

Combined Environmental Impact Statement & Tree Conservation Report (Revised) 788 March Road, Ottawa, Ontario



July 2018 Prepared for 10731854 Canada Inc.

MCKINLEY ENVIRONMENTAL SOLUTIONS

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EXECUTIVE SUMMARY

McKinley Environmental Solutions (MES) was retained by 10731854 Canada Inc. (the Owner) to prepare a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for the proposed development of the 788 March Road property (the Site). The Site is located at 788 March Road, Ottawa, ON (PIN 045170801 and 045171988) and is approximately 1.45 ha in size. The current zoning is General Mixed Use. The Site is located southeast of the corner of March Road and Klondike Road, with approximately 151 m of frontage on March Road and approximately 82 m of frontage on Klondike Road. The Site elevation is approximately 78 m ASL at March Road, sloping down to approximately 72 m ASL at Shirley's Brook. The Site is predominantly surrounded by existing developed properties. A tributary of Shirley's Brook runs along the eastern Site boundary, beyond which is a church and manicured lawn. The Site itself includes a small degraded Cultural Woodlot, Cultural Meadow and a Deciduous Hedgerow. The Cultural Woodlot is a small and degraded feature, and does not qualify as a Significant Woodlot under any of the assessment criteria. The most significant natural heritage feature found in the vicinity of the Site is the tributary of Shirley's Brook and its riparian corridor.

The Site will be developed to include a six (6) storey residential building with approximately 196 units. The Site will be developed in two (2) phases, with the northern half of the Site developed first (Phase 1 - 95 units) and the southern half of the Site developed second (Phase 2 – 101 units). Phase 1 will include approximately sixteen (16) surface parking spaces and Phase 2 will include approximately ten (10) surface parking spaces. Two (2) levels of underground parking will be included below the building. Vehicle entrances to the Site will be provided from Klondike Road and March Road, with pedestrian access from March Road. The Site Plan includes a 30 m setback from the normal high-water mark of Shirley's Brook. All existing vegetation within the 30 m setback will be retained. The Site will receive municipal sewer and water. Stormwater will be directed to the existing March Road storm sewer, which outlets to the existing SWMP Pond No.1 – West. The existing SWMP Pond No.1 - West was sized to provide quantity and quality control for the Site.

Previous studies have demonstrated that Shirley's Brook provides Category 2 habitat for Blanding's Turtle. Category 2 habitat includes the watercourse itself and the surrounding 30 m of terrestrial habitat. The proposed 30 m vegetated setback from the normal high-water mark of Shirley's Brook will avoid all areas of Category 2 habitat. The development area of the Site falls within the definition of Category 3 habitat, which is designated primarily to provide a potential corridor for Blanding's Turtle movement. However, the Category 3 habitat found within the Site has little functional habitat value, due to the fact that all surrounding areas are developed. The loss of non-functional Category 3 habitat is not considered significant. Any potential impact to Blanding's Turtles will be mitigated by



the construction of new Blanding's Turtle exclusion fencing along the eastern development boundary. This fencing will provide a benefit to the species by helping to mitigate the existing risk of road mortality on March Road and Klondike Road. No other significant Species at Risk issues were noted for the Site.

The proposed 30 m setback from the normal high-water mark of Shirley's Brook will protect the existing riparian habitat surrounding the watercourse. As such, the development is not anticipated to infringe on the area regulated by the Mississippi Valley Conservation Authority (MVCA). Therefore, a permit for development from the MVCA under Ontario Regulation 153/06 is not anticipated to be required.

Pending that the regulatory, mitigation, and avoidance measures outlined in this report are implemented appropriately, the development of the 788 March Road property is not anticipated to have a significant negative effect on the natural features and functions.



1.0 INTRODUCTION

1.1 Reading the Integrated Tree Conservation Report (TCR)

This report is presented as a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR). Readers who are principally interested in the TCR may choose to read only those portions of the report where the section headings are marked **(TCR)**. This includes Sections 1.3, 1.4, 1.6, 2.0.1, 3.2, 3.3, and 4.1. Readers who are interested in the EIS should read the entire report, as information included in the TCR sections is not reiterated.

1.2 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 Site, and that impacts will be minimized through mitigation measures.

1.3 Site Overview and Background (TCR)

The Site is located at 788 March Road, Ottawa, ON (PIN 045170801 and 045171988) and is approximately 1.45 ha in size. The current zoning is General Mixed Use. The Site is located southeast of the corner of March Road and Klondike Road, with approximately 151 m of frontage on March Road and approximately 82 m of frontage on Klondike Road. The Site elevation is approximately 78 m ASL at March Road, sloping down to approximately 72 m ASL at Shirley's Brook. The Site is predominantly surrounded by existing developed properties. The area west of the Site includes March Road, beyond which is a developed commercial property. The area north of the Site includes Klondike Road, beyond which is an existing developed commercial property. A tributary of Shirley's Brook runs along the eastern Site boundary, beyond which is a church and manicured lawn. The area south of the Site includes a vacant property that consists of a manicured lawn and gravel pad. The Site itself includes a small degraded Cultural Woodlot, Cultural Meadow and a Deciduous



Hedgerow. The most significant natural heritage feature found in the vicinity of the Site is the tributary of Shirley's Brook and its riparian corridor, which are located along the eastern Site boundary.





FIGURE 1: SITE OVERVIEW

788 March Road, Ottawa, Ontario

Combined Environmental Impact Statement & Tree Conservation Report (Revised)



Please Note: This is not a legal land survey. All dimensions and locations are shown as approximate.



1.4 Description of Undertaking (TCR)

The proposed Site Plan is included below. The Site will be developed to include a six (6) storey residential building with approximately 196 units. The Site will be developed in two (2) phases, with the northern half of the Site developed first (Phase 1 – 95 units) and the southern half of the Site developed second (Phase 2 – 101 units). Phase 1 will include approximately sixteen (16) surface parking spaces and Phase 2 will include approximately ten (10) surface parking spaces. Two (2) levels of underground parking will be included below the building. Vehicle entrances to the Site will be provided from Klondike Road and March Road, with pedestrian access from March Road. The Site Plan includes a 30 m setback from the normal high-water mark of Shirley's Brook. All existing vegetation within the 30 m setback will be retained. The Site will receive municipal sewer and water. Stormwater will be directed to the existing March Road storm sewer, which outlets to the existing SWMP Pond No.1 – West. The existing SWMP Pond No.1 - West was sized to provide quantity and quality control for the Site.





