



Muncaster
Environmental
Planning Inc.

January 23, 2015

Mr. Kevin Yemm
Planning and Land Development
Richcraft Group of Companies
2280 St. Laurent Blvd., Suite 201
Ottawa, Ontario
K1G 4K1

Dear Mr. Yemm:

**RE: Kanata West Development – 1560, 1620 and 1636 Maple Grove Road
Tree Conservation Report and Environmental Impact Statement - Updated**

This report represents an update to our original April 20, 2004 Preliminary Tree Study And Conservation Plan and Environmental Summary with additional information provided on tree preservation and protection and Species at Risk utilizing the City's Environmental Impact Statement and Tree Conservation Report guidelines, the Natural Heritage System and Species at Risk recently listed. The report has been further updated to address suggestions provided by City of Ottawa staff in 2014.

For the purposes of this report Maple Grove Road is assumed to be in an east-west orientation.

The proposed urban residential development will be between Maple Grove Road and Hazeldean Road, bordered by the Carp River on the east and the north-south boundary between Lots 27 and 28 (Goulbourn Ward) to the west (Map 1). The municipal addresses are 1560, 1620 and 1636 Maple Grove Road. Comments on the aquatic habitat and riparian corridors of Lower Poole Creek, the Carp River and the Hazeldean Tributary, along with habitat protection recommendations are also provided. Agricultural lands dominate the site, which is approximately 46 hectares in size. The majority of the site has been heavily disturbed with topsoil stripping, soil pre-loading and other earthworks. Thus the natural environment features of the site outside of the above watercourses are limited to remnant hedgerows.

Background and Project Description

Nine-hundred and forty-nine residential units are proposed for the subdivision, including 114 single family dwellings, 386 regular townhomes, 272 back-to-back townhomes and 176 condo flats. A 0.6 hectare park and a 1.5 hectare commercial area will be south of Maple Grove Road, with the park block adjacent to the Poole Creek corridor. In addition a 3.3 hectare school block will be in the south-central portion of the site, with a 2.6 hectare stormwater management block along the northeast portion, west of the Carp River and south of Maple Grove Road and a one

hectare park block to the south of the stormwater management pond. A sanitary pump station will be south of Maple Grove Road in a 0.7 hectare block between the stormwater management pond to the east and the commercial block to the west. The North-South Arterial and a transit corridor are along the west side of the site. Access to the site will be south from Maple Grove Road and north from the commercial developments on the north side of Hazeldean Road.

The site is designated General Urban Area in the City of Ottawa Official Plan, with the Lower Poole Creek and Carp River corridors identified as Major Open Space. The site is zoned *Development Reserve* (DR). There are no natural areas on the site, as identified in the City's Urban Natural Areas Environmental Evaluation or the former Region's Natural Environment System Strategy. The closest urban natural area, as identified in the Urban Natural Area Environmental Evaluation, is the Lower Poole Creek Valley, approximately 0.8 kilometres west of the site. The Significant Valleyland feature of the Poole Creek corridor, along with the floodplain of the Carp River represents the only portions of the Natural Heritage System on and adjacent to the site, as shown on the Schedule L3 overlay of the Official Plan. Appendix B of the Kanata West Concept Plan noted that the significance of vegetation types within the study area has been substantially reduced by the long history of disturbance in the study area.

There are no Areas of Natural and Scientific Interest or provincially significant wetlands in the general vicinity of the site, with Stoney Swamp the closest representation of these features, approximately 2.7 kilometres east of the site.

Methodology

This EIS 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/development-application-review-process-0/environmental-impact-statement-guidelines> 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 Section 4.7.8.2 a) through h) of the City of Ottawa Official Plan (City of Ottawa, 2010).

The major objective of this EIS is to determine the feature and functions of the on-site and adjacent natural environment conditions and to assess the anticipated impacts associated with the proposed urban residential development on these features and functions. To attain this objective, the draft concept plan was reviewed and mitigation measures developed as required based on field observations of the features and functions of the natural environment.

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 outside of Poole Creek, the realigned Hazeldean Tributary and the Carp River and are suitable setbacks provided for from these watercourses?

- 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 - 2011) was used to assess the natural environment features in the general vicinity of the site. Field reviews of the site were conducted on August 20th, 2003 and August 20th, 2013. The weather conditions on August 20th, 2013 were partly cloudy skies, a light to moderate breeze and an air temperature of 28° C. Notes were made on wildlife usage and potential for wildlife habitat.

