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Combined Environmental Impact Statement & Tree Conservation Report
910/920 March Road Development (Revised)

June 2020
Prepared for Wexford Commercial Developments Ltd.

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LIST OF FIGURES

EXECUTIVE SUMMARY

McKinley Environmental Solutions (MES) was retained by Wexford Commercial Developments Ltd. (Wexford) to prepare a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for the proposed development of the 910/920 March Road property (the Site). The Site includes an approximately 2.7 ha (6.71 acre) property located at 910/920 March Road, Ottawa, Ontario (Part of Lots 11 and 12, Concession 4, Geographic Township of March) (Pin #045270840). The Site is located within the urban area of the City of Ottawa (Kanata) between existing developed areas (to the south and east) and the Kanata North Urban Expansion Area (KNUEA) (to the north and west). The area immediately south of the Site includes a developed fast food restaurant property, beyond which is Maxwell Bridge Road. A City of Ottawa owned watercourse corridor exists east of the Site, beyond which is the Brookside subdivision. The area north of the Site includes the southeast quadrant of the KNUEA. March Road is located west of the Site, beyond which is the southwest quadrant of the KNUEA. Both adjacent quadrants of the KNUEA currently consist primarily of undeveloped agricultural properties.

The Site is predominantly previously developed, and includes two (2) residential homes (910 and 920 March Road), as well as several barns and sheds. A total of nine (9) buildings are currently found within the property. There are also many older vehicles, truck trailers, and other equipment stored throughout the Site. The western part of the Site includes a manicured lawn adjacent to the existing houses. The eastern part of the Site is predominantly occupied by a Cultural Meadow, although the Cultural Meadow is highly disturbed by mowing and the movement of vehicles/equipment. Tree cover within the majority of the Site is sparse, predominantly consisting of recent regrowth stems of Manitoba Maple and other deciduous species. A Deciduous Hedgerow is present along the northern property line, while a small patch of mature trees exists behind the house at 920 March Road. A row of Manitoba Maple is also present along the southern Site boundary. The majority of mature trees found within the Site will be preserved within the proposed tributary setbacks.

For ease of reference, the tributaries of Shirley's Brook are referred to throughout this report using the same terminology as the KNUEA Environmental Management Plan (EMP). Tributary #3 crosses March Road through a small CSP culvert and runs approximately parallel to the northern property line. Tributary #2 enters the Site from the north. Tributary #2 and #3 merge in the northeast corner of the Site, before flowing south (parallel to the eastern property line). Tributary #4 is a stormwater swale located south of the Site, which runs parallel to the southern property line. The stormwater swale serves as the outlet from the Morgan's Grant Stormwater Management (SWM) facility. The Morgan's Grant SWM facility is located west of March Road, and flow from the facility is conveyed to

the swale by underground piping. Flow from the stormwater swale merges with Shirley's Brook southeast of the Site. These aquatic features surround the Site on three (3) sides.

As part of the proposed development, all existing structures within the Site will be demolished, and the Site will be developed to accommodate one (1) large commercial retail building and three (3) smaller commercial buildings that will provide space for future restaurants and a gas station. The development will also include approximately 155 paved surface parking spaces and two (2) entrances from March Road. The Site will receive municipal services connecting to March Road. Stormwater releases from the Site will be controlled to pre-development levels. Quality control will be provided by an oil/grit separator with Ministry of Environment Enhanced Level of Treatment (80% Total Suspended Solids removal). The stormwater management system will outlet to the existing southern stormwater swale.

Setbacks from the tributaries of Shirley's Brook are proposed that will conform to the recommendations of the KNUEA EMP, which establishes a minimum 40 m wide corridor of retained and/or enhanced habitat around the tributaries of Shirley's Brook. A setback of 20 m from the normal high water mark of Tributary #3 is proposed within the northern part of the Site. Assuming that the adjacent landowner to the north implements a similar setback during future development, this would create a 40 m wide corridor around Tributary #3. A setback of 20 m from the normal high water mark in the eastern part of the Site is also proposed. The adjacent City of Ottawa watercourse corridor (located to the east) is a minimum of 35 m wide. Maintaining a 20 m setback from the normal high water mark (within the Site) will ensure that the total corridor width is a minimum of 40 m following development. Due to the fact that the southern stormwater swale (Tributary #4) is not a watercourse and is an artificial stormwater flow channel, a setback of 5 m from the top of slope is proposed. The 5 m wide setback will match the setback implemented for the adjacent fast food restaurant property located to the south. During the development, trees and shrubs will be planted within the proposed tributary setbacks, in order to improve the quality of the riparian habitat.

Blanding's Turtle (threatened) Category 2 and 3 habitat is known to occur within the Site. Due to the anticipated loss of Category 2 and 3 habitat, an Overall Benefit Permit under Clause 17(2)(C) of the Ontario Endangered Species Act (ESA) is anticipated to be required to support the development. The nests of threatened Barn Swallows were also identified within the Site. In order to demolish structures containing Barn Swallow nests, the proponent is required to complete the Ministry of Environment, Conservation, and Parks (MECP) Online Impact Registration Process prior to undertaking building demolition. The anticipated mitigation and compensation requirements for these species are discussed in this report. The proposed tributary setbacks will infringe on the area regulated by the Mississippi Valley Conservation Authority (MVCA) surrounding the tributaries of

Shirley's Brook. A minor Cut and Fill operation is required, in order to address grading and floodplain requirements. Due to the proposed Cut and Fill operation and the width of the proposed tributary setbacks, a permit for development from the MVCA under Ontario Regulation 153/06 is anticipated to be required.

Pending that the regulatory, mitigation, and avoidance measures outlined in this report are implemented appropriately, the development of the 910/920 March Road property is not anticipated to have a significant negative effect on the natural features and functions of the Site.

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1.0 INTRODUCTION

1.1 Scoping the Environmental Impact Statement

This Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) was undertaken following the City of Ottawa's Environmental Impact Statement Guidelines. Following the City guidelines, the EIS includes the following:

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

This 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 assess whether the proposed project will negatively affect the significant features and functions of the Site, and to ensure that impacts will be minimized through mitigation measures.

1.2 Site Overview and Background

The Site includes an approximately 2.7 ha (6.71 acre) property located at 910/920 March Road, Ottawa, Ontario (Part of Lots 11 and 12, Concession 4, Geographic Township of March) (Pin #045270840). The southern part of the Site is zoned Development Reserve, whereas the northern part of the Site is zoned Rural Countryside. The Site is located within the urban area of the City of Ottawa (Kanata) between existing developed areas (to the south and east) and the Kanata North Urban Expansion Area (KNUEA) (to the north and west). As shown in Figure 1, the area immediately south of the Site includes a developed fast food restaurant property, beyond which is Maxwell Bridge Road. A City of Ottawa owned watercourse corridor exists east of the Site, beyond which is the Brookside subdivision. The area north of the Site includes the southeast quadrant of the KNUEA. March Road is located west of the Site, beyond which is the southwest quadrant of the KNUEA. Both adjacent quadrants of the KNUEA currently consist primarily of undeveloped agricultural properties.

The KNUEA includes approximately 181 hectares on either side of March Road, which will be developed in future to accommodate approximately 3,000 residential dwellings, a mixed-use core, schools, and various parks and trails (Novatech 2016a). The KNUEA is also intended to include an integrated open space system, which will include riparian corridors around the existing tributaries of Shirley's Brook. The Community Design Plan (CDP) and the associated Environmental Management Plan (EMP) for the KNUEA were approved by Ottawa City Council in 2016 (Novatech 2016a; 2016b). Although the Site is not located within the KNUEA, all adjacent undeveloped areas to the north and west of the Site are within the KNUEA, and the recommendations established by the KNUEA CDP and EMP will dictate new development requirements throughout the area surrounding the Site. Therefore, the recommendations of the KNUEA CDP and EMP will influence the development of the Site, and are referred to throughout this report. Notably, the KNUEA EMP establishes a minimum 40 m wide corridor of vegetated habitat, which is to be retained and/or enhanced surrounding the tributaries of Shirley's Brook (Novatech 2016b).

The Site layout is shown in Figure 2. The Site is predominantly previously developed, and includes two (2) residential homes (910 and 920 March Road), as well as several barns and sheds. A total of nine (9) buildings are currently found within the property. The existing buildings within the Site are described below in greater detail in Section 3.6.2. There are also many older vehicles, truck trailers, and other equipment stored throughout the Site. The western part of the Site includes a manicured lawn adjacent to the existing houses. The eastern part of the Site is predominantly occupied by a Cultural Meadow, although the Cultural Meadow is highly disturbed by mowing and the movement of vehicles/equipment. Tree cover within the majority of the Site is sparse, predominantly consisting of recent regrowth stems of Manitoba Maple and other deciduous species. A Deciduous Hedgerow

is present along the northern property line, while a small patch of mature trees exists behind the house at 920 March Road. A row of Manitoba Maple is also present along the southern Site boundary.

For ease of reference, the tributaries of Shirley's Brook are referred to throughout this report using the same terminology as the KNUEA EMP (Novatech 2016b). Tributary #3 crosses March Road through a small CSP culvert and runs approximately parallel to the northern property line. Tributary #2 enters the Site from the north. Tributary #2 and #3 merge in the northeast corner of the Site, before flowing south (parallel to the eastern property line). Tributary #4 is a stormwater swale located south of the Site, which runs parallel to the southern property line. The stormwater swale serves as the outlet from the Morgan's Grant Stormwater Management (SWM) facility. The Morgan's Grant SWM facility is located west of March Road, and flow from the facility is conveyed to the swale by underground piping. Flow from the stormwater swale merges with Shirley's Brook southeast of the Site. As shown in Figure 2, these aquatic features surround the Site on three (3) sides.

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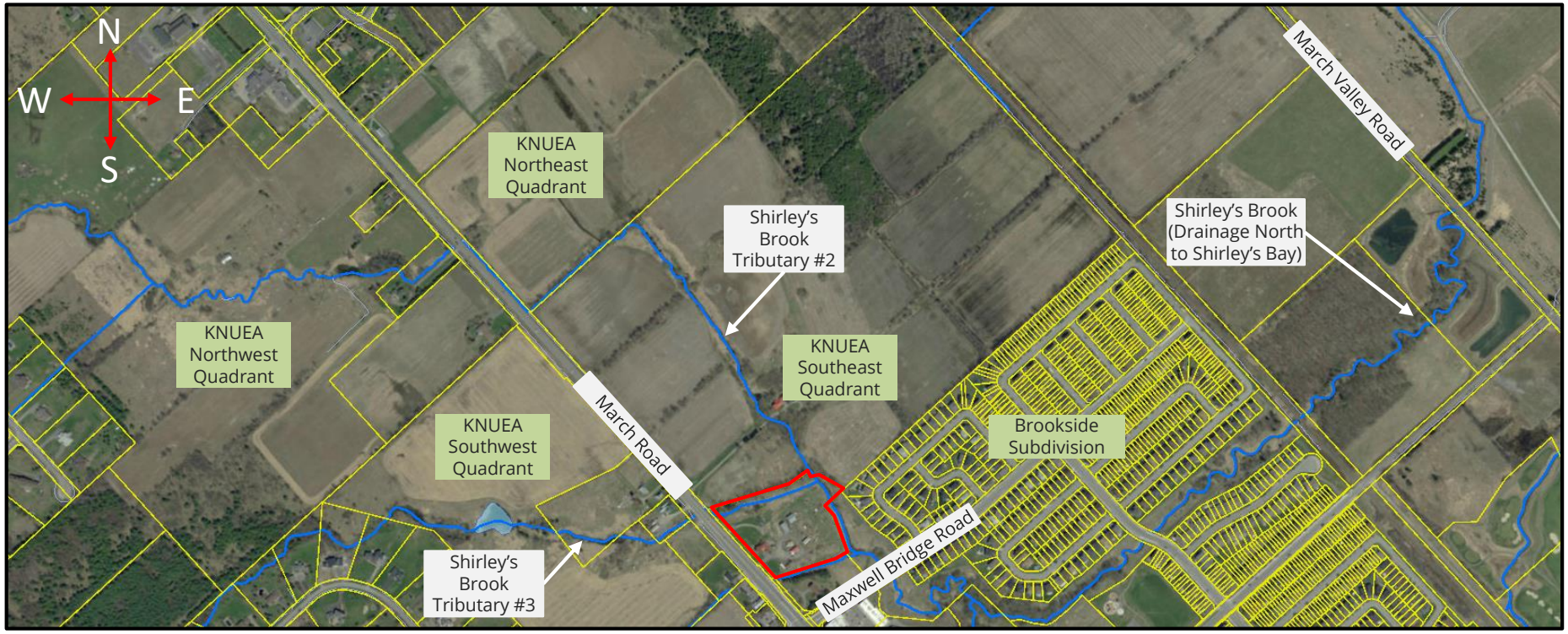
FIGURE 1: SITE CONTEXT

910/920 March Road Development - Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)

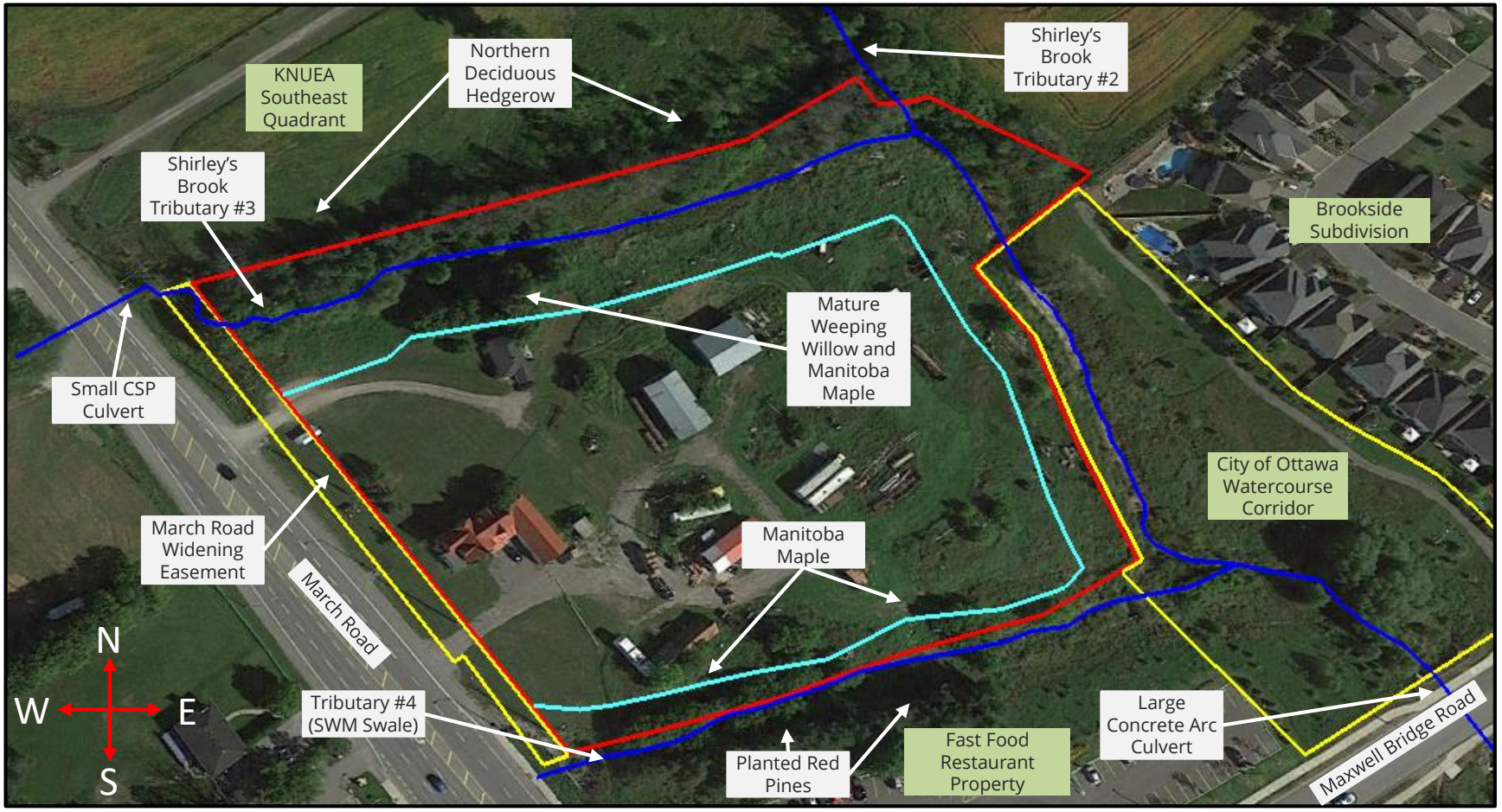


- Property Boundary - Watercourses

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

FIGURE 2: SITE OVERVIEW

910/920 March Road Development - Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)



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

1.3 Description of Undertaking

The Proposed Site Plan is included below. As part of the proposed development, all existing structures within the Site will be demolished, and the Site will be developed to accommodate one (1) large commercial retail building and three (3) smaller commercial buildings that will provide space for future restaurants and a gas station. The development will also include approximately 155 paved surface parking spaces and two (2) entrances from March Road. The Site will receive municipal services connecting to March Road. Stormwater releases from the Site will be controlled to pre-development levels. Quality control will be provided by an oil/grit separator with Ministry of Environment Enhanced Level of Treatment (80% Total Suspended Solids removal). The stormwater management system will outlet to the existing southern stormwater swale.