FOR ALL THE SIGNS FOLLOW THE SPECIFICATIONS OF THE CITY OF OTTAWA

THE PARKING SIGNS WILL BE LABELED AS: "VISITOR ONLY"

"RESIDENT ONLY"

"ACCESIBLE PARKING" AND REINFORCED: " UNATHORIZED VEHICLES TOWED AWAY"

GENERAL NOTE: WHEN RETAINING WALLS ARE GREATER THAN 1 METER IN HEIGHT THE DESIGN WILL BE DONE BY A STRUCTURAL ENGINEER



DRO JECT INFORMATION

				2010-07-13
Zaning City of Ottown	coning Dy Jow No. 2008 250			
Zoning City of Ottawa 2	20111111111111111111111111111111111111			
Property Area	12210.01	sq. m	131,429	sq. n
RUJECT STATISTICS APARTMENT BUILDING PHASE 1 & PHASE 2				
BUILDING HEIGHT (m)	20.35m			
GROSS FLOOR AREA		16175,56m ²		
JNIT STATISTICS	APAR	TMENT BUILD	NG	
Deduces		PHASE 1		
Bedroom + Don	24			
P Bedroom		36		
2 Bedroom + Den		17		
3 Bedroom		6		
TOTAL		95		
		PHASE 2		
Bedroom		24		
Bedroom + Den		36		
2 Bedroom		30		
Bedroom		<u> </u>		
		101		
		196		
		100		
PARKING				
PHASE 1 & 2		REQU	IRED	PROVIDED
PHASE 1 - APARTMENT BU	LDING - 95 UNITS	1.20	114	124
PHASE 1 - VISITORS		0.20	19	19
PHASE 2 - APARTMENT BU	LDING - 101 UNITS	1.20	121	111
PHASE 2 - VISITORS		0.20	20	16
TOTAL		274		270
Phase 1 - Reduced parking st	alls (Sec.106 up to 40%)	46		2
Phase 2 - Reduced parking st	alls (Sec.106 up to 40%)			3
Phase 1 & Phase 2 - Accessible parking		7 (3 Type A	+ 4 Type B)	/
Accessible parking		Z (TType A	+ ттуре в)	Ζ
PHASE 1 & 2		REQU	IRED	PROVIDED
PHASE 1- APARTMENT BUI	DING - 95 UNITS	0.50	48	48
PHASE 2 - APARTMENT BU	LDING - 101 UNITS	0.50	51	51
ΓΟΤΑL		99	9	99
GENERAL MIXED USE ZO	NE - GM			
ZONE PROVISION		REQU	IRED	PROVIDED
MINIMUM LOT AREA		NO MIN	IMUM.	12210.01m ²
MINIMUM LOT WIDTH		NO MIN	IMUM.	146.88m
MIN. FRONT YARD AND CO	RNER YARD SETBACK	3m		3.10m
MINIMUM INTERIOR SIDE Y	ARD SETBACK	3r	n	3.10m
MINIMUM REAR YARD SET	BACK	7.5m		40.33m
MAXIMUM BUILDING HEIGH	T	18m		20.35m
		2		1.33
		3m		3.10m
MINIMUM WIDTH OF DRIVE AISLE FOR PARKING LOT		6.7m		6.7m
		2.0m		0.0m
		2.0		1.4111
ZONING BY-LAW SECTIO	N 137	REOU	IRED	
	VELUNG: 6m²/ UNIT	1176m ²		1728 40m ²
MINIMUM 50% COMMUNAL		588m ²		598 85m ²
AT LEAST ONE AREA > 54m	2	54r	n²	166.55m ²
Bernent 1: Resident lounae		-		166.55m ²
Basement 1: Exterior terrace + garden				300m ²
Ground floor: Balconies		- 179.39n		179.39m ²
Ground floor: Resident gardens		-		132.3m ²

WASTE MANAGEMENT			
PHASE 1 - 95 UNITS	REQU	IIRED	PROVIDED
GARBAGE - LOOSE	0.11/ UNIT	10.45y³	2- 6y ³ CONT.
RECYCLING - FEL GLASS METAL PLASTIC	0.018/ UNIT	1.71y³	1- 2y ³ CONT.
RECYCLING - FEL FIBER	0.038/ UNIT	3.61y³	1- 4y ³ CONT.
ORGANICS	240/ 50 UNIT	1.9L	2- 240 L
PHASE 2 - 101 UNITS	REQU	IIRED	PROVIDED
GARBAGE - LOOSE	0.11/ UNIT	11.11y³	2- 6y ³ CONT.
RECYCLING - FEL GLASS METAL PLASTIC	0.018/ UNIT	1.819y³	1- 2y ³ CONT.
RECYCLING - FEL FIBER	0.038/ UNIT	3,838y ³	1- 4y ³ CONT.
ORGANICS	240/ 50 UNIT	2.02L	3- 240L

econd to sixth floor: Balconies

DTAL

NOTES GÉNÉRALES General Notes

- 1. Ces documents d'architecture sont la propriété exclusive de NEUF architect(e)s et ne pourront être utilisés, reproduits ou copiés sans autorisation écrite au préalable. / These architectural documents are the exclusive property of NEUF architect(e)s and cannot be used, copied or reproduced without written pre-authorisation. 2. Les dimensions apparaissant aux documents devront êtres vérifiées par
- l'entrepreneur avant le début des travaux. / All dimensions which appear on the documents must be verify by the contractor before starting the
- Veuillez aviser l'architecte de toute dimension erreur et/ou divergences entre ces documents et ceux des autres professionnels. / The architect must be notified of all errors, omissions and discrepancies between these documents and those of other professionnals. 4. Les dimensions sur ces documents doivent être lues et non mesurées.

/ The dimensions on these documents must be read and not measured.

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MÉCHANIQUE Mechanic

STRUCTURE Structure

SCEAU Seal



CLIENT Client 10731854 CANADA INC. 47 Clarence Street Suite 406, Ottawa , ON K1N 9K1

OUVRAGE Project 788 MARCH ROAD

950.25m²

1728.49m²

-

1176m²

empl OT	ACEMENT Location	NO PROJET No. 11 802
NO 1 2 3 4	RÉVISION ISSUED FOR PRELIMINARY ISSUED FOR COORDINATION ISSUED FOR COORDINATION	DATE (aa.mm.jj) 2018-06-18 2018-06-22 2018-07-06 2018-07-19
	Pretiminary Pretiminary USE FIF DO NOT RUCTIO DO NOT RUCTIO	R DN
dess M.S Date 18.1 Titre	SINÉ PAR Drawn by S. / E.C. (aa.mm.jj) 07.19 E DU DESSIN Drawing Title TE PLAN	VÉRIFIÉ PAR Checked by A.C. ÉCHELLE Scale AS SHOWN

1.5 Agency Consultation

The proponent has discussed the current development proposal with the City of Ottawa, and the Mississippi Valley Conservation Authority (MVCA) will be circulated as part of the development application review. An Information and Records Request Response was received from the Ontario Ministry of Natural Resources and Forestry (OMNRF) Kemptville District (Appendix B). As noted below, The OMNRF Kemptville District was also contacted to discuss review requirements under the Ontario Endangered Species Act (ESA).

1.6 Regulatory Requirements (TCR)

The following is a summary of the anticipated natural heritage regulatory requirements:

- Ontario Endangered Species Act (ESA): As discussed below in Section 3.7, previous studies have demonstrated that Shirley's Brook provides Category 2 habitat for Blanding's Turtle. Category 2 habitat includes the watercourse itself and the surrounding 30 m of terrestrial habitat. The proposed 30 m vegetated setback from the normal high-water mark of Shirley's Brook will avoid all areas of Category 2 habitat. Category 3 habitat extends an additional 220 m beyond the limit of Category 2 habitat. The development area of the Site falls within the definition of Category 3 habitat. However, the Category 3 habitat found within the Site has little functional habitat value, due to the fact that all surrounding areas are developed. The proposed Site Plan will protect all areas of Category 2 habitat, while removing non-functional areas of Category 3 habitat. The project has been discussed conceptually with Aaron Foss of the OMNRF Kemptville District. The OMNRF has confirmed that due to the anticipated loss of Category 3 habitat, the project must be reviewed by the OMNRF in order to determine whether an Overall Benefit Permit under Clause 17(2)(C) of the ESA is required. The Owner will be required to submit a formal review request to the OMNRF, which includes submitting the Information Gathering Form (IGF) and the Alternatives Assessment Form (AAF). Following review of the IGF and AAF, the OMNRF will confirm if there are any subsequent regulatory requirements under the ESA. It is anticipated that the IGF and AAF will be submitted to the OMNRF in July 2018. Other than the habitat of Blanding's Turtle, no other significant SAR issues were noted for the Site.
- Ontario Regulation 153/06: Ontario Regulation 153/06 regulates activities that would alter shorelines, watercourses, and wetlands. As noted above, the Site Plan includes a 30 m vegetated setback from the normal high-water mark of Shirley's Brook. A permit under O.Reg 153/06 is not anticipated to be required, as Shirley's Brook and its riparian habitat will be protected by the proposed 30 m setback.
- **Fisheries Act:** As noted above, no alteration to Shirley's Brook is proposed. As such, a review under the Fisheries Act should not be required.