The field survey and this report were completed by Bernie Muncaster, who has a Master's of Science in Biology and over twenty-six 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 Richcraft Homes (613-739-7111). It is proposed to remove the woody vegetation not to be retained in 2015 outside of the breeding bird season.

Existing Conditions

Except for large areas of soil preloading the topography of the site is virtually level, with slight drops in elevation towards the watercourses. The only relief of note other than the soil preloading is the channels and associated valleys of the watercourses. To the north of the site, Poole Creek joins the Carp River from the west side of the river. The Hazeldean Tributary joins the Carp River in the southeast corner of the site. The native soils on the site are primarily topsoil, overlying sandy silt or clayey silt overlying a thick deposit of silty clay (Paterson, 2004). Groundwater levels were measured by Paterson (2004) on May 10th, 2004 at between 0.2 and 3.9 metres below existing ground surface. No channels with potential aquatic habitat were observed on the site outside of the three watercourses discussed.

The site is isolated from an environmental perspective due to existing commercial and industrial activities and cultivated fields to the north, on the north side of Maple Grove Road; the Walter Baker Recreational Complex, Terry Fox Drive and the urbanization of Kanata to the east; recent urban residential subdivisions to the west and commercial developments on the north side of Hazeldean Road and cultivated fields to the south.

Terrestrial Features

No rare vegetation, Centers of Ecological Significance, Areas of Natural and Scientific Interest, significant wetlands, natural areas, or woodlands greater than 50 years old were reported within or adjacent to the site in the Carp River Subwatershed Study (Robinson, 2004). There are no elements of the Subwatershed Study's Greenlands Plan in the general vicinity of the site other than the corridors associated with Poole Creek and the Carp River, as described below. The Poole Creek corridor and associated valleylands are identified as part of the Natural Heritage System for the City of Ottawa, as shown on the Schedule L3 overlay of the Official Plan.

The tablelands portion of the site has generally been disturbed through topsoil stripping, extensive areas of pre-loading, ploughing and creation of windrows (Photos 1, 2 and 3). The remaining terrestrial features of the site are grouped under two general headings:

- Hedgerows

Remnant intermitted deciduous north-south and east-west hedgerows are on the central and west portions of the site (Photo 4). Green ash, coppice (multi-stem) Manitoba maple and white elm trees dominate the hedgerows with a good representation of bur oak in the south portion of the west north-south hedgerow, including an 88cm diameter at breast height (dbh) example (Photo 5). This tree may be entering senescence with fungal growth on the trunk and broken major limbs. However leaf-out remained good. The larger ash trees are between 54 and 65cm dbh, with the larger white elm and Manitoba maple in the range of 30 – 35cm dbh. White ash and trembling aspen are other tree species represented in the hedgerows, along with the non-native and invasive common buckthorn and tartarian honeysuckle. Many of the elm trees were dead or dying, likely a result of the Dutch elm disease or one of the other many diseases or insects to which elms are susceptible. A 54cm dbh white ash north of the realigned Hazeldean Tributary in the south-central portion of the site had reduced leaf-out. Several of the other ash trees also had decreased leaf-out. A 65cm dbh white ash in the north-south hedgerow south of the Poole Creek corridor had greater leaf-out.

A coniferous hedgerow along the future North-South Arterial corridor south of Poole Creek contains white spruce trees up to 45cm dbh, along with a few white elm between 25 and 32cm dbh and regenerating white spruce and Manitoba maple stems (Photo 6). Nannyberry and common buckthorn shrubs are among the trees. Thicket creeper and wild cucumber coverage is on some of the lower tree branches.

- Riparian Corridors of the Watercourses

Woody vegetation along the west portion of the Carp River corridor is very limited, with only a few shrubs on the west side of the River. The vegetation is dominated by broad-leaved cattail and reed canary grass (Photo 7). Although not extensive, more woody vegetation is in the Poole Creek riparian corridor, including green ash, white elm and Manitoba maple stems up to 29cm dbh and regenerating stems of these species along with common buckthorn shrubs (Photo 8). Wild grape coverage is common on much of the woody vegetation.

Trees removed as part of the realignment of the Hazeldean Tributary have been replaced with extensive plantings of native species including sugar maple, red maple, white spruce, white pine and white cedar along with dogwood, staghorn sumac, red elderberry, speckled alder and willow shrubs (Photo 9).

Wildlife observed during the fields surveys included ring-billed gull, mallard, great-blue heron, spotted sandpiper, American crow, common grackle, red-winged blackbird, American goldfinch, mourning dove, song sparrow, European starling, cedar waxwing and white-tailed deer tracks. No evidence of wildlife use was observed in tree cavities within the dead trees.

