



McKINLEY
ENVIRONMENTAL
SOLUTIONS

Combined Environmental Impact Statement &
Tree Conservation Report (Revised)
762 March Road and 335 Sandhill Road Development



April 2019

Prepared for Minto Communities

McKINLEY ENVIRONMENTAL SOLUTIONS

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EXECUTIVE SUMMARY

McKinley Environmental Solutions (MES) was retained by Minto Communities (Minto) to prepare a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for the proposed development of the 762 March Road and 335 Sandhill Road properties (the Site) (PIN 045171989, 045171994 and 045171993). The Site includes two (2) parcels which are located on either side of Shirley's Brook, which runs in an approximately north to south direction through the middle of the Study Area. The western parcel includes frontage on March Road and is located at the municipal address 762 March Road. The eastern parcel includes frontage on Sandhill Road and is located at the municipal address 335 Sandhill Road. The two (2) parcels are proposed to be developed concurrently by Minto, and hence are addressed together in this Combined EIS and TCR. The western parcel is approximately 0.76 ha in size, whereas the eastern parcel is approximately 1.42 ha in size. Shirley's Brook runs through an open space corridor that is owned by the City of Ottawa. The open space corridor varies between approximately 40 m and 60 m wide. The Study Area addressed by this Combined EIS and TCR includes the western parcel, the eastern parcel, and the open space corridor surrounding Shirley's Brook, which collectively are approximately 2.95 ha in size. The current zoning is Residential Fourth Density (R4).

The Study Area exists within the developed portion of Kanata (Ottawa) and is predominantly surrounded by existing developed properties. The Study Area is bounded to the west by March Road, beyond which are existing subdivisions. An existing medium density residential development is located south of the western parcel, whereas the area south of the eastern parcel includes an existing grave site and church. The Study Area is bounded by Sandhill Road to the east, beyond which is a school. The properties directly north of the eastern parcel are developed as single family homes and an existing church. The property north of the western parcel has recently been proposed for development by an adjacent owner (788 March Road). Therefore, the Study Area is surrounded by existing and/or planned development on all sides, and the only significant natural heritage feature found in the vicinity is Shirley's Brook and its open space corridor. The Study Area itself is dominated by highly disturbed Cultural Meadow. Several hedgerows and small tree stands are also present within the Study Area.

The development of the western parcel will be submitted to the City of Ottawa as a Site Plan Application, whereas the development to the eastern parcel will be submitted as a separate Draft Plan of Subdivision Application. The western parcel will be developed to include five (5) multi-level terrace residential buildings with a total of approximately 60 units. The western parcel will also include two (2) entrances from March Road, an amenity space/snow storage, and approximately 78 surface parking spaces. The eastern parcel will be developed to include approximately 60 executive

townhomes. The eastern parcel will include one (1) entrance from Sandhill Road. The Site Plan/Draft Plan of Subdivision includes a 30 m setback from the normal high-water mark of Shirley's Brook on both sides of the open space corridor. Currently the open space corridor surrounding Shirley's Brook varies in width between approximately 40 m and 60 m. The setbacks included as part of the proposed development will expand the current corridor width so that it is a minimum of 60 m wide throughout the Study Area.

Stormwater from the western parcel 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 western parcel. Stormwater from the eastern parcel will be directed to the existing Sandhill Road storm sewer, which outlets to the existing SWMF Pond No.2. The Shirley's Brook East SWMF Pond No.2 was sized to provide quantity and quality control for the eastern parcel. Both parcels will receive municipal sewer and water. All services are shown to connect to the western and eastern parcels from March Road and Sandhill Road (respectively), and no overland or buried connections are required to cross Shirley's Brook.

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 (on both sides) will avoid all areas of Category 2 habitat. The development area falls within the definition of Category 3 habitat for Blanding's Turtle, which is designated primarily to provide a potential corridor for Blanding's Turtle movement. However, the Category 3 habitat found within the Study Area 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 impacts to Blanding's Turtles will be mitigated by the installation of a new Blanding's Turtle exclusion system along the outer edges of the Shirley's Brook setbacks. The exclusion system will provide a benefit to the species by helping to mitigate the existing risk of road mortality on March Road and Sandhill Road. No other significant Species at Risk issues were noted for the Study Area.

The proposed 30 m setback from the normal high-water mark of Shirley's Brook (on both sides) will protect the existing riparian habitat surrounding the watercourse. However, a minor Cut and Fill operation is required, due to the fact that a small portion of the eastern parcel overlaps the floodplain of Shirley's Brook. Due to the proposed Cut and Fill operation, a permit for development from the Mississippi Valley Conservation Authority under Ontario Regulation 153/06 is anticipated to be required.

Shirley's Brook and the associated Blanding's Turtle habitat are the only significant natural heritage features found to exist within or adjacent to the Study Area. Pending that the regulatory, mitigation,

and avoidance measures outlined in this report are implemented appropriately, the development of the 762 March Road and 335 Sandhill Road properties is not anticipated to have a significant negative effect on the natural features and functions.



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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 Combined EIS and TCR 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 Study Area;
- 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 Combined EIS and TCR was prepared with guidance from the *Natural Heritage Reference Manual* (OMNRF 2010). The major objective of this Combined EIS and TCR 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.

1.3 Site Overview and Background (TCR)

The Site includes two (2) parcels that are located at 762 March Road and 335 Sandhill Road, Ottawa, ON (PIN 045171989, 045171994 and 045171993) (Figure 1). The two (2) parcels are located on either side of Shirley's Brook, which runs in an approximately north to south direction through the Study Area. The western parcel includes frontage on March Road and is located at the municipal address 762 March Road. The eastern parcel includes frontage on Sandhill Road and is located at the municipal address 335 Sandhill Road. The two (2) parcels are proposed to be developed concurrently by Minto, and hence are addressed together in this Combined EIS and TCR. The western parcel is approximately 0.76 ha in size, whereas the eastern parcel is approximately 1.42 ha in size. Shirley's Brook runs through an open space corridor that is owned by the City of Ottawa. The open space corridor varies between approximately 40 m and 60 m wide. The **Study Area** addressed by this Combined EIS and TCR includes the western parcel, the eastern parcel, and the open space corridor surrounding Shirley's Brook, which collectively are approximately 2.95 ha in size. **The Site** refers to the two (2) development parcels. The current zoning is Residential Fourth Density (R4).

The Study Area exists within the developed portion of Kanata (Ottawa) and is predominantly surrounded by existing developed properties. The Study Area is bounded to the west by March Road, beyond which are existing subdivisions. An existing medium density residential development is located south of the western parcel, whereas the area south of the eastern parcel includes an existing grave site and church. The Study Area is bounded by Sandhill Road to the east, beyond which is a school. The properties directly north of the eastern parcel are developed as single family homes and an existing church. The property north of the western parcel has recently been proposed for development by an adjacent owner (788 March Road). Therefore, the Study Area is surrounded by existing and/or planned development on all sides, and the only significant natural heritage feature found in the vicinity is Shirley's Brook and its open space corridor. The Study Area itself is dominated by highly disturbed Cultural Meadow. Several hedgerows and small tree stands are also present within the Study Area. As discussed in the following sections, Shirley's Brook and the associated Blanding's Turtle habitat are the only significant natural heritage features found to exist within or adjacent to the Study Area.



FIGURE 1: STUDY AREA OVERVIEW

762 March Road and 335 Sandhill Road Development
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/Draft Plan of Subdivision is included below. The western parcel will be submitted to the City of Ottawa as a Site Plan Application, whereas the eastern parcel will be submitted as a separate Draft Plan of Subdivision Application. The western parcel will be developed to include five (5) multi-level terrace residential buildings with a total of approximately 60 units. The western parcel will also include two (2) entrances from March Road, an amenity space/snow storage, and approximately 78 surface parking spaces. The eastern parcel will be developed to include approximately 60 executive townhomes. The eastern parcel will include one (1) entrance from Sandhill Road. The Site Plan/Draft Plan of Subdivision includes a 30 m setback from the normal high-water mark of Shirley's Brook on both sides of the open space corridor. Currently the open space corridor surrounding Shirley's Brook varies in width between approximately 40 m and 60 m. The setbacks included as part of the proposed development will expand the current corridor width so that it is a minimum of 60 m wide throughout the Study Area.

The proposed 30 m setbacks from the normal high-water mark of Shirley's Brook (on both sides) will protect the existing riparian habitat surrounding the watercourse. However, a minor Cut and Fill operation is required, due to the fact that a small portion of the eastern parcel overlaps the floodplain of Shirley's Brook. The Cut and Fill operation is described in greater detail in Section 4.2.2.

Stormwater from the western parcel will be directed to the existing March Road storm sewer, which outlets to the existing SWMP Pond No.1 – West (JL Richards 2011). The existing SWMP Pond No.1 - West was sized to provide quantity and quality control for the western parcel. Stormwater from the eastern parcel will be directed to the existing Sandhill Road storm sewer, which outlets to the existing SWMF Pond No.2 (JL Richards 2011). The Shirley's Brook East SWMF Pond No.2 was sized to provide quantity and quality control for the eastern parcel. Both parcels will receive municipal sewer and water. All services are shown to connect to the western and eastern parcels from March Road and Sandhill Road (respectively), and no overland or buried connections are required to cross Shirley's Brook (JL Richards 2011).

MARCH ROAD (REGIONAL ROAD No. 49),
ROAD ALLOWANCE BETWEEN CONCESSIONS 3 AND 4
TRANSFERRED BY ORDER-IN-COUNCIL O.C.2446/82, INST. NO. NS166501 (MTO FILE P-1648-48) DEPOSITED PLAN MH3924 (MTO FILE P-1648-5)
DESIGNATED AS KING'S HIGHWAY BY ORDER-IN-COUNCIL O.C. 1585/74, INST. NO. CT195690 (MTO FILE P-1648-39)

MARCH ROAD

PLAN

INST.

MH3808

(P-1648-3)

4R-12785

PART 2,

PART 3, 4R-25367

P.I.N. 04517

P.I.N.

VACANT PARCEL

EXISTING MEDIUM-DENSITY RESIDENTIAL
(BLUE HERON CO-OP)

Parking stall depth increased to 5.5 meters for stalls 73-78 (incl.).

Concrete walkways for on-street connections

1.2 meter wide asphalt walkways, typical

Zoning setback

4 EarthBin containers, 2 waste, 1 fibre, 1 GMP. See Landscape Plan for details.

Privacy fence between refuse area and adjacent property. See detail on Landscape Plan.

Three, 240 L tote bins for organic waste; with surrounding fence enclosure. See Landscape Plan for details.

Community mail box

Non-Developable Area to preserve Blanding's Turtle Category 2 habitat. 30 meter setback from normal high water mark. As surveyed by Stantec and McKinley Environmental Solutions.

Paved access to rear yard for snow storage.

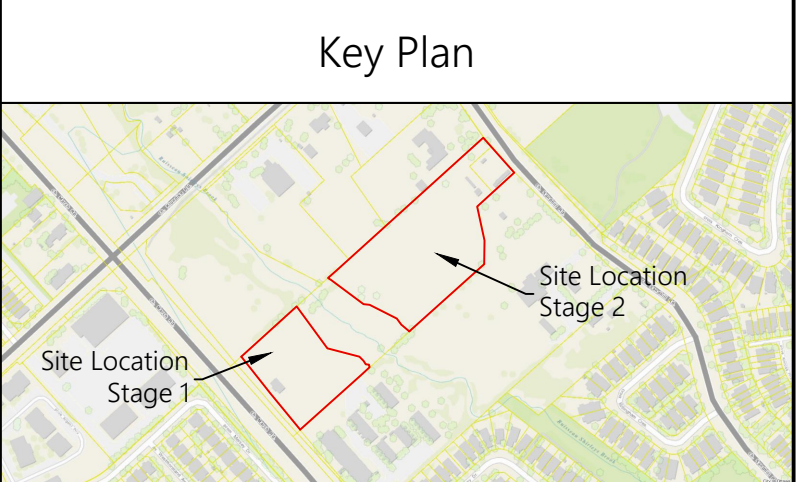
Total Erosion Hazard Limit width of 35 meters

EDGE OF WATER

SHIRLEY'S BROOK

Zoning Table		
	Required	Provided
Zone	-	R4Z
Minimum Lot Area	1,400 m ²	7,679 m ²
Building Area	-	2,130.1 m ²
Lot Coverage	-	28%
Total Amenity Space	360 m ²	732 m ²
Communal Amenity Space	180 m ²	190.6 m ²
Amenity Space per Unit (Section 137)	6 m ² per unit	12 m ² per unit (balcony)
Setback	Front Yard	3.0 m
	Interior Yard (North Side)	1.8 m
	Rear Yard	7.5 m
	Interior Yard (South Side)	3.0 m (first 18 m) 7.5 m otherwise
Max. Building Height	15 m	11.4 m
Units	-	60 stacked townhomes
Parking (Section 101)	Tenant Parking (units x 1.1)	66
	Visitor Parking (units x 0.2)	12
	Total Parking	78
Parking Space (Section 106)	2.6 x 5.2 m	2.6 x 5.2 m
Bicycle Parking (Section 111)(units x 0.5)	30	30
Landscaped Area (Section 161 (8))	30%	44.7%
Perimeter Landscaped Area (Section 110)	15%	17.0%

Legend	
	Property Line
	Zoning Setback
	Privacy Fence
	Amenity Area
	Depressed Curbs
	Non-Developable Area
	Bicycle Parking
	Retaining Wall



Design Team	
Owner/Applicant/Architect Minto Communities Inc. 180 Kent Street Ottawa, Ontario K1P 0B6	Engineer J.L. Richards & Associates Inc. 864 Lady Ellen Place Ottawa, Ontario K1Z 5M2
Surveyor Stantec 400 - 1331 Clyde Avenue Ottawa, Ontario K2C 3G4	Landscaping f.d. fountain 3-1735 Courtwood Crescent Ottawa, Ontario K2C 3J2

Notes	
1	Property boundary information from draft survey plan.
2	All dimensions are in meters.
3	Dimensions for each bicycle parking spot: 0.6 m x 1.8 m. Bicycle parking details are included on the Landscape Plan.