Setbacks from the tributaries of Shirley's Brook are proposed that will conform to the recommendations of the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP), which establishes a minimum 40 m wide corridor of retained and/or enhanced habitat around the tributaries of Shirley's Brook. A setback of 20 m from the normal high water mark of Tributary #3 is proposed within the northern part of the Site. Assuming that the adjacent landowner to the north implements a similar setback during future development, this would create a 40 m wide corridor around Tributary #3. A setback of 20 m from the normal high water mark in the eastern part of the Site is also proposed. The adjacent City of Ottawa watercourse corridor (located to the east) is a minimum of 35 m wide. Maintaining a 20 m setback from the normal high water mark (within the Site) will ensure that the total corridor width is a minimum of 40 m following development. Due to the fact that the southern stormwater swale (Tributary #4) is not a watercourse and is an artificial stormwater flow channel, a setback of 5 m from the top of slope is proposed. The 5 m wide setback will match the setback implemented for the adjacent fast food restaurant property located to the south. During the development, trees and shrubs will be planted within the proposed tributary setbacks, in order to improve the quality of the riparian habitat. Further details regarding the proposed tree planting are provided in Section 5.0 of the Tree Conservation Report (Appendix A). As discussed in greater detail in Section 4.2.3, a minor Cut and Fill operation is required in order to address grading and floodplain requirements.

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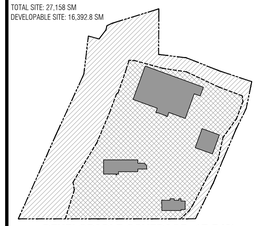
CONCEPT PLAN

DRAWING IS FOR DISCUSSION PURPOSES ONLY
DRAWING TO BE CONFIRMED UPON RECEIPT OF EXISTING CONDITIONS SURVEY/TOPO:

PLOT DATE:
2020-01-29

DEVELOPABLE COVERAGE

TOTAL SITE: 27,158 SM
DEVELOPABLE SITE: 16,392.8 SM



DEVELOPABLE COVERAGE: 17.54%

KEY MAP

SITE DATA

	SF	SM	ACRES
TOTAL SITE	292,330	27,158	6.71
TOTAL DEVELOPABLE AREA	176,450	16,392.8	4.05
PROPOSED BUILDING			COVERAGE
GAS BAR C/W TIM HORTONS	4,737	440.10	1.62%
RETAIL	20,255.6	1,881.81	6.93%
RESTAURANT A	2,359	219.18	0.81%
RESTAURANT B	3,601	334.57	1.23%
TOTAL	31,400.6	2,875.65	10.59%

PARKING DATA	
REQUIRED PARKING (AREA C):	
RETAIL: 3.4/100SM	64 SPACES
GAS BAR: NONE	0 SPACES
RESTAURANT: 10/100 SM (74.493 = 75)	75SPACES
TOTAL REQUIRED PARKING	139 SPACES
PROVIDED PARKING	140 SPACES
PROVIDED BARRIER FREE PARKING	10 SPACES
TOTAL PROVIDED PARKING	155 SPACES
REGULAR PARKING SPACE: 2.6m x 5.2m	
BARRIER FREE PARKING SPACE: (WITH 1.5m ACCESS AISLE)	
TYPE A: 3.4m x 5.2m	
TYPE B: 2.4m x 5.2m	
LANDSCAPING REQUIRED	15%
LANDSCAPING PROVIDED	46.9%

LEGEND

- PROPERTY LINE
- BUILDING SETBACK
- EDGE OF BANK
- EDGE OF BANK OFFSET
- IRON BAR
- BARRIER FREE PARKING
- TRAFFIC FLOW ARROWS
- PARKING COUNT
- GARBAGE BIN
- SIGNALIZED INTERSECTION
- SECONDARY ENTRANCE
- PRINCIPLE ENTRANCE
- PEDESTRIAN CROSSWALK
- NO PARK' ZONE
- BARRIER FREE' SIGN

MARCH ROAD, KANATA, ON

PROPOSED SITE PLAN - SK-20

PROJECT: 17300 DATE: 2020.01.31 SCALE: 1:500

WEXFORD COMMERCIAL DEVELOPMENTS LTD.

Greystone

1.4 Agency Consultation

Ottawa City Council has previously approved the Kanata North Urban Expansion Area (KNUEA) Community Design Plan (CDP) and Environmental Management Plan (EMP) (Novatech 2016a; Novatech 2016b). The recommendations of the KNUEA CDP and EMP are referred to throughout this report. The Mississippi Valley Conservation Authority (MVCA) was consulted as part of the KNUEA CDP and EMP process. The proponent has discussed the current development proposal with the City, and the MVCA has been circulated as part of the development application review. Aaron Foss and Carolyn Hann of the Ontario Ministry of Natural Resources and Forestry (OMNRF) Kemptville District visited the Site with Dr. McKinley on October 2nd, 2017. Since 2017, responsibility for the administration of the Ontario Endangered Species Act (ESA) has been transitioned from the OMNRF to the Ministry of Environment, Conservation, and Parks (MECP). As noted below, it is anticipated that an Overall Benefit Permit under Clause 17(2)(C) of the Ontario ESA will be required to support the undertaking. Extensive consultation and review will be undertaken with the MECP as part of the ESA permitting process.

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1.5 Regulatory Requirements

As discussed in greater detail below in Section 3.6.1, Blanding's Turtle (threatened) Category 2 and 3 habitat is known to occur within the Site. The proposed tributary setbacks will infringe on areas designated as Category 2 habitat. Due to the anticipated loss of Category 2 and 3 habitat, an Overall Benefit Permit under Clause 17(2)(C) of the Ontario Endangered Species Act (ESA) is anticipated to be required to support the development. In order to initiate the Ontario ESA review process, the Information Gathering Form (IGF) and the Alternatives Assessment Form (AAF) were submitted to the Ministry of Environment, Conservation, and Parks (MECP) on March 25th, 2020. Anticipated mitigation and habitat compensation requirements are discussed below in Section 4.4.1.

As discussed in greater detail below in Section 3.6.2, the nests of threatened Barn Swallows were also identified within the Site. In order to demolish structures containing Barn Swallow nests, the proponent is required to complete the MECP's Online Impact Registration Process by submitting the *Notice of Activity under the Endangered Species Act (2007): Barn Swallow – Activities in Built Structures that are Habitat*. It is anticipated that the MECP's Online Impact Registration Process will be completed in early 2021, prior to the commencement of building demolition. Anticipated mitigation and habitat compensation requirements are discussed below in Section 4.4.2.

The proposed setbacks will infringe on the area regulated by the Mississippi Valley Conservation Authority (MVCA) surrounding the tributaries of Shirley's Brook. In addition, a minor Cut and Fill operation is required in order to address grading and floodplain requirements. Due to the proposed Cut and Fill operation and the width of the proposed tributary setbacks, a permit for development from the MVCA under Ontario Regulation 153/06 is anticipated to be required.

Review of the project under the *Fisheries Act* is not anticipated to be required, as no significant in-water works and/or alteration to areas containing fish habitat are proposed.

Lastly, the City of Ottawa may require the proponent to obtain a Tree Removal Permit. However, as noted in the Tree Conservation Report (TCR) (Appendix A), tree removal is anticipated to be limited to the removal of a few young recent regrowth stems, with the majority of mature trees to be retained.

2.0 METHODOLOGY

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

- Site surveys to describe vegetation communities;
- Site surveys to assess the potential for the habitat of species at risk (SAR), wetlands, fish habitat, amphibian breeding habitat, Significant Wildlife Habitat features, and other significant habitat features to be present;
- Review of the Kanata North Urban Expansion Area (KNUEA) Community Design Plan (CDP) and Environmental Management Plan (EMP) and associated background environmental reports (Novatech 2016a; Novatech 2016b);
- Review of existing Blanding's Turtle habitat mapping for the area (DST 2015);
- Examination of aerial imagery to evaluate landscape features;
- Natural Heritage Information Center (NHIC) database review (OMNRF 2020);
- Obtainment of the Ontario Ministry of Natural Resources and Forestry (OMNRF) Potential Species at Risk List for the Geographic Township of March (Appendix D); and
- Review of Official Plan designations.

Refer to Appendix A for a discussion of the tree inventory methods employed to complete the Tree Conservation Report (TCR). Site visits to inventory plants and identify the locations of Barn Swallow nests were completed by Bernie Muncaster of Muncaster Environmental Planning (MEP) on August 3rd, 2017 and by Dr. McKinley of McKinley Environmental Solutions on August 14th, 2017. Weather conditions during the August 3rd site visit included a light breeze, overcast skies, and a temperature of 21 ºC. Weather conditions during the August 14th site visit included sunny conditions and a temperature of 17 ºC. Adult Barn Swallows were found in attendance during both Site visits. All accessible interior and exterior surfaces of the nine (9) buildings found within the Site were searched for Barn Swallow nests. During the plant survey, the Site was searched for endangered Butternut Trees, although none were found. Blanding's Turtle habitat mapping is based on existing mapping completed by DST Consulting Engineers (DST 2015) to support the KNUEA EMP. The extent of Blanding's Turtle habitat, as shown by DST (2015), has previously been reviewed and approved by the OMNRF Kemptville District.

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3.0 EXISTING CONDITIONS

3.1 Geological Conditions

The western part of the Site occurs at an elevation of approximately 78 m Above Sea Level (ASL) (at March Road). The Site includes a gradual slope to the southeast, reaching approximately 76 m ASL in the southeast corner of the Site. Paterson Group (2013) note that the 936 March Road property (located directly north of the Site) is predominantly farmed and is occupied by topsoil and agricultural soil, underlain by a stiff to very stiff silty clay deposit. Glacial till was noted in the southern portion of the 936 March Road property. Conditions within the 910/920 March Road property are likely to be broadly similar to those observed by Paterson Group in the adjacent 936 March Road property.

3.2 Vegetation Communities

A Master Plant List is included in Appendix B. The locations of vegetation features are shown in Figure 2. The Site is predominantly previously developed, and includes two (2) residential homes (910 and 920 March Road), as well as several barns and sheds. A total of nine (9) buildings are currently found within the property. There are also many older vehicles, truck trailers, and other equipment stored throughout the Site.

The western part of the Site includes a manicured lawn adjacent to the existing houses. Several planted stems of White Birch, White Cedar and Manitoba Maple, up to 17 cm diameter at breast height (dbh) in size, are present around the house at 910 March Road. There are also planted Lilac shrubs adjacent to the house. A mature Weeping Willow (70 cm dbh) and several Manitoba Maple stems (up to 30 cm dbh) are present behind the house at 920 March Road. The trees around the existing houses will be removed during the development.

The majority of the remainder of the Site is occupied by a highly disturbed Cultural Meadow. Areas of the Cultural Meadow appear to be periodically mowed and/or trampled by the movement of large vehicles and equipment. The Cultural Meadow is dominated by Brome Grass, Reed Canary Grass, Meadow Grass, Green Foxtail, Timothy, Wild Parsnip, and Canada Goldenrod. Common Dandelion, Common Yarrow, Bird's Foot-Trefoil, Common Mugwort, White Bedstraw, Stinging Nettle, Queen Anne's Lace, Common Milkweed, Canada Thistle, Sow Thistle, Bull Thistle, Garlic Mustard, Wormseed Mustard, Curled Dock, St. John's Wort, Tufted Vetch, Chickory, Ox-eye Daisy, White Clover, Black Medic, Wild Mint, Common Plantain, Butter-and-eggs, Wild Cucumber, Common Mullein, Common Ragweed, and Ground Ivy are also present. Scattered shrub cover and isolated young tree stems are present within the Cultural Meadow, particularly around the derelict vehicles and equipment that

are stored throughout the Site. Shrubs and young trees have grown up around the vehicles/equipment in areas that are difficult to maintain. Shrubs include Riverbank Grape, Virginia Creeper, Wild Red Raspberry, Common Buckthorn, and Glossy Buckthorn. Regenerating stems (<20 cm dbh) predominantly include Manitoba Maple, although White Ash and White Elm are also present.

There is very little tree cover within the Site adjacent to the tributaries of Shirley's Brook. A Deciduous Hedgerow is found along the northern Site boundary. However, the Deciduous Hedgerow is found north of Tributary #3 (e.g. on the opposite side of the watercourse from the development area). Trees within the Deciduous Hedgerow predominantly include invasive Crack Willow up to 30 cm dbh and invasive Manitoba Maple up to 50 cm dbh. Planted Scots Pine up to 25 cm dbh are also present, as are Sugar Maple and Tamarack up to 30 cm dbh. Within the eastern part of the Site, tree cover along the development side of Shirley's Brook (within the Site) is limited to a few Manitoba Maple stems <20 cm dbh in size. The western side of the slope of the southern stormwater swale (Tributary #4) is lined with young Manitoba Maple (<20 cm dbh). A line of planted Red Pine up to 30 cm dbh are present on the south side of the southern stormwater swale (on the adjacent property).

As discussed in Appendix A, there are no features within the Site which qualify as a 'woodlot' or 'forest' (OMNRF 2010). As such, there are no features within the Site which need to be assessed as potential Significant Woodlots.

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Photograph 1: Looking northeast at 910 March Road (Building #1) (foreground) and 920 March Road (Building #5) (background). Note the manicured lawn in the western part of the Site (August 14th, 2017).

Photograph 2: Looking east at Building #6 (far left) and Building #7 (center). Note the manicured lawn in the western part of the Site (August 14th, 2017).

Photograph 3: Looking north at the northwest property corner. March Road is visible to the left. Note the Deciduous Hedgerow, located along the northern property line (on the north bank of Tributary #3) (August 14th, 2017).

Photograph 4: Looking north at the Deciduous Hedgerow, located along the northern property line (on the north bank of Tributary #3) (August 14th, 2017).

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Photograph 5: Mature Weeping Willow (70 cm dbh) and Manitoba Maples behind 920 March Road (Building #5) (August 14th, 2017).

Photograph 6: Looking east towards the northeast corner of the Site. The Deciduous Hedgerow is visible to the left, the Brookside Subdivision is visible in the background, and Building #8 is visible to the right (August 14th, 2017).

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Photograph 7: Looking west at the Site from the adjacent City of Ottawa watercourse corridor. Note the young planted trees within the City of Ottawa corridor. Tree cover is otherwise sparse within the watercourse corridor (August 14th, 2017).

Photograph 8: Looking southwest at the row of planted Red Pines located on the adjacent fast food restaurant property (left), and the row of Manitoba Maple within the southern part of the Site (right) (August 14th, 2017).

Photograph 9: Looking south at the row of Manitoba Maples within the southern part of the Site. Building #4 is visible to the right (August 14th, 2017).

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Photograph 10: Example of vehicle storage and recent regrowth shrub/tree cover within the central part of the Site (August 14th, 2017).

Photograph 11: Example of vehicle storage and recent regrowth shrub/tree cover within the central part of the Site (August 14th, 2017).

3.3 Wetlands and Watercourses

There are no wetlands within the Site or within the immediately surrounding area. As noted above, the Site is surrounded by aquatic features on three (3) sides (Figure 2). Tributary #3 crosses March Road through a small CSP culvert and runs approximately parallel to the northern property line. Tributary #2 enters the Site from the north. Tributary #2 and #3 merge in the northeast corner of the Site, before flowing south (parallel to the eastern property line). Tributary #4 is a stormwater swale located south of the Site, which runs parallel to the southern property line. The stormwater swale serves as the outlet from the Morgan's Grant Stormwater Management (SWM) facility. The Morgan's Grant SWM facility is located west of March Road, and flow from the facility is conveyed to the swale by underground piping. Flow from the stormwater swale merges with Shirley's Brook southeast of the Site.

The tributaries flowing parallel to the northern and eastern property lines (Tributary #3 and the combined flow of Tributary #2 and #3) showed similar habitat characteristics. Both tributaries were observed to have a shallow channel 1 m to 2 m wide, with flowing water (approx. 20 cm deep on August 14th, 2017). Both Tributary #3 (north) and the combined Tributary #2 and #3 (east) had Spotted Jewelweed, Spotted Joe Pye Weed and Reed Canary Grass growing on their banks. Common Cattail and Purple Loosestrife were noted in some areas within the channels, although the channels were predominantly open and sparsely vegetated. The sparse aquatic vegetation coverage within the channels suggests that Tributary #3 (north) and the combined Tributary #2 and #3 (east) remain wet and flowing throughout most of the year. The substrate in the channels consisted primarily of mud bottom with some larger rocks and cover objects. As noted above in Section 3.2, there is very little riparian tree cover within the Site adjacent to the tributaries of Shirley's Brook. The northern Deciduous Hedgerow provides shade on the north side of Tributary #3, but the south side of the tributary predominantly lacks tree cover. The combined Tributary #2 and #3 (east) is predominantly without tree cover, with only a few young Manitoba Maple stems present within the Site, and a few recently planted trees present on the City of Ottawa owned side of the watercourse.

Fish sampling was conducted in Tributary #2 and #3 immediately north and west of the Site (respectively) to support the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (Novatech 2016b). Fish sampling documented the presence of ten (10) species including White Sucker, Central Mudminnow, Northern Redbelly Dace, Finescale Dace, Longnose Dace, Blacknose Dace, Fathead Minnow, Creek Chub, Brook Stickleback, and Pumpkinseed (Novatech 2016b). Each of these are common species typically found in degraded systems and areas of low quality fish habitat. Fish sampling results indicate that Tributary #2 and #3 provide direct fish

habitat during most of the year, with the possible exception of unusually dry periods, when the channels may dry out.