Aquatic Features

The reach of the Carp River along the east portion of the site supports a degraded warmwater fish habitat, which was considered 'Poor Quality Habitat' in the Carp River Subwatershed Study (Robinson, 2004). The habitat is considered degraded due to the channelized nature of the river, lack of woody vegetation in the riparian corridor, very poor water quality, and dominance of soft substrate.

In contrast to the Carp River, Lower Poole Creek is considered 'Good Quality Habitat' in the Carp River Subwatershed Study, and the channel form is much more natural than the Carp River. However the water quality shifts from good in the middle reaches of the creek to poor in the lower reaches (Robinson, 2004). The Carp River Subwatershed Study (Robinson, 2004) noted that the benthic invertebrate community in Lower Poole Creek indicated substantial water quality impairment, probably nearing eutrophic conditions, with the possibility of some form of sediment contamination or substrate disturbance. However water temperatures in Poole Creek remain suitable for cool water species and a tolerant coolwater fish community is reported from the Poole Creek (Robinson, 2004).

The Hazeldean Tributary is considered intermittent fish habitat and the Carp River Subwatershed Study concluded that it does not provide habitat for aquatic resources, although it does contribute surface runoff to downstream fish habitats in the Carp River during higher flow periods. During the August, 2003 survey a small defined channel was noted among the wider valley feature, although the tributary was dry with no evidence of recent flows. Since 2003 the Hazeldean Tributary was realigned with a low flow channel meandering within a 30 metre corridor between the commercial developments to the south and the residential developments proposed as part of this project. A recreational pathway has been constructed to the north of the realigned Hazeldean Tributary. Again on August 20th, 2013 no flow was present in the channel but there was evidence of flows during wetter periods and the planted vegetation in the corridor appeared to be doing well.



Photo 1 – Typical condition of tablelands to be developed in areas of pre-stressing in the central portion of the site. View looking east



Photo 2 – Southeast portion of the site. View looking east



Photo 3 – Central-east portion of the site. View looking east



*Photo 4 – Intermittent deciduous north-south hedgerow in the west portion of the site.
View looking south*



Photo 5 – Mature bur oak in the south portion of the north-south hedgerow



Photo 6 –Coniferous hedgerow along west edge of the site within the North-South Arterial corridor south of Poole Creek. View looking southwest



Photo 7 – Carp River corridor along the central-east edge of the site. Woody vegetation is lacking on the west (nearest) side of the river. View looking east



Photo 8 – Vegetation along the east side of the Poole Creek corridor south of Maple Grove Road to be retained. View looking northeast



Photo 9 – Coniferous and deciduous plantings and other vegetation along the realigned Hazeldean Tributary corridor. View looking east

Species at Risk

The Ontario Ministry of Natural Resources' biodiversity explorer website was reviewed (<http://www.biodiversityexplorer.mnr.gov.on.ca/nhicWEB/main.jsp>). 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 completed on the 10 km square (18VR21) which includes the site and general area. Six species of interest were identified for the overall 10 km square, including the endangered American ginseng and loggerhead shrike, threatened Blanding's turtle, and milksnake, a species of special concern. Two provincially rare species were also identified for the general area; ram's-head lady slipper and long-styled rush. Milksnake is relatively common in portions of eastern Ontario but is not often seen. It is found in open woodlands, clearings and around farmhouses where it hunts its major prey item, mice. Loggerhead shrike utilizes grazed pastures with short grass and scattered shrubs, especially hawthorn. No loggerhead shrike nests have been reported in the City of Ottawa since 2002. The ram's-head lady's-slipper orchid is found in mature coniferous forests or coniferous fens and swamps. Suitable upland nesting areas with sandy soils for Blanding's turtle are not present in the general area of the site. American ginseng requires rich, moist, undisturbed and relatively mature sugar maple-dominated deciduous woods in areas of circumneutral soil such as over limestone or marble bedrock. Colonies are often found near the bottom of gentle slopes facing south-east to south-west; a warmer microhabitat that is usually well-drained and species-rich, with a forest canopy dominated by sugar maple, white ash, bitternut hickory and basswood.

Long-styled rush grows in moist terrestrial habitat, including low-lying pockets of outcrops. No suitable habitat was observed for these species on or adjacent to the site.

