

**ENVIRONMENTAL IMPACT STATEMENT
and
TREE CONSERVATION REPORT**

PROPOSED RESIDENTIAL DEVELOPMENT

**5969 FERNBANK ROAD
CITY of OTTAWA**

A report prepared for:

**1384341 Ontario Ltd.
c/o Thomas Cavanagh Construction Ltd.**

by *Muncaster Environmental Planning Inc.*

February, 2018

A handwritten signature in black ink, appearing to read "Bernie Muncaster".

Bernie Muncaster, Principal, February 26th, 2018

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A	Ministry of Natural Resources Correspondence
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1.0 INTRODUCTION

The 21 hectare site is in the northwest portion of the Fernbank Community Design Plan (CDP) area, to the north of Fernbank Road on the west side of Shea Road (Map 1). Existing urban residential areas of Stittsville are to the west, with a wooded Natural Environment Area to the northwest and a recreational complex and high school to the north. The lands to the south of the site, south of Fernbank Road, are draft approved for urban residential and commercial development as are the lands immediately to the west of the site. The vast majority of the trees were cleared off the site around 2006. The municipal address for the site is 5969 Fernbank Road, with the site located in the east half of Lot 25, Concession 10 of the Geographic Township of Goulbourn. The owner of the site is 1384341 Ontario Ltd. (613-257-2918).

The site is mostly regenerating cultural meadows and thickets, with small treed areas in the southeast portion (Map 1). There are no structures on the site. The north portion of the site and the adjacent lands to the west and east, east of Shea Road, were part of the Fernbank East Natural Area, as defined in the former Region of Ottawa-Carleton's Natural Environment System Strategy (Keddy, 1997, Map 1). This 60-hectare Natural Area was rated low overall. None of the eight evaluation criteria were scored with a moderate or high significance. No large-scale linkages were identified for the Natural Area. No environmental constraints are identified for the site or adjacent lands on Schedule K of the Official Plan and no components of the Natural Heritage System are present on the Schedule L3 overlay.

The site and adjacent lands are designated *General Urban Area* on Schedule B of the Official Plan, except for the *Natural Environment Area* to the northwest. The closest portion of the Natural Environment Area is approximately 140 metres to the north of the northwest corner of the site. There are no Areas of Natural and Scientific Interest or Provincially significant wetlands in proximity to the site, with portions of the Goulbourn Wetland Complex the closest Provincially significant wetland, approximately 1.8 kilometres to the west of the site. The lands to the west represent the West of Shea Road Urban Natural Area. As the Fernbank CDP was not part of the City's Urban Area when the Urban Natural Area Environmental Evaluation Study was completed, this Urban Natural Area was surveyed in 2006 as part of the Fernbank CDP. The 35.8 ha Urban Natural Area was rated high overall, with a high or above moderate rating assigned the size and shape, habitat maturity and representative flora criteria. Four other criteria; regeneration, disturbance, natural communities and wildlife habitat, were assigned a moderate rating, with the remaining two evaluation criteria, connectivity and significant flora and fauna, rated less than moderate (Muncaster, 2007). All of the West of Shea Road Urban Natural Area is considered to have an edge effect influence. A high native flora Co-efficient of Conservation rating was assigned. Informal pathways are throughout the central and south portions of the Urban Natural Area, with ATV activity apparently common in the south portion. The impact of non-native flora, including buckthorn, European highbush cranberry, purple loosestrife and reed canary grass, was considered moderate to severe (Muncaster, 2007). The summary report by Muncaster (2007) describes the Urban Natural Area as a relatively undisturbed mature fresh-moist forest in the north portion (the Natural Environment Area). However, the moisture regime has likely been impacted by adjacent residential and institutional development. Young, disturbed forests and meadow habitat are described for the south portion of the Urban Natural Area, representing the lands adjacent to the site. No portions of the Urban Natural Area extended onto

the site itself. Muncaster (2007) concluded that in isolation the lands to the south of the Natural Environment Area, which are now draft approved for urban residential development, would not receive a high rating. Forest interior habitat was identified in MMM (2005) for the north portion of the site but this tree cover has been removed. The central and southwest portions of the site were identified as plantation by MMM (2005). No rare vegetation/landform types, forests greater than 100 years old, riparian cover, Areas of Natural and Scientific Interest or Provincially significant wetlands were identified by MMM (2005) for the site.

This Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) has been completed due to the presence of the West of Shea Urban Natural Area to the west of the site and the potential for Species at Risk.

1.1 Scoping the Environmental Impact Statement

This EIS/TCR was prepared in accordance with Section 4.7.8 of the City of Ottawa Official Plan (2010) following the EIS Guidelines and the Guidelines for City of Ottawa Tree Conservation Report, found at <http://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-0#4-7-8-environmental-impact-statement> and http://ottawa.ca/en/env_water/tlg/trees/preservation/guidelines/index.html, with guidance from the Natural Heritage Reference Manual (OMNR, 2010). This report includes the components of an Environmental Impact Statement as identified in Sections 4.7.8.11 a) through i) of the City of Ottawa Official Plan (City of Ottawa, 2010).

The field surveys and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty years of experience in completing natural environment assessments. The purpose of the Tree Conservation Report component is to determine any tree stands that should be retained and protected. It is proposed to remove the woody vegetation not to be retained on the site in 2018, after the breeding bird season.

The major objective of this EIS/TCR is to determine whether significant natural heritage features, including Species at Risk, are present and whether the proposed development has the potential to impact such features. If so, this report will recommend mitigation measures to reduce anticipated impacts to an acceptable level, if possible.