Tributary #4 is a stormwater swale, receiving flow from the Morgan's Grant Stormwater Management (SWM) facility via an underground piping system under March Road. Because Tributary #4 is fed by an SWM pipe, it has no direct upstream connection to adjacent areas of fish habitat. Tributary #4 within the western part of the Site (adjacent to March Road) includes an artificial channel that is filled with rock-check dams and rip-rap. Tributary #4 has a channel approximately 30 cm wide and was heavily overgrown with terrestrial vegetation. The western part of Tributary #4 (adjacent to March Road) was observed to be dry on August 14th, 2017 and again during the site visit completed with the Ontario Ministry of Natural Resources and Forestry (OMNRF) on October 2nd, 2017. The western portion of Tributary #4 (adjacent to March Road) is likely to be wet following major storm events, when it likely receives water from the Morgan's Grant SWM facility. Flow within the stormwater swale is therefore likely to be intermittent. The eastern part of Tributary #4, adjacent to the confluence with Shirley's Brook, was observed to have approximately 10 cm of standing water, which is likely due to backflow from Shirley's Brook.

Fish sampling was completed in Tributary #4 immediately west of March Road in order to support the KNUEA EMP. No evidence of fish within Tributary #4 was noted west of March Road (Novatech 2016b). Due to the absence of standing and/or flowing water within Tributary #4, it is likely that Tributary #4 does not provide permanent fish habitat.

City of Ottawa mapping shows the floodplain of Shirley's Brook extending approximately 20 m into the northern part of the Site (adjacent to Tributary #3), whereas the floodplain extends only a few meters into the eastern part of the Site (adjacent to the combined Tributary #2 and #3). The floodplain is shown to be beyond the property line to the south and southeast (City of Ottawa 2020). The tributary setbacks and potential Cut and Fill requirements are discussed below in Sections 4.2.1 and 4.2.3 (respectively).

Photograph 12: Shirley's Brook Tributary #3 in the northern part of the Site (August 14th, 2017).

Photograph 13: Shirley's Brook Tributary #2, as seen in the adjacent property to the north of the Site (August 14th, 2017).

Photograph 14: Combined flow of Tributary #2 and #3, within the eastern part of the Site (facing south) (August 14th, 2017).

Photograph 15: Stormwater pipes outletting to the southern stormwater swale (Tributary #4) (facing west towards March Road). Note the lack of surface water (August 14th, 2017).

3.4 Adjacent Lands and Significant Features

Other than the tributaries of Shirley's Brook (discussed above), there are no significant natural heritage features found adjacent to the Site. As noted above, the area immediately south of the Site includes a developed fast food restaurant property, beyond which is Maxwell Bridge Road. A City of Ottawa owned watercourse corridor exists east of the Site, beyond which is the Brookside subdivision. The area north of the Site includes the southeast quadrant of the Kanata North Urban Expansion Area (KNUEA). March Road is located west of the Site, beyond which is the southwest quadrant of the KNUEA. Both adjacent quadrants of the KNUEA currently consist primarily of undeveloped agricultural properties.

It should be noted that the tributary setbacks discussed below in Section 4.2.1 will be arranged such that the development will be surrounded by the setbacks from Shirley's Brook on three (3) sides, with March Road on its remaining side. Therefore, the development of the Site is not likely to negatively impact any trees or other natural heritage features on adjacent properties, as the development area will not directly interface with any adjacent properties.

3.5 Wildlife and Significant Wildlife Habitat

Wildlife and bird species noted during the Site visits are listed in Appendix C. As discussed below in Section 3.6, Blanding's Turtle (threatened) and Barn Swallow (threatened) habitat is known to occur within the Site. The habitat of Species at Risk (SAR) is considered Significant Wildlife Habitat (SWH) (Refer to Section 3.6). As noted above in Section 3.4, Tributary #3 and the combined Tributary #2 and #3 are both known to provide fish habitat. The tributaries of Shirley's Brook may also provide amphibian breeding habitat. No stick nests, migratory bird stopover points, heron rookeries, reptile hibernacula, caves, bedrock fissures, wetlands, or any other features which may qualify as SWH were noted within the Site (OMNRF 2014b).

A total of twenty two (22) bird species were noted within the Site. This included several common species of migratory birds typically found in suburban and rural areas (including Barn Swallows). Other wildlife observed within the Site included Raccoon, Eastern Chipmunk and Green Frogs.

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3.6 Species at Risk

3.6.1 Blanding's Turtle

In consultation with the Ontario Ministry of Natural Resources and Forestry (OMNRF), mapping of Blanding's Turtle habitat in the Kanata North region was developed to support the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (DST 2015). The habitat mapping was based on a documented occurrence of a Blanding's Turtle within Shirley's Brook, approximately 370 m northwest of the Site. It should be noted that during the August 14th, 2017 Site visit, Dr. McKinley found the remains of a Blanding's Turtle along the shoulder of March Road, immediately north of the Site (adjacent to 936 March Road) (Photograph 16). This turtle was likely killed by vehicle collision. A record of the August 2017 sighting was submitted to Aaron Foss of the OMNRF Kemptville District. The occurrence of confirmed Blanding's Turtle sightings within 2 km of the Site automatically designates suitable areas as habitat for the species (OMNRF 2014a). The extent of Blanding's Turtle habitat within the Site is shown in Figure 3. As shown in Figure 3, the entire Site lies within areas that qualify as either Category 2 or 3 habitat for Blanding's Turtle.

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

- **Category 1 Habitat:** Category 1 habitat includes areas where Blanding's Turtles overwinter, and nesting areas. Blanding's Turtles typically overwinter in wetlands (as opposed to flowing watercourses) (OMNRF 2014a). There are no wetlands or ponds within the Site or in the immediate vicinity, and therefore it is unlikely that Blanding's Turtles are overwintering within the Site. Nesting habitat includes areas of loose sandy fill or gravel where turtles can dig into the substrate to lay their eggs (OMNRF 2014a). There are no natural sand or gravel areas and no artificial stockpiles within the Site. The majority of the ground surface within the Site is occupied by compacted gravel and/or groundcover plants (mainly grass). Therefore, it is unlikely that Category 1 habitat exists within the Site.
- **Category 2 Habitat:** Category 2 habitat includes wetlands and watercourses within 2 km of known Blanding's Turtle occurrences. Category 2 habitat includes the watercourse/wetlands themselves, as well as adjacent terrestrial areas up to 30 m from the water's edge (OMNRF 2014a). 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 2014a). Within the Site, Tributary #3 and the combined Tributary #2 and #3, as well as the area extending 30 m from the normal high water mark of these features, qualifies as Category 2 habitat. Tributary #4 is predominantly dry and is an artificial feature, and therefore is not likely to provide functional 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 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 2014a). Although much of the Site falls within the definition of Category 3 habitat, it is relatively unlikely that Blanding's Turtles would utilize the terrestrial portion of the Site for overland movement, given that the tributaries of Shirley's Brook surround the Site on three (3) sides. Blanding's Turtles traversing the area are more likely to utilize the tributaries for movement, compared to walking overland through the Site.

Photograph 16: Remains of a Blanding's Turtle, found along March Road north of the Site. The turtle was likely killed by vehicle collision (August 14th, 2017).

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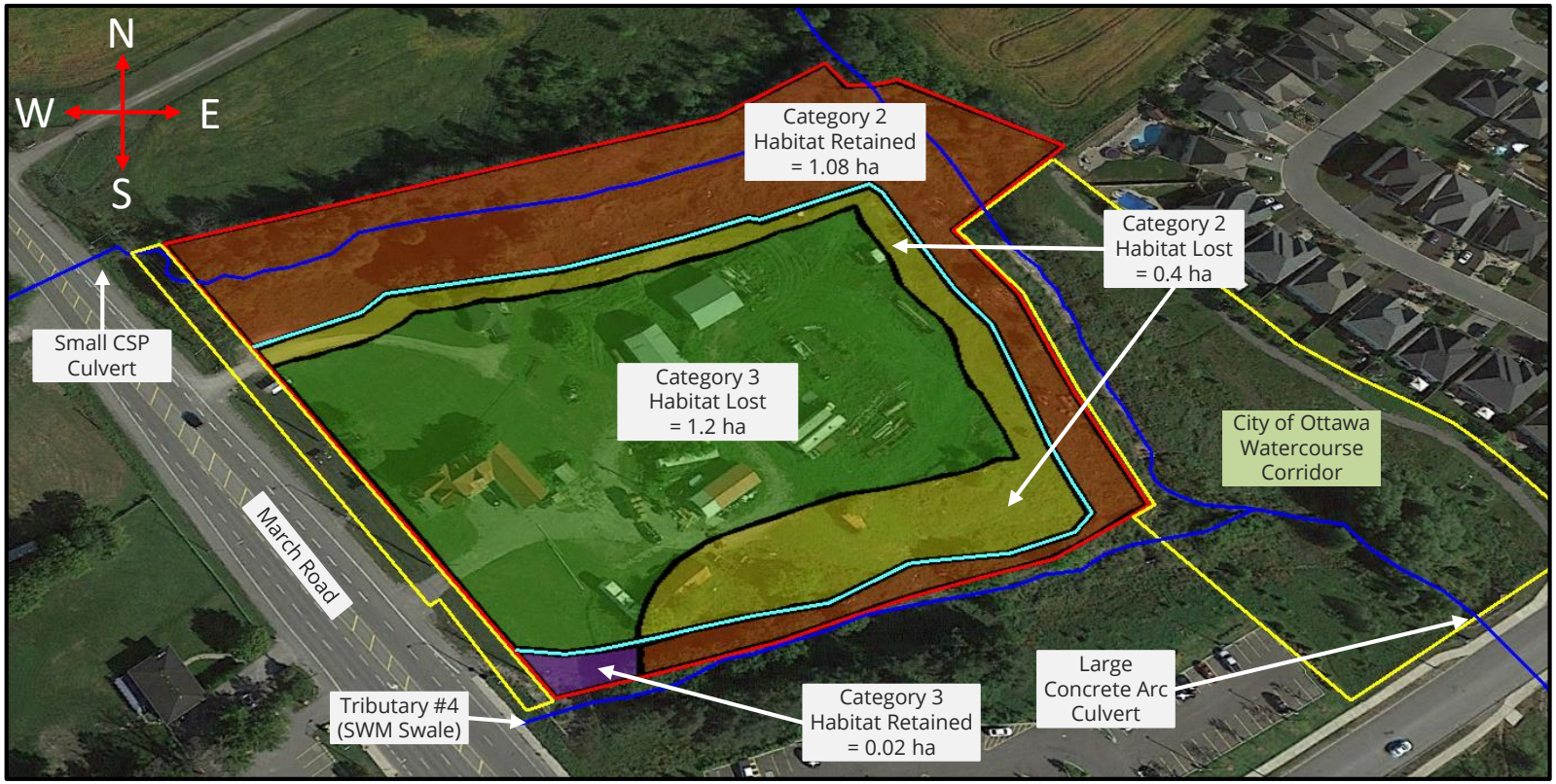
FIGURE 3: BLTU HABITAT MAPPING

910/920 March Road Development – Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)



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

3.6.2 Barn Swallow

Adult Barn Swallows were found in attendance at the Site during both of the August 2017 site visits, with a total of approximately eight (8) to ten (10) adult birds observed foraging at any given time. All accessible interior and exterior surfaces of the nine (9) buildings found within the Site were searched for Barn Swallow nests. In total, three (3) intact nests and three (3) older degraded nests were documented. Building locations are shown below in Figure 4. Photographs of the buildings and the Barn Swallow nests are included below. The following is a summary of the buildings found within the Site:

- **Building 1:** Building #1 includes the house at 910 March Road, which has brick walls and a metal tiled roof. A wooden barn/garage with a tin roof is attached to the house. One (1) intact nest and one (1) degraded nest were noted within the barn/garage.
- **Building 2:** Building #2 is a small wooden shed. No nests were observed.
- **Building 3:** Building #3 is a garage with tin walls and a tin roof. No nests were observed.
- **Building 4:** Building #4 is a small collapsing barn with a tin roof. The middle section of the building has a raised wooden steeple roof. One (1) intact nest and one (1) degraded nest were noted within the middle section of the building.
- **Building 5:** Building #5 is the house at 920 March Road. It is a small house with vinyl siding and a metal roof. No nests were observed.
- **Building 6:** Building #6 is a small wooden shed. No nests were observed.
- **Building 7:** Building #7 is a large steel garage with parked tractors. One (1) intact nest was observed with a baby bird present and parents in attendance. One (1) degraded nest was also observed.
- **Building 8:** Building #8 is a hayloft barn made from stacked logs with a tin roof. No nests were observed.
- **Building 9:** Building #9 is a small wooden shed. No nests were observed.

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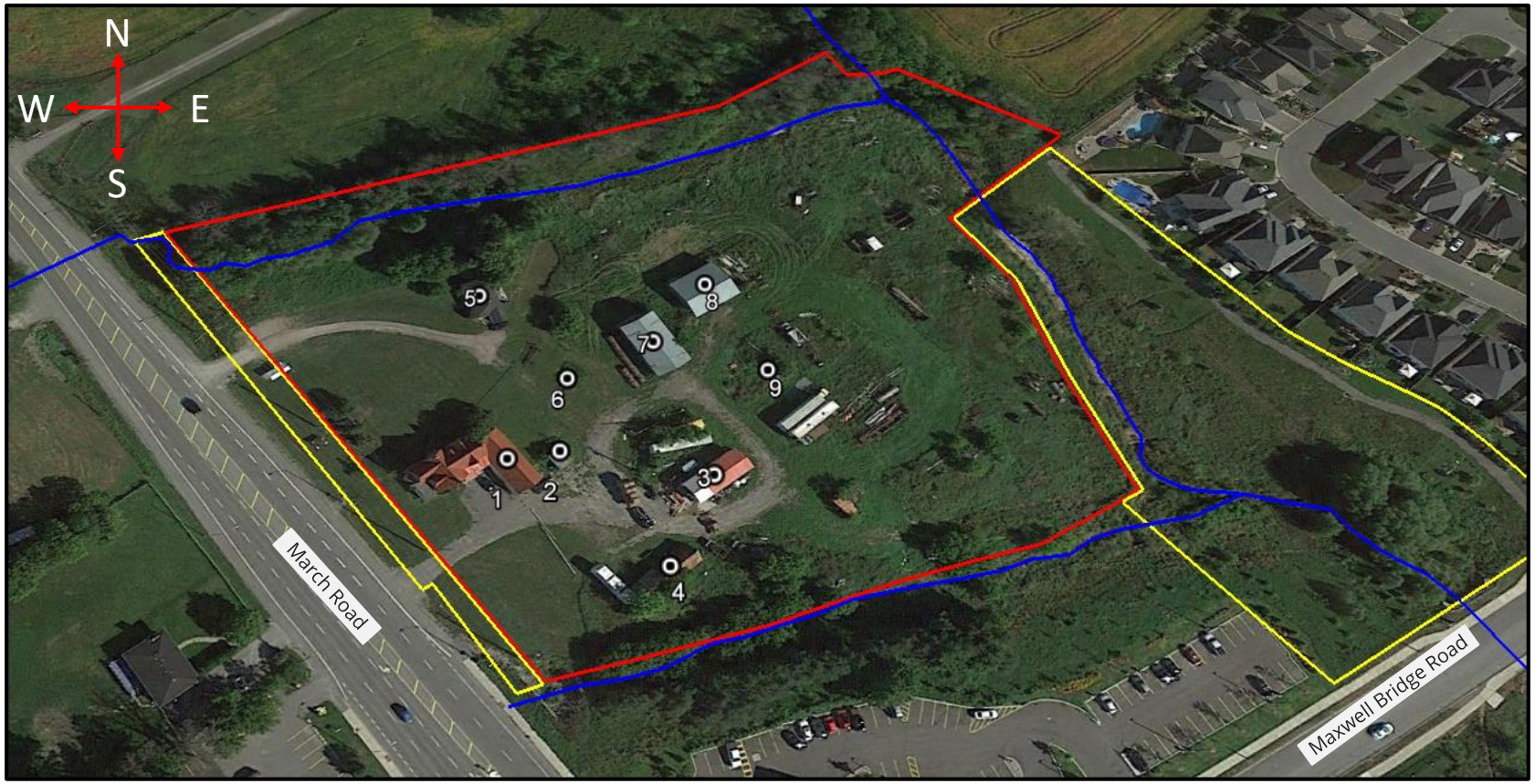
FIGURE 4: EXISTING BUILDINGS

910/920 March Road Development – Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)



- Property Boundary - Watercourses - Building Number

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

Photograph 17: Three (3) adult Barn Swallows resting on the roof of 910 March Road (Building #1) (August 14th, 2017).

Photograph 18: Looking north at 910 March Road (Building #1). One (1) intact and one (1) degraded Barn Swallow nest were noted in the barn/garage on the right (August 14th, 2017).

Photograph 19: Intact Barn Swallow nest within the garage/barn of Building #1 (August 14th, 2017).

Photograph 20: Building #2 – no Barn Swallow nests were noted (August 14th, 2017).

Photograph 21: Building #3 – no Barn Swallow nests were noted (August 14th, 2017).