The breeding birds listed in the Ontario Breeding Bird Atlas for the 10 km square 18VR21 identified whip-poor-will, eastern meadowlark, barn swallow and bobolink as Species at Risk in the overall 10 km square. Bobolink and eastern meadowlark utilize larger areas of grasslands, including hay fields. The fields stripped of topsoil and pre-loaded in many areas are too disturbed to be used by the grassland Species at Risk. Barn swallow utilizes barns and other structures with open beams for nesting and forages in open areas for flying insects. No structures that may be used by barn swallow or chimney swift for nesting were observed on or adjacent to the site. Whip-poor-will requires large wooded areas with open patches, and/or open woodlands or alvar, habitat not present on or adjacent to the site.

The potential Species at Risk in the City of Ottawa and those listed on Parts 1 – 4 of Schedule 1 of the List of Wildlife Species at Risk provided by the Government of Canada's Species at Risk Act Public Registry, with input from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) Canadian Species at Risk, were also reviewed. Many endangered and threatened species have historically been reported in the overall City, including butternut, American ginseng, eastern prairie fringed-orchid, flooded jellyskin, wood turtle, spiny softshell, Blanding's turtle, musk turtle, Henslow's sparrow, loggerhead shrike, little brown myotis, northern long-eared bat, olive hickorynut, chimney swift, eastern meadowlark, barn swallow, bobolink, whip-poor-will, bald eagle, golden eagle, cerulean warbler, least bittern, eastern cougar, common gray fox, lake sturgeon and American eel.

The habitat requirements of the above species along with those listed as special concern were reviewed. Given the disturbed nature of the fields the only Species at Risk considered to have the potential to be on the development portions of the site is butternut which is found in a variety of habitats in Ottawa. No butternuts were observed on or within 25 metres of the development portion of the site. No suitable nesting structures are present that may provide potential habitat for chimney swift or barn swallow. No mixed or deciduous forests with cavity trees that may provide candidate maternity roosts for bats are present. No cavity use by wildlife was observed. Snapping and Blanding's turtle, if present in the general area would be found along the protected Carp River and Poole Creek corridors outside of the proposed development areas.

Impact Analysis and Recommendations

Outside of the aquatic habitat and associated valleylands where applicable within Poole Creek, the Hazeldean Tributary and the Carp River, no natural heritage features, as identified in the Provincial Policy Statement and OMNR (2010), were observed on or adjacent to the site. The development tablelands portion of the site has been highly disturbed. The remnant deciduous hedgerows are generally dominated by tree species with poor longevity or susceptible to disease including white elm, ash and Manitoba maple. A few bur oaks in relatively good health are the most notable features of the hedgerows.

Terrestrial Habitat

As shown on the Earthworks Plan, Proposed Grade Raises, Plan EW-1 by Stantec Consulting (August 16th, 2013), grade raises of between 1.5 and 5 metres are required for the east portion of the site, with grade raises between 0 and 5 metres for the west portion, along with areas of grade reductions up to one metre. This will preclude potential tree retention except at the peripheries of the site, including the protection setbacks for the adjacent watercourses. Map 2 shows tree retention along the Poole Creek corridor. There are no existing trees to be retained in the west portion of the Carp River corridor.

The deciduous hedgerow trees to be removed are dominated by species that are susceptible to disease and/or non-desirable due to poor form or longevity including Manitoba maple, green ash, white ash, trembling aspen and white elm. However as always the extent of tree removal is to be minimized as much as possible. The conifers along the transportation corridors immediately to the west of the site will be retained at this time.

Plantings of native vegetation along the watercourse corridors and as part of the residential subdivision on a lot-by-lot basis will provide greater natural environment and aesthetic features than the current woody vegetation. To provide a natural appearance, trees and shrubs should be planted in a random, cluster fashion rather than in a grid system. Potential native species to plant include nannyberry, elderberry and dogwood shrubs along with sugar maple, red maple, basswood, balsam fir, white cedar, bur oak, red oak and white spruce trees. Sourcing native species from local seed sources is strongly recommended to ensure adaptability and longevity. An excellent way to achieve this objective is through transplanting of suitable species including the younger bur oak stems from the hedgerows. Due to the clay soils tree planting should be limited to trees with low water demand. Trees species to avoid in this situation include poplars, willows and Manitoba maple.

To protect breeding birds, the tree or shrub removal should 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. No stick nests or other evidence of raptor utilization on the site was observed.

Pending recommendations from City forestry staff, consideration should be given to removing ash trees in poor condition along the west side of the Poole Creek corridor.

Carp River

As part of the implementation of the Carp River Subwatershed Study, the City of Ottawa will be undertaking extensive rehabilitation of the Carp River. As outlined in TSH (2005) this work will include:

- floodplain wetlands (to be constructed in association with the outlet of the stormwater management pond);

- narrowing of the river channel at intervals to allow the stream to create some scour pools;
- increasing channel sinuosity;
- riparian tree plantings; and
- placement of large woody debris in the channel to create habitat structure and promote channel scouring.