The following items were identified for particular attention in the EIS, recognizing that many of these issues are interrelated:

- what are the current features and functions of the site from a natural heritage perspective?;
- is there any aquatic habitat potential on or adjacent to the site?; and,
- can significant features and functions, if applicable, be retained or mitigated for?

2.0 METHODOLOGY

Background documents referenced during production of this EIS/TCR included the Fernbank Community Design Plan (CDP) and Environmental Management Plan (EMP) (Novatech, 2009), the 2006 Existing Conditions Report for the Fernbank CDP (Muncaster, 2007), a Natural Environment 2007 Addendum to the Existing Conditions Report for the Fernbank EMP (Muncaster, 2007b), the Urban Natural Area Environmental Evaluation Study (Muncaster and Brunton, 2005), the 2005 Jock River Reach 2 Subwatershed Study, Existing Conditions Report (Marshall Macklin Monaghan and WESA, 2002) and the Natural Environment System Strategy (Keddy, 1997). Following the approach in Section 4.7.8 of the City of Ottawa Official Plan (2010), this EIS/TCR identifies the natural environment features within and adjacent to the site. Other natural heritage information was collected and summarized through correspondence with Kemptville District Ministry of Natural Resources and Forestry (Appendix A) and the City of Ottawa, and a review of the Natural Heritage Information Centre and Natural Heritage Make-a-Map databases.

Colour aerial photography (2002 – 2017) was used to assess the natural environment features in the general vicinity of the site. Field observations were conducted on July 20th and 30th, 2016 and June 8th, 2017, both on and adjacent to the site. The June 8th, 2017 field survey began at 07:30 with good conditions for wildlife observations: calm winds, partly cloudy skies and an air temperature of 21° C. Weather conditions were also good for the July, 2016 field surveys with calm winds or a light breeze, sunny or partly cloudy skies and air temperatures between 19 and 23° C. Vegetation and wildlife observations were made on all field surveys, with an emphasis on breeding birds during the morning June 8th survey.

Ecological units were defined based on species present, the wetness index of the species, dominant species, drainage observations, health, age, topography and soil conditions. Records of wildlife were made through direct sightings and observations of tracks and scat. Other aspects of the surveys included photographs of site representative features and observations on the level of disturbance from human activities and other disturbances such as non-native flora.

NHIC (2018) and Muncaster and Brunton (2005) were used for the current status of the flora and fauna observed.

For the purposes of this report Fernbank Road is considered to run in an east-west orientation.

3.0 EXISTING CONDITIONS

3.1 Geologic and Hydrologic Conditions

The site is generally flat with a gentle slope to the south. The subsurface conditions generally consist of deposits of silt and sand over glacial till over limestone bedrock (Golder, 2018). Topsoil, with thickness ranging from approximately 0.1 to 0.75 metres, is at ground surface at all of the test pits except one test pit along the central-west edge of the site where the bedrock was only 0.2 metres below the existing ground surface. The overburden depth ranged between 0.2 and 3.3 metres below the existing ground surface, with other areas of shallow bedrock in the

central and north-central portions of the site (Golder, 2018). Groundwater seepage and wet soil conditions were generally observed by Golder (2018) at depths ranging from 1.3 to 2.1 metres below ground surface.

No aquatic habitat potential was observed on or adjacent to the site or is reported for the site in the natural environment studies for the Fernbank CDP and EMP (Muncaster, 2007; Muncaster 2007b).

3.2 Terrestrial Features

3.2.1 Vegetation Communities

The majority of the site was highly disturbed through tree removal and topsoil stripping around 2006. Since then these areas have regenerated with ground flora reflective of disturbed conditions, with scattered shrubs and regenerating tree saplings. These areas are shown as cultural meadows or thickets on Map 1 (Photos 1 – 5). The vegetation in the southeast corner of the site was not disturbed. A pine plantation and cultural woodlands are in this portion of the site.

Cultural Meadow

Most ground flora in the meadow habitats was non-native and/or invasive, including wild carrot (dominant in areas, Photo 5), chicory, common mugwort, curled dock, ox-eye daisy, St. John's wort, common yarrow, wild parsnip, cow vetch, common mullein, pearly everlasting, common dandelion, wild grape, thicket creeper, yellow hawkweed, common burdock, bladder campion, yellow wood sorrel, black-eyed susan, tall buttercup, purple loosestrife, blueweed, field mustard, field-sow thistle, bull thistle, bird's-foot trefoil, Canada goldenrod, tall goldenrod, common milkweed, white-sweet clover, red clover, yellow-sweet clover, common fleabane, and common ragweed. Blue-eyed grass, heart-leaved aster, flowering dogbane, hard-stemmed bulrush, scouring rush, and balsam ragwort were also observed.

Scattered staghorn sumac, apple, purple-flowering raspberry, common buckthorn, glossy buckthorn, blackberry, red raspberry, common juniper, and Bebb's willow shrubs were present in the meadow habitat, along with regenerating poplar and Manitoba maple stems up to 8cm diameter at breast height (dbh).

Rock was observed at the surface in portions of the site. Stockpiles of material and fill placement were common throughout the site (Photos 1 and 3). Informal trails through the cultural habitats appeared to be frequently used for dog walking and ATV tracks were common.