• **Tree Removal Permit:** The City of Ottawa will require obtainment of a Tree Removal Permit under the Urban Tree Conservation By-law No. 2009-200 prior to the commencement of tree clearing. The Tree Removal Permit is typically issued following acceptance of the TCR.



2.0 METHODOLOGY

2.0.1 Vegetation Survey and Tree Inventory Methodology (TCR)

A site visit to inventory plants and measure tree sizes was completed by Dr. McKinley on August 29th, 2017. Weather conditions during the site visit included sunny conditions and a temperature of 16 °C.

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.

Vegetation communities within the Site were classified following the Ecological Land Classification (ELC) methodology (OMNRF 1998; Lee 2008). Tree measurements were completed in areas of continuous tree cover (the Cultural Woodlot) by undertaking TCR sampling plots, whereas linear transects were employed to inventory the Deciduous Hedgerow. Plots were measured 5 m by 10 m to give a total survey area of 50 m² (for each plot). Plots were distributed evenly within the treed portion of the Site to achieve the desired density of 1 plot per hectare. Hedgerows are too narrow to allow sampling using plots. Instead, transects were employed to sample the Deciduous Hedgerow. Each transect was 20 m long and every tree with 10 cm dbh or greater along the transect was measured. Trees within each plot/transect that were 10 cm dbh or greater were measured with the use of a D-tape, which is a calibrated dbh tape.



2.0.2 EIS Methodology

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

- Site surveys to describe vegetation communities and inventory trees (see above);
- Site surveys to assess the potential for habitat of Species at Risk (SAR), wetlands, fish habitat, Significant Wildlife Habitat (SWH) features, and other significant habitat features to be present;
- Review of the Kanata North Urban Expansion Area (KNUEA) Community Design Plan (CDP) (Novatech 2016a) and Environmental Management Plan (EMP) (Novatech 2016b), and associated background environmental reports;
- 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 (Appendix B)
- Review of the background geotechnical report (Geofirma 2018); and
- Review of Official Plan designations.

During the plant survey the Site was searched for endangered Butternut Trees, although none were found. The extent of Blanding's Turtle habitat was defined based on known occurrences of the species in the region, as documented by Novatech (2016b). Due to the fact that Blanding's Turtles have previously been documented in Shirley's Brook within 2 km of the Site, Shirley's Brook within the vicinity of the Site is automatically designated as Blanding's Turtle habitat (OMNRF 2014b). It was therefore not necessary to complete an updated survey for the species within the vicinity of the Site, as Shirley's Brook would continue to be considered habitat for the species, regardless of the outcome of an updated survey.



3.0 EXISTING CONDITIONS

3.1 Geological Conditions

The Site elevation is approximately 78 m ASL at March Road, sloping down to approximately 72 m ASL at Shirley's Brook. The development area is well drained, with no surface water noted. The Site is located within the Clay Plains physiographic region with dolostone and sandstone bedrock of the Beekmantown Group (Geofirma 2018). Geofirma (2018) note that the Site consists of a layer of topsoil approximately 0.3 m thick, underlain with clay and silt to approximately 5 m to 6 m belowground surface. Geofirma (2018) assessed the slope down to Shirley's Brook and concluded that there is low potential for slope instability, with no significant erosion and no evidence of past instability.

3.2 Site History (TCR)

Air photos from 1976, 1991 and 2005 are included below (Photos from City of Ottawa 2018). Recent air photos are included in the report figures. The oldest available historic air photo (from 1976), shows that the Site was farmed at that time. In 1976, tree cover appears to be limited to hedgerows along the northern and southern property boundary. Tree cover is also present along the west side of Shirley's Brook in the northern part of the Site. This suggests that while individual trees that are currently found on Site may have begun growing prior to 1976 (particularly in the northern part of the Site), the majority of tree cover that is currently found within the Cultural Woodlot began growing after 1976. The large Bur Oak found east of Shirley's Brook appears to be present in 1976. A farm house and agricultural buildings are also present in the northwest corner of the Site in 1976. By 1991, trees in the northern part of the Site appear larger, but the overall extent of tree cover is similar to 1976. The farm house appears to have been demolished by 1991, although a barn remains visible. By 2005, the Site appears to be fallow and tree cover has expanded along the edge of Shirley's Brook and in the northern part of the Site. Much of the Cultural Woodlot that is currently found at the Site can be seen growing in 2005. The large Bur Oak found east of Shirley's Brook continues to be present. All buildings within the Site were demolished by 2005.





Historic Air Photograph 1: Historic Air Photo from 1976 (Site limits shown in red). Note the Site appears to be farmed and tree cover appears to be limited to hedgerows along the northern and southern property boundary in 1976. Tree cover is also present along the west side of Shirley's Brook in the northern part of the Site. The large Bur Oak found east of Shirley's Brook appears to be present in 1976. A farm house and agricultural buildings are also present in the northwest corner of the Site in 1976 (Photos from City of Ottawa 2018).





Historic Air Photograph 2: Historic Air Photo from 1991 (Site limits shown in red). Note the Site appears to be farmed and tree cover appears to be limited to hedgerows along the northern and southern property boundary in 1991. Tree cover is also present along the west side of Shirley's Brook in the northern part of the Site. The large Bur Oak found east of Shirley's Brook appears to be present in 1991. The farm house appears to have been demolished by 1991, although a barn remains (Photos from City of Ottawa 2018).





Historic Air Photograph 3: Historic Air Photo from 2005 (Site limits shown in red). Note the Site appears to be fallow and tree cover has expanded along the edge of Shirley's Brook and in the northern part of the Site. The large Bur Oak found east of Shirley's Brook continues to be present. All buildings within the Site have been demolished by 2005 (Photos from City of Ottawa 2018).