Photograph 22: Building #4 – one (1) intact and one (1) degraded Barn Swallow nest were noted (August 14th, 2017).

Photograph 23: Intact Barn Swallow nest within Building #4 (August 14th, 2017).

Photograph 24: Building #6 – no Barn Swallow nests were noted (August 14th, 2017).

Photograph 25: Building #7 – one (1) intact Barn Swallow nest with adult/baby birds in attendance and one (1) degraded nest were noted (August 14th, 2017).

Photograph 26: Active Barn Swallow nest in Building #7 with baby bird visible (August 14th, 2017).

Photograph 27: Building #8 – no Barn Swallow nests were noted (August 14th, 2017).

Photograph 28: Building #9 – no Barn Swallow nests were noted (August 14th, 2017).

3.6.3 Additional Species at Risk

The Natural Heritage Information Center (NHIC) records for the nine (9) grids that include and surround the Site were reviewed. This included an area 3 km x 3 km in size and all published Species at Risk (SAR) records were noted (OMNRF 2020). The Ontario Ministry of Natural Resources and Forestry (OMNRF) provided a potential Species at Risk (SAR) list for the Geographic Township of March (Appendix D). In addition to Blanding's Turtle and Barn Swallow (discussed above), the following SAR were identified as potentially occurring within the vicinity:

- Little Brown Bat – Endangered
- Northern Long Eared Bat – Endangered
- Tricolored Bat – Endangered
- Eastern Small Footed Myotis - Endangered
- American Eel – Endangered
- Lake Sturgeon – Threatened
- Hickorynut - Endangered
- American Ginseng – Endangered
- Butternut Trees – Endangered
- Bank Swallow – Threatened
- Bobolink and Eastern Meadowlark – Threatened
- Eastern Whip Poor Will – Threatened
- Common Nighthawk – Special Concern
- Least Bittern - Threatened
- Loggerhead Shrike – 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
- Peregrine Falcon – Special Concern
- Rusty Blackbird – Special Concern
- Snapping Turtle – Special Concern
- Eastern Musk Turtle – Special Concern
- Northern Map Turtle – Special Concern
- River Redhorse – Special Concern

- Silver Lamprey – Special Concern
- Monarch – Special Concern
- Chimney Swift – Threatened

The potential for these species to occur within the Site is discussed below:

- **Little Brown Bat, Northern Long Eared Bat, Tricolored Bat, Eastern Small Footed Myotis**: No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were noted within the Site. The OMNRF (2011) guidelines for bat surveying are outlined in the *Bats and Bat Habitats: Guidelines for Wind Power Projects*. These guidelines state that deciduous and mixed forest habitats have the potential to provide maternity roosting sites. As described above in Section 3.2, there are no forested habitats within the Site. 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.
- **American Eel and Lake Sturgeon:** American Eel and Lake Sturgeon are fish species that are found in association with the Ottawa River (SARO 2020). The aquatic habitats within the Site 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 2020). The aquatic habitats within the Site 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 2020). As noted above in Section 3.2, there are no forest habitats found within the Site, and therefore American Ginseng are unlikely to be a significant concern for the proposed development.
- **Butternut Trees**: Butternut Trees are found in many forested areas throughout the Ottawa region (SARO 2020). Trees within the Site were identified during the growing season (August) and no Butternuts were found within the Site or within 50 m of the Site. Therefore, Butternut Trees are not likely to be a concern for the proposed development.
- **Bank Swallow:** Bank Swallows nest in natural and artificial deposits of sand and silt with vertical faces (SARO 2020). There are no significant areas of exposed sand or silt within the Site and no stockpiles currently exist. As such, Bank Swallows are unlikely to be a significant concern for the proposed development.
- **Bobolink and Eastern Meadowlark**: Bobolink and Eastern Meadowlark both breed in open habitats dominated by grasses including old hayfields, natural grasslands, and pastures (SARO 2020). Bobolink have been documented within the fallow fields and pastures of the northwest

quadrant of the Kanata North Urban Expansion Area (KNUEA) (Novatech 2016b). As noted above in Section 3.2, Cultural Meadow occurs within the Site, however, it is highly degraded and highly fragmented by the movement/storage of vehicles and equipment. The western portion of the Site is regularly mowed, and most of the eastern portion is regularly trampled/disturbed by vehicles and equipment. All areas of the Site are within a few meters of existing buildings, where ongoing human activity provides a continuous source of disturbance. Bobolink and Eastern Meadowlark are known to be area-sensitive species, and generally they require continuous areas of suitable habitat that are a minimum of 5 ha in size (OMNRF 2014c; OMNRF 2014d). Surveying for these species is not typically undertaken in areas of suitable habitat <2 ha in size. The entire Site is 2.7 ha in size, however, much of this area is occupied by existing development (e.g. the existing buildings), manicured lawn, and the riparian corridors surrounding the tributaries of Shirley's Brook. There is therefore <2 ha of potentially suitable habitat within the Site. The Cultural Meadow found within the Site is too small, too close to March Road, and too heavily degraded for Bobolink and Eastern Meadowlark to be likely to be found nesting there. Therefore, Bobolink and Eastern Meadowlark are not likely to be a significant concern for the proposed development.

- **Eastern Whip Poor Will and Common Nighthawk:** The *General Habitat Description for the Eastern Whip Poor Will* (OMNRF 2014e) describes Eastern Whip Poor Will breeding habitat as "…open and half treed areas (which) often exhibit a scattered distribution of treed and open space…" Suitable breeding habitats generally consist of a 'mosaic' of open, half treed, and closed canopy conditions (Garlapow 2007). As discussed above in Section 3.2, the Site is largely devoid of trees and does not include a scattered distribution of open and closed areas. In addition, Eastern Whip Poor Will typically do not nest close to areas with high levels of disturbance (SARO 2020). All areas of the Site are too close to March Road and the existing buildings for Eastern Whip Poor Will nesting to be likely. It should also be noted that Eastern Whip Poor Will were not documented to occur in adjacent areas of the Kanata North Urban Expansion Area (KNUEA), despite the completion of targeted surveys (Novatech 2016b). 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 2020). As described above, the majority of the Site is either highly disturbed by ongoing usage or occupied by dense groundcover. Therefore, Common Nighthawk are unlikely to be found nesting within the Site. Therefore, Eastern Whip Poor Will and Common Nighthawk are unlikely to be a significant concern for the proposed development.
- **Least Bittern:** Least Bittern breed in open marshes and wetlands. As described above in Section 3.3, there are no significant areas of marsh or open wetland habitat within the Site. 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 2020). As discussed above in Section 3.2, the Site 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.
- **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 2020). There have been no records of Transverse Lady Beetle in Ontario since 1990 (SARO 2020). 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 ESA. Bald Eagles are primarily found nesting adjacent to large lakes and rivers (e.g. the Ottawa River) (SARO 2020). Due to the absence of large bodies of water in the vicinity of the Site, 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 2020). Horned Grebe build their nests in marshes, ponds, and shallow bays (SARO 2020). As discussed above, there are no large wetland habitats or ponds found within the vicinity of the Site. 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 2020). As discussed above in Section 3.2, there are no forested habitats within the Site, and therefore Canada Warbler, Eastern Wood Pewee and Wood Thrush 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 2020). There are no potentially suitable nest sites for Peregrine Falcons within the Site, 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 2020). As discussed above in Section 3.2, there are no forested habitats within the Site, and therefore Rusty Blackbird are unlikely to be a significant concern for the proposed development.
- **Snapping Turtle**: Snapping Turtles are a species of special concern, and therefore their habitat is not regulated under the Ontario ESA. Snapping Turtles are generally common in many aquatic habitat areas, and they are likely found within the tributaries of Shirley's Brook within the Site (SARO 2020). 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.

- **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 small flowing watercourses such as the tributaries of Shirley's Brook (SARO 2020). Most sightings of these species in the region are associated with the Ottawa River and its major tributaries (SARO 2020). Therefore, Eastern Musk Turtle, Northern Map Turtle, River Redhorse, and Silver Lamprey are unlikely to be a significant concern for the proposed development.
- **Monarch Butterfly:** Monarch Butterflies are found in association with their milkweed host plants (SARO 2020). As described above in Section 3.2, Common Milkweed was noted within the Site in association with the Cultural Meadow. However, the density of Common Milkweed was not high, and no Monarch Butterflies were noted within the Site during the site visits. 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 below in Section 4.4.3 will help to mitigate any potential impacts to individual Monarch Butterflies at the construction stage.
- **Chimney Swift**: Chimney Swifts nest in open chimneys with rough interior surfaces made from brick and/or stone (SARO 2020). There are three (3) chimneys found within the Site. Photographs of the chimneys are included below. 910 March Road includes a brick chimney with a ceramic liner and a second brick chimney with a metal cap. 920 March Road has a concrete chimney with a metal cap. Chimney Swifts will not nest in chimneys with ceramic liners, as they are unable to affix their nests to the smooth interior surface (SARO 2020). Chimney Swifts are unable to enter chimneys with metal caps. There are therefore no chimneys within the Site which may be suitable for Chimney Swift nesting.

Photograph 29: 910 March Road (Building #1) chimney with ceramic liner (August 14th, 2017).

Photograph 30: 910 March Road (Building #1) chimney with metal cap (August 14th, 2017).

Photograph 31: 920 March Road (Building #5) chimney with metal cap (August 14th, 2017).

In summary, Blanding's Turtle and Barn Swallow habitat is known to occur within the Site and within adjacent habitats (e.g. the tributaries of Shirley's Brook). No other significant Species at Risk (SAR) concerns have been identified for the Site.

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3.7 Linkages

As discussed previously, the Site is located within the urban area of the City of Ottawa (Kanata) between existing developed areas (to the south and east) and the Kanata North Urban Expansion Area (KNUEA) (to the north and west). Wildlife are relatively unlikely to move overland through the terrestrial portion of the Site, as there are no significant terrestrial habitat features located to the south and east, and March Road is located to the west. However, Blanding's Turtles (and other wildlife) may follow the tributaries of Shirley's Brook and utilize the riparian habitats around the watercourses as a movement corridor.

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4.0 DESCRIPTION OF ENVIRONMENTAL IMPACTS AND MITIGATION

4.1 Terrestrial Habitat and Tree Removal

As noted above in Section 3.2, the majority of the proposed development area lacks mature tree cover, and therefore there is relatively little tree removal required. The White Birch, White Cedar and Manitoba Maple stems (up to 17 cm diameter at breast height (dbh) in size) present around the house at 910 March Road will be removed during the Site development. In addition, the mature Weeping Willow (70 cm dbh) and several Manitoba Maple stems (up to 30 cm dbh) present behind the house at 920 March Road will also be removed during the Site development. Isolated recent regrowth Manitoba Maple stems found within the Cultural Meadow (<20 cm dbh) will also be removed.

However, the majority of trees found within the Site, including the Deciduous Hedgerow along the northern property line and the line of Manitoba Maples along the southern stormwater swale (Tributary #4), will be preserved within the proposed tributary setbacks. The arrangement of the tributary setbacks is such that nearly all of the mature trees found adjacent to the tributaries of Shirley's Brook will be retained.

As discussed in Section 4.0 of the Tree Conservation Report (TCR) (Appendix A), the Proposed Site Plan conforms to the tree preservation recommendations included within the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (Novatech 2016b). Tree mitigation measures have been proposed in the TCR to help protect and preserve retained trees during development. During the development, trees and shrubs will be planted within the proposed tributary setbacks, in order to improve the quality of the riparian habitat. Further detail regarding the proposed tree planting is included in Section 5.0 of the TCR (Appendix A).

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4.2 Watercourses

4.2.1 Tributary Setbacks

Setbacks from the tributaries of Shirley's Brook are proposed that will conform to the recommendations of the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP), which establishes a minimum 40 m wide corridor of retained and/or enhanced habitat around the tributaries of Shirley's Brook (Novatech 2016b). A setback of 20 m from the normal high water mark of Tributary #3 is proposed within the northern part of the Site. Assuming that the adjacent landowner to the north implements a similar setback during future development, this would create a 40 m wide corridor around Tributary #3. A setback of 20 m from the normal high water mark in the eastern part of the Site is also proposed. The adjacent City of Ottawa watercourse corridor (located to the east) is a minimum of 35 m wide. Maintaining a 20 m setback from the normal high water mark (within the Site) will ensure that the total corridor width is a minimum of 40 m following development. Due to the fact that the southern stormwater swale (Tributary #4) is not a watercourse and is an artificial stormwater flow channel, a setback of 5 m from the top of slope is proposed. The 5 m wide setback will match the setback implemented for the adjacent fast food restaurant property located to the south.

The purpose of the 40 m wide corridor surrounding the tributaries of Shirley's Brook is to provide a buffer which will help to slow, filter and absorb overland stormwater flow, while also providing habitat for wildlife and wildlife movement. Trees growing within the setback area help to protect the watercourses from edge effects including noise, pollution, and other forms of human disturbance. Trees also provide shade which helps to cool surface water temperatures, while they also help to prevent erosion, stabilize banks, and enhance absorption and filtration of overland stormwater flow. As discussed above in Section 3.2, the majority of the development side of the riparian corridor surrounding Tributary #3 (north) and the combined flow of Tributary #2 and #3 (east) has very little tree coverage under current conditions. The proposed planting of trees and shrubs within the setback area (discussed in Section 5.0 of the Tree Conservation Report (TCR)) will enhance the functionality of the riparian corridor compared to existing conditions.

As specified in Section 4.7.3 of the City of Ottawa Official Plan, current policy recommends that the setback from watercourses should be the greater of either 15 m from the top of slope or 30 m from the normal high water mark of the watercourse. The 40 m wide corridor surrounding the tributaries of Shirley's Brook established by the KNUEA EMP, effectively requires implementation of a 20 m setback from the normal high water mark of the watercourses (on each side). The City of Ottawa Official Plan Policy 4.7.3 identifies four (4) items that are to be addressed in cases where watercourse setbacks are less than 30 m from the normal high water mark. These include:

A. **Slope and Bank Stability:** The tributaries of Shirley's Brook adjacent to the Site include a gradual slope, and no evidence of erosion was noted. Tree planting within the setbacks (discussed in Section 5.0 of the Tree Conservation Report (TCR)), will help to stabilize the slope and prevent future erosion. No significant slope and bank stability issues have been identified.
B. **Natural Vegetation and Ecological Functions in the Setback Area:** As noted above, the Deciduous Hedgerow along the northern property line and the line of Manitoba Maples along the southern stormwater swale (Tributary #4), will be preserved within the proposed tributary setbacks. This arrangement preserves the majority of trees within the Site, including those found within the riparian corridor. As discussed below, tree planting within the tributary setbacks will be undertaken to enhance/rehabilitate the riparian corridor surrounding the tributaries.
C. **The Nature of the Abutting Waterbody and the Presence of the Floodplain:** City of Ottawa mapping shows the floodplain of Shirley's Brook extending approximately 20 m into the northern part of the Site (adjacent to Tributary #3), whereas the floodplain extends only a few meters into the eastern part of the Site (adjacent to the combined Tributary #2 and #3). The floodplain is shown to be beyond the property line to the south and southeast (City of Ottawa 2020). A Cut and Fill operation will be undertaken to address the floodplain and grading requirements (discussed below).
D. **No Negative Impacts on Fish Habitat:** As discussed above in Section 3.3, Tributary #3 (north) and the combined flow of Tributary #2 and #3 (east) both provide fish habitat. These areas will be protected by the proposed 20 m wide setbacks from the normal high water mark, as well as the construction stage mitigation measures described below. The southern stormwater swale (Tributary #4) has not been shown to contain fish habitat.

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4.2.2 Riparian Planting

As noted above, there is very little tree cover on the development side of the tributaries of Shirley's Brook. During the development, trees and shrubs will be planted within the proposed tributary setbacks, in order to improve the quality of the riparian habitat. Tree planting requirements are discussed in greater detail in Section 5.0 of the Tree Conservation Report (TCR) (Appendix A).

4.2.3 Cut and Fill Requirements

A minor Cut and Fill operation is required within the southeast corner of the Site, in order to fulfill the grading requirements and to address the presence of the floodplain. The Cut and Fill operation will include the placement of fill and grading activities within a small portion of the 20 m tributary setback in the southeast corner of the Site. The anticipated location of the Cut and Fill operation is shown below in the Concept Grading Plan. Further details regarding the Cut and Fill requirement will be developed and presented to the Mississippi Valley Conservation Authority (MVCA) at the detailed design stage. The Cut and Fill operation will also be reviewed by the Ministry of Environment, Conservation, and Parks (MECP) as part of the Overall Benefit Permit review process. The area that will be affected by the Cut and Fill operation is largely devoid of tree cover, and therefore tree removal is not anticipated to be required to facilitate the Cut and Fill operation. Following completion of the grading and Cut and Fill operation, disturbed areas within the 20 m tributary setback will be restored by planting new native trees and shrubs. The tree planting requirements are discussed in greater detail in Section 5.0 of the Tree Conservation Report (TCR) (Appendix A).

