

Environmental Impact Statement & Tree Conservation Report 3740 Jockvale Road, Ottawa, ON



March 2016 Prepared for Uniform Urban Developments

McKINLEY ENVIRONMENTAL SOLUTIONS

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3740 Jockvale Road – Environmental Impact Statement & Tree Conservation Report March 2016

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EXECUTIVE SUMMARY

McKinley Environmental Solutions (MES) was retained by Uniform Developments to prepare an Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for the proposed development of the property at 3740 Jockvale Road, Ottawa, Ontario (the Site). The EIS and TCR are presented as an integrated submission and should be read together.

The Site is approximately 7.4 acres in Size with 255 m of frontage on Jockvale Road. The Site is triangular in shape and is bounded on its northern side by Jockvale Road and by the Stonebridge Golf Club (the golf course) on its south, west and east sides. The current development concept would involve development of the majority of the Site to accommodate four (4) three storey condominium buildings with a total of approximately 56 condo flats and underground parking. The development would also include approximately 34 semi-detached bungalow Town Houses, 40 surface parking spaces, and a park block. To facilitate development, the existing house on the Site will be demolished. Stormwater servicing will be provided by an interim stormwater management pond in the golf course property to the south of the Site.

Currently the Site is occupied by highly disturbed habitats including a degraded Cultural Woodlot, a clearing within the woodlot with woodpiles and a small tin shed, a Cultural Meadow, and an existing house and yard. The development plan would result in the removal of the majority of the vegetation within the development area. Treed areas within the adjacent golf course property south, west and east of the Site are not within the development area and will not be impacted by the current undertaking. Treed areas on the adjacent golf course property will act as a visual barrier between the golf course and the development. The Cultural Woodlot is highly degraded and shows extensive evidence of infestation by Emerald Ash Borer. The treed area of the Site does not qualify as a Significant Woodlot under any of the assessment criteria. Given the highly degraded nature of the Cultural Woodlot, removal of woody vegetation is not considered a significant environmental impact.

There are no designated environmental features associated with the Site and no significant Species at Risk (SAR) concerns. Pending that the mitigation and avoidance measures outlined in this report are implemented appropriately, the proposed development is not anticipated to have a significant negative effect on the natural features and functions.



1.0 INTRODUCTION

1.1 Scoping the Environmental Impact Statement

This EIS was undertaken following the City of Ottawa's Environmental Impact Statement Guidelines. Following the City guidelines, the Environmental Impact Statement (EIS) includes the following:

- Documentation of existing natural features on and around the Site;
- Identification of potential environmental impacts of the project;
- Recommendations for ways to avoid and reduce any negative impacts; and
- Proposal of ways to enhance natural features and functions.

This EIS was prepared with guidance from the *Natural Heritage Reference Manual* (OMNRF 2005). The major objective of this EIS is to demonstrate that the proposed project will not negatively affect the significant features and functions of the study area, and that impacts will be minimized through mitigation measures.

1.2 Description of Undertaking

The current development concept would involve development of the majority of the Site to accommodate four (4) three storey condominium buildings with a total of approximately 56 condo flats and underground parking. The development would also include approximately 34 semi-detached bungalow Town Houses, 40 surface parking spaces, and a park block. To facilitate development, the existing house on the Site will be demolished. Stormwater servicing will be provided by an interim stormwater management pond in the golf course property to the south of the Site.

1.3 Agency Consultation

Consultation for this development proposal has been undertaken with the City of Ottawa and the Ontario Ministry of Natural Resources and Forestry (OMNRF). A pre-consultation meeting was held by Birgit Isernhagen of the City of Ottawa on August 18th, 2015. An information and records request response was received from the OMNRF (Refer to Appendix D). Consultation with the Rideau Valley Conservation Authority (RVCA) was not required as no regulated wetlands or watercourses exist in the vicinity of the Site.



Unit Count

Bungalow Semis	34
Condo Flats	56
Total	90

Surface Condo Parking 4

Stonebridge Golf Club





FIGURE 1: VEGETATION MAPPING 3740 Jockvale Road, Ottawa, Ontario

Environmental Impact Statement & Tree Conservation Report



2.0 METHODOLOGY

The presence of natural heritage features was assessed by completing the following:

- Site surveys to describe vegetative communities;
- Site surveys to assess the potential for habitat of species at risk (SAR), wetlands, fish habitat, significant wildlife habitat features, and other significant habitat features to be present;
- Examination of aerial imagery to evaluate landscape features;
- Natural Heritage Information Center (NHIC) database review;
- Obtainment of an information and records request response from the OMNRF;
- Review of Official Plan designations; and
- Review of background geotechnical report.

Refer to Appendix A for a discussion of tree inventory methods employed in the TCR. Site visits to identify plant species, wildlife, and breeding birds were undertaken by Dr. McKinley on August 24th and September 3rd, 2015 and on February 22nd, 2016. Weather conditions during the August and September Site visits included temperatures over 20°C and sunny conditions. The February 22nd, 2016 Site visit was conducted during winter conditions with snow cover.

Vegetative communities on Site were classified following the Ecological Land Classification (ELC) methodology (OMNRF 1998; Lee 2008). This included a three (3) season plant inventory to document the occurrence of plants, create a master plant list, as well as identify and delineate plant communities according to the ELC methodology. Breeding bird surveys were conducted during the August and September Site visits following the OMNRF *Wildlife Monitoring Programs and Inventory Techniques - Technical Manual* (Konze & McLaren 1998) Breeding Bird Survey (BBS) method. Any other wildlife species noted during this survey were recorded.