3.3 Vegetation Communities (TCR)

3.3.1 Plant Communities

Vegetation communities found within the Site are shown in Figure 2. Refer to Appendix A for a list of plants found within the Site. The Site includes the following terrestrial vegetation communities:

- **Cultural Meadow:** The majority of the western part of the Site is occupied by an overgrown Cultural Meadow. Historic air photos indicate that the Cultural Meadow was farmed until sometime in the 1990s, although it appears to have been fallow since the early 2000s. The Cultural Meadow is dominated by Brome and Meadow Grasses, Timothy, Green Foxtail, Canada Goldenrod, and Common Tansy. Groundcover also includes Common Ragweed, Lamb's Quarters Pigweed, Canada Thistle, Bull Thistle, Queen Anne's Lace, Daisy Fleabane, Common Milkweed, Prickly Lettuce, Ox-eye Daisy, Curled Dock, and Sow Thistle. The Cultural Meadow has negligible tree cover, which includes a few small dead White Ash and White Elm stems. Shrub cover includes Wild Red Raspberry, Common Buckthorn, and Hawthorn.
- **Deciduous Hedgerow:** A sparse Deciduous Hedgerow is present along the southern Site boundary. The Deciduous Hedgerow includes Manitoba Maple, Bur Oak, and American Elm up to 30 cm dbh. However, the majority of the hedgerow is dominated by Hawthorn and Common Buckthorn shrubs.
- **Cultural Woodlot:** A highly degraded Cultural Woodlot is located in the northern part of the Site. The woodlot is dominated by invasive Manitoba Maple, which account for approximately 80% of stems. Manitoba Maple average approximately 30 cm to 50 cm dbh, although a few larger trees up to 80 cm dbh are present (discussed below). Large Manitoba Maple are not typically considered significant trees, due to the fact that they are an invasive species. The remainder of stems within the woodlot include White Ash, Sugar Maple, Bur Oak, and American Elm, with most stems 30 cm to 40 cm dbh in size. Larger old White Ash are either dead or dying due to the effects of the invasive Emerald Ash Borer. Shrub cover includes a high proportion of invasive Common Buckthorn as well as Staghorn Sumac, Skunk Currant, Riverbank Grape, and Wild Red Raspberry. Groundcover is dominated by invasive species that are common in highly disturbed woodlots including Virginia Creeper, Common Burdock, Lamb's Quarter's Pigweed, Queen Anne's Lace, White Sweet Clover, Canada Goldenrod, and Canada Violet.
- Large Trees: Several Manitoba Maples up to 80 cm dbh are present within the eastern part of the Cultural Woodlot. As noted above, the largest specimens found along the west side of Shirley's Brook have been present since at least 1976. However, these trees are not considered significant, due to the fact that Manitoba Maple is an invasive species. A 71 cm dbh Sugar Maple is present in the northeastern part of the Site at the edge of the Cultural Woodlot, adjacent to



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the riparian corridor. The largest Manitoba Maples and the 71 cm dbh Sugar Maple are present within approximately 15 m of Shirley's Brook, and hence will fall within the 30 m vegetated setback from Shirley's Brook. A 107 cm dbh Bur Oak is present immediately adjacent to the eastern Site boundary, east of Shirley's Brook. The large Bur Oak has been present at the Site since at least 1976, although its size suggests that it is older. The Bur Oak is located on the opposite side of Shirley's Brook (relative to the development), and hence the tree will be retained. As shown in the historic air photos (above), the majority of older trees found within the Site are located close to Shirley's Brook. As such, the majority of older trees will be retained within the 30 m vegetated setback from the watercourse.





MCKINLEY ENVIRONMENTAL SOLUTIONS FIGURE 2: VEGETATION COMMUNITIES

788 March Road, Ottawa, Ontario

Combined Environmental Impact Statement & Tree Conservation Report (Revised)



Please Note: This is not a legal land survey. All dimensions and locations are shown as approximate.

- Site Outline



Photograph 1: Looking north along March Road (left). The Cultural Meadow (right) and the Cultural Woodlot (background) are shown (August 29th, 2017).



Photograph 2: Looking northeast at the Cultural Meadow and the Cultural Woodlot (background) (August 29th, 2017).





Photograph 3: Looking west from the culvert at Klondike Road (right). The Cultural Woodlot is on the left, a pool in Shirley's Brook at the Klondike Road culvert is shown in the foreground (August 29th, 2017).



Photograph 4: Looking southeast at the Deciduous Hedgerow (August 29th, 2017).



3.3.2 Significant Woodlot Assessment

The Cultural Woodlot is a highly degraded feature that is dominated by invasive trees (Manitoba Maple) with a high proportion of invasive groundcover (Dog Strangling Vine, Garlic Mustard, etc.). The following is a summary of the Significant Woodlot criteria for the Cultural Woodlot (OMNRF 2005):

- Woodland Size Criteria The Study Area is within the MVCA's Ottawa River Tributaries Subwatershed, which has approximately 37.2% forest cover (MVCA 2013). In planning areas with 30-60% forest cover, woodlots 60 ha or larger would qualify under the size criteria. The Cultural Woodlot is <0.5 ha in size, and therefore the Cultural Woodlot is 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 by openings on all sides, and there is no area within the woodlot that is more than 100 m from an opening. As such, there is no interior forest habitat provided by the Cultural Woodlot.
- **Proximity to Other Woodlands/Habitats** Woodlots within 30 m of another significant feature meet this criteria. As discussed below, the only significant feature within 30 m of the Cultural Woodlot is Shirley's Brook. Shirley's Brook will be protected by maintaining a 30 m vegetated setback from the normal high-water mark.
- Water Protection The only water feature within close proximity to the Cultural Woodlot is Shirley's Brook. Again, Shirley's Brook will be protected by maintaining a 30 m vegetated setback from the normal high-water mark.
- Linkages The Site is bordered by existing development on its northern, western and southern sides. Shirley's Brook is the only significant natural heritage feature in the vicinity. The Site itself is not located between any two (2) adjacent natural heritage features, and as such, it is unlikely to provide a habitat linkage function. Shirley's Brook may provide a corridor for wildlife movement. The potential for Shirley's Brook to provide a corridor for wildlife movement will be preserved by the proposed 30 m vegetated setback from the normal high-water mark.
- Woodlot Diversity As described above, the plant diversity within the Cultural Woodlot is low, and the feature is dominated by invasive species (Manitoba Maple, Common Buckthorn, Garlic Mustard, Dog Strangling Vine, etc.). Disturbed regrowth Cultural Woodlots are common throughout the region in degraded agricultural lands. The Cultural Woodlot does not contain exceptional plant diversity, and no regionally rare forest plant species were noted.
- 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. As discussed above in Section 3.2, historic air photos indicate that the majority of tree cover within the Cultural Woodlot is relatively recent, with most of the



feature not being present in the 1976 and 1991 historic air photos. However, as noted above, individual older trees are present. As discussed above, the majority of older trees found within the Site will be preserved within the 30 m vegetated setback from Shirley's Brook.

• **Economic and Social** – Woodlots which contribute special economic or social functions can qualify under this criteria. The Cultural Woodlot is located on private property, and no evidence of recreational usage has been noted. The Cultural Woodlot is degraded and dominated by invasive species, and hence does not provide significant aesthetic value.

In summary, available evidence suggests that the Cultural Woodlot does not qualify as a Significant Woodlot under any of the assessment criteria. The most significant functions of the Cultural Woodlot have to do with its proximity to Shirley's Brook and the potential for water protection. As discussed below, the preservation of a 30 m vegetated setback from the normal high-water mark is anticipated to be sufficient to protect the habitat functionality of Shirley's Brook. The 30 m vegetated setback is also anticipated to protect the majority of older trees found within the Site.



3.4 Wetlands and Watercourses

The Site is well drained and does not include any wetland areas or watercourses within the western part of the Site. A tributary of Shirley's Brook and its associated riparian corridor is found along the eastern Site boundary. In the vicinity of the Site, Shirley's Brook has a wetted width of 2 m to 3 m with water depth ranging from approximately 30 cm to 50 cm. At the time of the site visit (August 2017), the watercourse was well hydrated but mostly stagnant, although it likely experiences flow during precipitation events. Two (2) large box culverts are present within the vicinity of the Site. The southern culvert is an older box culvert present adjacent to the southeast corner of the Site. The northern culvert is a modern concrete box culvert present at Klondike Road. Both culverts are large enough to allow movement of Blanding's Turtle and other wildlife. A large pool is present in the watercourse at the Klondike Road culvert (the northern culvert). Shirley's Brook in the vicinity of the Site is sufficiently hydrated that it is likely to provide year-round habitat for fish, turtles, and other aquatic wildlife.

