



Muncaster  
Environmental  
Planning Inc.

September 10, 2019

Mr. Matt Nesrallah  
Planning and Land Development  
Emerald Creek Properties Inc.  
c/o Thomas Cavanagh Construction Ltd.  
9094 Cavanagh Road  
Ashton, Ontario  
K0A 1B0

Dear Mr. Nesrallah:

**RE: Emerald Creek Estates – Phase 3  
Tree Conservation Report and Environmental Impact Statement**

This combined Tree Conservation Report (TCR) and Environmental Impact Statement (EIS) assesses Phase 3 of the Emerald Creek Estates rural residential development in the north-central part of Concession 3, Lot 29 of Gloucester Geographic Township, to the northwest of the intersection of Mitch Owens and Albion Roads. Phase 3 is located to the west of the northwest portion of Phase 2. Phase 3 consists of nine lots, which will be accessed along an extension of Tullamore Street, beginning approximately 70 metres west of the intersection of Ballycastle Crescent and Tullamore Street (Map 1). On average, the residential lots are approximately 0.3 ha in area. The lots will be serviced by a private septic system and drilled water well. The stormwater management approach is outlined in Stantec (2005) and includes quantity control of post to pre-development peak flow attenuation for the 2 to 100 year design storm events and a normal level of water quality control. These controls will be achieved using reduced lot grading, flat grassed swales and infiltration trenches to promote infiltration, filtration, nutrient uptake and reduced peak flows and velocities (Stantec, 2005). For the purposes of this report Tullamore Street is considered to be in an east-west alignment.

***Background***

In addition to the rural residences to the east and southeast of the Phase 3 lands, forested natural areas are to the north, west and south of the site. Many of these areas were in agricultural use in 1976, with the tree cover increasing through the decades since then. An oil pipeline easement and a Hydro One easement are to the west of the Phase 3 lands. The Phase 3 lands are designated *Rural Natural Features Area*, likely due to the Albion Road South/Manotick Station Natural Area, which is mapped for portions of the site (see purple line on Map 1). This Natural Area, identified as Area 69 in the former Region of Ottawa-Carleton's Natural Environment System Strategy (Brownell and Larson, 1997), was considered to have a moderate overall significance in the evaluation summary performed by Brownell and Larson (1997). The Natural

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Area was considered to have a high significance for rare vegetation community/landform types, endangered, threatened and rare species, and vegetation community/landform species diversity, no seasonal wildlife concentrations, a low significance for common vegetation community/landform type representation and the condition of the natural area, and a moderate significance for landscape attributes and hydrological features.

The Albion Road South/Manotick Station Natural Area was described by Brownell and Larson (1997) as primarily containing poplar forests on a variety of landforms (marine clay plain, acidic sand plain, non-acidic sand plain, and non-acidic till). There are some upland white cedar and sugar maple forests as well. Approximately 10% of the area is upland thicket on non-acidic and acidic sand plain and non-acidic till. The forests are young to intermediate-aged.

The Natural Heritage System, as shown on the Schedule L1 Overlay of the Official Plan, extends slightly onto the west portion of the site (see pink line on Map 1). There are no Areas of Natural and Scientific Interest in this portion of Gloucester, with the closest evaluated wetland a portion of the provincially significant Leitrim Wetlands, over three kilometres to the north of the Phase 3 lands. The portion of the Phase 3 lands north of Tullamore Street that were not historically cleared are shown as unevaluated wetlands on geoOttawa, with adjacent lands to the north also shown as unevaluated wetland. There are no natural environment constraints identified on or adjacent to the site on Schedule K of the Official Plan. The site is within the lands shown on Schedule B of the Site Alteration By-law and thus the by-law would apply to this area.

### ***Methodology***

This EIS was prepared in accordance with Section 4.7.8 of the City of Ottawa Official Plan following the EIS and Tree Conservation Report Guidelines, with guidance from the Natural Heritage Reference Manual (OMNR, 2010).

The major objective of this EIS is to determine the significance of the feature and functions of the on-site and adjacent natural environment conditions, and to assess the anticipated impacts associated with the proposed rural residential development on these features and functions and the associated Albion Road South/Manotick Station Natural Area. The potential for Species at Risk utilization on and adjacent to the site will also be assessed.