3.0 EXISTING CONDITIONS

3.1 Geological Conditions

The Site has a gradual slope from north to southeast. Elevations along Jockvale Road are approximately 107 m ASL in the northwestern corner and 103 m ASL in the northeastern corner of the Site. Paterson Group (2016) note that subsurface conditions consisted of a thin layer of topsoil overlaying a dense glacial till. The glacial till consisted of a brown silty sand and gravel, cobbles, boulders, and trace clay. The Site is located in an area where bedrock consists of dolostone of the Oxford formation, with overburden thickness estimated at 15 to 25 m (Paterson Group 2016). Long term groundwater depth was estimated at 4 to 5 m.

3.2 Vegetative Communities

Most tree species occurring at the Site are deciduous. Additional information on vegetative communities including photographs and tree sizes are included in the TCR (Appendix A). Refer to Appendix B for the Master Plant List.

Figure 1 shows vegetative community mapping. Open areas within the Site include the Cultural Meadow, the yard around the existing house, and a clearing in the northern part of the Cultural Woodlot where there is a small tin shed and woodpiles. These open areas account for approximately 50% of the Site. The Cultural Meadow is occupied by sparse woody vegetation. Low growing shrubs include Common Buckthorn, Wild Red Raspberry, and Domestic Apple. Isolated White Ash, Manitoba Maple, Staghorn Sumac, American Elm, and Trembling Aspen up to 20 cm dbh are also present. Groundcover is dominated by forb species including Canada Goldenrod and New England Aster. Common Ragweed, Common Burdock, Yellow Rocket, Lamb's Quarter's Pigweed, Chickory, Bull Thistle, Queen Anne's Lace, Ox-eye Daisy, Common Plantain, Bladder Campion, Dandelion, Red and White Clover, and Common Mullein are also present. The Cultural Meadow is a highly disturbed environment with a high proportion of weedy invasive species.

The remaining approximately 50% of the Site is occupied by a highly disturbed Cultural Woodlot. Within the Cultural Woodlot American Elm and White Ash are co-dominant, each accounting for approximately 40% of stems. Manitoba Maple and Domestic Apple are well represented, each accounting for approximately 10% of stems. There are a few older stems of these species up to 45 cm diameter at breast height (dbh) in size, primarily in the vicinity of the small patch of older trees in the northern part of the Site (as shown in the 1976 historic air photo) (Refer to Appendix A). Throughout the Site greater than 90% of stems are under 25 cm dbh in size. A large proportion of stems in the eastern part of the Cultural Woodlot are very recent regrowth, under 10 cm dbh in size.



Sugar Maple, Black Cherry, Trembling Aspen, Eastern White Pine, Bur Oak, and Staghorn Sumac are also present within the Cultural Woodlot.

The Cultural Woodlot is highly fragmented with many small openings. These openings have been created by a mix of disturbance factors including wind throw and dieback of large American Elms (likely due to Dutch Elm Disease), as well as dieback of large White Ash (due to Emerald Ash Borer). Most of the large American Elm and White Ash are in very poor condition and are either dead or visibly declining. Damage to the majority of large trees within the Site has left the woodlot highly degraded. Extensive evidence of infestation by Emerald Ash Borer was noted (Refer to Appendix A). As discussed in the TCR, the Cultural Woodlot does not qualify as a Significant Woodlot under any of the assessment criteria (Refer to Appendix A).

The openings in the Cultural Woodlot are dominated primarily by shrubs including Red Osier Dogwood, Common Buckthorn, and Riverbank Grape, as well as forbs including Canada Goldenrod and New England Aster. Within the closed portions of the Cultural Woodlot, groundcover includes White Snakeroot, Bittersweet Nightshade, and Wild Cucumber. Shrub cover within the closed portions of the Cultural Woodlot includes Riverbank Grape and Common Buckthorn. A nearly pure stand of young Trembling Aspen is present south of the existing house. Sugar Maple and Bur Oak up to approximately 30 cm dbh are increasingly common southwest of the Site in the adjacent treed area on the golf course property. No Butternut Trees were noted during the Site visits.

3.3 Wetlands and Watercourses

There are no significant wetland or watercourse features within the Site. As described above, the Site is entirely occupied by terrestrial habitats. The Site is well drained and does not show wet ground conditions anywhere within the Site. There are therefore no wetland concerns and no fish habitat concerns within the Site. There are small artificial pond features within the adjacent golf course which have been created for landscaping purposes. This includes a small patch of cattails adjacent to the southwest corner of the Site. This patch of cattails is approximately 15 m across and is too small and isolated to provide any significant wetland functionality. There is a drainage swale along the eastern Site boundary, but this is predominantly overgrown and functions as a dry swale. The Rideau River is approximately 800 m east of the Site and is hence too distant to be likely to be impacted by the undertaking.

3.4 Adjacent Lands and Significant Features

There are no designated natural features within the vicinity of the Site. The Site is not shown as part of the City of Ottawa's Natural Heritage System Overlay (City of Ottawa 2014). The Site is bounded by Jockvale Road on its northern side and by the golf course on its west, east, and south sides. There



are therefore no adjacent natural features connected to the Site. As discussed in the TCR, the Cultural Woodlot does not qualify as a Significant Woodlot under any of the assessment criteria (Refer to Appendix A).

3.5 Wildlife and Significant Wildlife Habitat

Wildlife and bird species noted during surveying are listed in Appendix C. Twenty one (21) species of birds have been noted at the Site. This includes several common species of migratory breeding birds. Eastern Grey Squirrel and Eastern Cottontail Rabbit were also noted at the Site. All of these species are common inhabitants of urban and suburban areas. No amphibian or reptile species were noted within the Site. None of these species are considered regionally rare, and none are listed as species at risk (SAR) (SARO 2016). No stick nests, amphibian breeding habitat, migratory bird stopover points, heron rookeries, reptile hibernacula, caves, bedrock fissures, wetlands, or any other features which may qualify as Significant Wildlife Habitat were noted (OMNRF 2014b).