The Subwatershed Study noted that restoration of the Carp River will allow for a modified floodplain flood concept to be applied, resulting in improved water quality and habitat conditions and permit incorporation of recreational features that are important from a watershed basis.

The concept plan provides for a minimum corridor of 100 metres along the Carp River to facilitate the rehabilitation plans for the river. This is consistent with the requirements of TSH (2005). In addition the stormwater management pond (Block 164) and park (Block 165) will be the closest portion of the development to the Carp River. Residential development will only be adjacent to the Carp River Reserve (Block 166) in the southeast corner. In this area the closest feature will be a single-loaded road approximately 50 metres to the west of the west edge of the River. No road crossings of the Carp River are required for implementation of the Concept Plan.

Poole Creek

The existing corridor of Poole Creek will be protected with a minimum setback of 20 metres from the top-of-bank and approximately 44 metres from the watercourse itself. This is consistent with the Carp River Subwatershed Study and City of Ottawa Official Plan that recommends a 30-metre setback from the normal high water mark.

The Transitway and North-South Arterial alignments were shifted to the east to avoid crossing Poole Creek and the riparian corridor twice. The crossing of Poole Creek by the Transitway will be with an open span bridge to be assessed at a later date. No road crossings of Poole Creek are required for implementation of the Concept Plan.

Proper stormwater management on the site and retention and further naturalization of the riparian corridor along this portion of Lower Pole Creek should improve the water quality of the lower reach of the creek.

Hazeldean Tributary

The Carp River Subwatershed Study and the Kanata West Concept Plan noted that the Hazeldean Tributary does not directly provide aquatic resources, however the existing downstream water quality and hydraulic functions should be retained if the tributary is realigned. The Hazeldean Tributary was realigned as part of the commercial developments north of Hazeldean Road and these functions have been retained and enhanced using natural channel and riparian wetland techniques within a thirty-metre corridor along the south boundary of the site. This corridor width is sufficient to provide the 15-metre setback (each side of the watercourse) recommended in the Carp River Subwatershed Study (Robinson, 2004) for intermittent watercourses and is

consistent with the 30-metre corridor recommendation in Section 4.1.4 of the Kanata West Concept Plan (Stantec, 2010).

The following recommendations in the Kanata West Concept Plan were incorporated into the realigned Hazeldean Tributary:

1. The realigned watercourse was designed to appear natural with minimum use of engineered features such as retaining walls, rip-rap, and hardened surfaces;
2. Plantings of woody vegetation are extensive along the riparian corridor, with all plantings, including seed mixes, native species and a minimum of forty percent of the trees coniferous; and,
3. Plantings are grouped in natural clusters, with a variable caliper of woody material.

In conjunction with the stormwater management pond and other best management practices proposed for the development, the above recommendations will ensure that the priorities for aquatic communities, as outlined in the Carp River Subwatershed Study are met including protection and enhancement of base flows and the riparian corridors, and a reduction of sediment and nutrient loadings to the watercourses.

Given proper implementation of stormwater management and erosion and sediment control as outlined in Stantec (2013) and retention of the watercourse corridors and associated protection block no impacts on the aquatic habitat of the Carp River, Poole Creek or the realigned Hazeldean Tributary are anticipated. Stantec (2013) have designed the site using the “dual drainage” principle, whereby the minor (pipe) system is designed to convey the peak rate of runoff from the 5 year design storm and runoff from larger events is conveyed by both minor (pipe) and major (overland) channels, such as roadways and walkways, safely off site without impacting proposed or existing downstream properties. Major system and minor system flows from the proposed development site will be directed to the Kanata West SWM Pond # 5 in the northeast portion of the site. The stormwater management pond will provide enhanced quality treatment (80% removal) and quantity control up to the 10-year event (Stantec, 2013). The stormwater management pond will be designed to meet the target outflow hydrographs specified in the Carp River Model Calibration Validation Report prepared by Greenland Consulting, 2011 (Stantec, 2013). An interim pond will also be designed to control runoff from 50% of the site. The interim facility will be constructed prior to the completion of the Carp River Restoration and will, therefore, also provide enhanced quality treatment and post-to-pre quantity control up to the 100-year event (Stantec, 2013). Stantec (2013) concluded that based on a target rate of 50mm/yr for the 35ha site with an average imperviousness of 74%, on-site infiltration measures will be required to infiltrate approximately 13,130m³/year. A combination of rear-yard infiltration swales and other shallow infiltration galleries within the school and commercial blocks will be required to meet the infiltration requirements (Stantec, 2013).