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

- what are the terrestrial habitat features of the site and adjacent lands and the associated sensitivities?;
- is there any aquatic habitat potential on or adjacent to the site?;
- what are the recommended areas of tree retention and other mitigation measures to ensure no unacceptable impacts on any significant natural heritage features? and,
- does the site support any other natural heritage features, including Species at Risk, that should be considered in development of the site?

Colour aerial photography (1976 - 2017) was used to assess the natural environment features in the general vicinity of the site. The natural environment features of the site and adjacent lands were reviewed on June 11<sup>th</sup>, 2019 from 18:00 to 19:45, under partly cloudy skies, a light to moderate breeze and an air temperature of 18° C.

The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over thirty-one years of experience in completing natural environment assessments. The purpose of the Tree Conservation Report component is to establish which vegetation should be retained and protected on the site. The owner of the site is Emerald Creek Properties Inc. (613-257-2918). It is proposed to remove the woody vegetation not to be retained in 2020 before the breeding bird season.

### ***Existing Conditions***

The Phase 3 lands were in agricultural use in 1976. In the mid-2000s Tullamore Street was extended to the west edge of the site, with a cul-de-sac at the west edge of the extension. Much of the Phase 3 lands north of Tullamore Street were cleared at this time, with fill added. Additional tree removal and fill placement has occurred more recently and the site is now dominated by cultural meadow habitat (Photos 1, 2, and 3). Patterson (2018) noted that the surficial soil conditions consisted primarily of topsoil (0.1 to 0.3 metres thick) over silty sand, followed by silty clay at a depth of approximately one metre.

Prior to the disturbances, the surficial soil conditions of the Phase 3 lands consist primarily of topsoil (up to 0.3 metres thick) over silty sand, followed by silty clay at a depth of approximately one metre. The primary source of water supply is expected to lie within the dolomite and limestone of the Oxford Formation. Some historical mapping shows a channel through the east portion of the site, with other mapping, including geoOttawa showing a channel along the north boundary of the Phase 3 lands. Neither of the features were seen on aerial photography or were observed in the field. Roadside swales created along either side of the Tullamore Street extension and servicing swales as part of the Phase 2 lands were dry on June 11<sup>th</sup> (Photo 6).

Regenerating ground vegetation in the cultural meadow habitat on the cleared Phase 3 lands was dominated by field horsetail, with common mugwort, Canada goldenrod, narrow-leaved goldenrod, tall cinquefoil, bladder campion, common dandelion, common milkweed, June meadow grass, common brome grass, European bur-reed, wild parsnip, wild cucumber, thicket creeper, yellow wood sorrel, lamb's quarter, and red clover also present. Regenerating woody vegetation included trembling aspen and grey birch sapling, along with slender willow, staghorn sumac, and red raspberry shrubs.

A few trees remain in proximity to the building envelopes on the Phase 3 lands including a twin stem 38cm diameter at breast height (dbh) sugar maple north of Tullamore Street about 30 metres east of the west property line and a 28cm dbh black cherry south of Tullamore Street.

The rear ten metres or so of the Phase 3 lots north and south of Tullamore Street remain treed (Photo 5). This young upland deciduous forest was scrubby in appearance and continued to the north and south of the site (Photo 4). White elm and trembling aspen were dominant, with white birch, white ash, green ash, and black cherry also present. The largest trees along and adjacent to

the Phase 3 peripheries were generally poplars in the 25cm dbh range, with a 38cm dbh trembling aspen in the southwest corner of the site. Many of the ash trees are dead or had greatly reduced leaf-out, with evidence of the emerald ash borer. Fungus was observed on several of the poplar stems. The understory of the rear and adjacent forests was very thick and included serviceberry, slender willow, red raspberry, Bebb's willow, glossy buckthorn, red-osier dogwood and staghorn sumac, along with regenerating white elm and poplar stems. The ground flora in the adjacent deciduous forests included wild grape, poison ivy, common strawberry, enchanter's nightshade, sensitive fern, ostrich fern, and thicket creeper.