3.6 Species at Risk

The Natural History Information Center (NHIC) records for the nine (9) grids that include and surround the Site were reviewed. This included an area 3 km x 3 km in size and all published species at risk (SAR) records were noted. An information and records request response was received from the OMNRF identifying two (2) SAR as potentially being present (Appendix D). The following SAR were identified by NHIC and OMNRF as potentially occurring within the vicinity:

- Greater Redhorse Special Concern (Identified by NHIC)
- Blanding's Turtle Threatened (Identified by NHIC and OMNRF)
- Snapping Turtle Special Concern (Identified by NHIC and OMNRF)
- Eastern Meadowlark Threatened (Identified by NHIC)

Greater Redhorse is a fish that would be associated with the nearby Rideau River (SARO 2016). There is no fish habitat associated with the Site, and so this species would not occur within the development area. Snapping Turtle and Blanding's Turtle are associated with larger wetlands (OMNRF 2014a). There are no natural wetlands or watercourses within the vicinity of the Site and so it is highly unlikely that either of these species would be present. As noted in Section 4.4, wildlife exclusion fencing will be placed around the development to mitigate the potential that turtles could enter the work area during construction.

Eastern Meadowlark are associated with grasslands, hayfields, and meadows (SARO 2016). The Cultural Meadow within the Site is too small and too heavily dominated by forbs (Canada



Goldenrod) to provide potential habitat for this species. No potentially suitable habitat is present in the vicinity, and therefore this species should not be a concern.

Butternuts Trees (endangered) are found in many woodlots throughout the Ottawa area. No Butternuts were noted during the Site visit. The historical clearing of the Site during farming likely removed any Butternut Trees which may have occurred in the area naturally. The absence of any retained seed stock in the vicinity would likely have prevented this species from recolonizing the Site following the end of farming. The history of tree clearing on Site is discussed in the TCR (Appendix A).

3.7 Linkages

As noted previously, the Site is bounded by developed areas on all sides. Jockvale Road is present along the northern Site boundary, with existing developed areas on the opposite side of the road. The golf course property is present on the south, west and east boundaries of the Site. The Site therefore does not connect to any other natural features and does not provide a linkage function.



4.0 DESCRIPTION OF ENVIRONMENTAL IMPACTS AND MITIGATION

4.1 Terrestrial Habitat and Tree Removal

As shown in the Concept Plan, the development would result in the removal of the majority of the vegetation within the development area. Treed areas in the adjacent golf course property are not owned by Uniform Developments and will not be impacted by the proposed undertaking. Treed areas within the adjacent golf course property south, west and east of the Site, will act as a visual barrier between the golf course and the development. For mitigation measures to protect retained trees during tree removal, refer to Section 4.0 of the TCR (Appendix A).

In order to mitigate the loss of woody vegetation from Site clearing, trees and shrubs will be replanted selectively between lots, at the back and front of lots, and in community amenity areas. The Concept Plan shows potential tree and shrub planting locations. The planting locations and specific planting requirements will be confirmed by a detailed Landscaping Plan. Plantings should emphasize the use of native trees and shrubs, which may include those identified in Appendix B. Planting of Ash trees should be avoided due to the high likelihood that any planted Ash trees will become infested with Emerald Ash Borer.

4.2 Wetlands and Watercourses

As noted previously, there are no surface water features associated with the Site. Stormwater servicing will be provided by an interim stormwater management pond in the golf course property to the south of the Site.

4.2.1 Sediment and Erosion Controls

During construction, existing conveyance systems can be exposed to significant sediment loadings. Although construction is only a temporary situation, a sediment and erosion control plan will be required to ensure the existing conveyance systems are not negatively impacted by sediment and erosion.

The sediment and erosion control plan will include the following:

- Groundwater in trenches (if present) will be pumped into a filter mechanism, such as a trap made up of geotextile filters and straw, prior to release to the environment;
- Bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer (e.g. along Jockvale Road). These bulkheads will trap any sediment carrying flows, thus preventing any construction-related contamination of existing sewers;
- Seepage barriers will be constructed in any temporary drainage ditches;



- Construction vehicles will leave the site at designated locations. Exits will consist of a bed of granular material, in order to minimize the tracking of mud off-site;
- Any stockpiled material will be properly managed to prevent those materials from entering the sewer systems; and
- Until rear yards are sodded or until streets are asphalted and curbed, all catch basins and manholes will be constructed with a geotextile filter fabric located between the structure frame and cover.

As noted in Section 4.4 (below), toed in silt fencing will be installed around the south, west, and east sides of the development perimeter as temporary wildlife exclusion fencing. This silt fencing will also help to mitigate sediment and erosion impacts, as it will separate the development from surrounding retained treed areas of the golf course.

4.3 Adjacent Lands and Significant Features

As discussed previously, there are no significant features to protect in the vicinity of the Site. The retained treed areas within the golf course (adjacent property) on the east, west, and south sides of the Site will be protected by the tree protection measures outlined in Section 4.0 of the TCR (Appendix A). As noted above, silt fencing will be installed adjacent to the golf course to ensure sediment and erosion impacts do not affect the adjacent property during construction.

4.4 Wildlife and Species at Risk

Potential impacts on wildlife at the construction stage may include the following:

- Removal of habitat features and displacement of wildlife from existing habitat areas;
- Potential injury or mortality of adults in terrestrial habitats due to vehicle impacts, during excavations, or during land clearing; and
- Interruption of movement to essential foraging, breeding, or overwintering areas due to site hoarding or sediment and erosion control fencing.