Shirley's Brook in the vicinity of the Site has a silt/clay substrate with abundant woody cover and aquatic vegetation. Aquatic plants found within Shirley's Brook included Water Shield, Common Duckweed, Common Cattail, Tall Ironweed, and Purple Loosestrife. Plants found within the riparian corridor included Tall Ironweed, Reed Canary Grass, Spotted Joe Pye Weed, Spotted Touch Me Not, Purple Loosestrife, and Common Stinging Nettle growing on the slope around the watercourse. The west side (development side) of the riparian corridor included a sparse row of Manitoba Maple up to 30 cm dbh in size. Several Crack Willow are also present on the west side of the watercourse. The east side of the riparian corridor includes a single large Bur Oak (107 cm dbh, discussed above) as well as sparsely growing Manitoba Maple up to 30 cm dbh and Black Walnut up to 20 cm dbh (discussed below). A Lilac hedge and several planted White Spruce are also present along the edge of the eastern side of the riparian corridor (planted along the edge of the adjacent church property). The proposed 30 m vegetated setback will maintain the existing tree cover surrounding the watercourse, including the majority of older trees found within the Site.





Photograph 5: Looking north along Shirley's Brook from the southern box culvert. Note the large Bur Oak on the east side of Shirley's Brook is visible on the right (August 29th, 2017).



Photograph 6: Looking south along Shirley's Brook from the northern box culvert (Klondike Road). Riparian vegetation in the northern part of the Site is shown. Note the large Bur Oak on the east side of Shirley's Brook is visible in the center of the photograph (August 29th, 2017).





Photograph 7: The southern box culvert along Shirley's Brook (August 29th, 2017).



Photograph 8: The northern box culvert along Shirley's Brook at Klondike Road (August 29th, 2017).



3.5 Adjacent Lands and Significant Features

The Site is predominantly surrounded by existing developed properties. The area west of the Site includes March Road, beyond which is a developed commercial property. The area north of the Site includes Klondike Road, beyond which is an existing developed commercial property. Shirley's Brook runs along the eastern Site boundary, beyond which is a church and manicured lawn. The area south of the Site includes a vacant property that consists of a manicured lawn and gravel pad. Shirley's Brook is the only significant natural heritage feature located adjacent to the Site.

3.6 Wildlife and Significant Wildlife Habitat

The Site is located close to March Road and Klondike Road, and hence is continuously disturbed by human activity and a high volume of vehicle traffic. Comparatively few wildlife species were observed within the Site including Ring Billed Gull, American Crow, Blue Jay, American Robin, Song Sparrow, European Starling, Grey Catbird, Eastern Grey Squirrel, White Tailed Deer, and Groundhog. Each of these are comparatively common species found in suburban areas. Evidence of American Beaver activity and Green Frogs were observed within Shirley's Brook.

Shirley's Brook may provide amphibian breeding habitat, fish habitat, and habitat for threatened Blanding's Turtle (discussed below). As such, Shirley's Brook can be considered Significant Wildlife Habitat (SWH). No stick nests, migratory bird stopover points, heron rookeries, reptile hibernacula, caves, bedrock fissures, wetlands, or any other features which may qualify as SWH were noted within the Site (OMNRF 2014a).



3.7 Species at Risk

3.7.1 Blanding's Turtle

Ontario Ministry of Natural Resources and Forestry (OMNRF) policy dictates that potentially suitable habitat that occurs within 2 km of a documented Blanding's Turtle sighting is automatically considered habitat for the species (OMNRF 2014b). Sightings of Blanding's Turtle along the tributaries of Shirley's Brook have previously been documented (Novatech 2016b). This includes documented sightings of the species approximately 820 m and 1,500 m northwest of the Site. Although these sightings were not in close proximity to the Site, they occurred along Shirley's Brook within 2 km, which automatically designates Shirley's Brook as habitat for the species.

The General Habitat Description for Blanding's Turtle (OMNRF 2014b) recognizes three (3) types of habitat:

- Category 1 Habitat: Category 1 habitat includes areas where Blanding's Turtle overwinter and nesting areas. Blanding's Turtle typically overwinter in wetlands (as opposed to flowing watercourses) (OMNRF 2014b). There are no wetlands or ponds within the Site or in the immediate vicinity, and the pool of standing water that is found at the Klondike Road culvert is likely too small to allow Blanding's Turtle overwintering. Nesting habitat includes areas of loose sandy fill or gravel where turtles can dig into the substrate to lay their eggs (OMNRF 2014b). There are no natural sand or gravel areas and no artificial stockpiles within the Site. The majority of the ground surface within the Site is occupied by dense vegetation (the Cultural Meadow and the Cultural Woodlot). Therefore, it is unlikely that Category 1 habitat exists within the Site.
- Category 2 Habitat: Category 2 habitat includes wetlands and watercourses within 2 km of known Blanding's Turtle occurrences. Category 2 habitat includes the watercourse/wetlands themselves, as well as adjacent terrestrial areas up to 30 m from the water's edge (OMNRF 2014b). The main function of Category 2 habitat is to provide core foraging, basking and living areas that are utilized throughout the majority of the active season (OMNRF 2014b). Shirley's Brook and the surrounding area within 30 m of the watercourse are considered Category 2 habitat. The proposed setback of 30 m from the normal high-water mark of Shirley's Brook will avoid all areas that fall within the definition of Category 2 habitat.
- Category 3 Habitat: Category 3 habitat includes terrestrial areas extending up to 250 m from the edge of wetlands and watercourses (e.g. an additional 220 m from the edge of the Category 2 habitat, which includes a 30 m buffer from the normal high-water mark). The main function of Category 3 habitat is to provide corridors that allow Blanding's Turtles to move overland between adjacent Category 1 and 2 habitat features (OMNRF 2014b). The Site is less than 250 m wide, and therefore the entire development area falls within the definition of Category 3 habitat.



However, the Category 3 habitat that overlaps the development area is unlikely to provide any significant habitat function, as the Site is surrounded by developed areas on three (3) sides. The Category 3 habitat within the Site is unlikely to provide significant benefit to Blanding's Turtles, as it does not provide a corridor that connects to any adjacent habitat features. The only aquatic feature in the area is Shirley's Brook, and turtles will continue to be able to enter/exit the portion of the watercourse that exists adjacent to the Site via the existing box culverts that are found along the watercourse, regardless of whether the Category 3 habitat within the Site is developed. As such, although the majority of the Site falls within the definition of Category 3 habitat, the Category 3 habitat provides little functional habitat value.

The loss of non-functional Category 3 habitat is not considered significant. It should be noted that under existing conditions, no fencing is in place that would prevent Blanding's Turtles (and other wildlife) from leaving Shirley's Brook to access March Road and Klondike Road. By providing an avenue of movement to the existing roadways, the Category 3 habitat that is present within the Site exposes Blanding's Turtles (and other wildlife) to significant road mortality risk. Road mortality is considered one of the primary causes of the decline of Blanding's Turtles in Ontario (SARO 2018). As discussed below, although development of the Site will remove areas of non-functional Category 3 habitat, any potential impact to Blanding's Turtles will be mitigated by the construction of new Blanding's Turtle exclusion fencing along the eastern development boundary. This fencing will provide a benefit to the species, by helping to mitigate the existing risk of road mortality on March Road and Klondike Road.