2.4.1	Adjusted CMB size and pathway near Units 221, relocated bike racks.	11-Apr-19	T.C.
2.4	Relocated bike racks, CMB, adjusted retaining wall.	11-Apr-19	T.C.
2.3	March Road sidewalk adjusted, throat length included.	21-Mar-19	T.C.
2.2	Address 1st review comments (snow storage access, privacy fence, etc.)	25-Feb-19	T.C.
2.1	Bicycle parking included	18-Dec-18	T.C.
2	Revised unit count and layout	7-Dec-18	T.C.
1	Revised unit count and layout	4-Dec-18	T.C.
0	Issue for revision	4-Dec-18	T.C.
No.	REVISION	DATE	BY

Project
Morgan's Creek
762 March Road, Ottawa, ON K2K 0A5

Title
Stage 1 - Site Plan - Rev 2.4.1

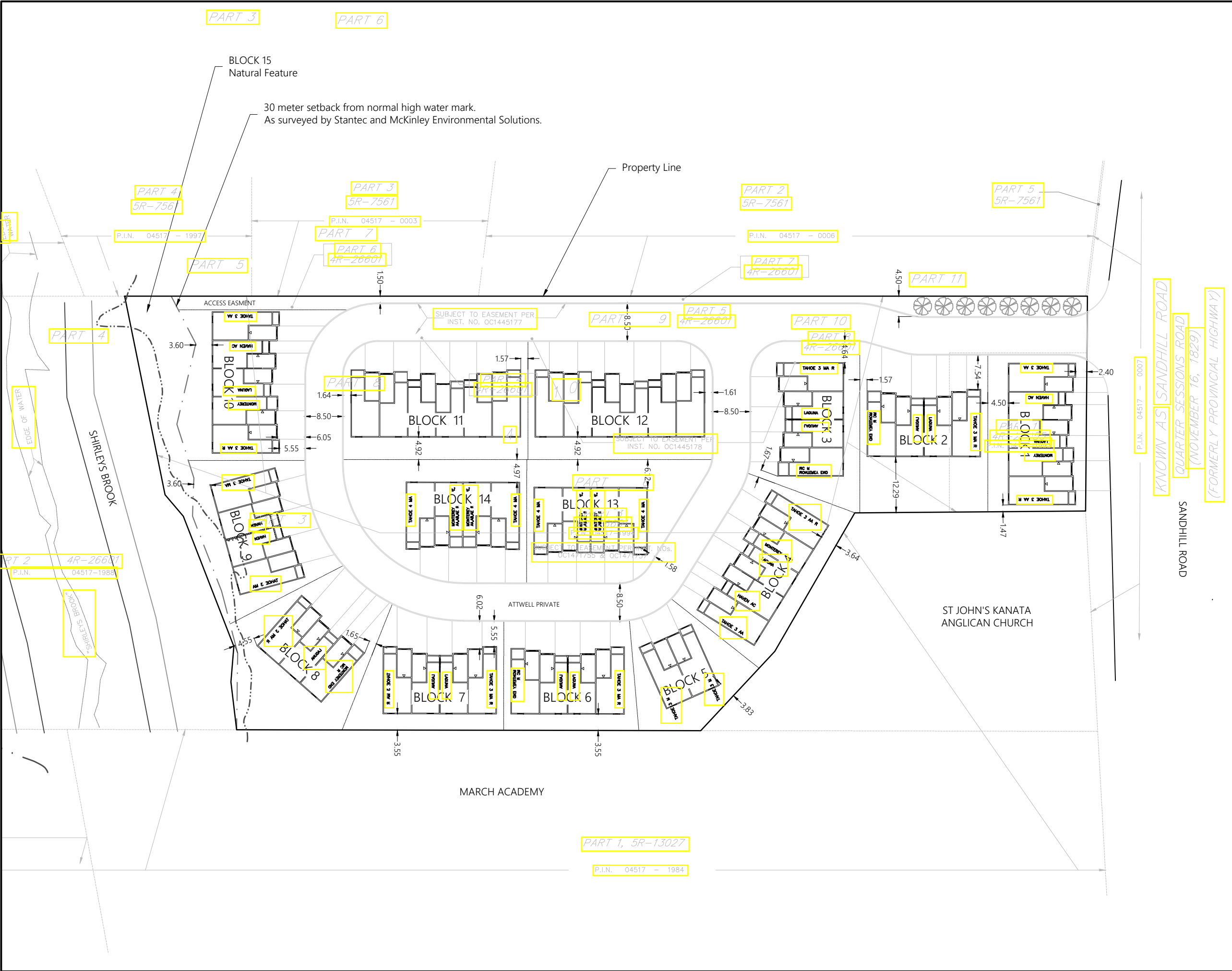
Drawing No.
SP 1

Scale
1:200

Minto Communities Inc.
200-180 Kent Street
Ottawa, ON K1P 0B6
Canada

#17889

D07-12-18-0199



Key Plan

Notes

1. All dimensions are in meters.
2. Survey completed by Stantec.

No.	REVISION	DATE	BY
2	Private road, address	28-Nov-18	T.C.
1	Revised ROW, layout	22-Nov-18	T.C.
0	Issued for Review	31-Oct-18	K.G.


Project:
Morgan's Creek
335 Sandhill Road, Ottawa, ON K2K 1X7

Title:
Stage 2 - Subdivision Plan Rev 2

Drawing:
SDP-1

Scale:
1:800

0 10 m 20 m 30 m

 Minto Communities Inc.
200-180 Kent Street
Ottawa, ON K1P 0B6
Canada

1.5 Agency Consultation

The proponent has received review comments from the City of Ottawa and the Mississippi Valley Conservation Authority (MVCA). 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 and the Ministry of Environment, Climate Change, and Parks (MECP) have completed a review of the project 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 (on both sides) 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 falls within the definition of Category 3 habitat. However, the Category 3 habitat found within the Study Area has little functional habitat value, due to the fact that all surrounding areas are developed. The proposed Site Plan/Draft Plan of Subdivision will protect all areas of Category 2 habitat, while removing non-functional areas of Category 3 habitat. The project has been submitted to the OMNRF Kemptville District through submission of the Ontario Endangered Species Act Information Gathering Form (IGF). The IGF was submitted to the OMNRF on November 9th, 2018. The OMNRF completed their review of these materials and confirmed that significant impacts to Blanding's Turtle and their habitat are anticipated to be avoided, pending that the mitigation measures outlined in the IGF are implemented appropriately. The mitigation measures described in the IGF are the same as those included in this Combined EIS and TCR. Therefore, an Overall Benefit Permit under the Ontario Endangered Species Act is not required to support the proposed development. An email from the OMNRF (dated December 5th, 2018) confirming this determination is included in Appendix C. Other than the habitat of Blanding's Turtle, no other significant Species at Risk (SAR) issues were noted for the Study Area.
- **Ontario Regulation 153/06:** Ontario Regulation 153/06 regulates activities that would alter shorelines, watercourses, and wetlands. As noted above, the Site Plan/Draft Plan of Subdivision includes a 30 m vegetated setback from the normal high-water mark of Shirley's Brook (on both sides). The proposed 30 m setback from the normal high-water mark of Shirley's Brook (on both sides) will protect the existing riparian habitat surrounding the watercourse. However, a minor Cut and Fill operation is required, due to the fact that a small portion of the eastern parcel

overlaps the floodplain of Shirley's Brook. Due to the proposed Cut and Fill operation, a permit for development from the Mississippi Valley Conservation Authority under Ontario Regulation 153/06 is anticipated to be required.

- **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.



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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 September 14th, 2018. Weather conditions during the site visit included sunny conditions and a temperature of 20 °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 $dbh \times 10 \text{ cm}$.

Vegetation communities within the Study Area were classified following the Ecological Land Classification (ELC) methodology (OMNRF 1998; Lee 2008). No forested habitats exist within the Study Area, and therefore tree measurement plots were not required. Hedgerows are too narrow to sample using plots. Instead, transects were employed to sample the Deciduous Hedgerows. Each transect was 20 m long and every tree with 10 cm dbh or greater along the transect was measured. Trees within each transect that were 10 cm dbh or greater were measured with the use of a D-tape, which is a calibrated dbh tape.



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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 (KNU EA) Existing Conditions Report (MEP 2016), the KNU EA Community Design Plan (CDP) (Novatech 2016a), and the KNU EA Environmental Management Plan (EMP) (Novatech 2016b), as well as 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 Ontario Ministry of Natural Resources and Forestry (OMNRF) (Appendix B);
- Review of the Site Servicing Brief (JL Richards 2011);
- Review of the background geotechnical report (Paterson Group 2011); and
- Review of Official Plan designations.

During the plant survey the Study Area 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 MEP (2016). Due to the fact that Blanding's Turtles have previously been documented in Shirley's Brook within 2 km of the Study Area (in 2014 and 2017), Shirley's Brook within the vicinity of the Study Area is automatically designated as Blanding's Turtle habitat (OMNRF 2014b) (discussed below in Section 3.7). It was therefore not necessary to complete an updated survey for the species within the vicinity of the Study Area, 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 Study Area elevation is approximately 78 m ASL at March Road and 76 m ASL at Sandhill Road, with both parcels sloping gradually downwards towards Shirley's Brook (the middle of the Study Area). Shirley's Brook occurs at an elevation of approximately 72 m ASL. Both the western and eastern parcel are well drained, with no surface water noted. Paterson Group (2011) note that the soil profile underlying the Study Area consists of topsoil underlain by a thin silty sand layer, followed by a stiff silty clay deposit and/or glacial till layer. Bedrock is shown to consist of interbedded sandstone and dolomite of the March formation, with an overburden thickness of between 5 m and 15 m (Paterson Group 2011).

3.2 Site History (TCR)

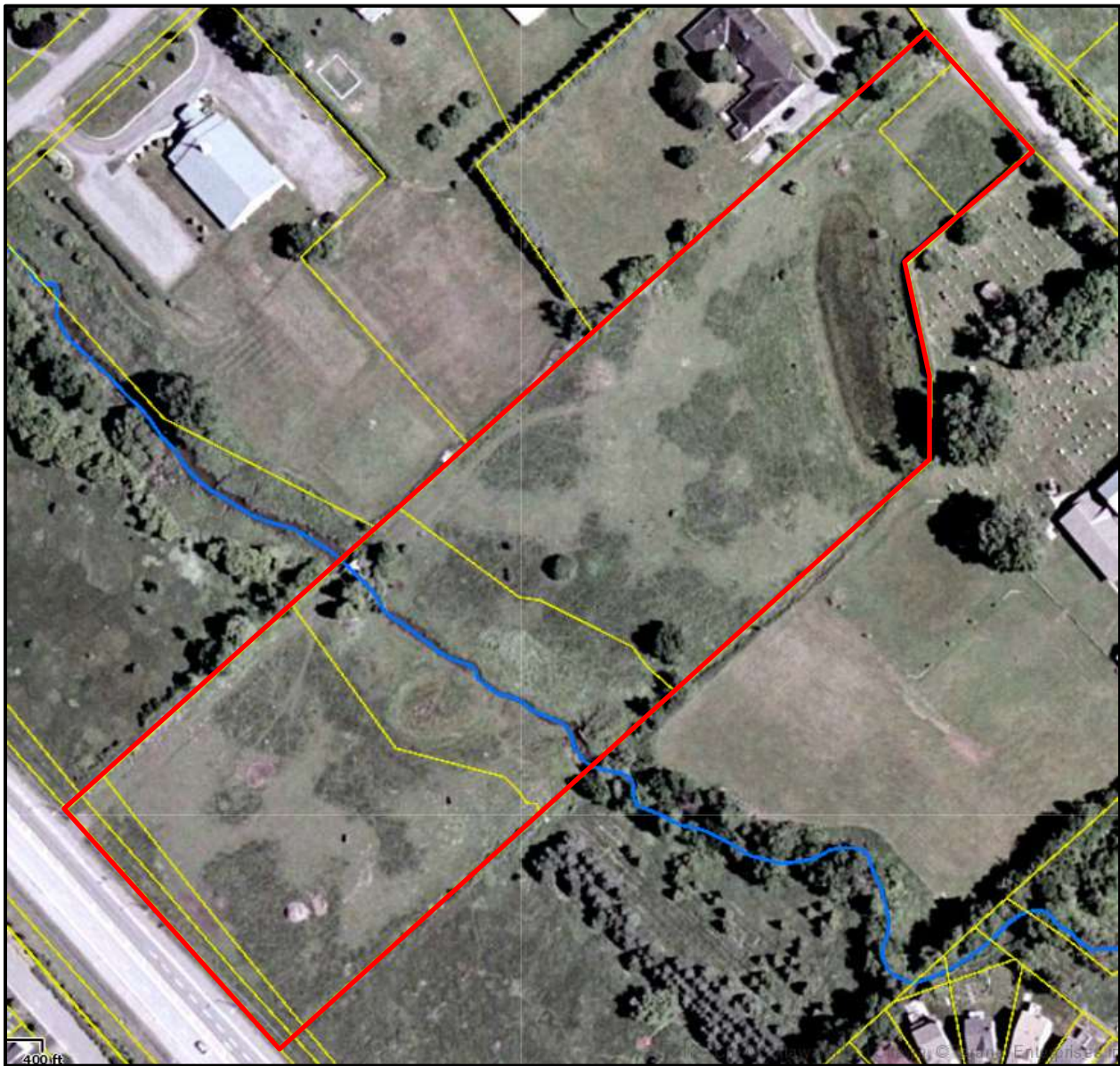
Air photos from 1976, 1991, 2005 and 2014 are included below (Photos from City of Ottawa 2018). Recent air photos are included in the report figures. The oldest available historic air photo (from 1976), shows that the Study Area was open habitat which was likely predominantly either farmed, pasture or open meadow at that time. In 1976, tree cover appears to be limited to a few mature trees and the hedgerows found along the northern and southern Study Area boundaries. The condition of the Study Area is broadly similar in 1991, 2005, and 2014, with the majority of the Study Area predominantly open meadow. By 2005, very few mature trees are visible within the Study Area, and tree cover appears limited to the hedgerows that are present along the northern and southern property boundaries. A depression is visible in the eastern parcel in the historic air photos. The depression is visible in 1976 and 2005, and appears flooded and/or a pond in 1991. The depression is visible in later air photos until 2011, after which time the depression appears to have been removed. Air photos from 2014 onwards do not show any evidence of the depression within the eastern parcel, and no standing water nor any wetland vegetation was observed in the area in 2018. The depression and any associated surface flooding and/or ponding appears to no longer exist within the Study Area from 2014 onwards.