As noted previously, there are no SAR which are known to occur within the Site and impacts to SAR are considered unlikely. The proposed temporary wildlife exclusion fencing will mitigate the risk that wildlife would enter the work area at the construction stage (see below).

Mitigation for wildlife during tree clearing is summarized here. These recommendations include provisions from the City of Ottawa (2015) *Protocol for Wildlife Protection During Construction*:

• **Pre-Stressing:** Prior to tree removal, the area should be pre-stressed by traversing the Site with a loud noise such as an excavator horn. This will encourage wildlife to leave the area;



- **Tree Clearing Direction:** Tree clearing should proceed from Jockvale Road towards the west and south. This will encourage wildlife to leave the work area and move in the direction of the retained trees within the adjacent golf course property. During tree clearing, a path of retained habitat connecting to the treed areas of the adjacent golf course property must be maintained at all times, in order to provide wildlife with a corridor to escape the work area;
- **Temporary Fencing:** Silt fencing will be arranged to also function as temporary wildlife exclusion fencing to reduce the likelihood of turtles, frogs, mammals and other wildlife from entering the work area. Toed in silt fencing should be installed at the edge of development along the east, west, and south sides of the Site. Silt fencing should be put in place prior to the turtle active season (April to end of October);
- **Inspections:** The fencing and work area will be inspected by a designated staff member prior to commencement of work to ensure that the arrangement will reduce the likelihood of wildlife entering the work area. Any wildlife or significant wildlife habitat features that are encountered will be identified and marked;
- Sweeps: Prior to vegetation clearing, preconstruction sweeps of vegetated areas will be undertaken to ensure wildlife are not present. Construction staff will be required to review the mitigation measures included in this EIS and the TCR (Appendix A). A designated staff member will be required to conduct daily sweeps each morning prior to commencement of work to ensure wildlife have not entered the work area. The designated staff member will also periodically inspect the temporary exclusion fencing to ensure there are no gaps or holes in the fence;
- **SAR Encounters:** If SAR are encountered in the work area, construction in the vicinity must be stopped immediately and measures must be taken to ensure the SAR is not harmed. The project biologist and the OMNRF must be contacted to discuss how to proceed prior to recommencement of work;
- General Provisions: General provisions for Site management include the following:
 - o Do not harm, feed, or unnecessarily harass wildlife;
 - Drive slowly and avoid hitting wildlife;
 - Keep Site tidy and free of garbage and food wastes. Secure all garbage in appropriate sealed containers;
 - Ensure proper Site drainage so that standing water does not accumulate on Site.
 This will reduce the likelihood that turtles and other wildlife may enter the Site;
 - Any stockpiles should be properly secured with silt fencing to prevent wildlife from accessing areas of loose fill; and
- **Timing Windows:** Vegetation clearing and site preparation will be undertaken outside of the core migratory bird breeding season of April 15th to August 15th each year in order to avoid impacting the nests of migratory birds.



5.0 CUMULATIVE EFFECTS

Cumulative effects were considered in the design of the mitigation measures outlined in Section 4.0. Because the Site is highly degraded and has been previously cleared for agriculture within the last 40 years, the development of the Site will not contribute significantly to the cumulative loss of natural habitats or forest cover. Refer to the attached TCR (Appendix A) for further information.

6.0 MONITORING

Construction stage monitoring requirements are outlined in Section 4.4 (above). Monitoring will include pre-construction sweeps to inspect fencing and vegetation prior to clearing, and daily sweeps by construction staff. No post construction monitoring is required.



7.0 CLOSURE

We trust that the above information is sufficient; should you have any questions or require further information, please do not hesitate to contact the undersigned, at your convenience.

Sincerely,



Dr. Andrew McKinley, EP, RP Bio. Senior Biologist, McKinley Environmental Solutions



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8.0 REFERENCES

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APPENDIX A

Tree Conservation Report



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1.0 INTRODUCTION AND BACKGROUND

This Tree Conservation Report (TCR) has been prepared to support the Environmental Impact Study (EIS) for the proposed development of the property at 3740 Jockvale Road, Ottawa, Ontario (the Site). This TCR is presented as an appendix to the EIS study and should be read in conjunction with the EIS (attached). Refer to the EIS for the associated vegetation mapping (Figure 1) and the Concept Plan.

The Site is approximately 7.4 acres in Size with 255 m of frontage on Jockvale Road. The Site is triangular in shape and is bounded on its northern side by Jockvale Road and by the Stonebridge Golf Club (the golf course) on its south, west, and east sides. Currently the area is occupied by highly disturbed habitats including a Cultural Woodlot, a clearing within the woodlot with woodpiles and a small tin shed, a Cultural Meadow, and an existing house and yard.

The current development concept would involve development of the majority of the Site to accommodate four (4) three storey condominium buildings with a total of approximately 56 condo flats and underground parking. The development would also include approximately 34 semi-detached bungalow Town Houses, 40 surface parking spaces, and a park block. The development plan would result in the removal of the majority of the vegetation within the development area. Treed areas within the adjacent golf course property south, west and east of the Site will act as a visual barrier between the golf course and the development.

1.1 Definitions

The following terms are used throughout this report:

- Diameter at Breast Height (dbh) means the measurement of the trunk of a tree at a height of 120 cm above grade for trees 15 cm diameter or greater, and at a height of 30 cm above grade for trees less than 15 cm diameter.
- The Critical Root Zone (CRZ) is 10 centimeters from the trunk of the tree for every centimeter of trunk dbh. The CRZ is calculated as dbh x 10 cm.