3.7.2 Additional 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 (Appendix B). In addition to Blanding's Turtle (discussed above), the following is a list of SAR which were identified as having the potential to be found in the vicinity of the Site:

- Barn Swallow Threatened
- Chimney Swift Threatened
- Bobolink Threatened
- Eastern Meadowlark Threatened
- Little Brown Bat Endangered
- Northern Long Eared Bat Endangered
- Black Tern Special Concern
- Common Nighthawk Special Concern
- Northern Map Turtle Special Concern
- Snapping Turtle Special Concern
- Butternut Trees Endangered

The following is a summary of the potential for these species to occur within the Site:

- **Barn Swallow:** Barn Swallows may be found nesting in many anthropogenic structures including old barns and sheds, culverts, and under bridges (SARO 2018). There are no structures found within the Site at the current time, and therefore Barn Swallows are not likely to be a significant concern for future development.
- **Chimney Swift:** Chimney Swift nest in open chimneys with rough interior surfaces made from brick and/or stone (SARO 2018). There are no chimneys found within the Site, and therefore Chimney Swifts are unlikely to be a significant concern for future development.
- Bobolink and Eastern Meadowlark: Eastern Meadowlark and Bobolink are associated with grasslands, old pastures, hayfields, and meadows (SARO 2018). Although the Cultural Meadow found within the Site represents a suitable form of habitat, it is too small (<2 ha) to be utilized by Bobolink and Eastern Meadowlark for nesting. Eastern Meadowlark and Bobolink are known to be area sensitive species, and generally they require continuous areas of suitable habitat that are a minimum of 5 ha in size (OMNRF 2014c; OMNRF 2014d). Surveying for these species is not typically undertaken in areas of suitable habitat <2 ha in size. The entire Site is only approximately 1.45 ha in size, and the Cultural Meadow is <1 ha. Therefore, Eastern Meadowlark and Bobolink are not likely to be a significant concern for future development.
- Little Brown Bat and Northern Long Eared Bat: No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were



noted within the Site. The OMNRF (2011) guidelines for bat surveying are outlined in the *Bats and Bat Habitats: Guidelines for Wind Power Projects*. These guidelines state that deciduous and mixed forest habitats have the potential to provide maternity roosting sites. The only forested area found within the Site is the Cultural Woodlot, however, it is <0.5 ha in size and it provides no interior forest habitat (forest >100 m from an opening). Therefore, it is not suitable for bat roosting.

- Black Tern: Black Terns build their nests in shallow marshes (SARO 2018). As discussed above, there are no large wetland habitats found within the vicinity of the Site. The wetland vegetation found along Shirley's Brook is much too small for Black Terns to nest. Therefore, Black Terns are unlikely to be a significant concern for the proposed development.
- Common Nighthawk: Common Nighthawk are a species of special concern, and therefore their habitat is not regulated under the Ontario ESA. Common Nighthawk habitat consists of open areas with little or no ground vegetation including rock barrens, lakeshores, mining areas, and recent burns (SARO 2018). As described above, the majority of the Site is vegetated with either tree cover or the Cultural Meadow. Therefore, Common Nighthawk are unlikely to be a significant concern for the proposed development.
- Northern Map Turtle: Northern Map Turtle are a species of special concern, and therefore their habitat is not regulated under the Ontario ESA. They are also primarily a riverine species, and typically they would not be found within a small flowing watercourse such as Shirley's Brook (SARO 2018). Most sightings of Northern Map Turtle in the region are associated with the Ottawa River (SARO 2018). Therefore, Northern Map Turtle are unlikely to be a significant concern for the proposed development.
- **Snapping Turtle**: Snapping Turtle are a species of special concern, and therefore their habitat is not regulated under the Ontario ESA. Snapping Turtle are generally common in many aquatic habitat areas, and they are likely found within Shirley's Brook (SARO 2018). Due to their similar ecology and habitat, the habitat protection and mitigation measures discussed below in relation to Blanding's Turtle would apply equally to Snapping Turtle.
- **Butternut Trees:** Butternut Trees are found in many treed areas throughout the Ottawa Region. However, no Butternut Trees were noted within the Site during the site visit. As noted above, Black Walnuts were observed within the riparian corridor east of Shirley's Brook. Black Walnut appear superficially similar to Butternut Trees. As shown below, the Black Walnut were fruiting at the time of the site visit. The round, smooth and hairless fruit of Black Walnut is a diagnostic feature which distinguishes the species from Butternut Trees. The Black Walnut were assessed and identified by a certified Butternut Health Assessor (Dr. McKinley, BHA #625).

In summary, the presence of the habitat of threatened Blanding's Turtle was the only significant Species at Risk (SAR) concern identified for the Site.





Photograph 9: Example of a Black Walnut found in the riparian corridor east of Shirley's Brook (August 29th, 2017).



Photograph 10: Example of the Black Walnut fruit, photographed at the Site. The round shape and hairless fruit distinguishes Black Walnut from Butternut (August 29th, 2017).



3.8 Linkages

The Site is bordered by existing development on its northern, western and southern sides. Shirley's Brook is the only significant natural heritage feature in the vicinity. The Site itself is not located between any two (2) adjacent natural heritage features, and as such, it is unlikely to provide a habitat linkage function. Shirley's Brook may provide a corridor for wildlife movement. The potential for Shirley's Brook to provide a corridor for wildlife movement will be preserved by the proposed 30 m vegetated setback from the normal high-water mark.



4.0 DESCRIPTION OF ENVIRONMENTAL IMPACTS AND MITIGATION

4.1 Terrestrial Habitat and Tree Removal (TCR)

Trees will be retained throughout the 30 m vegetated setback from the normal high-water mark of Shirley's Brook. As noted above, the largest Manitoba Maples and the 71 cm dbh Sugar Maple are present within approximately 15 m of Shirley's Brook, and hence will fall within the 30 m vegetated setback from Shirley's Brook. The 107 cm dbh Bur Oak is located on the opposite side of Shirley's Brook (relative to the development), and hence the tree will be retained. As such, the majority of older trees will be retained within the 30 m vegetated setback from the watercourse. All existing riparian vegetation will also be retained within the 30 m vegetated setback.

Development of the Site will remove the portions of the Cultural Woodlot and the Deciduous Hedgerow which occur more than 30 m from the normal high-water mark of Shirley's Brook. As discussed above, trees to be removed primarily include young specimens, with a high proportion of invasive species (80% Manitoba Maple). In general, tree removal will affect highly degraded areas with little ecological value. Therefore, the loss of tree cover within the development area is not anticipated to be ecologically significant.

4.1.1 Tree Preservation Measures

The following tree mitigation measures should be implemented to help protect and preserve retained trees:

- 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;
- Ensure that existing trees are not removed from within the Shirley's Brook setback;
- 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.



4.1.2 Replanting

As noted above, the riparian corridor surrounding Shirley's Brook already includes significant woody vegetation. As such, reforestation of the 30 m vegetated setback is not considered necessary, and the preservation of existing trees within the setback should provide sufficient tree coverage. Trees that are planted within the development area will occur in close proximity to the 30 m vegetated setback. As such, plantings should emphasize the use of native trees and shrubs, which may include those identified in Appendix A. Planting of Ash trees should be avoided due to the high likelihood that any planted Ash trees will become infested with Emerald Ash Borer. The planting locations and specific planting requirements will be confirmed by a detailed Landscaping Plan.