An area of upland poplar deciduous forest dominated by trembling aspens up to 34cm dbh remains in the southwest corner of the Phase 3 lands (Photo 7). Grey birch is also present in the understory, which is thick with regenerating poplar stems and glossy buckthorn, red raspberry, blackberry, slender willow, and pussy willow shrubs. The ground flora was reflective of disturbed conditions including Canada goldenrod, common strawberry, tall buttercup, June meadow grass, yellow violet and silvery cinquefoil.

A recreational pathway extends from the existing cul-de-sac at the west edge of the site, extending south and east into the natural area to the south.

### Wildlife

Wildlife observed during the June field survey included European starling, American crow, black-capped chickadee, northern flicker, American robin, yellow warbler, common yellowthroat, common yellowthroat, great-crested flycatcher, song sparrow, white-throated sparrow, Baltimore oriole, gray catbird, American goldfinch, red-winged blackbird, common grackle, and white-tailed deer tracks. A wood thrush, a species of special concern, was heard calling to the south of the Phase 3 lands.



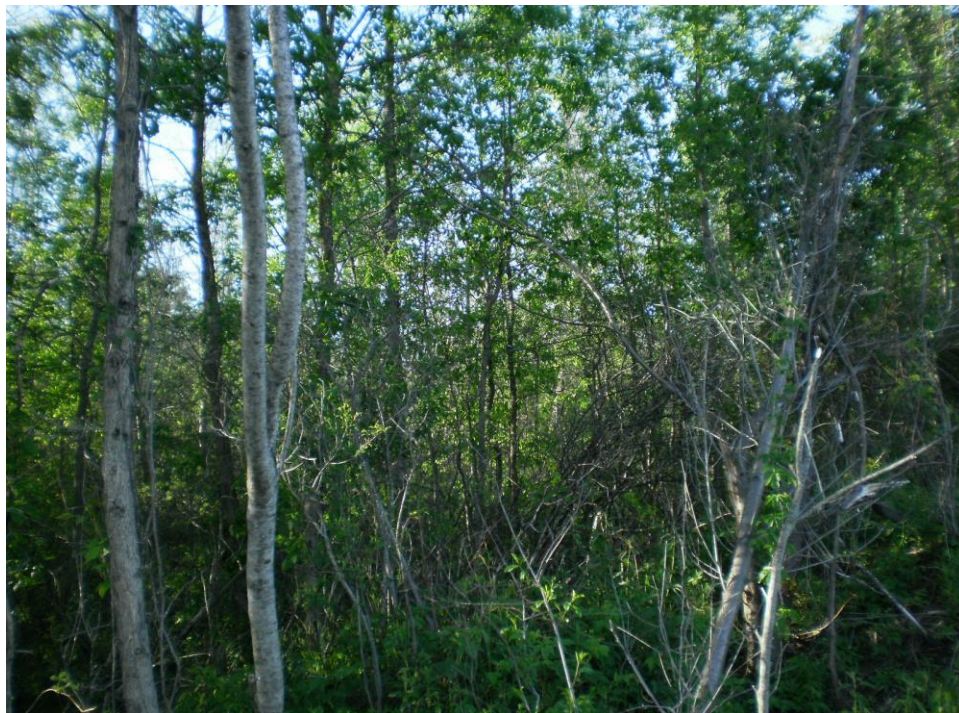
*Photo 1 – North half of the Phase 3 lands, with view looking east*



*Photo 2 – Fill in the northwest portion of the Phase 3 lands,  
with view looking south to the Tullamore Street extension*



*Photo 3 - Fill also dominates the south half of the site.  
View looking east, with Phase 2 houses in the background*



*Photo 4 – Deciduous forest to the north of the meadow habitat along the north edge of the Phase 3 lands. View looking north*



*Photo 5 – South portion of the Phase 3 lands, with areas of fill in the centre and left, and deciduous forest to the right, south. View looking east*



*Photo 6 – Dry ditch along the south side of the Tullamore Street extension. View looking east, with Phase 2 houses in the background*



*Photo 7 – Small area of poplar deciduous forest remains in the southwest corner of the Phase 3 lands. View looking southeast*

### Species at Risk

No butternut or other Species at Risk were observed on or adjacent to the site. On June 10<sup>th</sup>, the Ministry of the Natural Resources and Forestry’s Make a Map: Natural Heritage Areas website was reviewed. 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 (18VR51-23). No Species at Risk were reported for these squares with one species of special concern, wood thrush, noted. As indicated above, wood thrush was heard calling in the deciduous forests to the south of the site.