2.0 TREE INVENTORY METHODS

Site visits to inventory trees and identify plant species within the Site were conducted by Dr. McKinley on August 24th and September 3rd, 2015 and on February 22nd, 2016. Weather conditions during the August and September Site visits included temperatures over 20°C and sunny conditions. The February 22nd, 2016 Site visit was conducted during winter conditions with snow cover. During the February 2016 Site visit tree size distribution measurements were taken. TCR plots were disbursed



equally throughout the development Site to attain accurate representative tree coverage. Plots were measured 5 m by 10 m to give a total survey area of 50 m² (for each plot) and were assessed for the presence of tree specimens with 10 cm dbh or greater. Plots were distributed evenly within the treed portion of the proposed development area to achieve the desired density of 1 plot per hectare. These plots were then scaled up to estimate the density per hectare of each species reaching 10 cm dbh or greater. Trees within each plot that were 10 cm dbh or greater were measured with the use of a D-tape which is a calibrated diameter at breast height tape. Measurements for each of the qualifying trees within the plot were taken 1.2 m from the ground surface and recorded. The tree inventory results are subdivided into different forest communities according to the ELC community type that the tree survey plot occurred within. The vegetation mapping is shown in Figure 1 of the EIS (attached).

3.0 TREE INVENTORY

3.1 Site History

As shown in Figure 1 (Refer to the attached EIS), currently approximately 50% of the Site consists of predominantly open areas with sparse tree cover. Most of the Site has been historically cleared for farming within the last 40 years. Historic air photos show that in 1976 there was a small isolated stand of trees in the northern part of the Site, and that the remainder of the Site and surrounding areas was cleared for agricultural usage (Photograph 1). By 1991, the Site was no longer used intensively for agriculture, and limited regeneration was occurring primarily in the northern and western portions of the Site (Photograph 2). These historic air photos indicate that the majority of tree cover within the Site is younger than approximately 25 to 35 years of age.





Photograph 1: Historic Air Photo from 1976. Property boundary shown in yellow. Note majority of Site and surrounding areas were cleared and utilized for agricultural purposes in 1976. Small patch of trees shown in northern part of Site (Photos from City of Ottawa 2016).



Photograph 2: Historic Air Photo from 1991. Property boundary shown in yellow. Note area that is currently shown as Cultural Woodland was predominantly cleared in 1991 with limited regeneration at that time (Photos from City of Ottawa 2016).



3.2 Tree and Vegetation Composition

Most tree species occurring at the Site are deciduous. A list of tree species observed in sampling plots is presented in Table A (below) and a full plant list is included in Appendix B. Open areas include the Cultural Meadow, the yard around the existing house, and a clearing in the northern part of the Cultural Woodlot where there is a small tin shed and woodpiles. These open areas account for approximately 50% of the Site. The Cultural Meadow is occupied by sparse woody vegetation. Low growing shrubs include Common Buckthorn, Wild Red Raspberry, and Domestic Apple. Isolated White Ash, Manitoba Maple, Staghorn Sumac, American Elm, and Trembling Aspen up to 20 cm dbh are also present. Groundcover is dominated by forb species including Canada Goldenrod and New England Aster. Common Ragweed, Common Burdock, Yellow Rocket, Lamb's Quarter's Pigweed, Chickory, Bull Thistle, Queen Anne's Lace, Ox-eye Daisy, Common Plantain, Bladder Campion, Dandelion, Red and White Clover, and Common Mullein are also present. The Cultural Meadow is a highly disturbed environment with a high proportion of weedy invasive species.

The remaining approximately 50% of the Site is occupied by a highly disturbed Cultural Woodlot. Within the Cultural Woodlot, American Elm and White Ash are co-dominant, each accounting for approximately 40% of stems (Refer to Table A). Manitoba Maple and Domestic Apple are well represented, each accounting for approximately 10% of stems. There are a few older stems of these species up to 45 cm dbh in size, primarily in the vicinity of the small patch of older trees in the northern part of the Site (as shown in the 1976 historic air photo) (Refer to Photograph 1). Throughout the Site, greater than 90% of stems are under 25 cm dbh in size. A large proportion of stems in the eastern part of the Cultural Woodlot are very recent regrowth, under 10 cm dbh in size. Sugar Maple, Black Cherry, Trembling Aspen, Eastern White Pine, Bur Oak, and Staghorn Sumac are present within the Cultural Woodlot but do not appear in Table A as they were not represented in the sampling plots.

The Cultural Woodlot is highly fragmented with many small openings. These openings have been created by a mix of disturbance factors including wind throw and dieback of large American Elms (likely due to Dutch Elm Disease), as well as dieback of large White Ash (due to Emerald Ash Borer). Most of the large American Elm and White Ash are in very poor condition and are either dead or visibly declining. Damage to the majority of large trees within the Site has left the woodlot highly degraded. Extensive evidence of infestation by Emerald Ash Borer was noted, as shown in Photographs 10 and 11 (below).

The openings in the Cultural Woodlot are dominated primarily by shrubs including Red Osier Dogwood, Common Buckthorn, and Riverbank Grape, as well as forbs including Canada Goldenrod and New England Aster. Within the closed portions of the Cultural Woodlot, groundcover includes



White Snakeroot, Bittersweet Nightshade, and Wild Cucumber. Shrub cover within the closed portions of the Cultural Woodlot includes Riverbank Grape and Common Buckthorn. A nearly pure stand of young Trembling Aspen is present south of the existing house. Sugar Maple and Bur Oak up to approximately 30 cm dbh are increasingly common southwest of the Site in the adjacent treed area on the golf course property. No Butternut Trees were noted during the Site visits.