Cultural Thicket

Where the shrub cover was greater than 25 percent the disturbed habitat is shown as cultural thicket on Map 1, including windrows in the southwest portion of the site (Photos 4 and 5). Staghorn sumac shrubs were dominant in many areas, with apple common, and prickly ash, common buckthorn, glossy buckthorn, hawthorn, red-osier dogwood, blackberry, red raspberry,

red elderberry, slender willow, and tartarian honeysuckle also present. Regenerating trembling aspen, balsam poplar, ash, white elm, Scot's pine, grey birch, and Manitoba maple stems up to 10cm dbh were also present. Many of the elms were in poor condition with minimal leaf-out.

Wild grape coverage was extensive on much of the woody vegetation. Other ground flora in the thicket habitats included wild carrot, St. John's wort, common plantain, wild parsnip, yellow avens, cow vetch, common plantain, common dandelion, timothy, brome grass, reed canary grass, tall buttercup, joe-pye-weed, purple loosestrife, Canada thistle, bird's-foot trefoil, Canada goldenrod, tall goldenrod, narrow-leaved goldenrod, common milkweed, poison ivy, white-sweet clover, and red clover.

White cedar, white elm, white pine, basswood, Scot's pine, white birch, balsam poplar, white ash, and white spruce trees were to the west of Shea Road, along the east edge of the site, and also along the north edge of the site (Photo 6). Glossy buckthorn, tartarian honeysuckle, highbush cranberry, red raspberry, and staghorn sumac shrubs were among these trees. Poison ivy was a dominant ground flora, with wild carrot and bird's-foot trefoil other examples. The largest trees were in the 25 – 32cm dbh range. Many of the white elm and white ash appeared dead, and many other trees had trunk damage. Wind throw was common along the north edge of the site. White cedars up to 30cm dbh were along the southwest edge of the site.

Cultural Woodland

Trembling aspen and apple up to 28cm and 32cm dbh, respectively were dominant in portions of the cultural meadow in the southeast portion of the site, with white elm, eastern cottonwood, Norway maple, and green ash well represented (Photo 7). Bur oak, silver maple, and crack willow were also present. Some of the ash and elm appeared dead. An over-mature sugar maple in senescenÎ in the northeast portion of the cultural meadow was the largest tree observed on the site, with mature eastern cottonwood also present. Leaf-out was limited on the maple.

Red raspberry was dominant in many areas of the cultural woodland, with tartarian honeysuckle, highbush cranberry, slender willow, Bebb's willow, blackberry, common buckthorn, black currant, red-osier dogwood, and common juniper also present. Poplar regeneration was good in many areas of the cultural woodland, with young Scot's pine, white elm, and white spruce stems scattered through the woodland. The ground flora included white bedstraw, wild grape, thicket creeper, brome grass, timothy, black-eyed susan, white-sweet clover, ox-eye daisy, common strawberry, wild carrot, common yarrow, poison ivy, common milkweed, wild parsnip, wild carrot, scouring rush, tall goldenrod, late goldenrod, narrow-leaved goldenrod, bladder campion, cow vetch, and St. John's wort.

Pine Plantation

White pines up to 32cm dbh dominate the pine plantation in the southeast corner of the site (Photo 8). Trunk damage was extensive on some of the pines. Regenerating white pines and ash were in the understory, along with red raspberry, tartarian honeysuckle, common buckthorn, and black currant shrubs. A heavy duff layer appears to have reduced the ground flora in most areas. Where ground flora was present poison ivy was often dominant, with wild grape, thicket creeper, common strawberry, lady fern, and common milkweed also noted.



*Photo 1 – Typical disturbed cultural meadow habitat in the north-central portion of the site.
View looking south (June 8th, 2017)*



Photo 2 – Cultural meadow habitat in the west-central portion of the site. View looking south to the windrows of cultural thickets in the southwest portion of the site (June 8th, 2017)



*Photo 3 – Disturbed cultural meadow habitat with topsoil piles in the west portion of the site.
View looking west to the pine plantations to the west of the site (July 20th, 2016)*



*Photo 4 – Cultural meadow in the northeast portion of the site.
View looking north (July 20th, 2016)*



Photo 5 – Cultural meadow with thicket habitat along the windrows in the southwest portion of the site. View looking northwest (July 30th, 2017)



Photo 6 – Row of conifers remaining along the east portion of the north edge of the site. View looking northwest (July 20th, 2016)



Photo 7 – Cultural woodland in the southeast corner of the site (July 30th, 2016)



Photo 8 – Pine plantation along the south portion of the east edge of the site (July 30th, 2016).



Photo 9 – Small area of upland poplar deciduous forest near the central part of the south site periphery (July 30th, 2016)

3.2.2 Wildlife

During the June 8th, 2017 survey, a song sparrow was noted carrying food, adult American robins were with immatures, and a field sparrow was agitated. These observations suggest nesting activity. Other wildlife species observed on the site included turkey vulture, pileated woodpecker, and double-crested cormorant flying overhead, grey squirrel, American goldfinch, black-capped chickadee, American crow, northern flicker, least flycatcher, alder flycatcher, gray catbird, cedar waxwing, common grackle, brown-headed cowbird, chipping sparrow, yellow warbler, European starling, mourning dove, rose-breasted grosbeak, blue jay, red-winged blackbird, and great-crested flycatcher.

3.3 Species at Risk and Other Significant Features

No Species at Risk were observed on or adjacent to the site and all of the flora and fauna species observed are considered *very common in Ontario, demonstrably secure* (NHIC, 2017). No Species at Risk, species of special concern or rare flora or fauns were identified in the natural environment studies for the Fernbank CDP and EMP other than bobolink, barn swallow and eastern meadowlark to the east of Shea Road and the regionally rare vervain to the west of this site (Muncaster, 2007; Muncaster 2007b). Three butternut were observed in the west portion of the site to the west, with the closest butternut about 300 metres to the northwest of the northwest corner of this site.