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fill within 20m offset

SITE BENCH MARK #4
SPIKE IN HYDRO POLE
ELEVATION=78.288m

SITE BENCH MARK #3
SPIKE IN HYDRO POLE
ELEVATION=79.048m

DEPRESSED LOADING BAY
1.24m BELOW FFE
TRENCH DRAIN TO BE COORDINATED WITH MECHANICAL

TOP OF BANK

LIMIT OF WORK

MARCH ROAD

MARCH ROAD - REGIONAL ROAD NO. 49 - (FORMERLY THE KING'S HIGHWAY NO. 17)
ORDER-IN-COUNCIL 2446/82 INST. NS166501
PLAN MH/3924 (MTO FILE P-1648-5)

david schaeffer engineering ltd
SMART SUBDIVISIONS™

120 Iber Road Unit 103
Stittsville, Ontario, K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

910 MARCH ROAD - CONCEPT GRADING

PROJ NO.:	17-962
DRAWN BY:	CMK
DATE:	2020-05-05
SCALE:	1:400
FIGURE NO.:	FIG-1

z:\projects\17-962_wexford_910-march-road\b_design\b2_drawings\b2-2_main (dsel)\subm2\2020-05-08_962_cmk.dwg

4.2.4 Servicing and Stormwater Management

The development will receive municipal services connecting to March Road. Stormwater releases from the Site will be controlled to pre-development levels. Quality control will be provided by an oil/grit separator with Ministry of Environment Enhanced Level of Treatment (80% Total Suspended Solids removal). The stormwater management system will outlet to the existing southern stormwater swale.

4.2.5 Sediment and Erosion Controls

As discussed below in Section 4.4.1, Blanding's Turtle temporary exclusion fencing (wire re-enforced silt fencing) will be required during construction. This fencing will also serve to mitigate potential sediment and erosion impacts on the tributaries of Shirley's Brook. During construction, existing conveyance systems can be exposed to significant sediment loadings. Although construction is only a temporary situation, a sediment and erosion control plan will be required to ensure the existing conveyance systems are not negatively impacted by sediment and erosion. The sediment and erosion control plan will include the following:

- Groundwater in trenches (if present) will be pumped into a filter mechanism, such as a trap made up of geotextile filters and straw, prior to release to the environment;
- Bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer (e.g. existing sewers along March Road, if required). These bulkheads will trap any sediment carrying flows, thus preventing any construction-related contamination of existing sewers;
- Seepage barriers will be constructed in any temporary drainage ditches;
- Construction vehicles will leave the site at designated locations. Exits will consist of a bed of granular material, in order to minimize the tracking of mud off-site;
- Any stockpiled material will be properly managed to prevent those materials from entering the sewer systems; and
- Until landscaped areas are sodded or until streets are asphalted and curbed, all catch basins and manholes will be constructed with a geotextile filter sock located between the structure frame and cover.

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4.3 Adjacent Lands and Significant Features

As discussed previously, the development will be surrounded by setbacks from the tributaries of Shirley's Brook on three (3) sides, with March Road present on its remaining side. The development area will not directly interface with any adjacent properties, and therefore the development of the Site is not likely to negatively impact adjacent properties and/or adjacent natural heritage features.

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4.4 Wildlife and Species at Risk

4.4.1 Blanding's Turtle Mitigation and Regulatory Requirements

As discussed above, all of the tributaries of Shirley's Brook found adjacent to the Site will be preserved, and therefore there will be no loss of watercourse length and/or hydrated areas. The proposed setbacks from the tributaries of Shirley's Brook will preserve some of the 30 m terrestrial portion of the Blanding's Turtle Category 2 habitat. Due to the comparatively small size of the Site, it is not possible to avoid all areas of Category 2 habitat, as implementing 30 m setbacks on three (3) sides would make the Site undevelopable. Avoiding Category 3 habitat is also not feasible, as Category 3 habitat is shown to occur throughout the remainder of the Site beyond the edge of the Category 2 habitat.

The loss of Category 2 habitat will be limited to the removal of terrestrial buffer areas adjacent to the watercourses. Approximately 1.08 ha of the terrestrial portion of the Category 2 habitat and approximately 0.02 ha of Category 3 habitat will be preserved within the proposed setbacks (Refer to Figure 3). Approximately 0.4 ha of the terrestrial portion of the Category 2 habitat, and approximately 1.2 ha of Category 3 habitat, will be removed by the proposed development.

Due to the anticipated loss of Category 2 and 3 habitat, an Overall Benefit Permit under Clause 17(2)(C) of the Ontario Endangered Species Act (ESA) is anticipated to be required to support the development. In order to initiate the Ontario ESA review process, the Information Gathering Form (IGF) and the Alternatives Assessment Form (AAF) were submitted to the Ministry of Environment, Conservation, and Parks (MECP) on March 25th, 2020. In order to obtain an Overall Benefit Permit, the proponent will be required to develop a habitat offsetting and compensation program that will provide a benefit to Blanding's Turtles. The requirements for the habitat offsetting and compensation program will be developed in consultation with the MECP, as part of the permitting process.

In addition to requiring compensation for the loss of habitat, the Overall Benefit Permit will require mitigation measures to be implemented to mitigate potential impacts to individuals of the species. General mitigation for wildlife during construction, including timing requirements for Blanding's Turtle, are outlined below in Section 4.4.3.

In addition to the requirements listed in Section 4.4.3, exclusion fencing around the development perimeter will be required to prevent Blanding's Turtles from entering the development area. The anticipated location of the Blanding's Turtle exclusion fencing is shown below in the Landscape Plan. The detailed design requirements for Blanding's Turtle fencing will be identified in consultation with

the MECP as part of the Overall Benefit Permit process. The Overall Benefit Permit will require both temporary fencing (at the construction stage) and permanent exclusion fencing. Fencing will be required along the northern, eastern, and southern development boundaries. Fencing will not be required along the western development boundary, due to the presence of March Road. The fencing will be required to confine Blanding's Turtles within the setbacks surrounding the tributaries of Shirley's Brook, thereby preventing them from entering the development area and from reaching March Road in the vicinity of the Site.

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

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GENERAL NOTES:

1. It is the responsibility of the appropriate contractor or official to report any errors, omissions or discrepancies on this plan with actual site conditions to the Landscape Architect before proceeding with construction.

2. The contractor is to notify all utility companies and authorities prior to any excavation and ascertain locations of underground services.

3. The contractor is to reinstate all areas and items damaged as a result of construction activity.

4. The contractor is to comply with all pertinent codes and by-laws.

5. The contractor is to maintain a positive surface run-off throughout the entire construction period.

6. The Landscape Architect is not responsible for subsurface conditions.

7. The contractor is to identify all existing trees to remain on site with the Landscape Architect prior to construction.

8. The contractor is to stake the proposed location of all plant material in conjunction with the Landscape Architect prior to excavation.

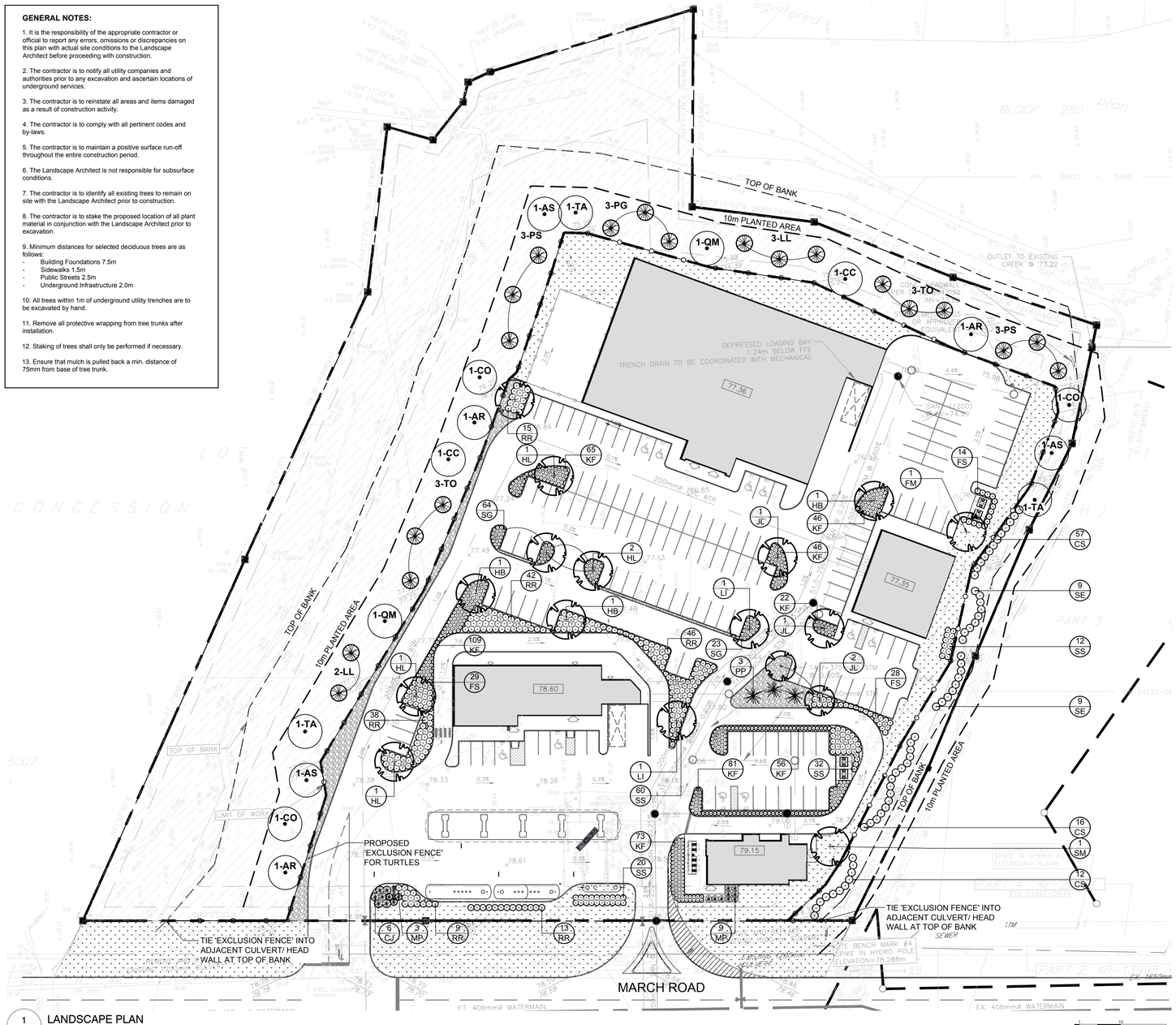
9. Minimum distances for selected deciduous trees are as follows:
- Building Foundations 7.5m
- Sidewalks 1.5m
- Public Streets 2.5m
- Underground Infrastructure 2.0m

10. All trees within 1m of underground utility trenches are to be excavated by hand.

11. Remove all protective wrapping from tree trunks after installation.

12. Staking of trees shall only be performed if necessary.

13. Ensure that mulch is pulled back a min. distance of 75mm from base of tree trunk.



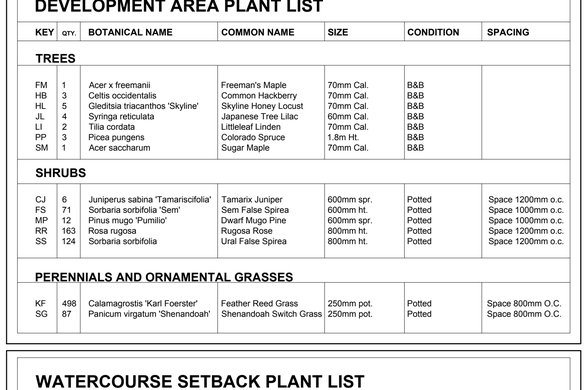
1 L.1 LANDSCAPE PLAN
SCALE 1:500

DEVELOPMENT AREA PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
TREES						
FM	1	Acer x freemanii	Freeman's Maple	70mm Cal.	B&B	
HB	3	Celtis occidentalis	Common Hackberry	70mm Cal.	B&B	
HL	5	Gleditsia triacanthos 'Skyline'	Skyline Honey Locust	70mm Cal.	B&B	
JL	4	Syringa reticulata	Japanese Tree Lilac	60mm Cal.	B&B	
LI	2	Tilia cordata	Littleleaf Linden	70mm Cal.	B&B	
PP	3	Picea pungens	Colorado Spruce	1.8m Ht.	B&B	
SM	1	Acer saccharum	Sugar Maple	70mm Cal.	B&B	
SHRUBS						
CJ	6	Juniperus sabina 'Tamariscifolia'	Tamarix Juniper	600mm spr.	Potted	Space 1200mm o.c.
FS	71	Sorbaria sorbifolia 'Sem'	Sem False Spirea	600mm ht.	Potted	Space 1000mm o.c.
MP	12	Pinus mugo 'Pumilio'	Dwarf Mugo Pine	600mm spr.	Potted	Space 1000mm o.c.
RR	163	Rosa rugosa	Rugosa Rose	800mm ht.	Potted	Space 1200mm o.c.
SS	124	Sorbaria sorbifolia	Ural False Spirea	800mm ht.	Potted	Space 1200mm o.c.
PERENNIALS AND ORNAMENTAL GRASSES						
KF	498	Calamagrostis 'Karl Foerster'	Feather Reed Grass	250mm pot.	Potted	Space 800mm O.C.
SG	87	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	250mm pot.	Potted	Space 800mm O.C.

WATERCOURSE SETBACK PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
DECIDUOUS TREES						
AR	3	Acer rubrum	Red Maple	2.0m Ht.	Potted / Bare Root	
AS	3	Acer saccharinum	Silver Maple	2.0m Ht.	Potted / Bare Root	
CC	2	Carya cordiformis	Bitternut Hickory	2.0m Ht.	Potted / Bare Root	
CO	3	Celtis occidentalis	Common Hackberry	2.0m Ht.	Potted / Bare Root	
QM	2	Quercus macrocarpa	Bur Oak	2.0m Ht.	Potted / Bare Root	
TA	3	Tilia americana	Basswood	2.0m Ht.	Potted / Bare Root	
CONIFEROUS TREES						
LL	5	Larix laricina	Tamarack	0.6m Ht.	Potted / Bare Root	
PG	3	Picea glauca	White Spruce	0.6m Ht.	Potted / Bare Root	
PS	6	Pinus strobus	Eastern White Pine	0.6m Ht.	Potted / Bare Root	
TO	6	Thuja occidentalis	Eastern White Cedar	0.6m Ht.	Potted / Bare Root	
SHRUBS						
CS	85	Cornus sericea	Red Osier Dogwood	400 mm ht.	Potted	
SE	18	Salix exigua	Sandbar Willow	400 mm ht.	Potted	



5 L.1 BARE ROOT WHIP PLANTING
SCALE: NTS

CLIENT:

WEXFORD COMMERCIAL DEVELOPMENTS LTD.

LEGEND

- PROPOSED DECIDUOUS TREE PLANTING FOR DITCH
- PROPOSED CONIFEROUS TREE PLANTING FOR DITCH
- PROPOSED DECIDOUS TREE
- PROPOSED CONIFEROUS TREE
- PROPOSED SHRUBS / PERENNIALS / ORNAMENTAL GRASSES
- PROPOSED 'EXCLUSION FENCING' FOR TURTLES
- PROPOSED SOD
- PROPOSED RIVERSTONE MULCH

No.	Issue	Date MM/DD/YY	DR	CK
2	ISSUED FOR SITE PLAN CONTROL	05/28/2020	MK	JL
1	ISSUED FOR DISCUSSION AND REVIEW	03/30/2020	ML	JL

JAMES B. LENNOX & ASSOCIATES INC.
LANDSCAPE ARCHITECTS
3332 CARLING AVE. OTTAWA, ONTARIO K2H 5A8
Tel. (613) 722-5168 Fax. 1(866) 343-3942

PROJECT

910 MARCH ROAD COMMERCIAL DEVELOPMENT

910 MARCH ROAD, OTTAWA ON

DRAWING

LANDSCAPE PLAN

STAMP

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — JAMES B. LENNOX — MEMBER

SCALE: AS SHOWN

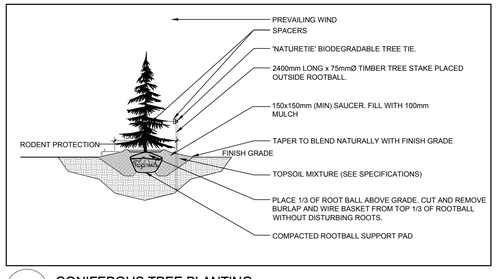
START DATE: MARCH 2020

PROJECT NO.: 19MIS2020

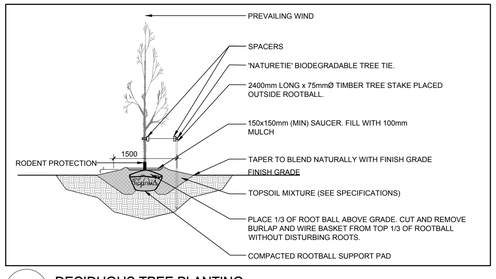
PROJECT NORTH

DRAWING NO.: L.1

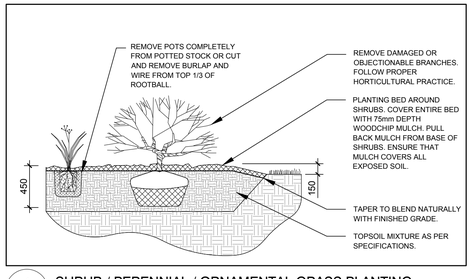
PLOT SIZE ARCH-D



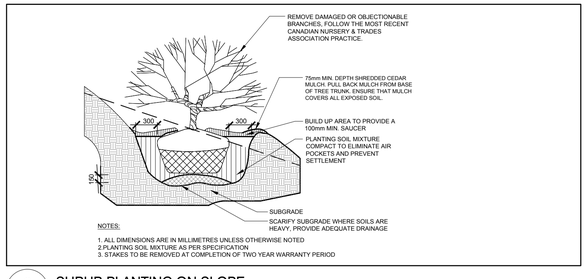
2 L.1 CONIFEROUS TREE PLANTING
SCALE: NTS



3 L.1 DECIDUOUS TREE PLANTING
SCALE: NTS



4 L.1 SHRUB / PERENNIAL / ORNAMENTAL GRASS PLANTING
SCALE: NTS



6 L.1 SHRUB PLANTING ON SLOPE
SCALE: NTS

4.4.2 Barn Swallow Mitigation and Regulatory Requirements

Removal of buildings containing Barn Swallow nests does not require obtainment of an Overall Benefit Permit under the Ontario Endangered Species Act (ESA). Instead, an authorization is obtained by registering the activity through the Ministry of Environment, Conservation, and Parks (MECP) Online Impact Registration Process, which is completed by submitting the *Notice of Activity under the Endangered Species Act (2007): Barn Swallow – Activities in Built Structures that are Habitat*. It is anticipated that the MECP Online Impact Registration Process will be completed in early 2021, prior to the commencement of building demolition.