Historic Air Photograph 1: Historic Air Photo from 1976 (Study Area limits shown in red). Note the Study Area appears to either be farmed or open meadow/pasture. Tree cover appears to be limited to a few mature trees and hedgerows along the northern and southern Study Area boundaries in 1976. A depression is visible in the eastern parcel in 1976 (Photos from City of Ottawa 2018).



Historic Air Photograph 2: Historic Air Photo from 1991 (Study Area limits shown in red). Note the Study Area appears to be predominantly open meadow and tree cover appears to be limited to the hedgerows along the northern and southern Study Area boundaries in 1991. The depression that is visible in the eastern parcel appears as an open pond and/or flooded area in 1991 (Photos from City of Ottawa 2018).



Historic Air Photograph 3: Historic Air Photo from 2005 (Study Area limits shown in red). Note the Study Area appears to be predominantly open meadow and tree cover appears to be limited to the hedgerows along the northern and southern Study Area boundaries in 2005. In 2005, very few mature trees are visible within the Study Area. The depression that is visible in the eastern parcel appears to be partially flooded in 2005 (Photos from City of Ottawa 2018).



Historic Air Photograph 4: Historic Air Photo from 2014 (Study Area limits shown in red). Note the Study Area appears to be predominantly open meadow and tree cover appears to be limited to the hedgerows along the northern and southern Study Area boundaries in 2014. In 2014, very few mature trees are visible within the Study Area. The depression that was previously visible in the eastern parcel appears to have been filled and/or graded by 2014, and is no longer present (Photos from City of Ottawa 2018).

3.3 Vegetation Communities (TCR)

Vegetation communities found within the Study Area are shown in Figures 2 and 3. Refer to Appendix A for a list of plants found within the Study Area. The Study Area includes the following terrestrial vegetation communities:

- **Previously Developed Areas (Gravel Parking):** Two (2) gravel parking areas are present within the Study Area adjacent to the entrances from March Road and Sandhill Road. The gravel parking areas consist of compacted gravel with negligible vegetation.
- **Cultural Meadow:** The majority of the Study Area is occupied by a disturbed Cultural Meadow, which is forb dominated in most areas. The Cultural Meadow is dominated by Canada Goldenrod with Common Tansy, New England Aster, Philadelphia Fleabane, Brome Grass, and Meadow Grass highly represented. Canada Thistle, Bull Thistle, Curled Dock, Queen Anne's Lace, Common Burdock, Tufted Vetch, Common Milkweed, Dandelion, Lamb's Quarters Pigweed, Prickly Lettuce, Ox-eye Daisy, Chickory, Common Ragweed, and Sow Thistle are also common. Tree cover includes a few small dead White Ash stems, and young Manitoba Maple and American Elm stems. Shrub cover includes Wild Red Raspberry, Virginia Creeper, Riverbank Grape, Common Buckthorn, Staghorn Sumac, and Hawthorn.
- **Deciduous Hedgerow (Feature A):** A sparse Deciduous Hedgerow (Feature A) is present along the northern property line in the western parcel. The Deciduous Hedgerow includes Manitoba Maple, Bur Oak, and American Elm up to 25 cm dbh in size. However, the majority of the hedgerow is shrub dominated and is overgrown by Hawthorn, Common Buckthorn and Riverbank Grape.
- **Tree Stand (Feature B):** A Tree Stand (Feature B) is present at the north end of Shirley's Brook. The Tree Stand includes a few Crack Willow, Manitoba Maple, and American Elm between 10 cm and 40 cm dbh in size. Groundcover is similar to the adjacent Cultural Meadow. A few shrub sized Domesticated Apple trees are present.
- **Deciduous Hedgerow (Feature C):** A sparse Deciduous Hedgerow (Feature C) is present along the northern property line in the eastern parcel. The Deciduous Hedgerow includes Trembling Aspen and Manitoba Maple between 10 cm and 30 cm dbh in size.
- **Coniferous Hedgerow (Feature D):** Feature D includes White Cedar hedges that are present along the northern and southern property lines in the eastern parcel.
- **Tree Stand (Feature E):** A Tree Stand (Feature E) is present at the south end of Shirley's Brook. The Tree Stand includes a few young Crack Willow, Manitoba Maple, and White/Green Ash (<15 cm dbh), as well as Slender Willow and Red Osier Dogwood shrubs.

- **Deciduous Hedgerow (Feature F):** A sparse and very young Deciduous Hedgerow (Feature F) is present along the southern property line in the western parcel. The Deciduous Hedgerow includes Manitoba Maple and White Ash stems < 10 cm dbh in size.



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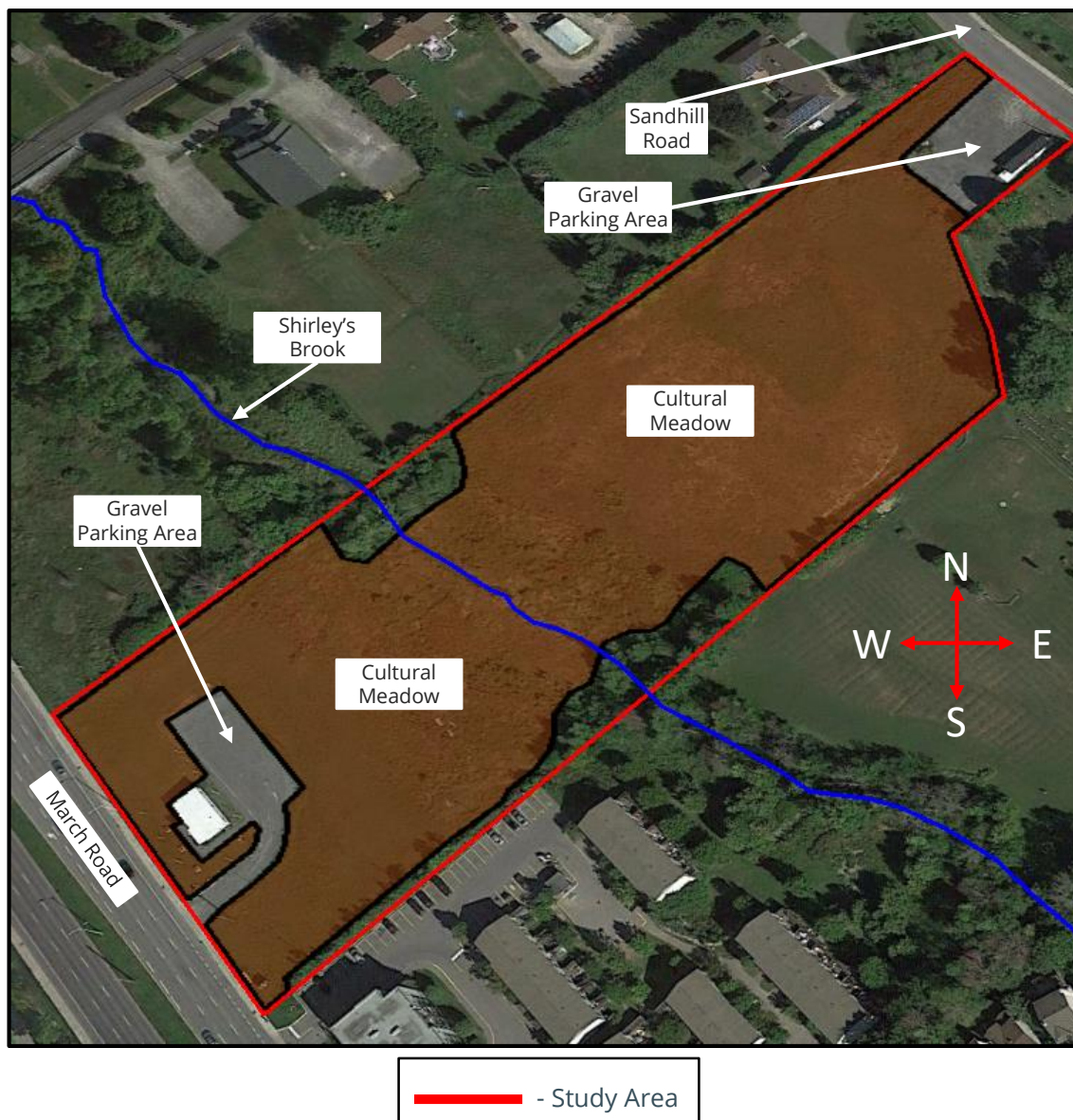
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FIGURE 2: CULTURAL MEADOW

762 March Road and 335 Sandhill Road Development

Combined Environmental Impact Statement & Tree Conservation Report (Revised)

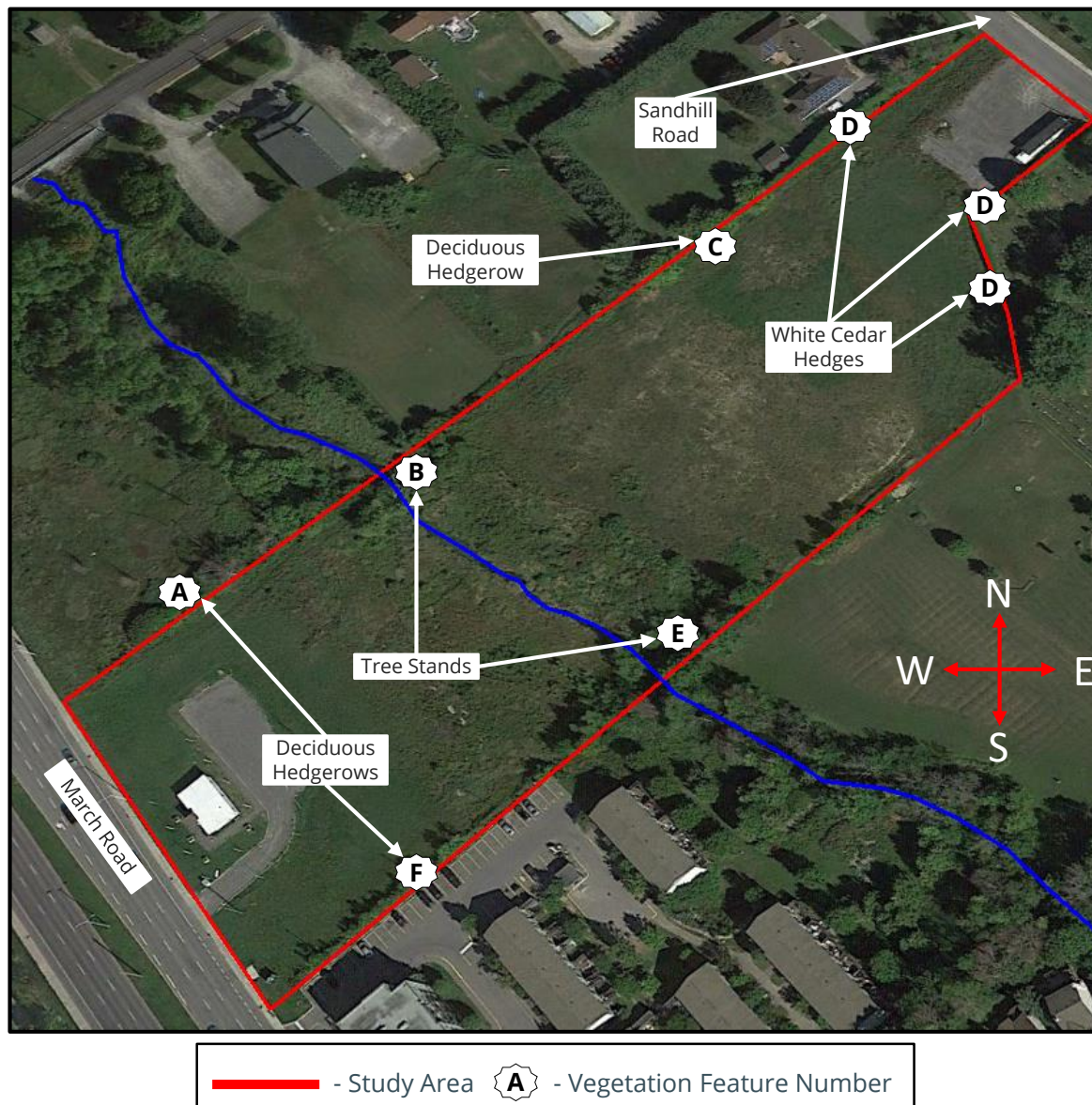


Please Note:
This is not a
legal land
survey. All
dimensions
and locations
are shown as
approximate.



FIGURE 3: TREE STANDS & HEDGEROWS

762 March Road and 335 Sandhill Road Development
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.



Photograph 1: Looking south at the Gravel Parking Area in the western parcel. March Road is visible at the right (September 14th, 2018).