The Ministry of the Natural Resources and Forestry's Make a Map: Natural Heritage Areas website was reviewed

(www.giscoeapp.lrc.gov.on.ca/web/MNR/NHLUPS/NaturalHeritage/Viewer/Viewer.html). This site allows for a search of Threatened and Endangered species covered by the 2008 *Endangered Species Act*, as well as other species of interest. A search was conducted on the 1 km squares including the site and adjacent areas (18VR21 – 82, - 91 and – 92). No endangered Species at Risk were reported for these squares, with one provincially rare species, ram's-head lady's-slipper, reported. The ram's-head lady's-slipper orchid is found in mature coniferous forests or coniferous fens and swamps, habitat not present on the site.

The breeding birds listed in the Ontario Breeding Bird Atlas for the 10 km square 18VR21 identified eastern whip-poor-will, barn swallow, bank swallow, eastern meadowlark and bobolink as threatened Species at Risk in the overall 10 km square including the site. Habitat for these species is not present on or adjacent to the site. There are no larger grassland areas which are utilized by bobolink and eastern meadowlark; the shed in the southeast portion of the site is closed and is not a potential nesting structure for by barn swallow; no sand pit walls for bank swallow are present; and no forests are on-site for eastern whip-poor-will. The meadow habitat has too much regenerating woody vegetation and the grass density is too low for suitable grassland nesting habitat for bobolink or eastern meadowlark. The chimney on the existing residence is vented and not available for chimney swift use.

Correspondence from the Ontario Ministry of Natural Resources Kemptville District Office (Appendix A) identified the endangered butternut and threatened Blanding's turtle as potential Species at Risk. Two species of special concern were also noted: snapping turtle and eastern ribbonsnake. These species were not observed during the 2016 and 2017 field surveys or the earlier Fernbank CDP and EMP field surveys, although as indicated above butternut was observed later well to the west of the site. No flowing or standing water was observed on or adjacent to the site, precluding potential habitat for Blanding's turtle, eastern ribbonsnake or snapping turtle.

The potential Species at Risk in the City of Ottawa were reviewed, with an emphasis on the endangered and threatened species historically reported in the overall City, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, musk turtle, Henslow's sparrow, loggerhead shrike, bobolink, eastern meadowlark, eastern whip-poor-will, bald eagle, golden eagle, least bittern, barn swallow, bank swallow, peregrine falcon, eastern cougar, common gray fox, lake sturgeon, cerulean warbler, and American eel. The habitat requirements of these species along with those listed as special concern were reviewed and only butternut was considered to have the potential to be on the site. No butternuts were observed during the field surveys on or adjacent to the site.

The site is becoming further isolated from a natural environment perspective with no inter-regional terrestrial linkages. Existing urban portions of Stittsville are to the north of the site and further to the west. The lands to the west, and east, east of Shea Road, and south, south of Fernbank Road, have been approved for urban residential development. Some linkage function may occur along the TransCanada trail corridor south of Abbott Street although this function is limited by the narrow width and intermittent nature of the woody vegetation, as well as the

adjacent roads and associated residential and industrial activity. Any linkage function in that location will not be impacted by this proposed development.

There are no forests of any size on-site and the adjacent forests, with the exception of the Natural Environment Area to the northwest, no longer support forest interior habitat. The forested Natural Environment Area would likely represent a significant woodlands. The closest portion of the significant woodlands is approximately 140 metres to the northwest of the northwest corner of the site and will not be impacted by the proposed development.

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNRF (2015), and the ELC communities on the site. Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern and animal movement corridors.

The field observations would not trigger a significant wildlife habitat designation with respect to the ELC communities present. For example, no wetland habitat is on the site for potential amphibian breeding or turtle utilization. The cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat, deer winter congregation areas, or other examples of seasonal concentration areas. No rare vegetation communities as noted in MNRF (2015) or rare or specialized habitats were observed. No evidence of raptor utilization was seen and old growth forest and forest interior habitat are not present. No tree cavities were noted that may support maternity colonies for bats, and areas of broken and fissured rock for potential use by snakes were not observed. No rare or specialized habitat including seeps or springs, or Species of Special Concern or other species of conservation concern were observed. The future linkage function of the site is very minimal as described above.



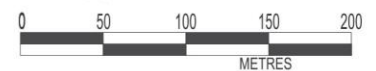
Legend

- ① Cultural Meadow
- ② Cultural Thicket
- ③ Cultural Woodland
- ④ Pine Plantation

- Site Boundary
- Vegetation Communities
- Natural Environment Area
- NESS Area 307



Approx. Scale 1:4,500



August 21, 2017

FILE: 10-36

Map 1

NATURAL ENVIRONMENT
FEATURES

5969 FERNBANK ROAD

Prepared for:

**Thomas Cavanagh
Construction Ltd.**

Prepared by:



Muncaster
Environmental
Planning Inc.