4.2 Watercourses

4.2.1 Shirley's Brook Setback

As noted above, the Site Plan includes a minimum 30 m wide vegetated setback from the normal high-water mark of Shirley's Brook. Existing vegetation within the setback will be preserved. The purpose of the 30 m setback is to provide a buffer which will help to slow, filter and absorb overland stormwater flow, while also providing habitat for wildlife and wildlife movement. Trees growing within the setback help to protect the watercourse from edge effects including noise, pollution, and other forms of human disturbance. Trees also provide shade which helps to cool surface water temperatures, while they also help to prevent erosion, stabilize banks, and enhance absorption and filtration of overland stormwater flow. As discussed above, the riparian corridor surrounding Shirley's Brook already includes significant tree cover. Geofirma (2018) assessed the slope down to Shirley's Brook and concluded that there is low potential for slope instability, with no significant erosion and no evidence of past instability.

As specified in Section 4.7.3 of the City of Ottawa Official Plan, current policy recommends that the setback from watercourses should be the greater of either 15 m from the top of slope or 30 m from the normal high-water mark of the watercourse. For the Site, the 30 m setback from the normal high-water mark is the greater of the two setbacks. Therefore, the proposed setback conforms to Section 4.7.3 of the City of Ottawa Official Plan. As described above in Section 3.7.1, the 30 m setback also serves to preserve all areas of Category 2 Blanding's Turtle habitat.

4.2.2 Servicing and Stormwater Management

The Site will receive municipal sewer and water. Stormwater will be directed to the existing March Road storm sewer, which outlets to the existing SWMP Pond No.1 – West. The existing SWMP Pond No.1 - West was sized to provide quantity and quality control for the Site.

4.2.3 Sediment and Erosion Controls

As discussed below in Section 4.4.1, Blanding's Turtle temporary exclusion fencing (re-enforced silt fencing) will be required during construction. This fencing will also serve to mitigate potential sediment and erosion impacts on Shirley's Brook. 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. existing sewers along March Road, if required). 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 landscaped areas are sodded or until streets are asphalted and curbed, all catch basins and manholes will be constructed with a geotextile filter sock located between the structure frame and cover.



4.3 Adjacent Lands and Significant Features

As discussed previously, the Site is predominantly surrounded by existing developed properties. The area west of the Site includes March Road, beyond which is a developed commercial property. The area north of the Site includes Klondike Road, beyond which is an existing developed commercial property. Shirley's Brook runs along the eastern Site boundary, beyond which is a church and manicured lawn. The area south of the Site includes a vacant property that consists of a manicured lawn and gravel pad. Shirley's Brook is the only significant natural heritage feature located adjacent to the Site. Shirley's Brook is addressed by the setbacks described above in Section 4.2.



4.4 Wildlife and Species at Risk

4.4.1 Blanding's Turtle Mitigation and Regulatory Requirements

As discussed above, the 30 m vegetated setback from the normal high-water mark of Shirley's Brook will preserve all areas of Category 2 habitat. Therefore, no loss of Category 2 habitat is anticipated to result from the proposed development. As discussed in Section 3.7.1, the entire development area falls within the definition of Category 3 habitat. However, the Category 3 habitat that overlaps the development area is unlikely to provide any significant habitat function, as the Site is surrounded by developed areas on three (3) sides. The Category 3 habitat within the Site is unlikely to provide significant benefit to Blanding's Turtles, as it does not provide a corridor that connects to any adjacent habitat features. The only aquatic feature in the area is Shirley's Brook, and turtles will continue to be able to enter/exit the portion of the watercourse that exists adjacent to the Site via the existing box culverts that are found along the watercourse, regardless of whether the Category 3 habitat within the Site is developed. As such, although the majority of the Site falls within the definition of Category 3 habitat, the Category 3 habitat provides little functional habitat value.

The loss of non-functional Category 3 habitat is not considered significant. It should be noted that under existing conditions, no fencing is in place that would prevent Blanding's Turtles (and other wildlife) from leaving Shirley's Brook to access March Road and Klondike Road. By providing an avenue of movement to the existing roadways, the Category 3 habitat that is present within the Site exposes Blanding's Turtles (and other wildlife) to significant road mortality risk. Road mortality is considered one of the primary causes of the decline of Blanding's Turtles in Ontario (SARO 2018). Although development of the Site will remove areas of non-functional Category 3 habitat, any potential impact to Blanding's Turtles will be mitigated by the construction of new Blanding's Turtle exclusion fencing along the eastern development boundary. This fencing will provide a benefit to the species, by helping to mitigate the existing risk of road mortality on March Road and Klondike Road.

General mitigation for wildlife during construction, including timing requirements for Blanding's Turtle, are outlined below in Section 4.4.2. In addition to the requirements listed in Section 4.4.2, exclusion fencing along the eastern development boundary will be required to prevent Blanding's Turtle from entering the development area (both during construction and post-development). This will include both temporary fencing (at the construction stage) and permanent exclusion fencing. The fencing should be installed from the southeast corner of the development, north along the eastern development. The fencing connects with Klondike Road in the northeast corner of the development. The fencing should be placed between the development edge and the edge of the 30 m setback from the normal high-water mark of Shirley's Brook.



Temporary fencing installed at the construction stage typically consists of wire re-enforced silt fencing that is buried at the bottom. Permanent fencing may consist of several different configurations, as described by OMNRF guidance documents (Gunson et al. 2016). Generally, permanent Blanding's Turtle exclusion fencing must consist of a barrier a minimum of 60 cm tall that is buried into the ground and which is impassable to Blanding's Turtle of all sizes. The fencing material is typically required to be durable with little maintenance for a minimum of fifteen (15) years. Products typically used may include some combination of stone retaining walls or gabion baskets 60 cm tall, chain link fencing with plastic inserts, and/or purpose built Blanding's Turtle exclusion fencing or wire mesh. The specific requirements for permanent fencing will be outlined at the detailed design stage.

4.4.2 General Wildlife Mitigation

Potential impacts to Blanding's Turtle and other 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.

Mitigation for wildlife during tree clearing and construction is summarized here. These recommendations include provisions from the City of Ottawa (2015) *Protocol for Wildlife Protection During Construction*, as well as requirements specific to Blanding's Turtle:

- **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 be undertaken in the direction of Shirley's Brook, in order to direct wildlife towards the retained habitat areas surrounding the watercourse;
- **Temporary Exclusion Fencing:** The temporary Blanding's Turtle exclusion fencing (re-enforced silt fencing) will also serve to mitigate potential erosion and siltation impacts (see above);
- **Inspections:** Temporary Blanding's Turtle exclusion fencing should 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 report. 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:
 - 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:
 - The core migratory bird breeding season is April 15th to August 15th each year;
 - The Blanding's Turtle active season is defined by OMNRF as April 15th to October 15th each year. The temporary exclusion fencing must be installed prior to work that would occur during the Blanding's Turtle active season; and
 - Therefore, initial site clearing, stripping, and installation of temporary exclusion fencing should be undertaken between October 16th and April 15th.



5.0 CUMULATIVE EFFECTS

Cumulative effects were considered in the design of the mitigation measures outlined in Section 4.0, particularly in the creation of SAR mitigation measures. The majority of the Site is degraded, and therefore the proposed development will not significantly contribute to the cumulative loss of wetlands or forest habitat.

6.0 MONITORING

Construction stage monitoring requirements are outlined in Section 4.4.2 (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 requirements have been identified.