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Table A: Inventory of Trees Identified on Site

Cultural Woodlot					
Common Name	Scientific Name	Average DBH	DBH Standard Deviation	% Occupancy	Estimated Stems/Ha
White Ash	Fraxinus americana	18	6	41%	867
American Elm	Ulmus americana	12	4	41%	867
Manitoba Maple	Acer negundo	8	3	9%	200
Domestic Apple	Malus sylvestris	7	3	9%	200



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Photograph 3: Looking southeast at northern edge of Site. Jockvale Road in foreground, Site in background (September 3rd, 2015).



Photograph 4: Cleared area in northern part of Site – looking east at Cultural Meadow (September 3rd, 2015).



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Photograph 5: Southwest corner of Site, looking north at Cultural Meadow with Cultural Woodlot in background (September 3rd, 2015).



Photograph 6: Cultural Meadow in southeastern portion of the Site, looking west (September 3rd, 2015).



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Photograph 7: Cultural Woodlot in winter, note low density of large stems (February 22nd, 2016).



Photograph 8: Cultural Woodlot in winter, note low density of large stems (February 22nd, 2016).



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Photograph 9: Clearing in northern part of Site with woodpiles. Note isolated larger trees in small patch in northern part of Site (February 22nd, 2016).

Photograph 10: White Ash with extensive damage from Emerald Ash Borer (February 22nd, 2016).

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Photograph 11: White Ash with extensive damage from Emerald Ash Borer (February 22nd, 2016).

3.3 Significant Woodlot Assessment

The City of Ottawa Natural Heritage System Overlay does not identify the Cultural Woodlot as part of a Significant Woodlot. The following is a summary of the Significant Woodlot criteria for the Cultural Woodlot (OMNRF 2005):

- Woodland Size Criteria The Site is within the Jock River Subwatershed, which has approximately 27% forest cover (RVCA 2012). In planning areas with 15-30% forest cover, woodlots 20 ha or larger would qualify under the size criteria. The total size of the Cultural Woodlot, including both treed areas within the Site and connected areas in the adjacent golf course property, is less than 2.5 ha in size. The Cultural Woodlot is hence too small to qualify under the woodland size criteria.
- Interior Forest Habitat Forested areas 100 m from an opening that is 20 m or greater in size are considered interior forest habitat. The Cultural Woodlot is surrounded on all sides by open areas (the golf course and Jockvale Road) and is less than 100 m wide in most areas. There is no part of the Cultural Woodlot which is more than 100 m from an existing open area. There is therefore no interior forest habitat within the Cultural Woodlot.
- **Proximity to Other Woodlands/Habitats** Woodlots within 30 m of another significant feature meet this criteria. As discussed in the EIS report (attached), there are no significant features within 30 m of the Site. The Rideau River is the nearest significant natural feature and is approximately 800 m east of the Site.

- Linkages As noted previously, the Site is bounded by developed areas on all sides. Jockvale Road is present along the northern Site boundary, with existing developed areas on the opposite side of the road. The golf course property is present on the south, west and east boundaries of the Site. The Site therefore does not connect to any other natural features and does not provide a linkage function.
- Water Protection Woodlots that are 50 m from the top of valley, sensitive groundwater discharge areas, sensitive recharge areas, sensitive headwater areas, or which contain fish habitat, are considered to provide a water protection function. As noted in the EIS report, there are no watercourses or wetlands within the Site. There is no indication that the Cultural Woodlot provides a water protection function.
- Woodlot Diversity The plant diversity of the woodlot is very low compared to other forest areas. As shown in Appendix B, no regionally rare forest plant species were noted. The Cultural Woodlot as a whole is highly degraded with a high proportion of invasive species.
- Uncommon Characteristics Uncommon forest types, environmental features, or plant communities may contribute to woodlot significance. Also, forest stands older than 100 years would be considered significant. The age of the Cultural Woodlot is estimated to be approximately 25 to 35 years. The Cultural Woodlot is comprised of a common forest type that is found frequently in recent regrowth areas. The Cultural Woodlot does not have any uncommon characteristics.
- **Economic and Social** Woodlots which contribute special economic or social functions can qualify under this criteria. No significant economic or social functions are contributed by the forested area within the Site. The Cultural Woodlot is located on private property and is highly degraded, and does not provide any significant economic or social benefit.

Available evidence suggests that the Cultural Woodlot does not qualify as a Significant Woodlot under any of the assessment criteria.

4.0 VEGETATION REMOVAL AND TREE MITIGATION

As shown in the Concept Plan (Refer to the attached EIS), the development would result in the removal of the majority of the vegetation within the Site. Treed areas in the adjacent golf course property are not owned by Uniform Developments and will not be impacted by the proposed undertaking. Treed areas within the adjacent golf course property south, west and east of the Site, will act as a visual barrier between the golf course and the development.

For mitigation measures related to Wildlife and Species at Risk during tree clearing, refer to the attached EIS. In order to protect trees in adjacent treed areas occurring south, west and east of the

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development Site (e.g. trees on the adjacent golf course property), the following mitigation measures will be implemented where trees occur close to construction activities:

- Soil compaction, vegetation damage, intrusion of construction equipment and other potential impacts on the core of the root system of trees adjacent to the edge of the Site will be avoided by restricting grading and other site alteration activities to the Site. This will be achieved by providing construction fencing or suitable boundary definition to clearly mark the boundaries between the edge of the Site and adjacent properties (where required) during each phase of tree clearing and construction; and
- If off-site vegetation damage occurs, an arborist should review any damage to determine the best course of action to restore the original vegetative functions.