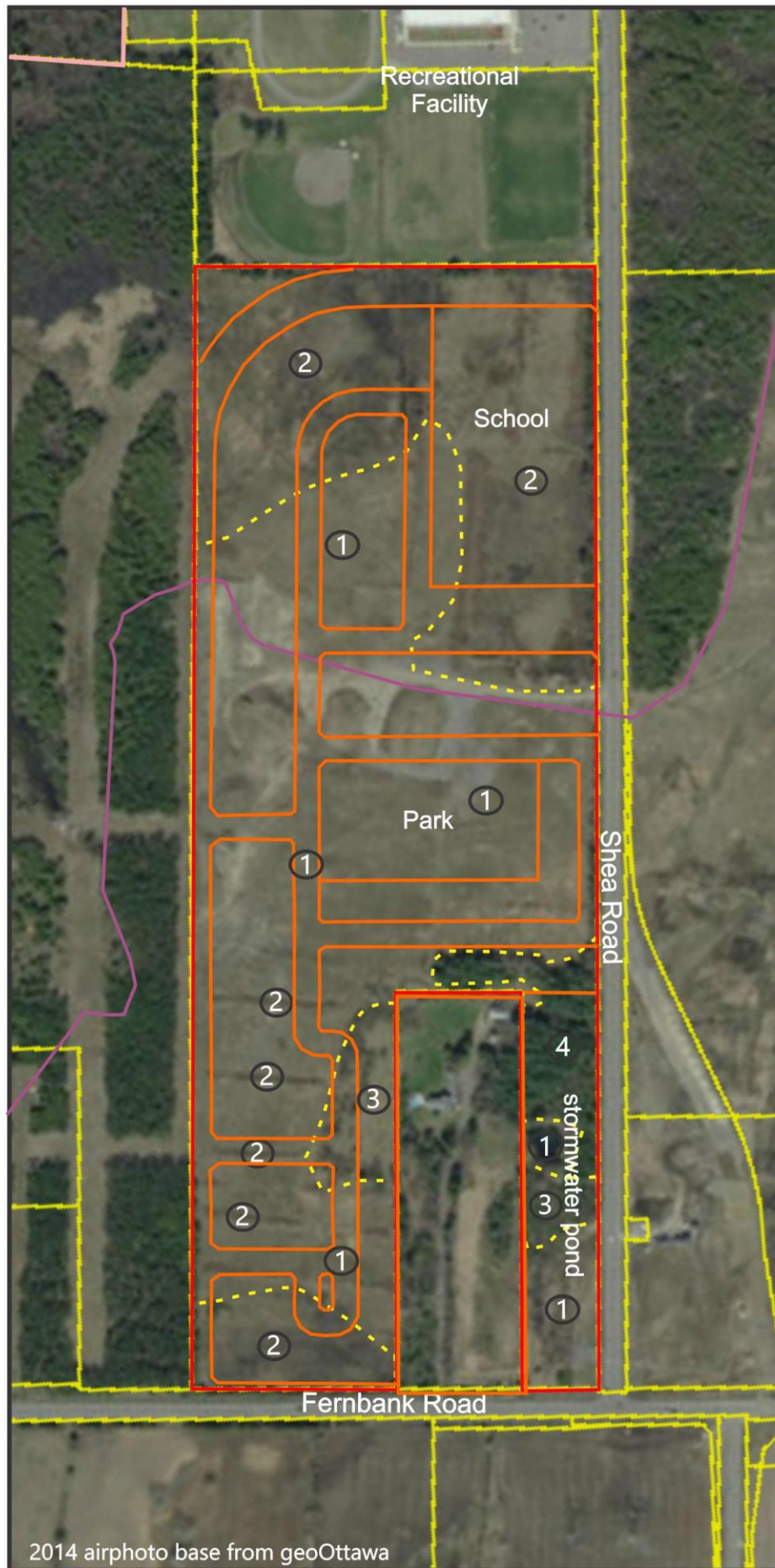
4.0 DEVELOPMENT PROPOSAL

The site is designated *General Urban Area* on Schedule B of the Official Plan and is currently zoned *Rural (RU)*. The proposed subdivision development is part of a larger master-planned community, the Fernbank Community Design Plan (CDP), and the proposed subdivision layout follows that of the Demonstration Plan in the Fernbank CDP. The Plan of Subdivision includes 357 units, with 119 proposed single detached family homes and 238 semi-detached or townhome units. Lot widths for the single detached units will range from 12.2 to 17 metres. Single family homes are focused in the central and south portions of the property.

A 1.36 hectare neighbourhood park is ideally located in the center of the proposed subdivision with street frontage on the north and west sides. A 2.45 hectare school site is in the northeast portion of the site, closest to the existing sports fields and recreational complex to the north.

Access to the site will be via a north-south collector road (Street No. 1) off Fernbank and Shea Roads. The north-south segment of this street will be shared with the site to the west. Additional access will be via a new road (Street No. 4) off Shea Road in the northeast portion of the site. Full municipal services will be utilized. As described in Section 6.2 a stormwater management facility (Pond 4) will be constructed in the southeast corner of the site (Stantec, 2017). Existing watermain along Fernbank and Shea Roads will be accessed with local infrastructure for municipal water services.

Construction phasing of the property will commence in the east portion of the site.



Legend

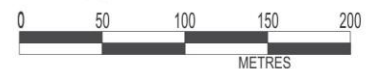
- ① Cultural Meadow
- ② Cultural Thicket
- ③ Cultural Woodland
- ④ Pine Plantation

Note: No tree retention possible due to significant grade raises and infrastructure locations

- Site Boundary
- Vegetation Communities
- Natural Environment Area
- NESS Area 307



Approx. Scale 1:4,500



August 21, 2017

FILE: 10-36

Map 2

PROPOSED CONSERVED
VEGETATION

5969 FERNBANK ROAD

Prepared for:

**Thomas Cavanagh
Construction Ltd.**

Prepared by:



Muncaster
Environmental
Planning Inc.