Following completion of the registration process and building demolition, the proponent is required to construct artificial Barn Swallow nesting structures within 1 km of the Site. The artificial nesting structures will be constructed within the Site within the tributary setbacks. The precise location and configuration of the artificial nesting structures will be determined at the detailed design stage. Once built, the rules and regulations of the Ontario ESA require the artificial nesting structures to be monitored and maintained for a three (3) year period.

Demolition of buildings containing Barn Swallow nests must be undertaken between September 1st and April 30th each year. Following building demolition, construction of the artificial nesting structures must be completed before May 1st.

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4.4.3 General Wildlife Mitigation

Potential impacts to Blanding's Turtles, Barn Swallows, 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 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 and Barn Swallow:

- **Awareness Training:** Contractor awareness training packages will be prepared and utilized to complete contractor awareness training. Each contractor will be required to have at least one (1) staff member on site at all times who has completed the training. The Awareness Training will include a summary of the required mitigation measures and training on the identification of Blanding's Turtles and Barn Swallows. Contractors will also be provided information to aid in reporting Species at Risk (SAR) sightings to the Ministry of Environment, Conservation, and Parks (MECP) and the Natural Heritage Information Center (NHIC);
- **Pre-Stressing:** Prior to tree removal, the area will 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:** There are no woodlots or forest within the Site, and therefore a direction of tree clearing is not required;
- **Temporary Exclusion Fencing:** The temporary Blanding's Turtle exclusion fencing (wire re-enforced silt fencing) will also serve to mitigate potential erosion and siltation impacts;
- **Inspections:** The temporary Blanding's Turtle exclusion fencing will be inspected by a designated staff member prior to the 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 Combined Environmental Impact Statement and Tree Conservation 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;

- **Species at Risk (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 Ministry of Environment, Conservation, and Parks (MECP) must be contacted to discuss how to proceed prior to the 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 the Site tidy and free of garbage and food wastes. Secure all garbage in appropriate sealed containers;
    - Ensure proper Site drainage so that standing water does not accumulate on Site. This will reduce the likelihood that turtles and other wildlife may enter the Site;
    - Any stockpiles should be properly secured with silt fencing to prevent wildlife from accessing areas of loose fill; and
- **Timing Windows:**
    - Vegetation clearing and site preparation will be undertaken outside of the core migratory bird breeding season of April 15th to August 15th each year;
    - The Blanding's Turtle active season is defined by the MECP 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;
    - Therefore, initial site clearing, stripping, cut and fill operations, and the installation of temporary exclusion fencing must be undertaken between October 15th and April 15th; and
    - Demolition of buildings containing Barn Swallow nests must be undertaken between September 1st and April 30th each year. Following building demolition, construction of the artificial nesting structures must be completed before May 1st.

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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 the Species at Risk (SAR) mitigation measures. The majority of the Site is previously developed, and therefore the proposed development will not significantly contribute to the cumulative loss of wetlands or forest habitat.

The Endangered Species Act (ESA) process requires that proponents either mitigate all impacts to a species, or that they provide an overall benefit to the species, both of which imply no net loss of habitat functionality. Mitigation and compensation measures to provide an overall benefit to Blanding's Turtles will be determined in consultation with the Ministry of Environment, Conservation, and Parks (MECP) through the Overall Benefit Permit process. The MECP Online Impact Registration Process for Barn Swallows requires the construction of artificial nesting structures to compensate for the removal of buildings containing Barn Swallow nests.

6.0 MONITORING

Construction stage monitoring requirements are outlined in Section 4.4.3 (above). Monitoring will include pre-construction sweeps to inspect fencing and vegetation prior to clearing, and daily sweeps by construction staff. Monitoring requirements related to Blanding's Turtle will be determined in consultation with the MECP through the Ontario ESA permitting process. The rules and regulations of the Ontario ESA stipulate that the Barn Swallow artificial nesting structures will require three (3) years of post-construction monitoring.

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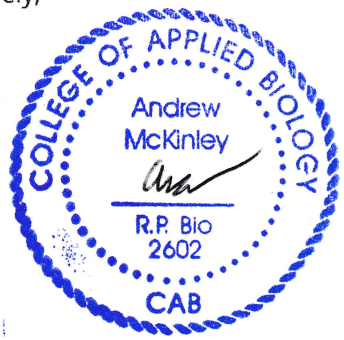
7.0 CLOSURE

Pending that the regulatory, mitigation, and avoidance measures outlined in this report are implemented appropriately, the development of the 910/920 March Road property is not anticipated to have a significant negative effect on the natural features and functions of the Site.

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

Sincerely,



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

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8.0 REFERENCES

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

City of Ottawa (2015) Protocol for Wildlife Protection During Construction.

City of Ottawa (2020) Geo-Ottawa Municipal Mapping Site. Retrieved April 1st, 2020 at <http://maps.ottawa.ca/geoottawa/>

DST Consulting Engineers (DST) (2015) Kanata North Community Design Plan – Blanding's Turtle Habitat Compensation Plan.

Garlapow, R.M. (2007) Whip-poor-will Prey Availability and Foraging Habitat: Implications for Management in Pitch Pine / Scrub Oak Barrens Habitats. Master Dissertation, Univ. of Massachusetts, Amherst, Massachusetts.

Gunson, K., Seburn, D., Kintsch, J, & J. Crowley (2016) Best Management Practice for Mitigating the Effects of Roads on Amphibian and Reptile Species at Risk in Ontario.

Konze, K. and McLaren, M. (1998) Wildlife Monitoring Programs and Inventory Techniques for Ontario. NEST Technical Manual TM-009.

Lee, Harold (2008) Southern Ecological Land Classification Ecosystem Catalogue (2008 version).

Novatech Engineering Consultants (Novatech) (2016a) Kanata North Community Design Plan.

Novatech Engineering Consultants (Novatech) (2016b) Kanata North Community Design Plan – Environmental Management Plan.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (1998) Ecological Land Classification for Southern Ontario: First Approximation and its Applications.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2010) OMNRF Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005, Second Edition.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2011) Bats and Bat Habitats: Guidelines for Wind Power Projects.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2014a) General Habitat Description for Blanding's Turtle.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2014b) Significant Wildlife Habitat Mitigation Support Tool.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2014c) General Habitat Description for the Bobolink.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2014d) General Habitat Description for Eastern Meadowlark.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2014e) General Habitat Description for the Eastern Whip Poor Will.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2020) Natural Heritage Information Center. Retrieved April 1st, 2020 at <http://nhic.mnr.gov.on.ca/>

Paterson Group (2013) Consolidated Preliminary Geotechnical Investigation – Kanata North Urban Expansion Area Community Development Plan.

Species at Risk Ontario (SARO) (2020) Species at Risk Ontario. Retrieved April 1st, 2020 at <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>

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APPENDIX A

Tree Conservation Report

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1.0 BACKGROUND AND OVERVIEW

McKinley Environmental Solutions (MES) was retained by Wexford Commercial Developments Ltd. (Wexford) to prepare a Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) for the proposed development of the 910/920 March Road property (the Site). The Combined EIS and TCR are presented as an integrated submission and should be read together. Refer to the attached EIS report for the Proposed Site Plan and Site Photographs.

The Site includes an approximately 2.7 ha (6.71 acre) property located at 910/920 March Road, Ottawa, Ontario (Part of Lots 11 and 12, Concession 4, Geographic Township of March) (Pin #045270840). The Site is located within the urban area of the City of Ottawa (Kanata) between existing developed areas (to the south and east) and the Kanata North Urban Expansion Area (KNUEA) (to the north and west). The area immediately south of the Site includes a developed fast food restaurant property, beyond which is Maxwell Bridge Road. A City of Ottawa owned watercourse corridor exists east of the Site, beyond which is the Brookside subdivision. The area north of the Site includes the southeast quadrant of the KNUEA. March Road is located west of the Site, beyond which is the southwest quadrant of the KNUEA. Both adjacent quadrants of the KNUEA consist primarily of undeveloped agricultural properties.

The Site is predominantly previously developed, and includes two (2) residential homes (910 and 920 March Road), as well as several barns and sheds. A total of nine (9) buildings are currently found within the property. There are also many older vehicles, truck trailers, and other equipment stored throughout the Site. The western part of the Site includes a manicured lawn adjacent to the existing houses. The eastern part of the Site is predominantly occupied by a Cultural Meadow, although the Cultural Meadow is highly disturbed by mowing and the movement of vehicles/equipment. Tree cover within the majority of the Site is sparse, predominantly consisting of sporadic recent regrowth Manitoba Maple stems and other deciduous species. A Deciduous Hedgerow is present along the northern property line, while a small patch of mature trees exists behind the house at 920 March Road. A row of Manitoba Maple is also present along the southern Site boundary.

For ease of reference, the tributaries of Shirley's Brook are referred to throughout this report using the same terminology as the KNUEA Environmental Management Plan (EMP) (Novatech 2016b). Tributary #3 crosses March Road through a small CSP culvert and runs approximately parallel to the northern property line. Tributary #2 enters the Site from the north. Tributary #2 and #3 merge in the northeast corner of the Site, before flowing south (parallel to the eastern property line). Tributary #4 is a stormwater swale located south of the Site, which runs parallel to the southern property line. The stormwater swale serves as the outlet from the Morgan's Grant Stormwater

Management (SWM) facility. The Morgan's Grant SWM facility is located west of March Road, and flow from the facility is conveyed to the swale by underground piping. Flow from the stormwater swale merges with Shirley's Brook southeast of the Site. These aquatic features surround the Site on three (3) sides.

As part of the proposed development, all existing structures within the Site will be demolished. The Site will be developed to accommodate one (1) large commercial retail building and three (3) smaller commercial buildings that will provide space for future restaurants and a gas station. The development will also include approximately 155 paved surface parking spaces and two (2) entrances from March Road.

Setbacks from the tributaries of Shirley's Brook are proposed that will conform to the recommendations of the KNUEA EMP, which establishes a minimum 40 m wide corridor of retained and/or enhanced habitat around the tributaries of Shirley's Brook (Novatech 2016b). A setback of 20 m from the normal high water mark of Tributary #3 is proposed within the northern part of the Site. Assuming that the adjacent landowner to the north implements a similar setback during future development, this would create a 40 m wide corridor around Tributary #3. A setback of 20 m from the normal high water mark in the eastern part of the Site is also proposed. The adjacent City of Ottawa watercourse corridor (located to the east) is a minimum of 35 m wide. Maintaining a 20 m setback from the normal high water mark (within the Site) will ensure that the total corridor width is a minimum of 40 m following development. Due to the fact that the southern stormwater swale (Tributary #4) is not a watercourse and is an artificial stormwater flow channel, a setback of 5 m from the top of slope is proposed. The 5 m setback will match the setback implemented for the adjacent fast food restaurant property located to the south.

Due to the fact that the majority of the development area is either previously developed or occupied by Cultural Meadow, it is not anticipated that significant tree removal will be required. Because the majority of trees found within the Site occur on the property margins, the majority of existing mature trees will be preserved within the proposed tributary setbacks. During development, trees and shrubs will be planted within the tributary setbacks, in order to improve the quality of the riparian habitat (discussed in greater detail in Section 5.0).

1.1 Definitions

The following terms are used throughout this report:

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

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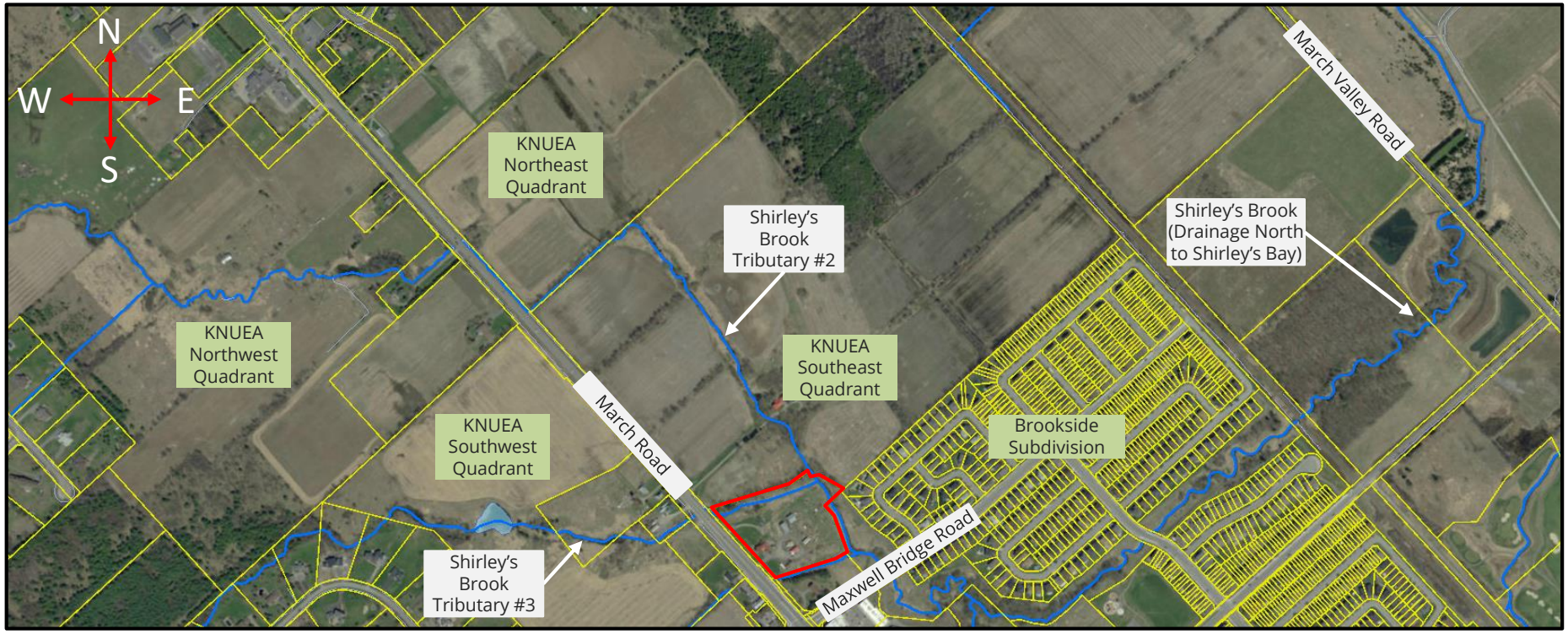
FIGURE 1: SITE CONTEXT

910/920 March Road Development - Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)