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



8.0 REFERENCES

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APPENDIX A

Master Plant List



MCKINLEY ENVIRONMENTAL SOLUTIONS 613-620-2255 mckinleyenvironmental@gmail.com www.mckinleyenvironmental.com

TABLE A: VEGETATION				
Common Name	Scientific Name	Provincial S rank	Brunton Significance Ranking for the City of Ottawa (Brunton, 2005)	Vegetation Type
Water Shield	Brasenia schreberi	S5	Common	Aquatic
Common Duckweed	Lemna minor	S5	Common	Aquatic
Common Cattail	Typha latifolia	S5	Common	Aquatic
Tall Ironweed	Vernonia gigantea	S1	n/a	Aquatic
Brome Grass	Bromus sp.		n/a	Grass
Reed Canary Grass	Phalaris arundinacea	SE5	Common (locally abundant introduction)	Grass
Timothy	Phleum pratense	SNA	Common	Grass
Meadow grass sp.	Poa sp.		Common	Grass
Green Foxtail	Setaria viridis	SNA	Common	Grass
Garlic-mustard	Alliaria petiolata	SNA	Common	Herbaceous
Common Ragweed	Ambrosia artemisiifolia	S5	Common	Herbaceous
Common Burdock	Arctium minus	SNA	Common	Herbaceous
Common Milkweed	Asclepias syriaca	S5	Common	Herbaceous
Lamb's Quarters Pigweed	Chenopodium album	SNA	Common	Herbaceous
Canada Thistle	Cirsium arvense	S5	Common	Herbaceous
Bull Thistle	Cirsium vulgare	SNA	Common	Herbaceous
Queen Anne's Lace	Daucus carota	SNA	Common	Herbaceous
Daisy Fleabane	Erigeron annuus	S5	Common	Herbaceous
Spotted Joe Pye Weed	Eutrochium maculatum	S5	Common	Herbaceous
Spotted Touch Me Not	Impatiens capensis	S5	Common	Herbaceous
Prickly Lettuce	Lactuca scariola	SNA	Common	Herbaceous
Ox-eye Daisy	Leucanthemum vulgare	SNA	Common	Herbaceous
Purple Loosestrife	Lythrum salicaria	SNA	Common (invasive)	Herbaceous
White Sweet Clover	Melilotus albus	SNA	Common	Herbaceous
Curled Dock	Rumex crispus	SNA	Common	Herbaceous
Canada Goldenrod	Solidago canadensis	S5	Common	Herbaceous
Sow Thistle	Sonchus arvensis	SNA	Common	Herbaceous
Tansy	Tanacetum vulgare	S5	Common	Herbaceous
Common Stinging Nettle	Urtica dioica	SNA	Common	Herbaceous
Canada Violet	Viola canadensis	S5	Common	Herbaceous
Hawthorn	Crataegus chrysocarpa	S5	Common	Shrub

Common Buckthorn	Rhamnus cathartica	SNA	Common (aggressive invasive)	Shrub
Skunk Currant	Ribes glandulosum	S5	Common	Shrub
Wild Red Raspberry	Rubus idaeus	S5	Common	Shrub
Lilac	Syringa vulgaris	SNA	Common	Shrub
Manitoba Maple	Acer negundo	S5	Common	Tree
Sugar Maple	Acer saccharum	S5	Common	Tree
White Ash	Fraxinus americana	S5	Common	Tree
Black Walnut	Juglans nigra	S4	Rare	Tree
White Spruce	Picea glauca	S5	Common	Tree
Bur Oak	Quercus macrocarpa	S5	Common	Tree
Staghorn Sumac	Rhus hirta	S5	Common	Tree
Crack Willow	Salix fragilis	SNA	Common (invasive)	Tree
American or White Elm	Ulmus americana	S5	Common	Tree
Virginia Creeper	Parthenocissus vitacea	S5	Common	Vine
Dog Strangling Vine	Vincetoxicum rossicum	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 B

OMNRF Information Request Response



MCKINLEY ENVIRONMENTAL SOLUTIONS 613-620-2255 mckinleyenvironmental@gmail.com www.mckinleyenvironmental.com Ministry of Natural Resources and Forestry

Kemptville District

10 Campus Drive Postal Box 2002 Kemptville ON K0G 1J0 Tel.: 613 258-8204 Fax: 613 258-3920

Wed. Oct 18, 2017

Ministère des Richesses naturelles et des Forêts

District de Kemptville



10, promenade Campus Case postale, 2002 Kemptville ON K0G 1J0 Tél.: 613 258-8204 Téléc.: 613 258-3920

Andrew McKinley McKinley Environmental Solutions PO Box 45505, 3151 Strandherd Dr. Ottawa, Ontario K2J 5N1 (613) 620-2255 mckinleyenvironmental@gmail.com

Attention: Andrew McKinley

Subject:Information Request - Consent-Variance-ZoningProject Name:788 March Road EISSite Address:788 March Road, Ottawa, OntarioOur File No.2017_MAR-4243

Natural Heritage Values

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

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

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

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

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

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

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

In Addition, the following Fish species were identified: American eel, blacknose shiner, bluntnose minnow, brook stickleback, central mudminnow, creek chub, Etheostoma sp., fathead minnow, finescale dace, largemouth bass, logperch, mottled sculpin, northern pike, northern redbelly dace, Notropis sp., pearl dace, pumpkinseed, Rhinichthys sp., rock bass, smallmouth bass, Sticklebacks, white sucker.

Wildland Fire

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

Significant Woodlands

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

Significant Wildlife Habitat

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

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

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

Water

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

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

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

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

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

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

Pacific Salmon

Lake Whitefish

Other /Unknown Fall Spawning Species

Lake Herring

	FISH SPECIES	TIMING WINDOW (No in-water works)
Spring:	Walleye	March 15 to May 31
	Northern Pike	March 15 to May 31
	Lake Sturgeon	May 1 to June 30
	Muskellunge	March 15 to May 31
	Largemouth/Smallmouth Bass	May 1 to July 15
	Rainbow Trout	March 15 to June 15
	Other /Unknown Spring Spawning Species	March 15 to July 15
	FISH SPECIES	TIMING WINDOW (No in-water works)
Fall:	Lake Trout	October 1 to May 31
	Brook Trout	October 1 to May 31

September 15 to May 31

October 15 to May 31

October 15 to May 31

October 1 to May 31

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

Species at Risk

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

- Barn Swallow (THR)
- Blanding's Turtle (THR)
- Bobolink (THR)
- Butternut (END)
- Chimney Swift (THR)
- Eastern Meadowlark (THR)
- Little Brown Bat (END)
- Northern Long-eared Bat (END)

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

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

The Information Gathering Form may be found here: <u>http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&T</u> <u>AB=PROFILE&ENV=WWE&NO=018-0180E</u>

For more information on the ESA authorization process, please see: <u>https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization</u>

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

- Black Tern (SC)
- Common Nighthawk (SC)
- Northern Map Turtle (SC)
- Snapping Turtle (SC)

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

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

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at <u>sar.kemptville@ontario.ca</u>.

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

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

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

This letter is valid until: Thu. Oct 18, 2018

Please be advised that the creation of a new lot under the *Planning Act* would not require an authorization under the ESA. However, any development activities that would be permitted through

the creation of a new lot (e.g. single detached dwelling or site alteration) may require an authorization from the Ministry if it would contravene Sections 9 or 10 of the Act.

Sincerely,

Jane Devlin Management Biologist jane.devlin@ontario.ca

Encl.\ -ESA Infosheet -NHIC/LIO Infosheet