2014 airphoto base from geoOttawa

5.0 POTENTIAL IMPACTS

There are no significant natural heritage features, as defined in the Provincial Policy Statement, on or adjacent to the site, with closest feature the Natural Environmental Area approximately 140 metres to the northwest. The north portion of the site was originally part of the Fernbank East Natural Area, as delineated in 1997 by Keddy (1997). The on-site features associated with this Natural Area were generally removed around 2008 and no significant natural heritage features, including Urban Natural Areas, were identified for the site in the environment components of the Fernbank Community Design Plan. In addition to the on-site tree removal, Shea Road, the institutional infrastructure and additional clearing of woody vegetation to the west of the site and east of Shea Road have since impacted much of the Natural Area. The Fernbank East Natural Area was considered to have low environmental significance in the conclusions of the 1997 study.

The site is now generally disturbed with the topsoil stripped in many locations. No wetlands or aquatic habitat potential were observed on or adjacent to the site.

6.0 MITIGATION MEASURES AND RECOMMENDATIONS

This section outlines recommendations to minimize potential impacts to the natural environment features within and adjacent to the site.

6.1 Tree Conservation Report

The field surveys and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty years of experience in completing natural environment assessments. The purpose of this component is to establish which vegetation can be retained based on the existing features and the building constraints on the site. The site is owned by 1384341 Ontario Ltd. c/o Thomas Cavanagh Construction Limited (613-257-2918). As described in Section 4, the site is proposed for urban residential use. Tree removal has already occurred through the majority of the site. The remaining woody vegetation not identified in this report for retention is proposed for removal in 2018, after the breeding bird season.

Retention of healthy trees and regenerating tree stems will be done where possible given the grade raise and associated urban servicing constraints of the site. Tree retention will assist in providing a future source of seeds and regenerating stems.

As shown on the Preliminary Overall Grading Plan (Stantec, December 8th, 2017, Drawing OGP-1) grade raises in the order of one to two metres will be required due to the urban infrastructure requirements. Thus, retention of the remaining trees will be difficult as part of the urban residential development. The grade raises are lower towards the north end of the site. However, tree retention in this area is not possible due to the east-west segment of Street 1.

As no new forest edge will be created, potential impacts associated with wind throw and sunscald are not anticipated to be significant. No tree retention is proposed along the east edge of the adjacent site immediately to the west of this site. Thus along the west edge of the site there is no need for tree protection fencing to protect the trees to the west of the site. Trees are not adjacent to the other site edges.

Where servicing permits tree retention the trees to be retained are to be protected with sturdy temporary fencing installed before further site alterations. The fencing is to be at least 1.3 metres in height. No grading or activities that may cause soil compaction such as heavy machinery traffic and stockpiling of material are permitted on the non-work side of the fencing. Signs, notices or posters are not to be attached to any tree. No machinery maintenance or refuelling, storage of construction materials or stockpiling of earth is to occur within five metres of the critical root zone of the trees and woodlot portion to be retained at this time. The existing grade is not to be raised or lowered within the fencing and any digging within the fencing is to be done by tunneling or boring. The root system, trunk or branches of the trees to be retained are to be protected and not damaged. If any roots of the trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Exhaust fumes from all equipment during construction will not be directed towards the canopy of the potentially retained trees. All of the supports and bracing for the protective fencing should be placed outside of the protected area and should be installed in such a way as to minimize root damage.

To protect breeding birds, no tree or shrub removal is to occur between April 15th and August 15th, unless a breeding bird survey conducted within five days of the woody vegetation removal identifies no active nests in the trees or shrubs.

It is proposed to remove the remaining woody vegetation that cannot be retained in 2018, after the breeding bird season. Forestry – Planning of the City of Ottawa is to be contacted after the protective fencing, if required, is installed and at least two (2) working days prior to any tree removal so that Staff can verify the fencing has been properly constructed.

A Landscape Plan will be developed for the site. It is important that native trees from a local seed stock be used whenever possible. Recommended species for planting include a mix of coniferous and deciduous trees such as sugar maple, red maple, basswood, bur oak, red oak, tamarack, and white spruce, along with nannyberry, elderberry, and dogwood shrubs. There are no specific planting sensitivities for the site.

6.2 Stormwater Mitigation and Other Servicing

Stantec (2017) has prepared a Stormwater Management Plan and Erosion and Sediment Control Plan in support of the proposed development. The report includes an assessment of the collection and treatment of stormwater runoff, including stormwater mitigation in the form of Best Management Practices. As outlined in the Fernbank CDP, Stantec (2017) have recommended an end-of-pipe stormwater management facility (Pond 4) in the southeast corner of the site. The stormwater management facility will provide water quality control and will be north of Fernbank Road and west of the realigned Shea Road. The facility will be constructed partially under a twin tower hydro line and the former alignment of Shea Road. As required for facilities ultimately discharging to the Jock River, the stormwater management facility has been designed to provide an enhanced level of water quality treatment including 80 percent total suspended sediment removal. Water quantity control will be provided by the stormwater management facility along with a combination of inlet control devices, on-site storage for the school block, and sag storage within the development to restrict post development peak flows up to the 100-year storm to pre-development levels with a maximum allowable release rate of 0.9 m³/s (Stantec, 2017). The stormwater management facility will outlet to the Fernbank Road side ditch and ultimately the Faulkner Municipal Drain.