Tree mitigation measures have been proposed to help protect and preserve trees around the proposed development. Trees to be retained adjacent to the tree clearing area should be protected by the following tree preservation measures:

- Mark the edge of the tree clearing area to ensure only designated trees are removed. Protect the critical root zone (CRZ) of retained trees, where the CRZ is established as being 10 cm from the trunk of a tree for every centimeter of trunk dbh. The CRZ is calculated as dbh x 10 cm;
- When trees to be removed overlap with the CRZ of trees to be retained, cut roots at the edge of the CRZ and grind down stumps after tree removal. Do not pull out stumps. Ensure there is not root pulling or disturbance of the ground within the CRZ;
- If roots must be cut, roots 20 mm or larger should be cut at right angles with clean, sharp horticultural tools without tearing, crushing, or pulling;
- Do not place any material or equipment within the CRZ of any tree;
- Do not attach any signs, notices, or posters to any tree;
- Do not damage the root system, trunk, or branches of any tree; and
- Ensure that exhaust fumes from all equipment are directed away from any tree canopy.

5.0 REPLANTING

In order to mitigate the loss of woody vegetation from Site clearing, trees and shrubs will be replanted selectively between lots, at the back and front of lots, and in community amenity areas. The Concept Plan shows potential tree and shrub planting locations. The planting locations and specific planting requirements will be confirmed by a detailed Landscaping Plan. Plantings should emphasize the use of native trees and shrubs, which may include those identified in Appendix B. Planting of Ash trees should be avoided due to the high likelihood that any planted Ash trees will become infested with Emerald Ash Borer.

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6.0 CLOSURE

We trust that the above information is sufficient; should you have any questions or require further information, please do not hesitate to contact the undersigned, at your convenience.

Sincerely,

Dr. Andrew McKinley, EP, RP Bio. Senior Biologist, McKinley Environmental Solutions

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7.0 REFERENCES

City of Ottawa (2014) Natural Heritage System Overlay (West). Official Plan Schedule L3.

City of Ottawa (2016) Geo-Ottawa Municipal Mapping Site. Retrieved February 24, 2016 at http://maps.ottawa.ca/geoottawa/

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2005) OMNRF Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005, Second Edition.

Rideau Valley Conservation Authority (RVCA) (2012) Jock River Subwatershed Report 2010.

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APPENDIX B

Master Plant List

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TABLE A: VEGETATION LIST				
Common Name	Scientific Name	Provincial S rank	Brunton Significance Ranking for the City of Ottawa (Brunton, 2005)	Vegetation Type
Common Cattail	Typha latifolia	S5	Common	Aquatic
White Snakeroot	Ageratina altissima	S5	Common	Herbaceous
Common Ragweed	Ambrosia artemisiifolia	S5	Common	Herbaceous
Common Burdock	Arctium minus	SNA	Common	Herbaceous
Yellow Rocket	Barbarea vulgaris	SNA	Common	Herbaceous
Lamb's Quarters Pigweed	Chenopodium album	SNA	Common	Herbaceous
Chickory	Cichorium intybus	S5	Common	Herbaceous
Bull Thistle	Cirsium vulgare	SNA	Common	Herbaceous
Queen Anne's Lace	Daucus carota	SNA	Common	Herbaceous
Ox-eye Daisy	Leucanthemum vulgare	SNA	Common	Herbaceous
Common Plantain	Plantago major	S5	Common	Herbaceous
Bladder Campion	Silene vulgaris	SNA	Common	Herbaceous
Bittersweet Nightshade	Solanum dulcamara	SNA	Common	Herbaceous
Canada Goldenrod	Solidago canadensis	S5	Common	Herbaceous
New England Aster	Symphyotrichum novae-angliae	S5	Common	Herbaceous
Dandelion	Taraxacum officinale	SNA	Common	Herbaceous
Red Clover	Trifolium pratense	SNA	Common	Herbaceous
White Clover	Trifolium repens	SNA	Common	Herbaceous
Common Mullein	Verbascum thapsus	SNA	Common	Herbaceous
Red Osier Dogwood	Cornus sericea (stolonifesa)	S5	Common	Shrub
Common Buckthorn	Rhamnus cathartica	SNA	Common (aggressive invasive)	Shrub
Wild Red Raspberry	Rubus idaeus	S5	Common	Shrub
Manitoba Maple	Acer negundo	S5	Common	Tree
Sugar Maple	Acer saccharum	S5	Common	Tree

White Ash	Fraxinus americana	S5	Common	Tree
Domestic Apple	Malus sylvestris	n/a	Common	Tree
Eastern White Pine	Pinus strobus	S5	Common	Tree
White Poplar	Populus alba	SNA	Common	Tree
Trembling Aspen	Populus tremuloides	S5	Common	Tree
Black Cherry	Prunus serotina	S5	Common	Tree
Bur Oak	Quercus macrocarpa	S5	Common	Tree
Staghorn Sumac	Rhus hirta	S5	Common	Tree
American Basswood	Tilia americana	S5	Common	Tree
American or White Elm	Ulmus americana	S5	Common	Tree
Wild Cucumber	Echinocystis lobata	S5	Common	Vine
Riverbank Grape	Vitis riparia	S5	Common	Vine

Provincial ranks (assigned by NHIC)

S5 = Very common within the province with > 1000 occurences, populations or records

S4 = Common within the province with 21 - 1000 occurences, populations or records

S3 = Rare within the province with 6 - 20 occurences, populations or records

SNA = Ranking not available

SE5 = Very common exotic with > 1000 occurences, populations or records within the province

S? = Unranked, or if followed by a ranking, temporarily assigned (eg. S4?)