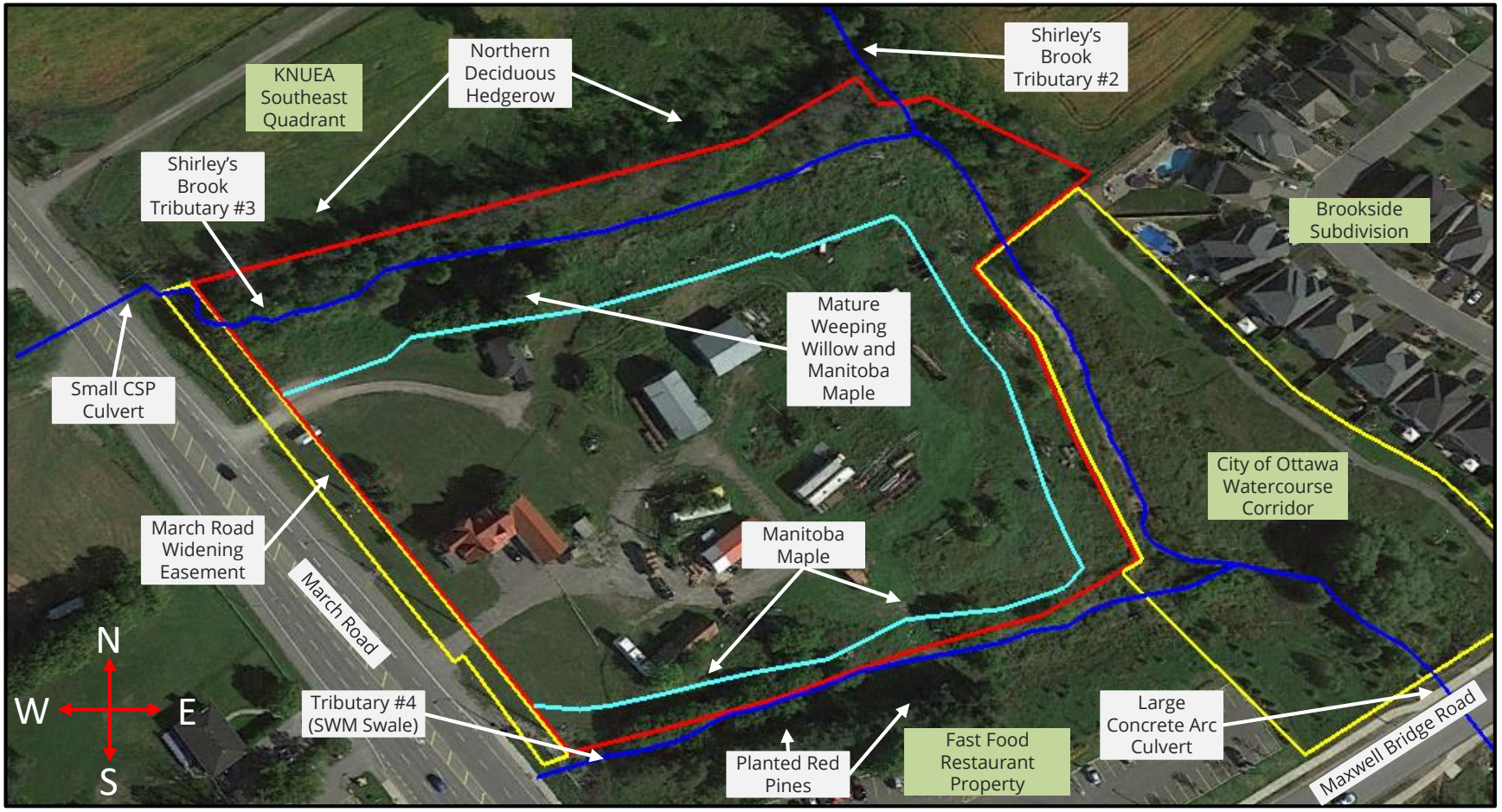


- Property Boundary - Watercourses

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

FIGURE 2: SITE OVERVIEW

910/920 March Road Development - Combined Environmental Impact Statement (EIS) and Tree Conservation Report (TCR) (Revised)



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

2.0 TREE INVENTORY METHODS

Site visits to inventory plants and measure tree sizes were completed by Bernie Muncaster of Muncaster Environmental Planning (MEP) on August 3rd, 2017 and by Dr. McKinley of McKinley Environmental Solutions on August 14th, 2017. Weather conditions during the August 3rd site visit included a light breeze, overcast skies, and a temperature of 21 ºC. Weather conditions during the August 14th site visit included sunny conditions and a temperature of 17 ºC. The majority of the Site lacks mature tree cover (e.g. trees >10 cm diameter at breast height (dbh)), and so measurement plots were not undertaken to inventory trees. Instead, measurements of representative trees were completed within the Deciduous Hedgerow and elsewhere where trees occur within the Site. Tree size measurements were taken using a D-tape, which is a calibrated dbh tape. Measurements for each of the qualifying trees (>10 cm dbh) were taken 1.2 m from the ground surface and recorded.

3.0 TREE INVENTORY

3.1 Site History

Air photos from 1976, 1991 and 2002 are included below (Photos from City of Ottawa 2020). A recent air photo is included in Figure 2. The oldest available historic air photo (from 1976), shows that the Site has been predominantly cleared and devoid of mature trees since at least 1976. The areas surrounding the Site appear to be farmed and/or rural residences in 1976. In 1976, a few mature trees are present around the house at 910 March Road and along the northern property boundary. This suggests that some of the older trees in the Deciduous Hedgerow have been growing since before 1976. Conditions within the Site appear similar in 1991, although a few additional mature trees are present around the houses at both 910 and 920 March Road, and along the northern property boundary in 1991. The Site layout and usage in 2002 is similar to current conditions. In 2002, the Site was predominantly cleared and devoid of mature trees. Surrounding areas appear to be farmed and/or rural residences. In 2002, a few mature trees are present surrounding the house at 920 March Road and along the northern property boundary. The historic air photos indicate that the only older trees found within the Site include those growing within the Deciduous Hedgerow along the northern Site boundary. Some of the Deciduous Hedgerow trees have been growing since before 1976. A few older trees are also shown to be present around the house at 920 March Road, and have been growing there since before 1991. The majority of other trees found within the Site, including the Manitoba Maples growing along the southern Site boundary, are comparatively young recent regrowth.

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Photograph 1: Historic Air Photo from 1976 (property boundary shown in red). Note that the Site is predominantly cleared and devoid of mature trees. Surrounding areas appear to be farmed and/or rural residences. A few mature trees are present around the house at 910 March Road and along the northern property boundary (Photo from City of Ottawa 2020).

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Photograph 2: Historic Air Photo from 1991 (property boundary shown in red). Note that the Site is predominantly cleared and devoid of mature trees. Surrounding areas appear to be farmed and/or rural residences. A few mature trees are present around the houses at 910 and 920 March Road, and along the northern and southern property boundaries (Photo from City of Ottawa 2020).

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Photograph 3: Historic Air Photo from 2002 (property boundary shown in red). The Site layout and usage in 2002 is similar to current conditions. Note that the Site is predominantly cleared and devoid of mature trees. Surrounding areas appear to be farmed and/or rural residences. A few mature trees are present surrounding the house at 920 March Road and along the northern property boundary (Photo from City of Ottawa 2020).

3.2 Trees and Vegetation Communities

Photographs of the vegetation communities and trees within the Site are included in Section 3.2 of the Environmental Impact Statement. A Master Plant List is included in Appendix B. The locations of vegetation features are shown in Figure 2. The Site is predominantly previously developed, and includes two (2) residential homes (910 and 920 March Road), as well as several barns and sheds. A total of nine (9) buildings are currently found within the property. There are also many older vehicles, truck trailers, and other equipment stored throughout the Site.

The western part of the Site includes a manicured lawn adjacent to the existing houses. Several planted stems of White Birch, White Cedar and Manitoba Maple, up to 17 cm diameter at breast height (dbh) in size, are present around the house at 910 March Road. There are also planted Lilac shrubs adjacent to the house. A mature Weeping Willow (70 cm dbh) and several Manitoba Maple stems (up to 30 cm dbh) are present behind the house at 920 March Road. The trees around the existing houses will be removed during the development.

The majority of the remainder of the Site is occupied by a highly disturbed Cultural Meadow. Areas of the Cultural Meadow appear to be periodically mowed and/or trampled by the movement of large vehicles and equipment. The Cultural Meadow is dominated by Brome Grass, Reed Canary Grass, Meadow Grass, Green Foxtail, Timothy, Wild Parsnip, and Canada Goldenrod. Common Dandelion, Common Yarrow, Bird's Foot-Trefoil, Common Mugwort, White Bedstraw, Stinging Nettle, Queen Anne's Lace, Common Milkweed, Canada Thistle, Sow Thistle, Bull Thistle, Garlic Mustard, Wormseed Mustard, Curled Dock, St. John's Wort, Tufted Vetch, Chickory, Ox-eye Daisy, White Clover, Black Medic, Wild Mint, Common Plantain, Butter-and-eggs, Wild Cucumber, Common Mullein, Common Ragweed, and Ground Ivy are also present. Scattered shrub cover and isolated young tree stems are present within the Cultural Meadow, particularly around the derelict vehicles and equipment that are stored throughout the Site. Shrubs and young trees have grown up around the vehicles/equipment in areas that are difficult to maintain. Shrubs include Riverbank Grape, Virginia Creeper, Wild Red Raspberry, Common Buckthorn, and Glossy Buckthorn. Regenerating stems (<20 cm dbh) predominantly include Manitoba Maple, although White Ash and White Elm are also present.

There is very little tree cover within the Site adjacent to the tributaries of Shirley's Brook. A Deciduous Hedgerow is found along the northern Site boundary. However, the Deciduous Hedgerow is found north of Tributary #3 (e.g. on the opposite side of the watercourse from the development area). Trees within the Deciduous Hedgerow predominantly include invasive Crack Willow up to 30 cm dbh and invasive Manitoba Maple up to 50 cm dbh. Planted Scots Pine up to 25

cm dbh are also present, as are Sugar Maple and Tamarack up to 30 cm dbh. Within the eastern part of the Site, tree cover along the development side of Shirley's Brook (within the Site) is limited to a few Manitoba Maple stems <20 cm dbh in size. The western part of the slope of the southern stormwater swale (Tributary #4) is lined with young Manitoba Maple stems (<20 cm dbh). A line of planted Red Pine up to 30 cm dbh are present on the south side of the southern stormwater swale (on the adjacent property).

3.3 Significant Woodlot Assessment

As discussed above, there are no areas within the Site which qualify as a 'woodlot' or 'forest' (OMNRF 2010). As such, there are no areas within the Site which need to be assessed as potential Significant Woodlots. As discussed in Section 3.4 of the Environmental Impact Statement, there are also no forested areas directly adjacent to the Site. Therefore, the development of the Site will not impact any adjacent features which could qualify as Significant Woodlots.

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4.0 VEGETATION REMOVAL AND TREE MITIGATION

As noted above, the majority of the proposed development area lacks mature tree cover, and therefore there is relatively little tree removal required. The White Birch, White Cedar and Manitoba Maple stems (up to 17 cm diameter at breast height (dbh) in size) present around the house at 910 March Road will be removed during the Site development. The mature Weeping Willow (70 cm dbh) and several Manitoba Maple stems (up to 30 cm dbh) present behind the house at 920 March Road will also be removed. In addition, the isolated recent regrowth Manitoba Maple stems found within the Cultural Meadow (<20 cm dbh) will not be retained.

However, the majority of trees found within the Site, including the Deciduous Hedgerow along the northern property line and the line of Manitoba Maples along the southern stormwater swale (Tributary #4), will be preserved within the proposed tributary setbacks. The arrangement of the tributary setbacks is such that nearly all of the mature trees found adjacent to the tributaries of Shirley's Brook will be retained.

The Proposed Site Plan conforms to the tree preservation recommendations included within the Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) (Novatech 2016b). Note that only the recommendations which are relevant to the Site are listed below; tree preservation recommendations within the KNUEA EMP that are specific only to features within the KNUEA are not listed. The KNUEA EMP recommends that:

- *Where feasible, the preservation of individual healthy trees and clusters of woody vegetation should be considered on a case-by-case basis along edge conditions, in neighborhood parks, and school sites*;
    - Trees that occur at the edges of the Site will be preserved within the proposed tributary setbacks.
- *Where feasible, retain and/or enhance the existing perimeter hedgerows with active management and new native plantings to provide more tree cover between the old and new neighborhoods*;
    - As noted below in Section 5.0, trees will be planted within the tributary setbacks to enhance tree cover.

As discussed above, the development will be surrounded by setbacks from the tributaries of Shirley's Brook on three (3) sides, with March Road on its remaining side. Due to the fact that the development area will not directly interface with any adjacent properties, the development of the Site is not likely to negatively impact any trees growing on adjacent properties.

For mitigation measures related to Wildlife and Species at Risk during tree clearing, refer to the attached Environmental Impact Statement. The following tree mitigation measures should be implemented to help protect and preserve retained trees:

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

5.0 TREE PLANTING

As noted above, there is very little tree cover within the Site adjacent to the tributaries of Shirley's Brook. During the development, trees and shrubs will be planted within the proposed tributary setbacks, in order to improve the quality of the riparian habitat.

The Kanata North Urban Expansion Area (KNUEA) Environmental Management Plan (EMP) makes the following recommendations regarding planting within the corridors surrounding the tributaries of Shirley's Brook (Novatech 2016b):

- *Realigned channel sections should be seeded with a native wetland/riparian seed mix to encourage re-establishment of native vegetation and improve habitat quality*;
    - No channel realignment is proposed as part of the current development.
- *Where possible, the realigned channel sections should be designed to take advantage of existing shade trees and surrounding woody vegetation in hedgerows;*
    - While no channel realignment is being undertaken as part of the current development, the tributary setbacks are arranged to retain the northern Deciduous Hedgerow and the row of Manitoba Maples growing along the southern stormwater swale. This arrangement preserves existing shade trees within the riparian corridors.
- *Shade tree planting should be selective, as the goal is not to create a fully shaded riparian corridor. Landscaping and grading features will be identified at the detailed design stage to ensure that critical habitat areas are well separated from the adjacent recreational trails;*
    - The City of Ottawa Official Plan Policy 4.7.3 recommends reforestation of watercourse setbacks. However, in this case it is not desirable to completely reforest the tributary setbacks, as Blanding's Turtles require open areas with full sun for basking and thermal regulation. Complete reforestation of the tributary setbacks would make the habitat less suitable for Blanding's Turtles. Tree planting within the tributary setbacks will therefore be undertaken within the first approximately 10 m from the limit of development, in order to provide a visual/noise buffer and to enhance the absorption and filtration of overland stormwater flow. The remaining 10 m of the setback area (closer to the tributaries) will not include new plantings, in order to allow light penetration and to preserve areas for Blanding's Turtle basking.

The planting locations and species to be planted are shown below in the Landscape Plan. As shown in the Landscape Plan, native trees and shrubs will be planted within the first 10 m of the tributary setbacks.

GENERAL NOTES:

1. It is the responsibility of the appropriate contractor or official to report any errors, omissions or discrepancies on this plan with actual site conditions to the Landscape Architect before proceeding with construction.

2. The contractor is to notify all utility companies and authorities prior to any excavation and ascertain locations of underground services.

3. The contractor is to reinstate all areas and items damaged as a result of construction activity.

4. The contractor is to comply with all pertinent codes and by-laws.

5. The contractor is to maintain a positive surface run-off throughout the entire construction period.

6. The Landscape Architect is not responsible for subsurface conditions.

7. The contractor is to identify all existing trees to remain on site with the Landscape Architect prior to construction.

8. The contractor is to stake the proposed location of all plant material in conjunction with the Landscape Architect prior to excavation.

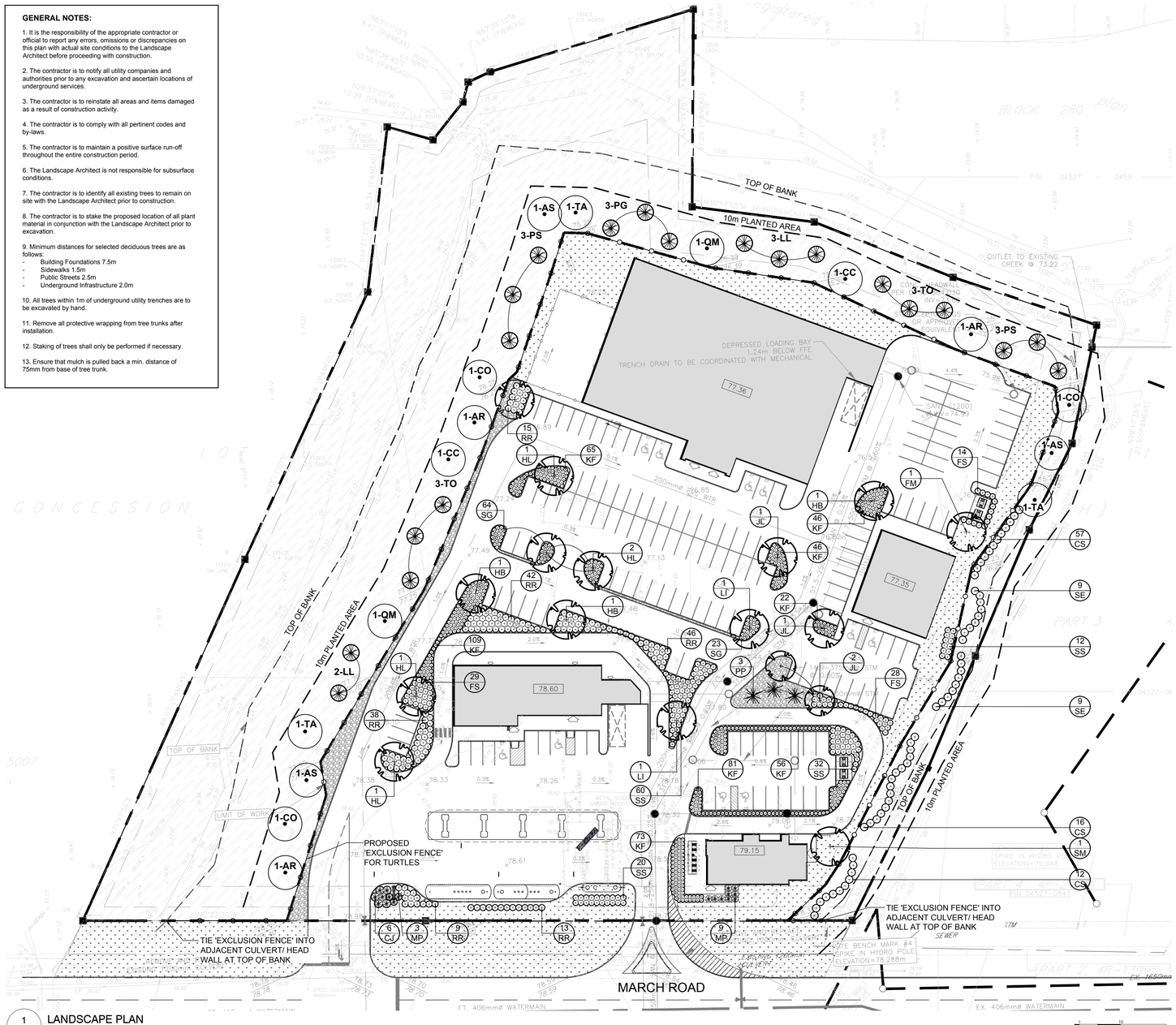
9. Minimum distances for selected deciduous trees are as follows:
- Building Foundations 7.5m
- Sidewalks 1.5m
- Public Streets 2.5m
- Underground Infrastructure 2.0m