Stantec (2017) have designed a dual drainage system which accommodates both minor and major stormwater runoff. A series of minor storm sewers will handle the runoff from frequent storm events while during less frequent storm events the balance of runoff in excess of the minor flow is accommodated by a system of rear yard swales and street segments, called the major system. Both the minor and major storm runoff from the site will be conveyed to Pond 4 (Stantec, 2017).

Roof leaders will be discharged to grassed and natural areas to promote infiltration and reduce surface runoff. In addition, relatively flat grading and rear yard swales of two percent will direct runoff to the catchbasins.

6.3 Erosion and Sediment Controls and Monitoring

An erosion and sediment control plan will be prepared as part of the detailed design package. During construction, existing stream and conveyance systems can be exposed to significant sediment loadings. As outlined in Stantec (2017), the following mitigative construction techniques will be deployed to protect from migration of sediment-laden runoff entering the downstream watercourse:

- Groundwater will be pumped into a proper filter mechanism such as a sediment trap or filter bag prior to release to the environment until the local storm sewers and stormwater management pond are constructed. Following their construction, dewatering will be routed to the nearest storm sewer;
- Exposed soils and/or stockpiles will be immediately stabilized. Along with equipment fueling and maintenance areas, stockpiles will be located away from swales and other conveyance routes and protected with silt fencing as described next;

- Seepage barriers such as silt fencing, straw bale check dams and other sediment and erosion control measures will be installed in any temporary drainage ditches and around disturbed areas during construction and stockpiles of fine material. These control measures must be properly maintained to maximize their function during construction; and,
- Filter clothes will remain on open surface structures such as manholes and catchbasins until these structures are commissioned and put into use, streets are asphalted and curbed, and the surrounding landscape is stabilized.

A qualified inspector will conduct frequent visits during construction to ensure that the contractor is constructing the project in accordance with the design drawings and mitigation measures are being implemented and maintained as specified. Filter clothes on open surface structures, and silt fencing may require removal of sediment and repairs. The inspector must ensure that construction vehicles and chemicals, fuels and other potentially hazardous materials remain in designated areas.

After build-out of each Phase, applicable sewers will be inspected and cleaned. All sediment and construction fencing should be removed following construction, provided there is no exposed soil or other potential sources of sedimentation.

All sodding, seeding and tree and shrub planting are to be conducted correctly and as soon as weather and construction activity permits. The success of all vegetative plantings will be assessed for two years through visual inspections in the spring and autumn following planting. Any plantings that are dead or dying will be replaced.

7.0 SUMMARY

The site, located in the west portion of the Fernbank community north of Fernbank Road and west of Shea Road, is proposed for urban residential development, including detached residences, multi-unit residences, a neighbourhood park and the associated road network and stormwater treatment. The site is now generally disturbed with the topsoil stripped in many locations. No wetlands or aquatic habitat potential were observed on or adjacent to the site. All the community/landform types and flora and fauna species observed on the site are considered common on a local and regional basis. No rare communities, significant wetlands, steep slopes were observed on or adjacent to the site or are reported in the existing reports including the Fernbank Environmental Management Plan and the Jock River Reach 2 Subwatershed Study. There are no significant natural heritage features onsite, with the closest significant feature a Natural Environmental Area approximately 140 metres to the northwest, south of Abbott Street.

The required grade raises are between one and two metres which will generally preclude tree retention. Native trees of local origin need to be planted where possible to help offset the loss of the trees.

This EIS/TCR identifies other mitigation measures as summarized below, for protection of the natural environment and associated wildlife habitat. This report concludes that the construction and operation of the proposed residential development will not have a significant impact on the natural environment provided the proposed mitigation measures are properly implemented. The following is a numbered summary of the main mitigation measures:

1. Maximize tree and shrub retention in other locations wherever possible as part of the detailed design stage. Plantings of native trees and shrubs of local origin are recommended to help offset the loss of trees and improve the aesthetic and local wildlife habitat features of the site;
2. Woody vegetation that must be removed is to be cut outside of the breeding bird period of April 15th to August 15th unless a breeding bird survey identifies no nesting activity within five days of the proposed vegetation removal;
3. Proper sediment and erosion control, as outlined in Section 6.2, is important for general environmental protection. These measures must be monitored and properly implemented;
4. The contractor is to be aware of potential Species at Risk in the vicinity of the site including butternut. Appendix 1 of City of Ottawa (2015) describes these species. Appendix 1 should be modified for this development project to include the contact information of the project biologist. Any Species at Risk sightings are to be immediately reported to the project biologist and the Ministry of Natural Resources and Forestry and activities modified to avoid impacts until further direction is provided by the Ministry;
5. As recommended in City of Ottawa (2015), prior to beginning work each day, potential wildlife is to be checked by conducting a thorough visual inspection of the work space and immediate surroundings. See Section 2.5 of the City's Protocol for Wildlife Protection during Construction (City of Ottawa, 2015) for additional recommendations on construction site management. Any turtles and snakes in the work areas are to be relocated to the Natural Environment Area to the northwest of the site. Animals should be moved only far enough to ensure their immediate safety. See Appendix 1 and the links in Section 4 of City of Ottawa (2015) for suggestions on how to effectively relocate turtles and snakes;
6. A stormwater management pond will protect the water quality and quantity entering the downstream watercourses during operation of the residential development;
7. Municipal by-laws and provincial regulations for noise will be followed and utilities will be located as required in the vicinity of the site prior to construction; and,
8. Waste will be managed in accordance with provincial regulations. The contractor will have a spill kit on-hand at all times in case of spills or other accidents.