The follow is a summary of the recommended mitigation measures:

1. To protect breeding birds, the tree or shrub removal should 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;
2. Pending recommendations from City forestry staff, consideration should be given to removing ash trees in poor condition along the west side of the Poole Creek corridor;
3. Trees and shrubs to be retained are to be protected with sturdy orange construction fencing at least 1.2 metres in height installed from the tree trunk a minimum distance of ten times the retained tree diameter. 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;

4. Plantings of native vegetation along the watercourse corridors and as part of the residential subdivision on a lot-by-lot basis are recommended to provide some natural environment and aesthetic features. Details for plantings along the watercourse blocks will be provided in a naturalization plan. Where plantings have died or are in poor condition along the Hazeldean corridor they should be replaced. To provide a natural appearance, trees and shrubs should be planted in a random, cluster fashion rather than in a grid system. Potential native species to plant are listed above. Sourcing native species from local seed sources is strongly recommended to ensure adaptability and longevity. An excellent way to achieve this objective is through transplanting of suitable species including the younger bur oak stems from the hedgerows;
5. The extent of exposed soils is to be kept to a minimum at all times. Re-vegetation of exposed, non-developed areas is to be achieved as soon as possible;

6. 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;
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 to maximize their function during construction;
9. Silt fencing is also required along all work areas. The fencing must be properly keyed in to filter runoff and maintained as required including repair of broken panels and removal of accumulated sediment;
10. 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,
11. 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 on-site woody vegetation not to be retained in 2015, outside of the breeding bird season. City of Ottawa staff (Forester – Planning) is to be contacted at least two business days prior to any tree removal so that staff have the opportunity to verify that the protective fencing has been properly constructed.

Agency Contact

Date	Name	Agency	Subjects
May 1, 2013	Matthew Hayley, other City of Ottawa staff	City of Ottawa	pre-consultation meeting
April 28, 2014	Myra Van Die (MVCA) and City of Ottawa staff	City of Ottawa and Mississippi Valley Conservation Authority	field meeting

A request for updated Species at Risk information has been submitted to the Kemptville District of the Ministry of Natural Resources.

Cumulative Effects

The Canadian Environmental Assessment Agency (CEAA) defines cumulative effects as...*“the effects on the environment caused by an action in combination with other past, present, and future human actions...”* They occur when two or more project-related environmental effects, or two or more independent projects, combine to produce an augmented effect. These cumulative effects may be positive or negative.

The significant natural heritage features on or adjacent to the site include the Carp River, Poole Creek and Hazeldean Tributary corridors. The Carp River and Poole Creek will be retained in their existing corridor and alignment. The Hazeldean Tributary was realigned several years ago and extensive planting has been undertaken in the corridor. The site is surrounded by existing developments within the urban area of the City of Ottawa, with additional residential developments to occur to the south of Hazeldean Road and to the northwest of the site, north of Maple Grove Road. With proper implementation of the mitigation measures described in this report it is anticipated that the construction and operation of the urban residential subdivision will not increase the potential for cumulative effects in the general landscape.

Conclusion

Nine-hundred and thirty-one residential units are proposed for this subdivision in the urban area of the City of Ottawa, along with commercial, school, stormwater management, pump station and park blocks. A corridor for the North-South Arterial and Transitway is along the west side of the site. Access to the site will be south from Maple Grove Road and north from the commercial developments on the north side of Hazeldean Road.

No significant woodlands; rare communities, flora or fauna; Species at Risk or significant wetlands were observed on or adjacent to the site. A significant valleyland is present along the Poole Creek corridor. The Carp River and Poole Creek corridors and associated valleylands will be retained in their existing alignment with the Hazeldean Tributary previously realigned as part of the commercial developments to the south. Grade raises and soil pre-stressing prevents tree retention on the site. The existing trees are in intermittent hedgerows and are generally non-desirable species such as ash, Manitoba maple, elm and poplar. It is recommended that the younger bur oaks be transplanted from the hedgerows to be removed to either the residential lots or open areas along the adjacent Poole Creek corridor. Plantings of native species with local seed sources should over time provide more vegetation cover and associated local wildlife habitat than is currently present on the development portion of the site.

It is important that other mitigation measures outlined in this updated EIS and TCR are properly implemented and maintained.

References

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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.