Photograph 2: Looking south at the forb dominated Cultural Meadow in the western parcel (September 14th, 2018).



Photograph 3: Looking north at the forb dominated Cultural Meadow in the eastern parcel (September 14th, 2018).



Photograph 4: Looking north at the Deciduous Hedgerow (Feature A) (September 14th, 2018).



Photograph 5: Looking north at the Tree Stand (Feature B) (September 14th, 2018).



Photograph 6: Looking north at the Deciduous Hedgerow (Feature C) (September 14th, 2018).



Photograph 7: Looking south from the Gravel Parking Area at the Coniferous Hedgerow (White Cedar Hedge) (Feature D) (September 14th, 2018).



Photograph 8: Looking south at the Tree Stand (Feature E) (September 14th, 2018).



Photograph 9: Looking south at the Deciduous Hedgerow (Feature F) (September 14th, 2018).

3.4 Wetlands and Watercourses

Both the western and eastern parcel are well drained, and there are no wetlands and/or watercourses within the Study Area, other than Shirley's Brook. A tributary of Shirley's Brook and its associated riparian corridor flows through the middle of the Study Area in an approximately north to south direction. Shirley's Brook within the Study Area has a wetted width of 2 m to 4 m with water depth from 10 cm to 20 cm (in September 2018). At the time of the site visit (September 2018), the watercourse was well hydrated but mostly stagnant, although it likely experiences flow during precipitation events. A large box culvert is present at the northern property line. The culvert is old and has several large cracks in the concrete, however, it is large enough to allow movement of Blanding's Turtle and other wildlife. Shirley's Brook in the vicinity of the Study Area is sufficiently hydrated that it is likely to provide year-round habitat for fish, turtles, and other aquatic wildlife.

Shirley's Brook has a silt substrate in the northern part of the Study Area, transitioning to a sandy substrate with boulders in the southern part of the Study Area. Throughout the Study Area aquatic vegetation is present within the channel. Aquatic plants found within Shirley's Brook include Common Duckweed, Common Cattail, Tall Ironweed, and Purple Loosestrife. Plants found within the riparian corridor adjacent to the watercourse included Tall Ironweed, Reed Canary Grass, Spotted Joe Pye Weed, Spotted Touch Me Not, Purple Loosestrife, Common Cattail, Common Stinging Nettle, Boneset, and Blue Vervain. The majority of the length of the watercourse through the Study Area has little tree or shrub cover, however, tree stands are present at the northern and southern Study Area boundaries (described above). The proposed 30 m vegetated setback will maintain the existing tree cover surrounding the watercourse, including the majority of older trees found within the Study Area.



Photograph 10: Looking north at the Box Culvert at the northern edge of the Study Area (September 14th, 2018).



Photograph 11: Looking southeast at Shirley's Brook in the northern part of the Study Area (September 14th, 2018).



Photograph 12: Looking northwest at Shirley's Brook in the southern part of the Study Area (September 14th, 2018).



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3.5 Adjacent Lands and Significant Features

The Study Area exists within the developed portion of Kanata (Ottawa) and is predominantly surrounded by existing developed properties. The Study Area is bounded to the west by March Road, beyond which are existing subdivisions. An existing medium density residential development is located south of the western parcel, whereas the area south of the eastern parcel includes an existing grave site and church. The Study Area is bounded by Sandhill Road to the east, beyond which is a school. The properties directly north of the eastern parcel are developed as single family homes and an existing church. The property north of the western parcel has recently been proposed for development by an adjacent owner (788 March Road). Therefore, the Study Area is surrounded by existing and/or planned development on all sides, and the only significant natural heritage feature found in the vicinity is Shirley's Brook and its open space corridor (discussed above).

3.6 Wildlife and Significant Wildlife Habitat

The Study Area is located between March Road and Sandhill Road, and hence is continuously disturbed by human activity and a high volume of vehicle traffic. Comparatively few wildlife species were observed within the Study Area including Ring Billed Gull, American Crow, American Robin, American Goldfinch, Great Blue Heron, Song Sparrow, European Starling, and Eastern Grey Squirrel. Each of these are comparatively common species found in suburban areas. Green Frogs were also 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 Study Area (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 during field surveying completed to support the design and approval of the Kanata North Urban Expansion Area (MEP 2016). This included documented sightings of the species approximately 950 m (documented in 2017) and 1,700 m (documented in 2014) northwest of the Study Area. Although these sightings were not in close proximity to the Study Area, 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 Study Area or in the immediate vicinity. 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 Study Area. The majority of the ground surface within the Study Area is occupied by dense vegetation (the Cultural Meadow). Therefore, it is unlikely that Category 1 habitat exists within the Study Area.
- **Category 2 Habitat:** Category 2 habitat includes suitable 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 (on both sides) 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 Study Area is less than

250 m wide on both sides of Shirley's Brook, 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 Study Area is surrounded by developed areas on all sides. The Category 3 habitat within the Study Area is unlikely to provide significant benefit to Blanding's Turtles, as it does not provide a corridor that connects to any adjacent wetland or watercourse habitat features. The only aquatic habitat 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 within the Study Area, regardless of whether the Category 3 habitat within the Study Area is developed. As such, although the majority of the Study Area 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 Sandhill Road. By providing an avenue of movement to the existing roadways, the Category 3 habitat that is present within the Study Area 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 2019). As discussed below, although development of the Study Area will remove areas of non-functional Category 3 habitat, any potential impact to Blanding's Turtles will be mitigated by the construction of a new Blanding's Turtle exclusion system along the edges of the Shirley's Brook setbacks. The exclusion system will provide a benefit to the species by helping to mitigate the existing risk of road mortality on March Road and Sandhill Road.

As discussed above in Section 1.6, the OMNRF and the Ministry of Environment, Climate Change, and Parks (MECP) have reviewed the project and have confirmed that significant impacts to Blanding's Turtle and their habitat are anticipated to be avoided, pending that the mitigation measures outlined in the Information Gathering Form (IGF) are implemented appropriately. The mitigation measures described in the IGF are the same as those included in this Combined EIS and TCR. Therefore, an Overall Benefit Permit under the Ontario Endangered Species Act is not required. Email correspondence with the OMNRF/MECP confirming their determination is included in Appendix C. As discussed below, no other significant Species at Risk (SAR) issues were noted for the Study Area.

3.7.2 Additional Species at Risk

The Natural History Information Center (NHIC) records for the nine (9) grids that include and surround the Study Area 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 Ontario Ministry of Natural Resources and Forestry (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 Study Area:

- American Eel – Endangered
- Lake Sturgeon – Threatened
- Hickorynut - Endangered
- American Ginseng - Endangered
- Butternut Trees – Endangered
- Bank Swallow - Threatened
- Barn Swallow - Threatened
- Chimney Swift – Threatened
- Bobolink – Threatened
- Eastern Meadowlark – Threatened
- Eastern Whip Poor Will – Threatened
- Least Bittern - Threatened
- Loggerhead Shrike – Endangered
- Eastern Small Footed Myotis – Endangered
- Little Brown Bat – Endangered
- Northern Long Eared Bat – Endangered
- Tricolored Bat – Endangered
- Rusty Patched Bumblebee – Endangered
- Transverse Lady Beetle - Endangered
- Bald Eagle – Special Concern
- Black Tern – Special Concern
- Horned Grebe – Special Concern
- Canada Warbler – Special Concern
- Eastern Wood Pewee – Special Concern
- Wood Thrush – Special Concern
- Common Nighthawk – Special Concern
- Peregrine Falcon – Special Concern
- Rusty Blackbird – Special Concern
- Eastern Musk Turtle – Special Concern

- Northern Map Turtle – Special Concern
- River Redhorse – Special Concern
- Silver Lamprey – Special Concern
- Snapping Turtle – Special Concern
- Monarch Butterfly – Special Concern

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

- **American Eel and Lake Sturgeon:** American Eel and Lake Sturgeon are fish species that are found in association with the Ottawa River (SARO 2019). The aquatic habitats within the Study Area are too small and too ephemeral to provide habitat for these species, and therefore American Eel and Lake Sturgeon are unlikely to be a significant concern for the proposed development.
- **Hickorynut:** Hickorynut is a freshwater mussel found in association with the Ottawa River (SARO 2019). The aquatic habitats within the Study Area are too small and too ephemeral to provide habitat for Hickorynut, and therefore Hickorynut are unlikely to be a significant concern for the proposed development.
- **American Ginseng:** American Ginseng are found in association with Deciduous Forests (SARO 2019). As noted above in Section 3.3, there are no forest habitats found within the Study Area, and therefore American Ginseng are unlikely to be a significant concern for the proposed development.
- **Butternut Trees:** Butternut Trees are found in many treed areas throughout the Ottawa Region. However, no Butternut Trees were noted within the Study Area during the site visit.
- **Bank Swallow:** Bank Swallows nest in natural and artificial deposits of sand and silt with vertical faces (SARO 2019). There are no significant areas of exposed sand or silt within the Study Area and no stockpiles currently exist. As such, Bank Swallows are unlikely to be a significant concern for the proposed development.
- **Barn Swallow:** Barn Swallows may be found nesting in many anthropogenic structures including old barns and sheds, culverts, and under bridges (SARO 2019). There are no buildings found within the Study Area at the current time, and therefore Barn Swallows are not likely to be a significant concern for future development. The box culvert that is present at the north end of Shirley's Brook was examined, and no evidence of Barn Swallow nesting was noted.
- **Chimney Swift:** Chimney Swift nest in open chimneys with rough interior surfaces made from brick and/or stone (SARO 2019). There are no chimneys found within the Study Area, and therefore Chimney Swifts are unlikely to be a significant concern for the proposed development.
- **Bobolink and Eastern Meadowlark:** Eastern Meadowlark and Bobolink are associated with grasslands, old pastures, hayfields, and meadows (SARO 2019). Although the Cultural Meadow found within the Study Area represents a potentially suitable form of habitat, the majority of the

area is forb dominated, and both Eastern Meadowlark and Bobolink are predominantly found nesting in meadows that are graminoid dominated (e.g. grass dominated) (OMNRF 2014c; OMNRF 2014d). The fact that most of the Cultural Meadow is overgrown with forbs and herbaceous species serves to discourage nesting by grassland birds. In addition, the Cultural Meadow is present close to existing development and roads, and hence the area is continuously disturbed. This also serves to discourage nesting by grassland birds. Lastly, the Cultural Meadow is likely too small to provide habitat for Bobolink and Eastern Meadowlark. 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). The western parcel is approximately 0.76 ha in size, whereas the eastern parcel is approximately 1.42 ha in size. Therefore, the Cultural Meadow habitat that is found on either side of the Shirley's Brook corridor is likely too small to support nesting by Eastern Meadowlark and Bobolink. Surveying for these species is not typically undertaken in areas of suitable habitat <2 ha in size. Surveying for Bobolink and Eastern Meadowlark was not recommended, as the Study Area is likely too forb dominated, too degraded, too close to existing development, and too small to support either species. Therefore, Eastern Meadowlark and Bobolink are not likely to be a significant concern for the proposed development.

- **Eastern Whip Poor Will:** Suitable breeding habitats for Eastern Whip Poor Will generally consist of a 'mosaic' of open, half treed, and closed conditions (SARO 2019). As discussed above in Section 3.3, the Study Area generally does not provide the mosaic of half treed conditions preferred by Eastern Whip Poor Will. Therefore, Eastern Whip Poor Will are not likely to be a significant concern for the proposed development.
- **Least Bittern:** Least Bittern breed in open marshes and wetlands. As described above in Section 3.4, there are no significant areas of marsh or open wetland habitat within the Study Area. Least Bittern are therefore unlikely to be a significant concern for the proposed development.
- **Loggerhead Shrike:** Loggerhead Shrike are found nesting in large pastures and grasslands with scattered low trees and thorny shrubs. They also nest and forage in alvars (SARO 2019). As discussed above in Section 3.3, the Study Area does not provide open pasture, alvar, and/or grassland habitat that is large enough to support Loggerhead Shrike. Therefore, Loggerhead Shrike are not likely to be a significant concern for the proposed development.
- **Eastern Small Footed Myotis, Little Brown Bat, Northern Long Eared Bat, and Tricolored Bat:** No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were noted within the Study Area. 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. As described above in Section 3.3, there are no forested habitats within the Study Area. Therefore, Little Brown Bat, Northern Long Eared Bat, Eastern

Small Footed Myotis, and Tricolored Bat are not likely to be a significant concern for the proposed development.

- **Rusty Patched Bumblebee and Transverse Lady Beetle:** Rusty Patched Bumblebee is exceedingly rare in Ontario and the only sightings in the province since 2002 have been at the Pinery Provincial Park on Lake Huron (SARO 2019). There have been no records of Transverse Lady Beetle in Ontario since 1990 (SARO 2019). As such, Rusty Patched Bumblebee and Transverse Lady Beetle are unlikely to be a significant concern for the proposed development.
- **Bald Eagle:** Bald Eagles are a species of Special Concern, and therefore their habitat is not protected by the Ontario Endangered Species Act (ESA). Bald Eagles are primarily found nesting adjacent to large lakes and rivers (e.g. the Ottawa River) (SARO 2019). Due to the absence of large bodies of water in the vicinity of the Study Area, Bald Eagles are unlikely to be present. As such, Bald Eagles are unlikely to be a significant concern for the proposed development.
- **Black Tern and Horned Grebe:** Black Terns build their nests in shallow marshes (SARO 2019). Horned Grebe build their nests in marshes, ponds, and shallow bays (SARO 2019). As discussed above, there are no large wetland habitats or ponds found within the vicinity of the Study Area. The wetland vegetation found along Shirley's Brook is much too small for Black Terns and/or Horned Grebes to nest. Therefore, Black Terns and Horned Grebes are unlikely to be a significant concern for the proposed development.
- **Canada Warbler, Eastern Wood Pewee, Wood Thrush:** Canada Warbler, Eastern Wood Pewee, and Wood Thrush are all species that are found nesting in forested areas (SARO 2019). As discussed above in Section 3.3, there are no forested habitats within the Study Area, and therefore Canada Warbler, Eastern Wood Pewee and Wood Thrush 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 Endangered Species Act (ESA). Common Nighthawk habitat consists of open areas with little or no ground vegetation including rock barrens, lakeshores, mining areas, and recent burns (SARO 2019). As described above, the majority of the Study Area is vegetated with Cultural Meadow. Therefore, Common Nighthawk are unlikely to be a significant concern for the proposed development.
- **Peregrine Falcon:** Peregrine Falcons nest on steep cliff edges and at the top of tall buildings in urban areas (SARO 2019). There are no potentially suitable nest sites for Peregrine Falcons within the Study Area, and therefore they are unlikely to be a significant concern for the proposed development.
- **Rusty Blackbird:** Rusty Blackbirds breed in coniferous forest near wetlands (SARO 2019). As discussed above in Section 3.3, there are no forested habitats within the Study Area, and therefore Rusty Blackbird are unlikely to be a significant concern for the proposed development.