Five Species at Risk, eastern whip-poor-will, barn swallow, bank swallow, eastern meadowlark and bobolink, are identified for the overall 10 km square including the site (18VR51) and this area of rural Ottawa in the Ontario Breeding Bird Atlas. Suitable habitat for these Threatened species was not observed in proximity to the site. Eastern whip-poor-will requires large wooded areas with open patches, and/or open woodlands or alvar habitats. The understory of the adjacent forests is too thick for use by this ground nester. Eastern meadowlark and bobolink utilize larger grassland areas such as hayfields for nesting. The on-site meadow habitat is too disturbed and it has too much woody vegetation to be used by the grassland Species at Risk and none were observed during the June survey. No barn or bank swallows were observed and no potential structures or other nesting habitats for these species were on or adjacent to the site. In addition, butternut and three bat species (little brown bat, eastern small-footed myotis and northern long-eared bat), are often considered potential Species at Risk in the general area. Although found in a range of habitats in eastern Ontario no butternuts were observed on or



adjacent to the Phase 3 lands. No suitable cavity trees were observed for potential bat summer maternity sites on or adjacent to the site.

Snapping turtle, a species of special concern, was recorded for the overall 10 km square 18VR51 in the Ontario Reptile and Amphibian Atlas, but the endangered Blanding's turtle was not. No suitable wetland or aquatic habitat is present on the site and no turtle utilization is anticipated for the site or adjacent lands. Some of the adjacent forests may be considered swamps but they appear to lack standing water and other features required for suitable turtle habitat.

The potential Species at Risk reported for the overall City of Ottawa historically and their habitat requirements were also reviewed, including butternut, American ginseng, eastern prairie fringed-orchid, wood turtle, spiny softshell, Blanding's turtle, musk turtle, Henslow's sparrow, loggerhead shrike, eastern meadowlark, barn swallow, bobolink, whip-poor-will, bald eagle, golden eagle, least bittern, little brown bat, eastern small-footed myotis, northern long-eared bat, olive hickorynut, 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. Except for butternut no specific habitat characteristics related to these potential Species at Risk were observed on or adjacent to the site. As indicated above, no butternut was observed on or adjacent to the site.

### ***Significant Woodlands and Wildlife Habitat***

The woodlands adjacent to the Phase 3 lands are contiguous with large forests extending north to Rideau Road, with an overall area of approximately 150 hectares. Thus, the overall contiguous forest adjacent to the site and at the rear of the Phase 3 lands would meet the size criterion in the Natural Heritage Reference Manual (OMNR, 2010) for significant woodlands. As assessed below, provided the important mitigation measures below are properly implemented it is anticipated that development of the Phase lots will not impact the significant features of the adjacent significant woodlands.

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNR (2015). The presence of a wood thrush, a species of special concern, to the south of the site would indicate that the adjacent deciduous forests also represent significant wildlife habitat. Other criteria for a significant wildlife habitat designation were not observed on or adjacent to the Phase 3 lands. For example, the deciduous forests do not appear to support raptor wintering areas and old growth forest is not present. Areas of broken and fissured rock for potential use by snakes were not observed. The cultural habitats do not support waterfowl stopover or staging areas, colonial nesting bird breeding habitat or other examples of seasonal concentration areas. No rare vegetation communities as noted in MNR (2015) or rare or specialized habitat including seeps or springs are on the site. The rare vegetation communities identified in the Natural Area Summary Report for the Albion Road South/Manotick Station North Natural Area (Brownell and Larson, 1997) are not present on or adjacent to the Phase 3 lands. None of the vegetation units identified by Brownell and Larson (1997) on the overall site were considered regionally rare or outstanding examples of the regionally common vegetation community and landform representations.