10. All trees within 1m of underground utility trenches are to be excavated by hand.

11. Remove all protective wrapping from tree trunks after installation.

12. Staking of trees shall only be performed if necessary.

13. Ensure that mulch is pulled back a min. distance of 75mm from base of tree trunk.



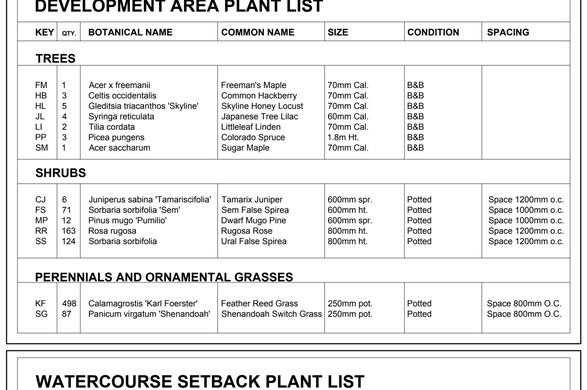
1 L.1 LANDSCAPE PLAN
SCALE 1:500

DEVELOPMENT AREA PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
TREES						
FM	1	Acer x freemanii	Freeman's Maple	70mm Cal.	B&B	
HB	3	Celtis occidentalis	Common Hackberry	70mm Cal.	B&B	
HL	5	Gleditsia triacanthos 'Skyline'	Skyline Honey Locust	70mm Cal.	B&B	
JL	4	Syringa reticulata	Japanese Tree Lilac	60mm Cal.	B&B	
LI	2	Tilia cordata	Littleleaf Linden	70mm Cal.	B&B	
PP	3	Picea pungens	Colorado Spruce	1.8m Ht.	B&B	
SM	1	Acer saccharum	Sugar Maple	70mm Cal.	B&B	
SHRUBS						
CJ	6	Juniperus sabina 'Tamariscifolia'	Tamarix Juniper	600mm spr.	Potted	Space 1200mm o.c.
FS	71	Sorbaria sorbifolia 'Sem'	Sem False Spirea	600mm ht.	Potted	Space 1000mm o.c.
MP	12	Pinus mugo 'Pumilio'	Dwarf Mugo Pine	600mm spr.	Potted	Space 1000mm o.c.
RR	163	Rosa rugosa	Rugosa Rose	800mm ht.	Potted	Space 1200mm o.c.
SS	124	Sorbaria sorbifolia	Ural False Spirea	800mm ht.	Potted	Space 1200mm o.c.
PERENNIALS AND ORNAMENTAL GRASSES						
KF	498	Calamagrostis 'Karl Foerster'	Feather Reed Grass	250mm pot.	Potted	Space 800mm O.C.
SG	87	Panicum virgatum 'Shenandoah'	Shenandoah Switch Grass	250mm pot.	Potted	Space 800mm O.C.

WATERCOURSE SETBACK PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
DECIDUOUS TREES						
AR	3	Acer rubrum	Red Maple	2.0m Ht.	Potted / Bare Root	
AS	3	Acer saccharinum	Silver Maple	2.0m Ht.	Potted / Bare Root	
CC	2	Carya cordiformis	Bitternut Hickory	2.0m Ht.	Potted / Bare Root	
CO	3	Celtis occidentalis	Common Hackberry	2.0m Ht.	Potted / Bare Root	
QM	2	Quercus macrocarpa	Bur Oak	2.0m Ht.	Potted / Bare Root	
TA	3	Tilia americana	Basswood	2.0m Ht.	Potted / Bare Root	
CONIFEROUS TREES						
LL	5	Larix laricina	Tamarack	0.6m Ht.	Potted / Bare Root	
PG	3	Picea glauca	White Spruce	0.6m Ht.	Potted / Bare Root	
PS	6	Pinus strobus	Eastern White Pine	0.6m Ht.	Potted / Bare Root	
TO	6	Thuja occidentalis	Eastern White Cedar	0.6m Ht.	Potted / Bare Root	
SHRUBS						
CS	85	Cornus sericea	Red Osier Dogwood	400 mm ht.	Potted	
SE	18	Salix exigua	Sandbar Willow	400 mm ht.	Potted	



5 L.1 BARE ROOT WHIP PLANTING
SCALE: NTS

CLIENT:

WEXFORD COMMERCIAL DEVELOPMENTS LTD.

LEGEND

- PROPOSED DECIDUOUS TREE PLANTING FOR DITCH
- PROPOSED CONIFEROUS TREE PLANTING FOR DITCH
- PROPOSED DECIDOUS TREE
- PROPOSED CONIFEROUS TREE
- PROPOSED SHRUBS / PERENNIALS / ORNAMENTAL GRASSES
- PROPOSED 'EXCLUSION FENCING' FOR TURTLES
- PROPOSED SOD
- PROPOSED RIVERSTONE MULCH

No.	Issue	Date MM/DD/YY	DR	CK
2	ISSUED FOR SITE PLAN CONTROL	05/28/2020	MK	JL
1	ISSUED FOR DISCUSSION AND REVIEW	03/30/2020	ML	JL

JAMES B. LENNOX & ASSOCIATES INC.
LANDSCAPE ARCHITECTS
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Tel. (613) 722-5168 Fax. 1(866) 343-3942

PROJECT

910 MARCH ROAD COMMERCIAL DEVELOPMENT

910 MARCH ROAD, OTTAWA ON

DRAWING

LANDSCAPE PLAN

STAMP

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS — JAMES B. LENNOX — MEMBER

SCALE: AS SHOWN

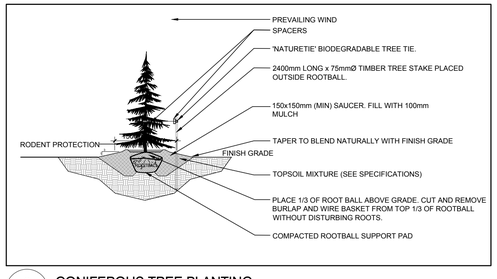
START DATE: MARCH 2020

PROJECT NO.: 19MIS2020

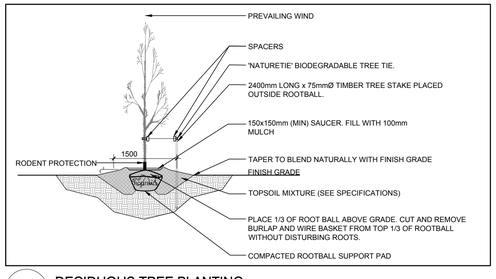
PROJECT NORTH

DRAWING NO.: L.1

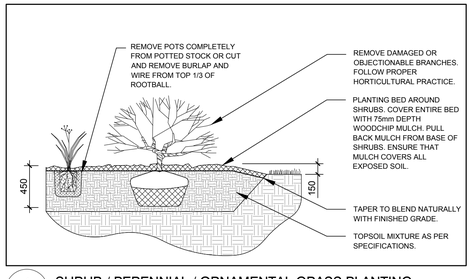
PLOT SIZE ARCH-D



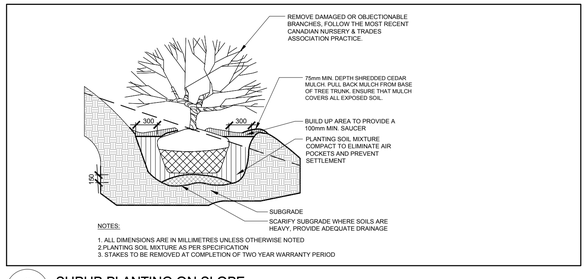
2 L.1 CONIFEROUS TREE PLANTING
SCALE: NTS



3 L.1 DECIDUOUS TREE PLANTING
SCALE: NTS



4 L.1 SHRUB / PERENNIAL / ORNAMENTAL GRASS PLANTING
SCALE: NTS

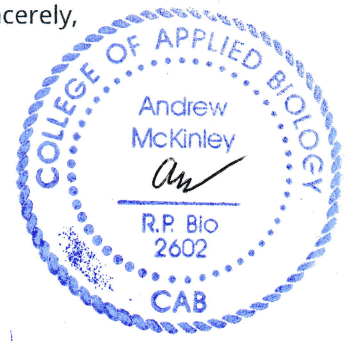


6 L.1 SHRUB PLANTING ON SLOPE
SCALE: NTS

6.0 CLOSURE

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

Sincerely,



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

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7.0 REFERENCES

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

City of Ottawa (2020) Geo-Ottawa Municipal Mapping Site. Retrieved April 1st, 2020 at <http://maps.ottawa.ca/geoottawa/>

Lee, Harold (2008) Southern Ecological Land Classification Ecosystem Catalogue (2008 version).

Novatech Engineering Consultants (Novatech) (2016a) Kanata North Community Design Plan.

Novatech Engineering Consultants (Novatech) (2016b) Kanata North Community Design Plan – Environmental Management Plan.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (1998) Ecological Land Classification for Southern Ontario: First Approximation and its Applications.

Ontario Ministry of Natural Resources and Forestry (OMNRF) (2010) OMNRF Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005, Second Edition.

APPENDIX B

Master Plant List

McKINLEY ENVIRONMENTAL SOLUTIONS
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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 Cattail	Typha latifolia	S5	Common	Aquatic
Brome Grass	Bromus sp.		n/a	Grass
Barnyard Grass	Echinochloa crusgalli	SNA	Common	Grass
Reed Canary Grass	Phalaris arundinacea	SE5	Common (locally abundant introduction)	Grass
Timothy	Phleum pratense	SNA	Common	Grass
Green Foxtail	Setaria viridis	SNA	Common	Grass
Common Yarrow	Achillea millefolium	S5	Common	Herbaceous
Garlic-mustard	Alliaria petiolata	SNA	Common	Herbaceous
Common Ragweed	Ambrosia artemisiifolia	S5	Common	Herbaceous
Common Burdock	Arctium minus	SNA	Common	Herbaceous
Mugwort	Artemisia vulgaris	SNA	Common	Herbaceous
Common Milkweed	Asclepias syriaca	S5	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
Wormseed Mustard	Erysimum cheiranthoides	SNA	Common	Herbaceous
Spotted Joe Pye Weed	Eutrochium maculatum	S5	Common	Herbaceous
White Bedstraw	Galium mollugo	SNA	Common	Herbaceous
Common St. John's-wort	Hypericum perforatum	SNA	Common	Herbaceous
Spotted Touch Me Not	Impatiens capensis	S5	Common	Herbaceous
Ox-eye Daisy	Leucanthemum vulgare	SNA	Common	Herbaceous
Butter-and-eggs	Linaria vulgaris	SNA	Common	Herbaceous
Bird's-foot Trefoil	Lotus corniculatus	SNA	Common	Herbaceous
Purple Loosestrife	Lythrum salicaria	SNA	Common (invasive)	Herbaceous
Black Medic	Medicago lupulina	SNA	Common	Herbaceous
White Sweet Clover	Melilotus albus	SNA	Common	Herbaceous

Wild Mint	Mentha canadensis	S5	Common	Herbaceous
Wild Parsnip	Pastinaca sativa	SNA	Common	Herbaceous
Common Plantain	Plantago major	S5	Common	Herbaceous
Curled Dock	Rumex crispus	SNA	Common	Herbaceous
Bittersweet Nightshade	Solanum dulcamara	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
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
Common Mullein	Verbascum thapsus	SNA	Common	Herbaceous
Tufted Vetch	Vicia Cracca	SNA	Common	Herbaceous
Glossy Buckthorn	Frangula alnus	SNA	Common (aggressive invasive)	Shrub
Common Buckthorn	Rhamnus cathartica	SNA	Common (aggressive invasive)	Shrub
Wild Red Raspberry	Rubus idaeus	S5	Common	Shrub
Lilac	Syringa vulgaris	SNA	Common	Shrub
Manitoba Maple	Acer negundo	S5	Common	Tree
Sugar Maple	Acer saccharum	S5	Common	Tree
White Birch	Betula papyrifera	S5	Common	Tree
White Ash	Fraxinus americana	S5	Common	Tree
Tamarack	Larix laricina	S5	Common	Tree
Red Pine	Pinus resinosa	S5	Common	Tree
Scots Pine	Pinus sylvestris	SNA	Rare (frequently planted)	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
Wild Cucumber	Echinocystis lobata	S5	Common	Vine

Ground-ivy	Glechoma hederacea	SNA	Common	Vine
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 occurences, populations or records
S4 = Common within the province with 21 - 1000 occurences, populations or records
S3 = Rare within the province with 6 - 20 occurences, populations or records
SNA = Ranking not available
SE5 = Very common exotic with > 1000 occurences, populations or records within the province
S? = Unranked, or if followed by a ranking, temporarily assigned (eg. S4?)

APPENDIX C

Bird and Wildlife Sightings

McKINLEY ENVIRONMENTAL SOLUTIONS
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mckinleyenvironmental@gmail.com
www.mckinleyenvironmental.com

TABLE B: BIRDS	
Common Name	**Scientific Name**
Red-winged Blackbird	Agelaius phoeniceus
Cedar Waxwing	Bombycilla cedrorum
Northern Cardinal	Cardinalis cardinalis
American Crow	Corvus brachyrhynchos
Blue Jay	Cyanocitta cristata
Gray Catbird	Dumetella carolinensis
Alder Flycatcher	Empidonax alnorum
Common Yellowthroat	Geothlypis trichas
Barn Swallow - threatened	Hirundo rustica
Ring-billed Gull	Larus delawarensis
Song Sparrow	Melospiza melodia
House Sparrow	Passer domesticus
Black-capped Chickadee	Poecile atricapilla
Common Grackle	Quiscalus quiscula
Eastern Phoebe	Sayornis phoebe
White-breasted Nuthatch	Sitta carolinensis
American Goldfinch	Spinus tristis
Chipping Sparrow	Spizella passerina
European Starling	Sturnus vulgaris
American Robin	Turdus migratorius
Eastern Kingbird	Tyrannus tyrannus
Mourning Dove	Zenaida macroura

TABLE C: OTHER WILDLIFE	
Common Name	**Scientific Name**
Common Raccoon	Procyon lotor
Eastern Chipmunk	Tamias striatus
Green Frog	Lithobates clamitans

APPENDIX D

Ontario Ministry of Natural Resources and Forestry (OMNRF) Potential Species at Risk List for the Geographic Township of March

McKINLEY ENVIRONMENTAL SOLUTIONS
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LONGUEUIL	MARCH	MARLBOROUGH
American Eel	American Eel	American Ginseng
American Ginseng	American Ginseng	Bald Eagle
Bank Swallow	Bald Eagle	Bank Swallow
Barn Swallow	Bank Swallow	Barn Swallow
Black Tern	Barn Swallow	Black Tern
Blanding's Turtle	Black Tern	Blanding's Turtle
Bobolink	Blanding's Turtle	Bobolink
Butternut	Bobolink	Bogbean Buckmoth
Canada Warbler	Butternut	Bridle Shiner
Channel Darter	Canada Warbler	Butternut
Chimney Swift	Chimney Swift	Chimney Swift
Common Nighthawk	Eastern Meadowlark	Common Nighthawk
Cutlip Minnow	Eastern Musk Turtle	Eastern Meadowlark
Eastern Meadowlark	Eastern Small-footed Myotis	Eastern Musk Turtle
Eastern Musk Turtle	Eastern Whip-poor-will	Eastern Prairie Fringed Orchid
Eastern Ribbonsnake	Eastern Wood-pewee	Eastern Small-footed Myotis
Eastern Small-footed Myotis	Hickorynut	Eastern Whip-poor-will
Eastern Wood Pewee	Horned Grebe	Eastern Wood-pewee
Evening Grosbeak	Lake Sturgeon	Grasshopper Sparrow
Golden Eagle	Least Bittern	King Rail
Hickorynut	Little Brown Myotis	Least Bittern
Lake Sturgeon	Loggerhead Shrike	Little Brown Myotis
Least Bittern	Monarch	Loggerhead Shrike
Little Brown Myotis	Northern Map Turtle	Monarch
Monarch	Northern Myotis	Northern Map Turtle
Northern Map Turtle	Peregrine Falcon	Northern Myotis
Northern Myotis	River Redhorse	Red-headed Woodpecker
River Redhorse	Rusty Blackbird	Snapping Turtle
Rusty Blackbird	Rusty-patched Bumble Bee	Spotted Turtle
Short-eared Owl	Silver Lamprey	Tri-colored Bat
Silver Lamprey	Snapping Turtle	Wood Thrush
Snapping Turtle	Transverse Lady Beetle	Yellow Rail
Spotted Turtle	Tri-colored Bat	
Tri-colored Bat	Wood Thrush	
West Virginia White	Yellow-banded Bumblebee	
Whip poor will		
Wood Thrush		