- **Eastern Musk Turtle, Northern Map Turtle, River Redhorse, Silver Lamprey:** Eastern Musk Turtle, Northern Map Turtle, River Redhorse, and Silver Lamprey are all species of special concern, and therefore their habitat is not regulated under the Ontario ESA. All four (4) species are primarily riverine species, and typically they would not be found within a small flowing watercourse such as Shirley's Brook (SARO 2019). Most sightings of these species in the region are associated with the Ottawa River and its major tributaries (SARO 2019). Therefore, Eastern Musk Turtle, Northern Map Turtle, River Redhorse, and Silver Lamprey 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 within the Study Area (SARO 2019). 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.
- **Monarch Butterfly:** As described above in Section 3.3, Common Milkweed was noted within the Study Area in association with the Cultural Meadow. However, the density of Common Milkweed was not high, and no Monarch Butterflies were noted within the Study Area during surveying. It should be noted that Monarch Butterflies are a species of special concern, and therefore their habitat is not protected under the Ontario ESA. The wildlife and Species at Risk mitigation measures discussed in Section 4.4.2 will help to mitigate any potential impacts to individual Monarch Butterflies at the construction stage.

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

3.8 Linkages

The Study Area is bordered by existing development on all sides. Shirley's Brook is the only significant natural heritage feature in the vicinity. The Study Area 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 setbacks from the normal high-water mark.



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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 (on both sides). The 30 m setbacks will preserve Tree Stands B and E, which include the majority of mature trees found within the Study Area.

As noted above, the majority of the Study Area consists of open habitats that are largely devoid of mature tree cover. The trees that do occur are found around the margins of the Study Area, and most consist of recent regrowth stems with comparatively little ecological value. Therefore, the loss of tree cover within the development area is not anticipated to be ecologically significant.

There are no co-owned trees that are a significant concern for the western parcel (762 March Road). March Road occurs at the western edge of the western parcel. Trees that are present along the southern boundary of the western parcel (Deciduous Hedgerow F) are located within Minto's property (a retaining wall separates the trees from the adjacent developed property to the south). The Shirley's Brook setback is located to the east of the western parcel. The property to the north is 788 March Road, which is planned for future development (per the Site Plan Application that was recently reviewed by the City of Ottawa). The Site Plan for 788 March Road does not show any retained trees along the property boundary (Deciduous Hedgerow A). As such, there are no co-owned trees that are a significant concern within the western parcel (762 March Road).

The eastern parcel (335 Sandhill Road) also has few concerns with respect to co-owned trees. The Shirley's Brook corridor is present at the west side of the eastern parcel and Sandhill Road is present at the east side. The only co-owned trees which may potentially be impacted occur along the northern and southern boundaries of the eastern parcel. The Draft Plan of Subdivision for Stage 2 of the development (east of Shirley's Brook) shows both the northern and southern White Cedar Hedges (Feature D) being preserved. Both the northern and southern White Cedar Hedges occur at the property line. The northern White Cedar Hedge (Feature D) will be preserved at the edge of the development, due to the alignment of the roadway (which avoids the northern White Cedar Hedge). The southern White Cedar Hedges (Feature D) will be preserved at the property line within the 3 m wide rear yard setbacks that are identified along the southern development boundary. The 3 m wide rear yard setbacks are anticipated to be sufficient to protect the critical root zones of the southern White Cedar Hedges (Feature D), given that individual trees within the hedges are comparatively small (<30 cm diameter at breast height), and hence are anticipated to have a critical root zone of <3 m. Deciduous Hedgerow Feature C, which occurs along the northern boundary of the eastern parcel, is the only other feature where co-owned trees may be a concern. However, it should be noted that

the adjacent landowner is proposing to develop the adjacent property to accommodate a Mosque and Community Center. At the current time, it is unknown whether the adjacent landowner intends to retain Deciduous Hedgerow Feature C during the development of the adjacent property. The eastern parcel is subject to a Draft Plan of Subdivision Application. As part of the detailed design of the Draft Plan of Subdivision, a grading plan will be required which will provide greater detail on potential impacts to the trees. Therefore, it is recommended that concerns regarding the potential co-owned trees in the eastern parcel (Deciduous Hedgerow Feature C) should be addressed at the detailed design stage for the eastern parcel. Mitigation measures to protect retained trees during construction are discussed below.



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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 $\text{dbh} \times 10 \text{ cm}$;
- Ensure that existing trees are not removed from within the Shirley's Brook setbacks;
- Wherever feasible, ensure that existing trees are not removed from within the 3 m wide rear yard setbacks;
- When trees to be removed overlap with the CRZ of trees to be retained, cut the 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

Trees that are planted within the development will occur in close proximity to the 30 m vegetated setbacks surrounding Shirley's Brook. 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 for Stage 1 of the development are shown in the Stage 1 Landscaping Plan (Refer to Section 4.2.3).

As described below in Section 4.2.1, the proposed development includes a full 30 m wide setback on both sides of Shirley's Brook (60 m wide corridor). Existing vegetation, including existing tree and shrub cover, will be preserved within the 60 m wide corridor. Over time, it is anticipated that the tree and shrub cover will regenerate to provide additional shade within the 60 m wide corridor. As discussed below in Section 4.2.1, the setback arrangement is such that there are no significant negative impacts to Shirley's Brook anticipated to result from the development. The development also will not involve significant tree removal, as there are few mature trees within the development area. As such, there is no need to plant trees within the creek corridor for the purposes of either habitat compensation and/or mitigation. It should also be noted that the most significant ecological feature of Shirley's Brook is the presence of Blanding's Turtles. Blanding's Turtles require open sunny areas for basking (OMNRF 2014b). While some tree and shade cover within areas of Category 2 Blanding's Turtle habitat is desirable, a fully forested/shaded corridor would reduce opportunities for basking and therefore would reduce the functionality of the habitat for Blanding's Turtle. As such, tree planting within the 60 m wide corridor is not recommended.

4.2 Watercourses

4.2.1 Shirley's Brook Setback

As noted above, the Site Plan/Draft Plan of Subdivision includes a minimum 30 m wide vegetated setback from the normal high-water mark of Shirley's Brook (on both sides). Currently, the open space corridor owned by the City of Ottawa that surrounds Shirley's Brook varies in width between approximately 40 m and 60 m. The setbacks included as part of the proposed development will expand the current corridor width so that it is a minimum of 60 m wide throughout the Study Area.

Existing vegetation within the setbacks will be preserved. The purpose of the 30 m setbacks 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 setbacks help to protect the watercourse from edge effects including noise, pollution, and other forms of human disturbance. Trees 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 specified in Section 4.7.3 of the City of Ottawa Official Plan, current policy recommends that setbacks 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 Study Area, the 30 m setback from the normal high-water mark is the greater of the two setbacks. Therefore, the proposed setbacks conform to Section 4.7.3 of the City of Ottawa Official Plan. As described above in Section 3.7.1, the 30 m setbacks also serve to preserve all areas of Category 2 Blanding's Turtle habitat.

During the development, the following mitigation measures are required to protect the 60 m wide watercourse corridor:

- Natural areas to be retained, including the 60 m wide Shirley's Brook corridor, are to be isolated by study construction fencing or similar barriers at least 1 m in height during construction, in order to ensure their retention. The temporary Blanding's Turtle exclusion fencing described in Section 4.4.1 also serves as construction boundary fencing.
- Any areas of the 60 m wide Shirley's Brook corridor that are disturbed during construction are to be replanted with locally grown native species.

4.2.2 Floodplain Cut and Fill

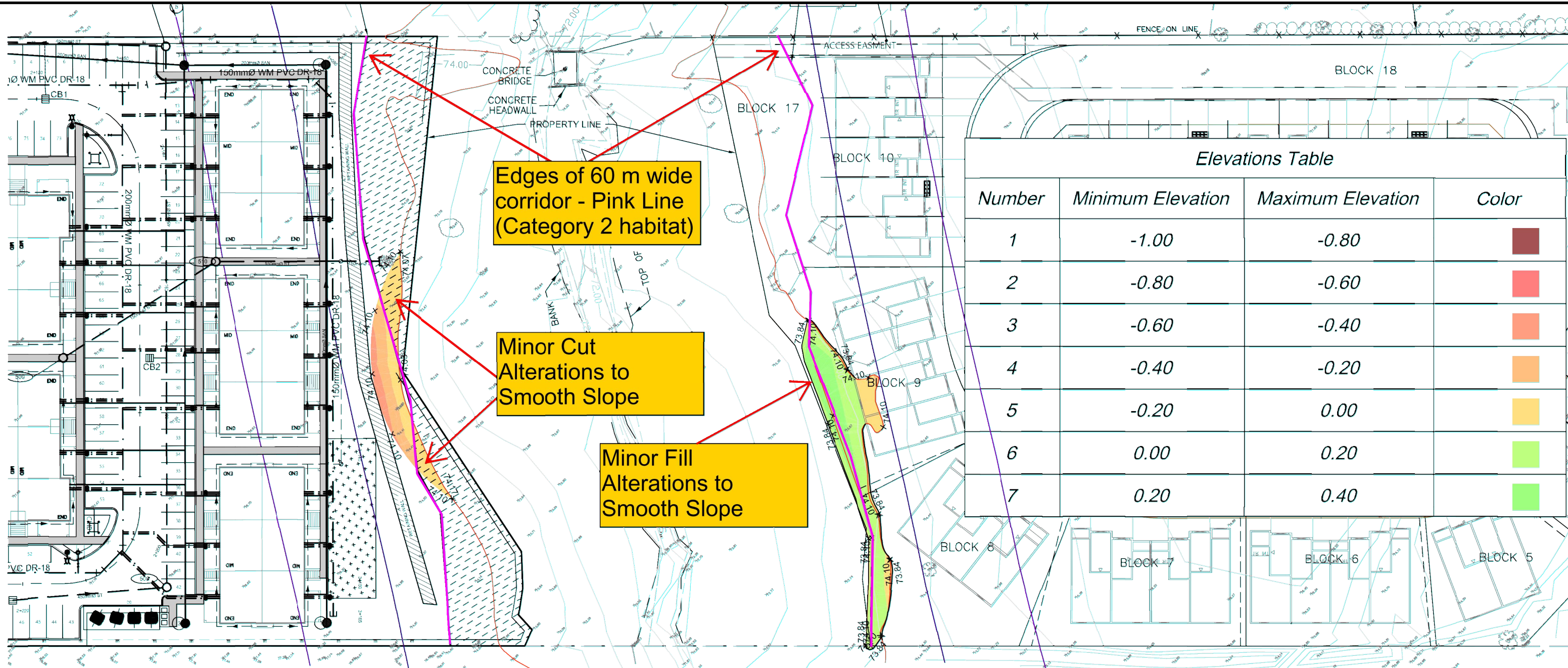
A small Cut and Fill operation is required in order to accommodate the construction of Block 9 within the eastern parcel, which overlaps a portion of the floodplain. A Conceptual Cut and Fill Plan has been prepared by JL Richards (included below). Conceptually, a small area of the floodplain (outside the 60 m wide corridor) will require fill on the east side of Shirley's Brook to accommodate Block 9. In order to compensate for the loss of floodplain storage capacity associated with the fill operation, a corresponding cut is proposed on the west side of Shirley's Brook (also located outside the 60 m wide corridor).

The major portion of the cut and fill volumes are both proposed outside the 60 m wide corridor, and thereby will avoid Category 2 Blanding's Turtle habitat. However, portions of the adjacent slopes will require grading to support the cut/fill, in order to create a smooth transition from the cut/fill. If the adjacent slopes are not graded, this would leave an abrupt elevation change at the edges of the 60 m wide corridor, which could be prone to erosion.

The grading on both the west and east sides of Shirley's Brook is proposed to extend approximately 3 m into the 60 m wide corridor (on each side). The total elevation change along the slope will be approximately +/- 20 cm to 40 cm. The minor grading changes along the slope are not anticipated to significantly affect Shirley's Brook, as the grading will occur more than 20 m from the water's edge, and the overall floodplain capacity will not change. The overall catchment and flow of water to Shirley's Brook also is not anticipated to change, as the grading changes will mirror each other on either side of the watercourse.