### ***Impact Analysis and Recommendations***

The Phase 3 lands are dominated by disturbed cultural habitats, with a representation of deciduous forests in the rear of the lots and to the north and south of the site. Significant woodlands and significant wildlife habitat are associated with the deciduous forests.

As shown on Map 2 it is anticipated that the remaining on-site woody vegetation can be retained at the rear of the lots, with the exception of the area for the drainage swale at the rear of the lots north of Tullamore Street and a north south drainage swale in the southeast portion of the site. This strip of vegetation to be retained will be approximately ten metres in width and will provide excellent protection for the adjacent deciduous forests to the north and south of the Phase 3 lands and associated significant woodlands and wildlife habitat. Note there are no trees of note immediately to the west or east of the Phase 3 lands. A few remaining trees in the building footprints will be removed. These trees provide aesthetic, climate and nature interpretation benefits, as well as local wildlife habitat. Tree removal is to be minimized as much as possible, and only following the important mitigation measures delineated below. It is anticipated that wildlife usage on the development portion of the Phase 3 lands will relatively easily relocate to the natural areas adjacent to the site.

Trees and shrubs to be retained are to be protected with sturdy temporary fencing at least 1.2 metres in height installed from the tree trunk a minimum distance of ten times the retained tree diameter (the critical root zone). Signs, notices or posters are not to be attached to any tree. No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling or other activities that may cause soil compaction to occur within five metres of the critical root zone of the trees to be retained and protected. The root system, trunk or branches of the trees to be retained are to be protected and not damaged. If any roots of 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 retained trees to the south.

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. Also, since the desired effect of the barrier is to prevent construction traffic from entering the trees critical root zone, the barrier should be kept in place until all site servicing and house construction has been completed.

As silty clay soils were reported, tree planting should be limited to trees with low water demand in this area. Tree species to avoid in this situation include poplars, willows and Manitoba maple. Tree and shrub plantings are to be native and of local origin and seed stock to give the best opportunity for success. A mix of coniferous and deciduous species such as sugar maple, red maple, tamarack, white spruce, white pine, red oak, bur oak, basswood, native dogwoods and nannyberry is recommended.

Many helpful wildlife oriented mitigation measures are detailed in the City’s Protocol for Wildlife Protection during Construction (City of Ottawa, 2015). Contractors are to review in detail and understand the City’s Protocol for Wildlife Protection during Construction prior to commencement of construction. Listed below are specific mitigation measures associated with the Protocol for Wildlife Protection during Construction (City of Ottawa, 2015).

Summary of Mitigation Measures

1. The extent of exposed soils shall be kept to a minimum at all times. Re-vegetation of exposed, non-developed areas shall be achieved as soon as possible;
2. The objective with respect to erosion and sediment controls will be to ensure that the surface water runoff leaving the site is not degraded with respect to water quantity or quality. Erosion and sediment control will focus on best management practices such as grassed swales with a reduced slope and direction of roof and rear yard runoff to the vegetated rear of the lots. During construction many sediment and erosion control measures will be implemented including filtering of any groundwater pumped prior to the availability of the stormwater infrastructure, use of bulkhead barriers in manholes of sewers which connect to existing downstream sewers, properly installed and maintained silt fencing, seepage barriers deployed in any temporary drainage ditches, and filter clothes on open surface structures until these structures are fully functional;
3. The contractor is to be aware of potential Species at Risk in the vicinity of the study corridor including butternut. Appendix 1 of City of Ottawa (2015) describes these species. The project biologist is Bernie Muncaster (613-748-3753). Any Species at Risk sightings are to be immediately reported to him and the Ministry of the Environment, Conservation and Parks and activities modified to avoid impacts until further direction is provided by the Ministry;
4. As recommended in City of Ottawa (2015) prior to beginning work each day, check for wildlife 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 and other susceptible wildlife in the work areas are to be relocated to the Albion Road South/Manotick Station Natural Area to the south of the Phase 3 lands. 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;
5. To protect breeding birds, the tree or shrub removal should occur between April 15<sup>th</sup> and August 15<sup>th</sup>, unless a breeding bird survey conducted by a qualified biologist within five days of the woody vegetation removal identifies no active nests in the trees or shrubs. No stick nests or other evidence of raptor utilization on the site was observed;