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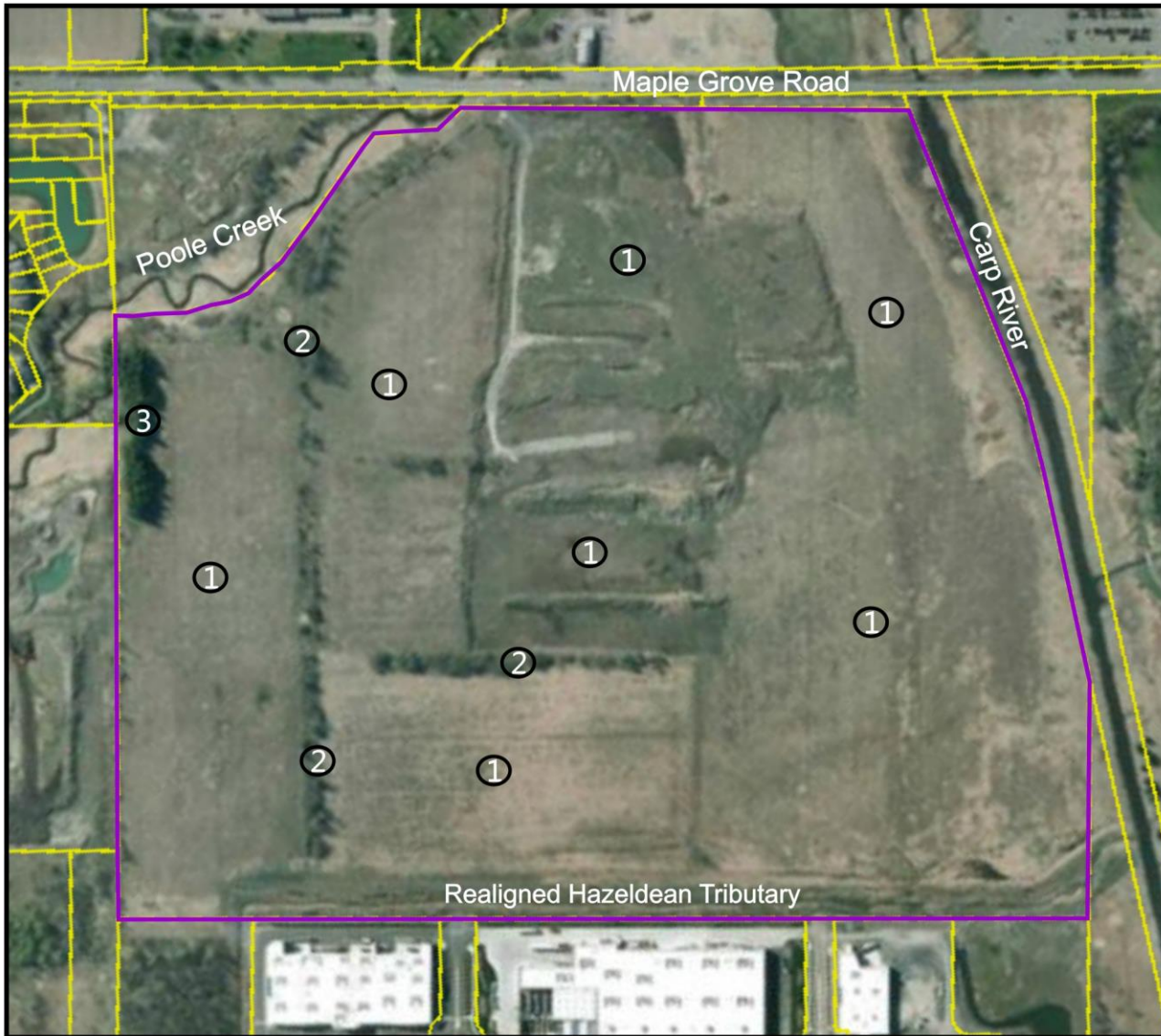
Please call if you have any questions on this updated report.

Yours Sincerely,
MUNCASTER ENVIRONMENTAL PLANNING INC.