Following completion of the grading works, the disturbed areas within the 60 m wide corridor will be allowed to regenerate, and there will be no loss of Category 2 Blanding's Turtle habitat and/or any permanent loss of buffer functionality. Ultimately, the proposed grading changes within the 60 m wide corridor are anticipated to result in a temporary disturbance, which is not anticipated to significantly negatively impact Blanding's Turtle or their habitat. Requirements for Blanding's Turtle exclusion fencing and construction stage mitigation during the Cut and Fill operation are discussed below in Sections 4.4.1 and 4.4.2. The Ministry of Environment, Climate Change and Parks (MECP) has reviewed the proposed cut/fill and grading, and has confirmed that impacts to Blanding's Turtle and their habitat during the cut/fill and grading operation should be avoided, pending that the mitigation and avoidance measures are implemented appropriately (Refer to Appendix C for the MECP response). Therefore, the cut/fill and grading operation is not anticipated to require an Overall Benefit Permit under the Ontario Endangered Species Act.

File Location: V:\24000\24566.LD Minto Lands\24566-001 - 2018 Design - MARCH Rd\3-JLR DWG\1-Civil\24566-001 C FIG C.dwg



Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-1.00	-0.80	<div></div>
2	-0.80	-0.60	<div></div>
3	-0.60	-0.40	<div></div>
4	-0.40	-0.20	<div></div>
5	-0.20	0.00	<div></div>
6	0.00	0.20	<div></div>
7	0.20	0.40	<div></div>

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
OG vs CUT FILL	1.00	1.00	358.02sq.m	29.93 Cu. M.	29.93 Cu. M.	0.00 Cu. M.<Fill>
Totals			358.02sq.m	29.93 Cu. M.	29.93 Cu. M.	0.00 Cu. M.<Fill>


Scale 1:600

PROJECT:

MORGAN'S CREEK STAGE 1
762 MARCH ROAD

DRAWING:

CONCEPTUAL CUT & FILL FOR SHIRLEY'S BROOK FLOODPLAIN CORRIDOR

J.L.Richards
ENGINEERS • ARCHITECTS • PLANNERS

www.jrichards.ca
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DESIGN: AW
DRAWN: CJM
CHECKED: LD
JLR #: 24566-001

DRAWING #:
FIGURE C

PLOT DATE: April 11, 2019 1:37:25 PM

4.2.3 City of Ottawa Pathway

At the request of the City of Ottawa, a Conceptual Pathway location is shown in the Landscaping Plan for the western parcel (762 March Road). Conceptually, a 2 m wide City of Ottawa stone dust pathway is shown at the edge of the development area. The pathway occurs at the edge of the 30 m setback from the normal high-water mark of Shirley's Brook (along the west side of Shirley's Brook), with portions of the pathway overlapping the setback area. The detailed design of the pathway is not currently available, and it is understood that the final pathway design and layout will be determined in future by the City, and may depend upon pathway connections in adjacent properties, accessibility requirements, and other City of Ottawa design criteria. Ultimately, the pathway is to be designed and built by the City of Ottawa. The Conceptual Pathway location has been discussed with the Ontario Ministry of Natural Resources and Forestry (OMNRF) (phone discussion with Aaron Foss, OMNRF Kemptville District, December 3rd, 2018) and the OMNRF confirmed that due to the fact that portions of the pathway are proposed within Category 2 Blanding's Turtle habitat, the pathway will ultimately require review under the Ontario Endangered Species Act. The OMNRF advised that the pathway review should be undertaken at a later stage once the detailed design of the pathway is available. The OMNRF acknowledged that the pathway review process may be undertaken separate of the development, due to the fact that the development and pathway may be constructed according to different timelines, the pathway will be installed on City of Ottawa land, and the pathway may involve construction on several properties at once (e.g. 788 March Road, 762 March Road and other properties to the south of 762 March Road). As such, the Endangered Species Act review for the pathway should be addressed as a follow-up requirement, once the detailed pathway design is available and the pathway construction is ready to proceed. Similarly, Mississippi Valley Conservation Authority (MVCA) requirements for the pathway should also be reviewed once a detailed design is available.

At the request of the City of Ottawa, a previous development concept approved in 2012 included a pathway connection that would cross Shirley's Brook in the northern part of the Study Area. The Shirley's Brook crossing would serve to connect the western and eastern parcels, while also providing pedestrian access between March Road and Sandhill Road. In order to facilitate the pedestrian connection, a concrete bridge would be required to cross Shirley's Brook. The pathway's location was determined prior to the identification of Blanding's Turtle habitat in the area, which was first documented in 2014 (discussed in Section 3.7.1). While a crossing of Shirley's Brook may have benefits with regards to pedestrian access and connectivity, a new bridge also has the potential to disrupt the habitat of Blanding's Turtle. During the review of previous development applications, the OMNRF have generally stated that they view the extension of pathway connections through areas of Category 2 Blanding's Turtle habitat as an impact to the habitat. Installing a watercourse crossing across the north side of the Shirley's Brook corridor would result in a direct loss of Category 2

habitat equal to the bridge's footprint, while it may also degrade the functionality of the surrounding areas of Category 2 habitat and increase risks to individual Blanding's Turtles. Due to the potential impacts to Blanding's Turtles and their habitat, the watercourse crossing between the western and eastern parcels is not recommended. As such, the watercourse crossing has not been included in the Conceptual Pathway location shown in the Landscaping Plan.

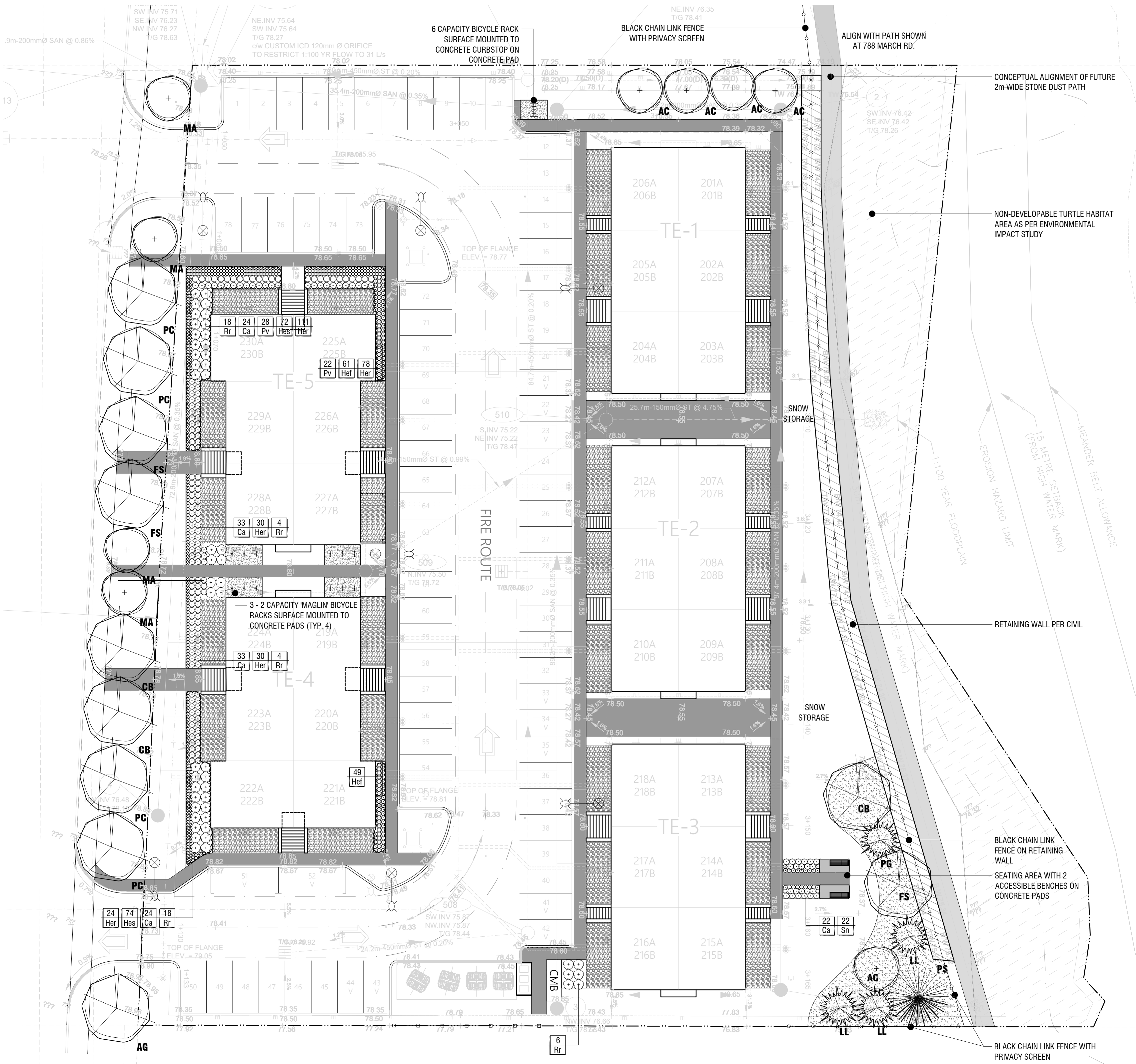


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1 LANDSCAPE PLAN
L1 1:250

PRELIMINARY
NOT FOR CONSTRUCTION

TREE PLANTING SCHEDULE				
KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE / CONDITION / SPACING
DECIDUOUS TREES				
AG	1	Aesculus glabra	Ohio Buckeye	60mm cal. / W.B.
AC	5	Amelanchier canadensis	Serviceberry	60mm cal. / W.B.
CB	3	Carpinus betulus 'Emerald Avenue'	Emerald Avenue Hornbeam	60mm cal. / W.B.
FS	3	Fagus sylvatica 'Tricolor'	Tricolor Beech	60mm cal. / W.B.
MA	4	Malus 'Spring Snow'	Spring Snow Crabapple	60mm cal. / W.B.
PC	4	Pyrus calleryana 'Canticleer'	Chanticleer Pear	60mm cal. / W.B.
CONIFEROUS TREES				
LL	3	Larix laricina	Tamarack	175cm ht. / W.B.
PG	1	Picea glauca	White Spruce	175cm ht. / W.B.
PS	1	Pinus strobus	Eastern White Pine	175cm ht. / W.B.
DECIDUOUS SHRUBS				
Rr	37	Rosa rugosa	Rugosa Rose	60cm ht. / 1m sp.
PERENNIALS & GRASSES				
Ca	136	Calamagrostis x acutiflora 'Overdam'	Variegated Feather Reed Grass	#2 Pot / 60cm o.c.
Hef	110	Hemerocallis 'Frans Hals'	Frans Hals Daylily	#1 Pot / 40cm o.c.
Her	273	Hemerocallis 'Ruby Stella'	Ruby Stella Daylily	#1 Pot / 30cm o.c.
Hes	146	Hemerocallis 'Stella D'oro'	Stella D'oro Daylily	#1 Pot / 30cm o.c.
Pv	50	Panicum virgatum 'Prairie Sky'	Prairie Sky Switch Grass	#2 Pot / 65cm o.c.
Sn	22	Salvia nemorosa 'May Night'	May Night Meadow Sedge	#1 Pot / 40cm o.c.

NOTES:

DO NOT SCALE DRAWINGS;

Fotenn Planning + Design IS NOT RESPONSIBLE FOR ACCURACY OF BASE INFORMATION;

REFER TO CIVIL ENGINEERING DRAWINGS FOR GRADING & SITE SERVICING INFORMATION;

THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING SITE CONDITIONS AND REPORTING ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT;

THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING EXACT LOCATIONS OF ALL UNDERGROUND SERVICES AND OBTAINING CLEARANCE FROM ALL APPLICABLE UTILITIES. PROPOSED WORKS FOUND TO BE IN CONFLICT WITH UNDERGROUND SERVICES MAY BE ADJUSTED AT THE DIRECTION OF THE LANDSCAPE ARCHITECT;

LANDSCAPE ELEMENTS SHOWN ARE SUBJECT TO THE FINAL LOCATION OF UNDERGROUND SERVICES AND UTILITIES;

DO NOT INSTALL TREES ON PROPERTY / LOT LINES OR WITHIN DRAINAGE EASEMENTS;

PERFORM WORK IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS;

ALL PLANT MATERIAL SHALL BE No. 1 NURSERY STOCK AND SHALL MEET OR EXCEED THE SPECIFICATION OF THE Canadian Standards for Nursery Stock, AS PUBLISHED BY THE Canadian Nursery Landscape Association;

SPECIES SUBSTITUTIONS ARE NOT PERMITTED WITHOUT PRIOR WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT;

ALL UN-PAVED SURFACES TO RECEIVE 150mm DEPTH TOPSOIL & SOD.

CITY OF OTTAWA STANDARDS FOR TREE PLANTING:

MAINTAIN A MINIMUM DISTANCE OF 7.5m FROM ALL BUILDINGS;

MAINTAIN A MINIMUM DISTANCE OF 3.0m FROM ALL HYDRO TRANSFORMERS;

MAINTAIN A MINIMUM DISTANCE OF 2.5m FROM THE CURB FOR DECIDUOUS TREES AND 4.5m FOR CONIFEROUS TREES;

MAINTAIN A MINIMUM DISTANCE OF 2.5m FROM FIRE HYDRANTS AND NO PLANTING IN FRONT OF HYDRANTS;

MAINTAIN A MINIMUM DISTANCE OF 1.5m FOR DECIDUOUS (4.5m FOR CONIFERS) FROM ANY SIDEWALK OR PRIVATE WALKWAY;

MAINTAIN A MINIMUM DISTANCE OF 1.5m FROM ALL UNDERGROUND SERVICES;

MAINTAIN A MINIMUM DISTANCE OF 1.0m FROM ALL BELL AND CABLE BOXES;

MAINTAIN A MINIMUM DISTANCE OF 1.2m FROM ALL DRIVEWAYS;

MAINTAIN A MINIMUM DISTANCE OF 10.0 FROM BUS SHELTERS

IMPORTANT NOTICE FOR CONTRACTOR:

THE CITY OF OTTAWA REQUIRES A Certificate of Completion (F1) Landscape Works TO BE SUBMITTED AND SEALED BY THE LANDSCAPE ARCHITECT. CONTRACTORS ARE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH THE REQUIREMENTS OF THIS PROCESS AND PROVIDING SUFFICIENT NOTICE TO THE LANDSCAPE ARCHITECT TO CONDUCT SITE REVIEWS DURING INSTALLATION OF TREES. THE 1 YEAR WARRANTY PERIOD SHALL NOT COMMENCE UNTIL THE LANDSCAPE ARCHITECT HAS SUBMITTED THE F1 Certificate.