6. Trees and shrubs to be retained are to be protected with sturdy temporary fencing at least 1.2 metres in height installed from the tree trunk a minimum distance of ten times the retained tree diameter. Additional tree protection measures are provided above;
7. Where groundwater must be removed from work areas, the groundwater will be pumped into a proper filter mechanism such as a sediment trap or filter bag prior to release to the environment;
8. Seepage barriers such as silt fencing, straw bale check dams and other sediment and erosion control measures will be installed as required to OPSD requirements in any temporary drainage ditches and around disturbed areas during construction and stockpiles of fine material. These control measures must be properly maintained, including repair of broken panels and removal of accumulated sediment, to maximize their function during construction;
9. 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,
10. 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.

### ***Schedule of Proposed Works***

It is proposed to remove the remaining on-site woody vegetation not to be retained in 2020 before the breeding bird season. As applicable, City of Ottawa staff (Forester – Planning) are to be contacted at least two business days prior to any tree removal so staff have the opportunity to verify that the protective fencing has been properly constructed.

### ***Conclusion***

Nine single detached family homes on 0.3 ha lots are proposed for the Phase 3 lands, continuing the same type of rural residential as on the Phase 1 and 2 lands to the east and southeast. No Species at Risk were observed or are anticipated to utilize the site. Significant woodlands and wildlife habitat to the north and south of the Phase 3 lands will be retained and protected with a buffer of deciduous forest remaining at the rear of the lots. The majority of trees have been cleared from the building footprints on each lot.

Plantings of native coniferous and deciduous trees and shrubs will assist the local wildlife habitat, aesthetics and climate benefits of the area. The plantings are to be of local origin and seed stock whenever possible. It is important that other mitigation measures outlined in this EIS and Tree Conservation Report are properly implemented and maintained.

## **References**

Brownell, V.R. and C.S. Blaney. 1997. Summary: Natural Area Reports for Natural Areas East of the Rideau River. Prepared for the Regional Municipality of Ottawa-Carleton, Planning and Development Approvals Department. 324 pp.

City of Ottawa. 2010. City of Ottawa Official Plan. As adopted by City Council, May, 2003 and Updated 2010. Publication: 1-28. 227 pp & Sched.

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

Muncaster, B.W. and D.F. Brunton. 2005/2006. Urban Natural Areas Environmental Evaluation Study. Prepared for the City of Ottawa.

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.

Paterson Group. 2018. Performance Review: Emerald Creek Estates Phase 1 and 2 Review Tullamore Street / Ballycastle Crescent, Ottawa, Ontario. Report Number: PH3533-REP.01. August 29<sup>th</sup>, 2018. 29 pp & Append.

Stantec Consulting. 2005. Emerald Creek Subdivision. Revised Stormwater Management Report. Revised June 23<sup>rd</sup>, 2005. 10 pp & Append.

Please call if you have any questions on this Tree Conservation Report and Environmental Impact Statement.

Yours Sincerely,  
**MUNCASTER ENVIRONMENTAL PLANNING INC.**



Bernie Muncaster, M.Sc.  
Principal



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Legend

-  Site
-  Vegetation Communities
-  Albion Road South Natural Area
-  Natural Heritage System (Schedule L1)