Bernie Muncaster, M.Sc.
Principal

\richcraftkantpp2015



Legend



Vegetation Communities

- ① Cultural meadow
- ② Deciduous hedgerow
- ③ Coniferous hedgerow



Approx. Scale 1:5,200

2011 air photo from City of Ottawa website

Map 1

FILE: 03-38

August 22, 2013

Prepared for: **Richcraft Group of Companies**

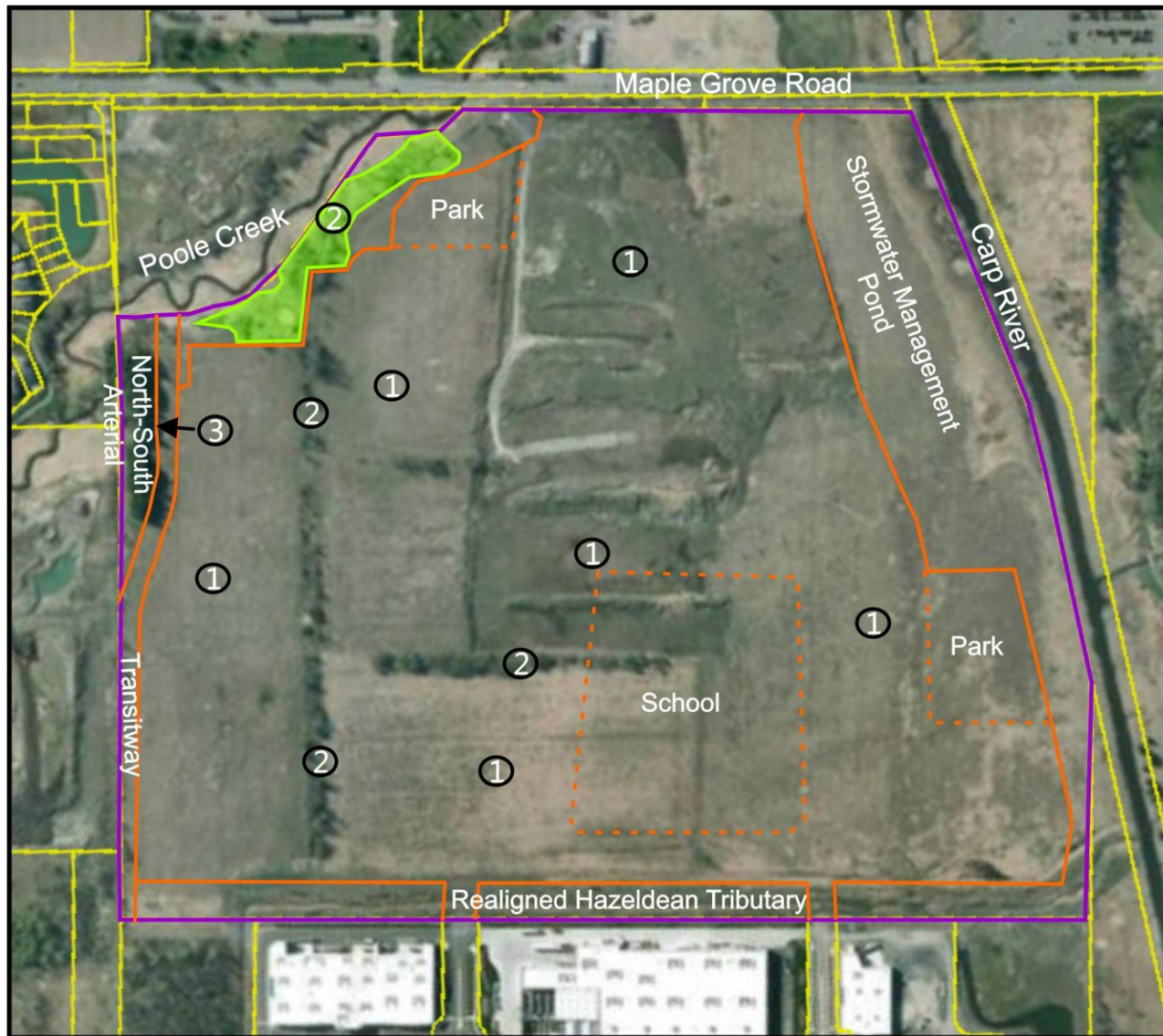
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Environmental
Planning Inc.

CURRENT VEGETATION




**1560, 1620 and 1636 Maple Grove Road,
Kanata, City of Ottawa**



Legend

-  Overall Site
-  Proposed Limit of Development
-  Belts of Woody Vegetation to be Retained

Vegetation Communities

-  Cultural meadow
-  Deciduous hedgerow
-  Coniferous hedgerow



Approx. Scale 1:5,200

2011 air photo from City of Ottawa website

Map 2

FILE: 03-38

August 21, 2013

Prepared for: **Richcraft Group of Companies**

Prepared by:



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Planning Inc.

PROPOSED CONSERVED VEGETATION

1560, 1620 and 1636 Maple Grove Road,
Kanata, City of Ottawa