PRIOR TO INSTALLATION OF TREES, THE DEVELOPER WILL CONTACT THE PLANNING AND GROWTH MANAGEMENT AND FORESTRY SERVICES TO REVIEW THE SPECIES AND LOCATION OF TREES.

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Client / Client

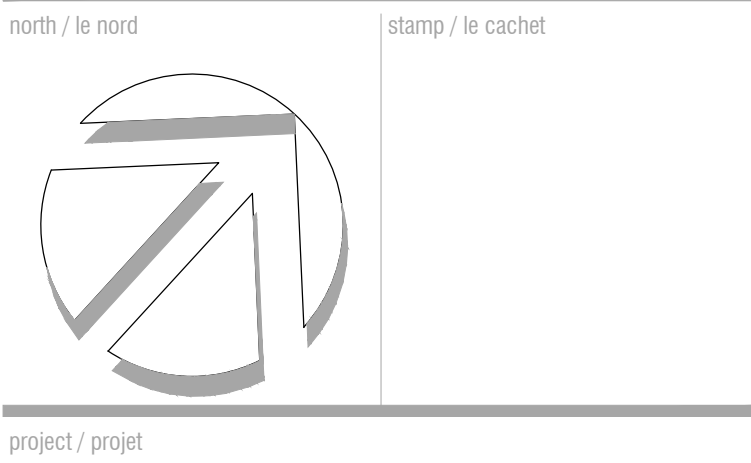


legend / légende
SCOPE OF APPLICATION

- SMALL DECIDUOUS TREE (REFER TO PLANTING SCHEDULE FOR SPECIES AND QUANTITIES)
- MEDIUM DECIDUOUS TREE (REFER TO PLANTING SCHEDULE FOR SPECIES AND QUANTITIES)
- LARGE DECIDUOUS TREE (REFER TO PLANTING SCHEDULE FOR SPECIES AND QUANTITIES)
- CONIFEROUS TREES (REFER TO PLANTING SCHEDULE FOR SPECIES AND QUANTITIES)
- 1.8m HIGH WOOD PRIVACY FENCE
- 1.2m HIGH CHAIN LINK FENCE (BLACK)
- 1.2m HIGH BLACK CHAIN LINK FENCE WITH PRIVACY SCREEN
- 2-5" RIVER WASH STONE MAINTENANCE STRIP
- SHRUB AND PERENNIAL PLANTING (REFER TO PLANTING SCHEDULE FOR SPECIES AND QUANTITIES)
- NATURALIZED GRASS
- LIGHTING DESIGN AND FINAL LOCATIONS TO BE DETERMINED BY ELECTRICAL ENGINEER
- TYP. ACCESSIBLE BENCH ON CONCRETE PAD

rev'n	description / la description	mm/dd/yyyy
2	issue for submission	04/24/2019
1	issue for submission	12/21/2018
0	issue for Client review	12/21/2018

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Ottawa, ON, CANADA K2P 0Z8
613.730.5709
fotenn.com



MORGAN'S CREEK - PHASE 1
762 MARCH ROAD

drawing / dessin

LANDSCAPE PLAN

designed / conçu	drawn / dessiné	reviewed / examiné
SM	SM	DF
date	project number / No. du projet	
DEC. 2018	C 11-42	
drawing number / No. du dessin		

L1 of 2

17889

007-12-18-0199

4.2.4 Servicing and Stormwater Management

Stormwater from the western parcel 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 western parcel. Stormwater from the eastern parcel will be directed to the existing Sandhill Road storm sewer, which outlets to the existing SWMF Pond No.2. The Shirley's Brook East SWMF Pond No.2 was sized to provide quantity and quality control for the eastern parcel. Both parcels will receive municipal sewer and water. All services are shown to connect to the western and eastern parcels from March Road and Sandhill Road (respectively), and no overland or buried connections are required to cross Shirley's Brook.

4.2.5 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. In addition to protecting Blanding's Turtle (and other wildlife), 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 and Sandhill 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 Study Area is surrounded by existing and/or planned development on all sides, and the only significant natural heritage feature found in the vicinity is Shirley's Brook and its open space corridor. Shirley's Brook and the associated Blanding's Turtle habitat are addressed by the mitigation measures outlined in Sections 4.2 and 4.4. Mitigation measures to protect trees on adjacent properties are discussed above in Section 4.1.



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4.4 Wildlife and Species at Risk

4.4.1 Blanding's Turtle Mitigation – Setbacks and Exclusion System

As discussed above, the 30 m vegetated setback from the normal high-water mark on both sides 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 Study Area is surrounded by developed areas on all sides. The Category 3 habitat within the Study Area 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 habitat 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 within the Study Area, regardless of whether the Category 3 habitat within the Study Area is developed. As such, although the majority of the Study Area 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 Sandhill Road. By providing an avenue of movement to the existing roadways, the Category 3 habitat that is present within the Study Area 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 2019). Although development of the Study Area will remove areas of non-functional Category 3 habitat, any potential impacts to Blanding's Turtles will be mitigated by the installation of a new Blanding's Turtle exclusion system along the edges of the Shirley's Brook setbacks. The exclusion system will provide a benefit to the species, by helping to mitigate the existing risk of road mortality on March Road and Sandhill 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, an exclusion system along the edges of the Shirley's Brook setbacks 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 a permanent exclusion system. The exclusion system should be placed between the development edge and the edge of the 30 m wide setbacks from the normal high-water mark of Shirley's Brook (on both sides). Where feasible, the exclusion system should be tied into any existing or future fencing within

adjacent properties along the Shirley's Brook corridor, in order to form a continuous barrier that will prevent Blanding's Turtle (and other wildlife) from reaching the roads.

Temporary fencing installed at the construction stage typically consists of wire re-enforced silt fencing that is buried at the bottom. The permanent exclusion system may consist of several different configurations, as described by OMNRF guidance documents (Gunson et al. 2016). Generally, permanent Blanding's Turtle exclusion systems must consist of barriers a minimum of 60 cm tall that are buried into the ground and which are impassable to Blanding's Turtles of all sizes. The barrier materials are 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 constructed from plastic sheeting or wire mesh.

The Blanding's Turtle exclusion system for the western parcel (762 March Road) is shown on the Landscaping Plan (see above). A retaining wall that will vary between approximately 0.68 m and 3.76 m in height will provide the minimum 60 cm tall barrier along the majority of the Shirley's Brook corridor. At the northern end of the retaining wall, a chain link fence will be added. The holes in the chain link fence will be made impassable to turtles of all sizes by including plastic privacy inserts weaved between the fence holes. In the northern part of the western parcel, the chain link fence will cross the property line and will tie into the planned Blanding's Turtle exclusion system in the adjacent 788 March Road development, thereby creating a continuous barrier that stretches between the two properties. At the south end of the retaining wall, chain link fence (with plastic privacy inserts) will also close a gap approximately 7.5 m long between the edge of the retaining wall and the southern property boundary. At the southern property boundary, a 3 m long tie-back has been included, in order to discourage turtles from walking around the edge of the fence. This system will create a continuous barrier along the west side of the Shirley's Brook corridor. The detailed design of the Blanding's Turtle exclusion system for the eastern parcel (335 Sandhill Road) will be determined through the Draft Plan of Subdivision application and review process. The detailed design for the eastern parcel will conform to the fencing requirements outlined above.

As discussed above in Section 1.6, the OMNRF/MECP have reviewed the project and have confirmed that significant impacts to Blanding's Turtle and their habitat are anticipated to be avoided, pending that the mitigation measures outlined in the Information Gathering Form (IGF) are implemented appropriately. The mitigation measures described in the IGF are the same as those included in this Combined EIS and TCR. Therefore, an Overall Benefit Permit under the Ontario Endangered Species Act is not required to support the proposed development. Email correspondence from the OMNRF/MECP confirming their determination is included in Appendix C.

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 the 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 Species at Risk (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/MECP 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 the 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, cut/fill operations, grading, and the installation of temporary exclusion fencing should be undertaken between October 16th and April 15th.



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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 Species at Risk (SAR) mitigation measures. The majority of the Study Area 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.



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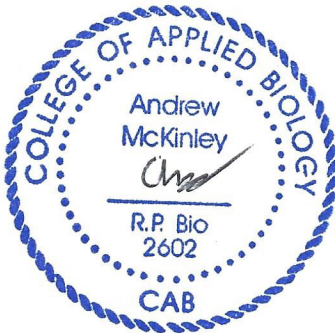
mckinleyenvironmental@gmail.com

www.mckinleyenvironmental.com

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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APPENDIX A

Master Plant List



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TABLE A: VEGETATION

Common Name	Scientific Name	Provincial S rank	Brunton Significance Ranking for the City of Ottawa (Brunton, 2005)	Vegetation Type
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
Meadow grass sp.	Poa sp.		Common	Grass
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
Chickory	Cichorium intybus	S5	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
Philadelphia Fleabane	Erigeron philadelphicus	S5	Common	Herbaceous
Boneset	Eupatorium perfoliatum	S5	Common	Herbaceous
Spotted Joe Pye Weed	Eutrochium maculatum	S5	Common	Herbaceous
Prickly Lettuce	Lactuca scariola	SNA	Common	Herbaceous
Ox-eye Daisy	Leucanthemum vulgare	SNA	Common	Herbaceous
Bird's-foot Trefoil	Lotus corniculatus	SNA	Common	Herbaceous
Purple Loosestrife	Lythrum salicaria	SNA	Common (invasive)	Herbaceous
Curled Dock	Rumex crispus	SNA	Common	Herbaceous
Canada Goldenrod	Solidago canadensis	S5	Common	Herbaceous
Sow Thistle	Sonchus arvensis	SNA	Common	Herbaceous
Tall White Aster	Symphyotrichum lanceolatum	SNR	Common	Herbaceous
New England Aster	Symphyotrichum novae-angliae	S5	Common	Herbaceous
Common Tansy	Tanacetum vulgare	SNA	Uncommon	Herbaceous
Dandelion	Taraxacum officinale	SNA	Common	Herbaceous

Red Clover	Trifolium pratense	SNA	Common	Herbaceous
White Clover	Trifolium repens	SNA	Common	Herbaceous
Common Stinging Nettle	Urtica dioica	SNA	Common	Herbaceous
Blue Vervain	Verbena hasta	S5	Common	Herbaceous
Tufted Vetch	Vicia Cracca	SNA	Common	Herbaceous
Red Osier Dogwood	Cornus sericea (stolonifesa)	S5	Common	Shrub
Hawthorn	Crataegus chrysocarpa	S5	Common	Shrub
Common Buckthorn	Rhamnus cathartica	SNA	Common (aggressive invasive)	Shrub
Wild Red Raspberry	Rubus idaeus	S5	Common	Shrub
Slender Willow	Salix petiolaris	S5	Common	Shrub
Manitoba Maple	Acer negundo	S5	Common	Tree
White Ash	Fraxinus americana	S5	Common	Tree
Green Ash	Fraxinus pennsylvanica	S5	Common	Tree
Domestic Apple	Malus sylvestris	n/a	Common	Tree
Trembling Aspen	Populus tremuloides	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
White Cedar	Thuja occidentalis	S5	Common	Tree
American or White Elm	Ulmus americana	S5	Common	Tree
Virginia Creeper	Parthenocissus vitacea	S5	Common	Vine
Riverbank Grape	Vitis riparia	S5	Common	Vine

Provincial ranks (assigned by NHIC)

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

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

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

SNA = Ranking not available

SE5 = Very common exotic with > 1000 occurrences, 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

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Kemptville District

District de Kemptville

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

10-1, promenade Campus
Kemptville ON K0G 1J0
Tél.: 613 258-8204
Télééc.: 613 258-3920

Wed. January 02, 2019

Andrew McKinley
McKinley Environmental Solutions
Ottawa, Ontario
mckinleyenvironmental@gmail.com

Attention: Andrew McKinley

Subject: Information Request
Project Name: 760 March Rd EIS & TCR
Site Address: 760 March Rd, Ottawa (Lot 10, Concession 3, March Township)
Our File No. 2019_MAR_0002

Natural Heritage Values

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

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

- Unevaluated Wetland (Not evaluated per OWES)
- Significant Woodlands
- Stream (Shirley's Brook)

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.