Vegetation Communities

-  Cultural meadow/Disturbed land
-  Upland poplar deciduous forest



Approx. Scale 1:1,800



**Map 1**

**FILE: 02 - 06**

**June 15, 2019**

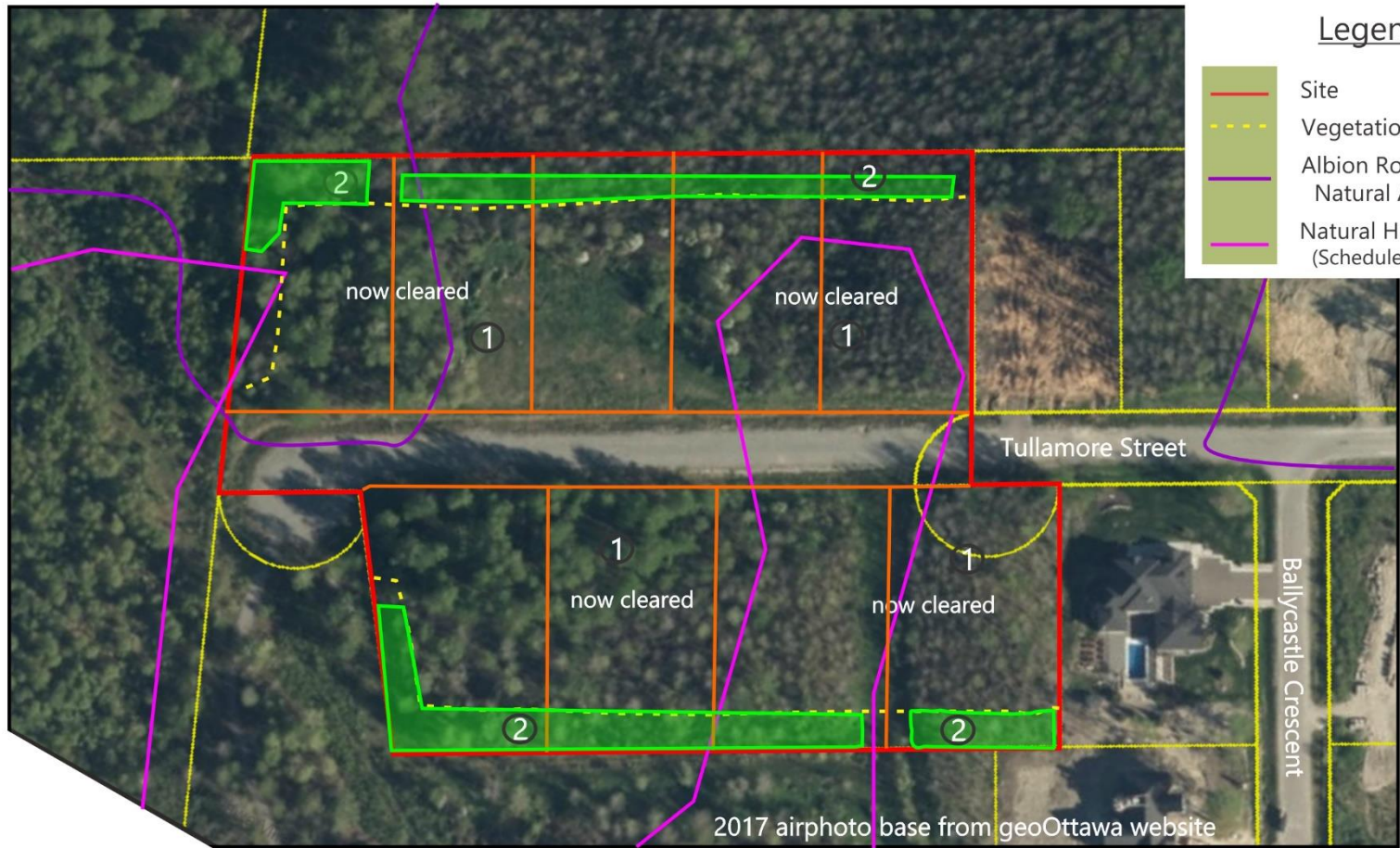
Prepared for: **Emerald Creek Properties Inc.**

Prepared by:



**TREE CONSERVATION REPORT/EIS  
Existing Conditions**




**Emerald Creek Phase 3  
Gloucester Geo. Township, City of Ottawa**



**Legend**

-  Site
-  Vegetation Communities
-  Albion Road South Natural Area
-  Natural Heritage System (Schedule L1)

Vegetation Communities

-  Cultural meadow/Disturbed land
-  Upland poplar deciduous forest
-  Areas of potential tree retention



Approx. Scale 1:1,800



**Map 2**

**FILE: 02 - 06**

June 15, 2019

Prepared for: **Emerald Creek Properties Inc.**

Prepared by:  Muncaster Environmental Planning Inc.

**TREE CONSERVATION REPORT/EIS  
Proposed Conserved Vegetation**

**Emerald Creek Phase 3  
Gloucester Geo. Township, City of Ottawa**