APPENDIX C

Bird and Wildlife Sightings

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TABLE B: BIRDS			
Common Name	Scientific Name		
Northern Cardinal	Cardinalis cardinalis		
Turkey Vulture	Cathartes aura		
Northern Flicker	Colaptes auratus		
American Crow	Corvus brachyrhynchos		
Blue Jay	Cyanocitta cristata		
Gray Catbird	Dumetella carolinensis		
Common Yellowthroat	Geothlypis trichas		
House Sparrow	Passer domesticus		
Downy Woodpecker	Picoides pubescens		
Hairy Woodpecker	Picoides villosus		
Black-capped Chickadee	Poecile atricapilla		
Common Grackle	Quiscalus quiscula		
Eastern Phoebe	Sayornis phoebe		
Yellow-rumped Warbler	Setophaga coronata		
White-breasted Nuthatch	Sitta carolinensis		
American Goldfinch	Spinus tristis		
Chipping Sparrow	Spizella passerina		
European Starling	Sturnus vulgaris		
American Robin	Turdus migratorius		
Red-eyed Vireo	Vireo olivaceus		
Mourning Dove	Zenaida macroura		

TABLE C: OTHER WILDLIFE		
Common Name	Scientific Name	
Eastern Grey Squirrel	Sciurus carolinensis	
Eastern Cottontail	Sylvilagus floridanus	

APPENDIX D

OMNRF Information Request Response

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Kemptville District

10 Campus Drive Postal Box 2002 Kemptville ON K0G 1J0 Tel.: 613 258-8204 Fax: 613 258-3920 Ministère des Richesses naturelles et des Forêts

District de Kemptville

Thu. Oct 8, 2015

Andrew McKinley McKinley Environmental Solutions 304 Berrigan Drive Ottawa, Ontario K2J 5B5 (613) 620-2255 mckinleyenvironmental@gmail.com

Attention: Andrew McKinley

Subject:Information Request - 3740 Jockvale RdSite Address:3740 Jockvale Rd, OttawaOur File No.2015_NEP-3223

Natural Heritage Values

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

The MNRF works closely with partner agencies and local municipalities in order to establish concurrent approval process and to achieve streamlined and efficient service delivery. The MNRF strongly encourages all proponents to contact partner agencies (e.g. MOECC, Conservation Authority, etc.) and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements and approval timelines.

Natural heritage features and values contribute to the province's rich biodiversity and provide habitat for a variety of species. The following Natural Heritage values were identified:

- River (Non-Sensitive)
- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain additional 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.

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Where natural values and natural hazards exist (e.g., floodplains), there may be additional approvals and permitting required from the local Conservation Authority. The MNRF strongly recommends contacting the local Conservation Authority for further information and approvals. Please see the MNRF Kemptville Information Guide (2012) for contact information pertaining to Conservation Authorities located within the Kemptville District area.

For additional information and online mapping tools, please see the Natural Heritage Information Centre (NHIC), where additional data and files can be downloaded in both list and digital format. In addition sensitive species information can be requested and accessed through the NHIC at <u>NHICrequests@ontario.ca</u>.

As per the Natural Heritage Reference Manual (Section 13; OMNRF 2010) the MNRF strongly recommends that an Ecological Site Assessment be carried out to more thoroughly determine the presence of natural heritage features, and Species at Risk and their habitat located on site. The MNRF can provide survey methodology for particular species at risk and their habitats. In addition, the local planning authority may have more details pertaining to the requirements of the assessment process, which will allow for the municipality to make planning decisions which are consistent with the Provincial Policy Statement (2014).

Species at Risk

With the new Endangered Species Act (ESA, 2007) in effect, it is important to understand which species and habitats exist in the area and the implications of the legislation. 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)

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. Any potential works should consider disturbance of possible important habitat (e.g. nesting sites).

If the proposed activity is known to have an impact on the species mentioned above or any other SAR, an authorization under the Endangered Species Act, 2007 (ESA) may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey and mitigation measures to avoid contravention of the ESA.

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

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that some of these species may be protected under the Fish and Wildlife Conservation Act. Species of Special Concern for consideration:

• 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 immediately 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 on documented occurrences only and does not 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. i.e.: Species at Risk (SAR) or their habitat could still be present at the location or in the immediate area. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed; or 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 activities can occur without contravention of the Act. If an activity is proposed that will contravene the ESA (such as Section 9 or 10), the proponent must contact the MNRF to discuss the potential for a permit (Section 17). For specific questions regarding the Endangered Species Act (2007) or SAR, please contact a district Management Biologist at sar.kemptville@ontario.ca. For more information regarding the ESA (2007), please see attached ESA Information Sheet.

As of July 1, 2013, the approvals processes for a number of activities that have the potential to impact SAR or their habitat were changed in an effort to streamline approvals processes while continuing to protect and sustainably manage Ontario's natural resources. For those activities that require registration with the Ministry, businesses and individuals will be able to do so through a new online system. The online system will also include information to help guide individuals and businesses through the new processes. For further information on which activities are authorized through this new online registration process and how to apply, please refer to the following website: http://www.MNRF.gov.on.ca/en/About/2ColumnSubPage/STDPROD_104342.html. General inquiries may be directed towards Kemptville District MNRF, while questions and comments involving the new online forms can be directed to the Registry Approvals Service Centre (RASC) at 1-855-613-4256 or MNRF.rasc@ontario.ca.

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

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- 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.
- Additional occurrences of species are discovered.
- Habitat protection comes into force for one of the above-mentioned species through the creation of a habitat regulation (see general habitat protection above).

This letter is valid until: Fri. Oct 7, 2016

The MNRF would like to advise, by way of this letter, 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,

Lyn Garrah District Planner Ivn.garrah@ontario.ca

Encl.\ -ESA Infosheet -NHIC/LIO Infosheet