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

The Ministry of Natural Resources and Forestry (MNRF) has established timing window guidelines to restrict in-water work related to an activity during certain periods. These restricted periods are identified in order to protect fish from impacts of works or undertakings in and around water during spawning and other critical life stages. A suite of appropriate measures should be taken for projects involving in-water works to minimize and mitigate impacts to fish, water quality and fish habitat, and include:

- avoiding in-water works during the timing guidelines;
- installation of sediment/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 guidelines are based on species* presence and are therefore subject to change if new information becomes available. Timing guidelines in Kemptville District are:

Waterbody (and applicable geography or Fisheries Management Zone)	Timing Guidelines (no in-water works)
○ St. Lawrence River (FMZ 20)	March 15 – July 15 (Spring spawning species)
○ Ottawa River – Lac Des Chats (FMZ 12)	October 1 to July 15 (Spring and fall spawning species, including Lake Trout and Lake Whitefish)
○ Ottawa River – Lac Deschenes (FMZ 12)	October 15 to July 15 (Spring and fall spawning species, including Cisco)
○ Ottawa River – Lac Dollard des Ormeaux (FMZ 12)	January 1 to July 15 (Winter and spring spawning species, including Burbot)
○ Big Rideau Lake (South Burgess, North Burgess, Bastard and South Elmsley Twps) ○ Charleston Lake (Lansdowne and Escott Twps) ○ Crow Lake (South Crosby Twp)	October 1 to June 30 (Spring and fall spawning species, including Lake Trout)
○ Bass Lake (South Elmsley Twp) ○ Lower Rideau Lake (South Elmsley Twp) ○ Bob's Lake (South Sherbrooke Twp) ○ Christie Lake (South Sherbrooke Twp) ○ Dalhousie Lake (Dalhousie Twp) ○ Davern Lake (South Sherbrooke Twp) ○ Farren Lake (South Sherbrooke Twp) ○ Grippen Lake (Leeds Twp) ○ Indian Lake (South Crosby Twp) ○ Little Long Lake (Lansdowne Twp) ○ Millpond Lake (South Burgess) ○ Otter Lake (South Elmsley, South Burgess and Bastard Twps) ○ Otty Lake (North Burgess and North Elmsley Twps) ○ Pike Lake (North Burgess Twp) ○ Silver Lake (South Sherbrooke Twp) ○ Redhorse Lake (Lansdowne Twp)	October 15 to June 30 (Spring and Fall spawning species, including Lake Whitefish and Cisco)

<ul style="list-style-type: none"> ○ Tay River (South Sherbrooke, Bathurst, Drummond and North Elmsley Twps) ○ Wolfe Lake (North Crosby Twp) 	
<ul style="list-style-type: none"> ○ Bennett Lake (Bathurst Twp) ○ Crosby Lake (North Crosby Twp) ○ Gananoque River (Leeds Twp) ○ Lac Georges (Plantagenet and Alfred Twps) ○ Gillies Lake (Lanark Twp) ○ Little Crosby Lake (North Crosby Twp) ○ McLaren Lake (North Burgess Twp) ○ Mississippi Lake (Drummond, Beckwith and Ramsay Twps) ○ Mississippi River (Beckwith, Ramsay, Pakenham and Fitzroy Twps) ○ Raisin River below Martintown dam (Charlottenburgh Twp) ○ Rideau River (Wolford, Oxford, Montague, Marlborough, South Gower, North Gower, Osgood, Nepean and Gloucester Twps) ○ South Lake (Leeds Twp) ○ South Nation River below Plantagenet weir (Plantagenet Twp) ○ Upper Rideau Lake (North Crosby Twp) ○ Westport Sand Lake (North Crosby Twp) 	January 1 – June 30 (Winter and spring spawning species, including Burbot)
<ul style="list-style-type: none"> ○ Small rivers and streams (denoted on 1:50,000 National Topographic System maps as being one lined) ○ All other waterbodies in FMZ 18 	March 15 to June 30 (Spring spawning species)

**Please note: Additional timing restrictions may apply as they relate to endangered and threatened species for works in both water and wetland areas. Timing restrictions are subject to change, depending on species found in a given waterbody.*

In addition to adhering to the above timing guidelines, a work permit from the MNRF may be required depending on the nature and scope of work. No encroachment on the bed or banks of a waterbody/watercourse (e.g. abutments, embankments, etc.) is permitted without MNRF approval. Additional information regarding work permits may be found online at <https://www.ontario.ca/page/crown-land-work-permits#section-2>.

The MNRF does not have any water quality or quantity data available. We recommend that the Ministry of the Environment and Climate Change be contacted for such data along with the local Conservation Authority. For further information regarding fish habitat and protocols, please refer to the following interagency, document, *Fish Habitat Referral Protocol for Ontario* at: http://www.web2.mnr.gov.on.ca/mnr/ebf/fish_hab_referral/protocol_en.pdf.

Additional approvals and permits may be required under the Fisheries Act and the Species at Risk 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, and these agencies should be contacted directly to determine requirements. 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.

Aquatic Resource Area fish species for Shirley's Brook includes: American Eel, 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., Pumpkinseed, Rhinichthys sp., Rock Bass, Smallmouth Bass, Sticklebacks, White Sucker.

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 (March Township):

American Eel	END
American Ginseng	END
Butternut	END
Eastern Small-footed Myotis	END
Hickorynut	END
Little Brown Myotis	END
Loggerhead Shrike	END
Northern Myotis	END
Rusty-patched Bumble Bee	END
Transverse Lady Beetle	END
Tri-colored Bat	END
Bank Swallow	THR
Barn Swallow	THR
Blanding's Turtle	THR
Bobolink	THR
Chimney Swift	THR
Eastern Meadowlark	THR
Eastern Whip-poor-will	THR
Lake Sturgeon	THR
Least Bittern	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. Thus any potential works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: <https://www.ontario.ca/page/how-species-risk-are-protected>.

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

property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptonville@ontario.ca.

The Information Gathering Form may be found here:

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

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

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

One or more special concern (SC) species has been documented to occur either on the site or nearby (March Township). 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:

Bald Eagle	SC
Black Tern	SC
Canada Warbler	SC
Eastern Musk Turtle	SC
Eastern Wood-pewee	SC
Horned Grebe	SC
Monarch	SC
Northern Map Turtle	SC
Peregrine Falcon	SC
River Redhorse	SC
Rusty Blackbird	SC
Silver Lamprey	SC
Snapping Turtle	SC
Wood Thrush	SC
Yellow-banded Bumblebee	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 sar.kemptville@ontario.ca.

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

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

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

If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Jane Devlin
Management Biologist
613-258-8418
jane.devlin@ontario.ca

Encl. : ESA Infosheet; NHIC/LIO Infosheet

APPENDIX C

OMNRF/MECP Confirmation of Project Review



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Andrew McKinley <mckinleyenvironmental@gmail.com>

760 March Road IGF Submission Part 1 of 2

Foss, Aaron (MNRF) <Aaron.Foss@ontario.ca>
To: McKinley Environmental <mckinleyenvironmental@gmail.com>

Wed, Dec 5, 2018 at 1:19 PM

Good afternoon Andrew,

After review, MNRF agrees with your assessment that impacts to Blanding's turtle, and contravention to the ESA should be avoided if avoidance and mitigation measures are implemented as described.

If any details of the project change, I recommend that you contact our office for a follow up review.

Any questions, feel free to contact me.

Cheers

Aaron Foss

Sr. Fish and Wildlife Technical Specialist
Ministry of Natural Resources and Forestry
Kemptville District
10-1 Campus Drive
Kemptville, ON K0G 1J0
Ph: 613-258-8386

From: McKinley Environmental <mckinleyenvironmental@gmail.com>
Sent: November 8, 2018 1:48 PM
To: Foss, Aaron (MNRF) <Aaron.Foss@ontario.ca>
Cc: Kevin A. Harper <KHarper@minto.com>; Susan Murphy <SMurphy@minto.com>
Subject: 760 March Road IGF Submission Part 1 of 2

Hi Aaron,

Minto are currently submitting a Site Plan/Draft Plan of Subdivision application to develop the properties at 760 March Road and 329 Sandhill Road. For reference, the 760 March Road parcel is located directly south of the 788 March Road project, which was recently reviewed by the OMNRF.

The Minto project includes development of two parcels (both owned by Minto) on either side of Shirley's Brook. Both parcels are relatively small (about 2.2. ha total) and are surrounded by existing development on all sides. The two parcels are being developed concurrently by Minto, and so are addressed together.

The proposal for this project is similar to the adjacent [788 March Road](#) property. In this case, Minto proposes to maintain a full 60 m wide corridor surrounding [Shirley's Brook](#) (30 m setback from the normal high-water mark on both sides) in order to preserve Category 2 Blanding's Turtle habitat. A comparatively small area of Category 3 Blanding's Turtle habitat will be removed by the development. However, as with the adjacent [788 March Road](#) development, the Category 3 habitat is highly degraded and surrounded by existing development on all sides, and hence is unlikely to provide any significant habitat function. Minto are also proposing to provide fencing on both sides of the 60 m wide corridor, in order to mitigate any potential impacts to Blanding's Turtle. The fencing is anticipated to address the existing risk of road mortality on March Road and Sandhill Road, thereby offsetting any potential impacts associated with the removal of the non-functional Category 3 habitat.

Overall, the arrangement and habitat conditions are very similar to the recently reviewed [788 March Road](#) project (which is located immediately to the north).

As with the adjacent project, we believe the proposed mitigation is sufficient that there will be no significant negative impacts to Blanding's Turtle or their habitat, and therefore that an Overall Benefit Permit should not be required.

In order to facilitate the OMNRF review, I have prepared the Information Gathering Form (attached). I am also sending a copy of the Combined Environmental Impact Statement and Tree Conservation Report, and Figures (separate email).

As discussed with other recent applications, I have summarized the surveying in Table 2 of the IGF. As recently discussed, I haven't included a description of the mitigation measures (which will be included in the AAF). Once the OMNRF has confirmed acceptance of the IGF, I will submit the Alternatives Assessment Form.

We are looking forward to receiving your comments.

Thanks,

Andrew

--

Andrew McKinley, PhD, MA, BA (Hons), EP, RP Bio

Senior Biologist | McKinley Environmental Solutions

(613) 620-2255 | Ottawa, Ontario

mckinleyenvironmental@gmail.com | www.mckinleyenvironmental.com



Andrew McKinley <mckinleyenvironmental@gmail.com>

760 March Road Minor Grading

Hann, Carolyn (MECP) <Carolyn.Hann@ontario.ca>
To: McKinley Environmental <mckinleyenvironmental@gmail.com>

Mon, Apr 15, 2019 at 12:19 PM

Hello Andrew,

After review of the additional work that needs to occur, MECP agrees with your assessment that the work being proposed is consistent with previous mitigation/avoidance measures. Impacts to Blanding's Turtle and contravention to the Endangered Species Act should be avoided if avoidance measures and mitigation are implemented as described. Again, if further details of the project change, I recommend that you contact SAROntario@ontario.ca and request a follow-up review.

If you have any further questions, please feel free to contact me directly.

Best,

Carolyn Hann

Management Biologist | Ontario Ministry of Environment, Conservation and Parks | [10-1 Campus Drive, Kemptville, Ontario, K0G 1J0](#) | PH: 613.258.8267 | Email: carolyn.hann@ontario.ca

From: McKinley Environmental <mckinleyenvironmental@gmail.com>

Sent: April-09-19 10:15 AM

To: Hann, Carolyn (MECP) <Carolyn.Hann@ontario.ca>

Cc: Lucie Dalrymple <LDalrymple@jlrichards.ca>; Annie Williams <awilliams@jlrichards.ca>; Kevin A. Harper <KHarper@minto.com>; Thomas Couper <TCouper@minto.com>; Susan Murphy <SMurphy@minto.com>

Subject: 760 March Road Minor Grading

Hi Carolyn,

I wanted to send an update regarding the [760 March Road](#) project. We previously submitted an Information Gathering Form for this project, which was reviewed by the OMNRF. I previously discussed this project with Aaron Foss, but I'm guessing you probably reviewed the IGF? If not, please let me know if there is someone else I should follow-up with at the MECP, now that Aaron is no longer working on these files.

After review of the IGF was complete, Aaron notified us that the OMNRF agreed that contravention of the ESA will be avoided, pending that the mitigation and avoidance measures are implemented as described in the submission (I've

copied his email confirmation below).

The mitigation and avoidance measures are continuing as described in the IGF, however, there is a minor change that I wanted to run by you. As described in the IGF, Minto plans to convey land to create a 60 m wide corridor surrounding Shirley's Brook, thereby avoiding any impacts to Category 2 habitat.

However, during the design process we've recently realized that some minor grading will be required within the 60 m wide corridor, in order to complete a cut and fill operation. As shown in the attached, the reason for this is that portions of Block 9 overlap the revised floodplain (as shown by recent MVCA mapping). A small area of the floodplain (outside the 60 m wide corridor) will require fill on the east side of Shirley's Brook to accommodate Block 9. We are required to compensate for floodplain capacity, so a corresponding cut is proposed on the west side of Shirley's Brook (again outside the 60 m wide corridor).

The major portion of the cut and fill volumes are both proposed outside the 60 m wide corridor, however, portions of the adjacent slopes would need to be graded. The grading is required to create a smooth transition from the cut/fill, as otherwise we'll be left with an abrupt elevation change that would be prone to erosion.

The grading on both the west and east sides of Shirley's Brook would only extend about 3 m beyond the 60 m wide corridor limit (on each side). The total elevation change along the slope would be approximately +/- 20 to 40 cm. The minor grading changes shouldn't significantly affect Shirley's Brook, as the grading will occur more than 20 m from the water's edge, and the overall floodplain capacity won't change. The overall catchment and flow of water to Shirley's Brook also won't change, as the grading changes will mirror each other on either side of the watercourse.

During grading work, the area will be isolated with a temporary Blanding's Turtle exclusion fence and sweeps will be completed prior to vegetation removal (as described in the IGF). There is no significant tree clearing required, as the work area is already open Cultural Meadow, so we would only be removing groundcover. Following completion, the grading areas will be allowed to regenerate, so there will be no loss of Category 2 habitat and/or any permanent loss of buffer functionality.

We believe the grading is a minor and temporary disturbance which shouldn't have any significant impacts on Blanding's Turtle or the Category 2 habitat, and that this work is consistent with the previous mitigation/avoidance measures and the OMNRF's determination for the project.

Please let me know if you have any questions or comments.

Thanks,

Andrew

On Wed, Dec 5, 2018 at 1:19 PM Foss, Aaron (MNRF) <Aaron.Foss@ontario.ca> wrote:

Good afternoon Andrew,

After review, MNRF agrees with your assessment that impacts to Blanding's turtle, and contravention to the ESA should be avoided if avoidance and mitigation measures are implemented as described.