8.0 REFERENCES

City of Ottawa. 2010. City of Ottawa Official Plan. Publication: 1-28. 227 pp & Sched.

City of Ottawa. 2015. Protocol for Wildlife Protection during Construction. August, 2015. 14 pp & Append.

Golder Associates. 2017. Geotechnical Investigation. Proposed Residential Development. 5969 Fernbank Road, Ottawa, Ontario. February, 2018. Report No. 1784392. 19 pp. & Append.

Stantec Consulting Ltd. 2017. Fernbank Pond 4 Stormwater Management Facility Design Brief. Job # 160400900/83. December 8, 2017. 27pp & Append.

Keddy, C.J. 1997. Summary: Natural Area Reports for Natural Areas West of the Rideau River (300 series). Prepared for the Regional Municipality of Ottawa-Carleton, Planning and Development Approvals Department. March 1997. #28-08b. 83 pp.

Marshall Macklin Monaghan and WESA. 2005. Jock River Reach 2 & Mud Creek Subwatershed Study. Existing Conditions Report. May 2005. Three Volumes

Muncaster, B.W. and D.F. Brunton. 2005. Urban Natural Areas Environmental Evaluation Study. Prepared for the City of Ottawa.

Muncaster Environmental Planning Inc. 2007. Fernbank Community Design Plan. Natural Environment Existing Conditions Report. January 26th, 2007. 29 pp. & Append.

Muncaster Environmental Planning Inc. 2007b. Fernbank Community Design Plan. Natural Environment 2007 Addendum to Existing Conditions Report. September 6th, 2007. 21 pp. & Append.

Natural History Information Centre. 2018. List of Ontario Species.
www.mnr.gov.on.ca/MNR/nhic/querries/listont

Novatech Engineering Consultants Ltd. 2009. Fernbank Master Servicing Study. June 24, 2009.

Novatech Engineering Consultants Ltd. 2009b. Fernbank Environmental Management Plan. June 24, 2009.

Ontario Ministry of Natural Resources. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. March 2010. 233 pp.

Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. January, 2015. 38 pp.

APPENDIX A

MINISTRY of NATURAL RESOURCES and FORESTRY CORRESPONDENCE

**Ministry of Natural
Resources and Forestry**

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Fri. July 14, 2017

Bernie Muncaster
Muncaster Environmental Planning Inc
491 Buchanan Crescent
Ottawa
K1J 7V2
(613) 748-3753
bmuncaster@rogers.com

Attention: Bernie Muncaster

Subject: Information Request - Developments
Project Name: 5969 Fernbank Road, Goulbourn, Ottawa
Site Address:
Our File No. 2017_GOU-4086

Natural Heritage Values

The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment

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and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

Wildland Fire

MNRF woodland data shows that the site contains woodlands. The lands should be assessed for the risk of wildland fire as per PPS 2014, Section 3.1.8 "*Development shall generally be directed to areas outside of lands that are unsafe for development due to the presence of hazardous forest types for wildland fire. Development may however be permitted in lands with hazardous forest types for wildland fire where the risk is mitigated in accordance with wildland fire assessment and mitigation standards*". Further discussion with the local municipality should be carried out to address how the risks associated with wildland fire will be covered for such a development proposal. Please see the Wildland Fire Risk Assessment and Mitigation Guidebook (2016) for more information.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Water

If any in-water works are to occur, there are timing windows for which work in water should not take place (see below). Appropriate measures should be taken to minimize and mitigate impact on water quality and fish habitat, including:

- installation of sediment and erosion control measures;
- avoiding the removal, alteration, or covering of substrates used for fish spawning, feeding, over-wintering or nursery areas; and
- debris control measures to manage falling debris (e.g. spalling).

Timing windows (no in-water works) in MNRF Kemptville District*:

Warmwater and cool water	→ March 15 – June 30
St. Lawrence River & Ottawa River	→ March 15 – July 15
Coldwater	→ October 1 – May 31
Big Rideau Lake & Charleston Lake	→ October 1 – June 30

* Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas.

Timing windows when in-water work is restricted – based on species presence:

	FISH SPECIES	TIMING WINDOW (No in-water works)
Spring:	Walleye	March 15 to May 31
	Northern Pike	March 15 to May 31

Lake Sturgeon	May 1 to June 30
Muskellunge	March 15 to May 31
Largemouth/Smallmouth Bass	May 1 to July 15
Rainbow Trout	March 15 to June 15
Other /Unknown Spring Spawning Species	March 15 to July 15

	FISH SPECIES	TIMING WINDOW (No in-water works)
Fall:	Lake Trout	October 1 to May 31
	Brook Trout	October 1 to May 31
	Pacific Salmon	September 15 to May 31
	Lake Whitefish	October 15 to May 31
	Lake Herring	October 15 to May 31
	Other /Unknown Fall Spawning Species	October 1 to May 31

Additional approvals and permits may be required under the Fisheries Act. Please contact Fisheries and Oceans Canada to determine requirements and next steps. There may also be approvals required by the local Conservation Authority or Transport Canada. As the MNRF is responsible for the management of provincial fish populations, we request ongoing involvement in such discussions in order to ensure population conservation.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- Blanding's Turtle (THR)
- Butternut (END)
- Sensitive Species (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: <https://www.ontario.ca/page/how-species-risk-are-protected>.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:

<http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E>

For more information on the ESA authorization process, please see:

<https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Eastern Ribbonsnake (SC)
- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what

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activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: <https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization>.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Sat. Jul 14, 2018

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Scott Smithers
Management Biologist
scott.smithers@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet