presence. Not a concern for this project.
Bobolink (*Dolichonyx oryzivorus*)	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	No suitable habitat on or adjacent to the site.	Negligible potential for presence. Not a concern for this project.
Chimney Swift (*Chaetura pelagica*)	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 trees or chimney structures on or near the site.	Negligible potential for presence. Not a concern for this project.
Common Nighthawk (*Chordeiles minor*)	Special Concern	Nests in wide variety of open sites, including beaches, fields and gravel rooftops.	Ground of site is potentially suitable but has been subject to too much disturbance recently for the area to have provided habitat.	Negligible potential for presence. Not a concern for this project.
Eastern Meadowlark (*Sturnella magna*)	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	No suitable habitat on the site. An NHIC record for the species from south of the site dates from 2003. The property to the south however, has been stripped since 2014 and is therefore unlikely to currently provide any suitable habitat.	Negligible potential for presence. Not a concern for this project.
Least Bittern (*Ixobrychus exilis*)	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 (*Lanius ludovicianus*)	Endangered	Short, sparsely vegetated “pasture land” with scattered shrub species (hawthorn)	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.
Eastern Whip-poor-will (*Caprimulgus vociferus*)	Threatened	Terrestrial mix of open and forested	No suitable habitat on or adjacent to site.	Negligible potential for presence. Not a concern for this project.

Species Name	Provincial (ESA) Status	Habitat Requirement	Habitat on Site	Project Concerns Associated with Habitat on Site
Eastern Wood-pewee (*Contopus virens)*	Special Concern	Woodland species, often found near clearings and edges.	Trees in the FOD5 Woodlot provide some habitat suitability. If present, the species would feed along the woodlot edges, regardless of whether housing were added along the north side.	Unlikely to be present, but habitat would be retained regardless. Not a concern for this project.
Wood Thrush (*Hylocichla mustelina*)	Special Concern	Deciduous or mixed woodlands;	Trees in the FOD5 Woodlot provide limited habitat suitability, but are generally too small.	Very unlikely to be present, but habitat would be retained regardless. Not a concern for this project.
Mammals				
Little Brown Bat (*Myotis lucifuga*)	Endangered	Widespread, roosting in trees and buildings. Hibernate in caves or abandoned mines.	Trees in the FOD5 Woodlot provide some habitat suitability. If present, the species would feed along the woodlot edges, regardless of whether housing were added along the north side.	Very unlikely to be present, but roosting habitat would be retained regardless. Feeding potential along woodlot edges would remain. Not a concern for this project.
Northern Long-eared Bat (*Myotis septentrionalis*)	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.	Negligible potential for presence. Not a concern for this project.
Eastern Small-footed Bat (*Myotis leibii*)	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. Not a concern for this project.
Eastern Pipistrelle (*Pipistrellus subflavus*)	Endangered	Forage over water courses or open fields with large trees nearby. They never forage in deep woods. Hibernate in caves or abandoned mines.	Trees in the FOD5 Woodlot provide some habitat suitability. If present, the species would feed along the woodlot edges, regardless of whether housing were added along the north side.	Very unlikely to be present, but roosting habitat would be retained regardless. Feeding potential along woodlot edges would remain. Not a concern for this project.
Turtles				
Blanding's Turtle (*Emydoidea blandingii*)	Threatened	Quiet lakes, streams, wetlands with abundant emergent vegetation and hummock development and associated upland areas. Hibernates in bogs.	No wetland habitat occurs on or adjacent to the site. Nearest drains are >1.3 km away, and they only provide tenuous connection to suitable habitat areas >2 km beyond that.	Negligible potential for presence. Not a concern for this project.
Vascular Plants				
Butternut (*Juglans cinerea*)	Endangered	Variable but typically on well-drained soils.	The site is unsuitable; `most surrounding areas within 50 m (too highly disturbed). No Butternuts were observed on site or in the adjacent FOD5 woodlot.	Negligible potential for presence. Not a concern for this project.

3.4 Other Natural Heritage Features

The Cambrian Woods UNA is located ~500 m to the north (i.e. significantly further than 120 m). 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.

While the FOD5 woodlot is too small to be considered a significant woodland, the presence of frog breeding areas (vernal pools), significant numbers of non-listed bat species (e.g. Big Brown or Silver Haired) of Special Concern species such as Eastern Wood Pewee, would cause the feature to be considered a Significant Wildlife Habitat. The dry/fresh coarse sand/gravel soils of the woodlot however, should provide excellent drainage and are therefore very unlikely to permit the development of vernal pools. Frog breeding areas are thus considered very unlikely within the woodlot. The presence of bats (given the snags there) or Eastern Wood Pewee are possible, albeit unlikely. As such, the woodlot may constitute Significant Wildlife Habitat.

4.0 PROJECT DESCRIPTION

The project addressed by this EIS is a proposed residential community on the site consisting of a mix of single and town homes with a 1.6 ha community park in the south west corner. Extraction activities are ceasing on the entire site, with all areas to be rehabilitated to support current and future residential development. Main access to the proposed community will be from Borrisokane Road to the west. The community will be designed to allow for street access to the future residential to the east. Servicing will be in accordance with the Functional Servicing Report prepared by DSEL. The stormwater management area for the development will be located within the northwest corner of the property. The pond will outlet to a pipe which goes down Borrisokane to Cambrian where it outlets into the roadside ditch, and eventually into the Jock River.

Ground works are planned to begin in early 2019 with housing construction begin by mid-summer of that year. All construction is anticipated to be completed by the fall of 2020.

Figure 3 Proposed development

Legend

Site Boundaries

- Property Line
- Urban Boundary

Trees

- # Retain
- # Remove

Community Plan

- Block Plan
- Other Development
- Access Road
- Aggregate Pit
- Detached Homes
- Park
- SWM
- Townhomes

N

0 200 m

Project: CAIV 836
Created By: AF and RH
MTM Zone 9
(NAD 83)
Printed on: 2018-12-21

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5.0 IMPACT ASSESSMENT

5.1 Impacts to Surface Water and Fish Habitat

No surface water features exist on or adjacent to the site. Stormwater will be conveyed in accordance with the Functional Servicing Report prepared by DSEL. No negative impacts can be expected to the surface water features and/or fish habitat.

5.2 Impacts to Site Trees

The entire site will require significant fill and grade raising. Trees on site are either located in areas to be filled, or are precariously balanced along the high site edges and would unlikely to survive adjacent ground works regardless. All trees within the development area will be removed to accommodate grading and site prep, and the proposed roadway and residential development. Trees beyond the eastern end of the development area may yet be removed as part of the site works there by neighbouring builders, but such removals are outside of the scope of this project. Details of trees to planted on site will provided within the landscape plan for the development.

5.3 Impacts to Species at Risk

Given its history of extreme disturbance (i.e. active pit), the likelihood of the site currently being used by, or providing habitat potential for, listed species protected under the *ESA* is negligible. There is a very limited possibility of occurrence of two species of listed bats occurring in the summer months in the adjacent woodlot. The woodlot itself however is separated from the site by about 10 m and will remain fully intact. Moreover, both species are considered to be urban tolerant and frequently inhabit residential areas (at least where they may still occur at all, having been almost completely eliminated from the region by WNS) The existing pit area cannot provide roosting habitat and would likely offer very limited feeding opportunity with its bare, dry gravel soil and lack of vegetation cover. Replacing the pit with residential units would have no impact on roosting and would not reduce (but may increase) feeding opportunity. No negative impacts to SAR or SAR habitats are anticipated.

5.4 Impacts to Natural Features

The adjacent woodlot could provide habitat for bat species not listed under the *ESA*, and/or to Eastern Wood Pewee. While both taxa both are unlikely, their presence would render the feature Significant Wildlife Habitat. Regardless, as the woodlot will remain fully intact, is separated from the development by about 10 m, and the other three side of the feature will remain undeveloped, no negative impacts would be anticipated its utility as Significant Wildlife habitat for those taxa, if they were found to be present. No other natural features occur on site or within 120 m of the site. Therefore, we predict no impacts to natural features from the proposed development.

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 site during construction to limit the potential for sediment

deposition off 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 constitute permission under the Municipal Trees and Natural Areas Protection By-law 2006-279 to remove any trees. Removal of trees can only be undertaken upon the issuance of a tree removal permit from the City of Ottawa. This report however, in conjunction with a landscape plan, may be used to support the application for that permit and to advise mitigation measures imposed by the permit.

To minimize impacts to 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 the tree;
- Do not attach any signs, notices or posters to any tree;
- Do not raise or lower the existing grade within the CRZ 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 site will be identified in the landscape plan for the development. Trees 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. Trees must be planted within housing areas to a density equivalent to at least one per unit, though the distribution of specific planting locations may be varied from necessarily planting on every lot, as may be dictated by individual lot considerations. The landscape plan should include additional tree planting within the park space as may be accommodated by the final configuration of that area.

6.3 Mitigations for Species at Risk

As no SAR are considered as potentially occurring on or near the site, no SAR specific mitigations are required.

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 edge of the site between planned construction work and the FOD5 woodlot (outside of the CRZ of trees therein) during the development period to prevent intrusion into that feature. As no other significant natural features occur on 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 ground works begin during the winter of 2019. Some common, urban-tolerant wildlife however may occur within areas near the site and could, on occasion, traverse development area. The following mitigation measures must be implemented on site during construction of the project:

- Do not harm, feed, or unnecessarily harass wildlife.
- Keep food wastes and other such garbage be in secured in wildlife-proof containers, and promptly removal 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 work day to prevent access by wildlife.
- Check the work site (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 property development.

Anthony Francis, PhD
KILGOUR & ASSOCIATES LTD.

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.