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April 19, 2024 (Revision 02 June 6, 2024)

Our File Ref.: 220528

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Subject: Environmental Impact Study
2009 and 2013 Prince of Wales Drive, Nepean, Ontario

LRL Associates Ltd. (LRL) has carried out an Environmental Impact Study (EIS) for the proposed severed lots at the properties located at 2009 and 2013 Prince of Wales Drive, Ottawa, Ontario (herein referred to as the 'Site'). The Site contains two (2) addresses, 2009 and 2013 Prince of Wales Drive; each property is developed with a residential use unit. The location of the Site is shown in the attached **Figure 1**. The eastern portion of the Site is treed with two (2) existing residences and associated features. The central portion of the Site is grassed, treed with unpaved parking area. The western portion of the Site is grassed and treed land. The Rideau River is located along the eastern boundary of the Site and is considered a watercourse.

It is understood that a total of seven (7) new residential lots, plus two (2) additional lots for future road-way expansion and green space, will be created from the main approximate 2.8 acres parcels of land at the above referenced locations. At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales), and associated features, will remain on the subject property.

According to the City of Ottawa's Official Plan (OP) 2021-386 "*Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*

a. *Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*
b. *Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*
c. *30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*
d. *15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."*

Furthermore, Section 4.9.3 (6) of the OP 2021-386 states that "*No site alteration or development is permitted within the minimum setback*." As discussed in greater detail in the report, a geotechnical investigation completed in support of the proposed development. The findings of the geotechnical investigation (December 2022 – revised April 2023) recommends a 30 m setback

from the top of the slope along the eastern extent of the Site to maintain a safe distance from the identified Limit of Hazard Lands. Although the majority of the proposed development at the Site will maintain the 30 m setback from the top of slope (top of bank), the following development activities are anticipated within this area:

- The creation of new lots and lot line adjustments;
- The inclusion of a drainage outlet structure; and
- Re-grading in the vicinity of proposed residence to remain for adequate stormwater drainage purposes. 7

Section 2.1.6 of the Provincial Policy Statement states that "*Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements*". Development and site alterations will generally not be permitted within the 30 m setback from the top of the slope, with the exception of those listed above. The proposed development with the 30 m of the Rideau River is considered low risk when the mitigation measures are followed, as outlined in further sections of this report. No negative impacts are anticipated resulting from the proposed development.

This Environmental Impact Study was completed in accordance with the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023). The guideline states that "*an EIS is required when development or site alteration is proposed in or within a specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System (NHS), or hazardous forest types for wildland fire.*" This includes surface water features.

1 NATURAL HERITAGE AND HAZARD POLICY

1.1 Provincial Policy Statement (PPS)

The Provincial Policy Statement (PPS) (2020), under Section 3 of the Planning Act, was first initiated in May 1996, with subsequent revisions in 2005, and most recently in 2014. Section 2.1 of the PPS is limited to Natural Heritage Features, which includes such features as:

- Significant Wetlands or Coastal Wetlands;
- Significant Woodlands;
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest (ANSIs); and
- Fish Habitats.

The Rideau River, immediately east of the Site, is considered a watercourse feature by the City of Ottawa planning tools, however for the purposes of this report, it also includes characteristics of a fish habitat, therefore will be considered as such. The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

"*as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes*."

Section 2.1.5 of the PPS indicates that development or site alterations shall not be permitted in:

- Significant wetlands;
- Significant woodlands;
- Significant valley lands;
- Significant wildlife habitat;
- Significant areas of natural and scientific interest; and
- Costal wetlands.

unless it has been demonstrated that there will be no negative impacts of the natural features or their ecological functions.

Section 2.1.6 of the PPS states that "*Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements*".

1.2 City of Ottawa Official Plan

The City of Ottawa's OP 2021-386, updated November 24, 2021, with dedicated sections of the OP limited to Environmental Features, including Fish Habitats and Natural Environmental Areas. These sections include 7.3; Schedule C11, 4.8.1 and 4.9 of the OP. Section 4.9.3 of the OP states that development, *"Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*

a. Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;

b. Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;

c. 30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and

d. 15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."

Furthermore, Section 4.9.3 (6) of the OP 2021-386 states that "*No site alteration or development is permitted within the minimum setback*." According to the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023) "*an EIS is required when development or site alteration is proposed in or within a specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System (NHS), or hazardous forest types for wildland fire*." This includes surface water features such as the Rideau River located along the eastern property boundary of the Site.

1.3 Fisheries Act

The Canadian Fisheries Act (1985) provides details related to measures to be taken to ensure protection to the fish and fish habitats. According to Section 35 (1) of the Act, indicates that "*No person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery.*"

There are no commercial, recreational or Aboriginal fishery on the Site, nor is the Rideau River considered such. Work which is proposed to be completed in or in the vicinity of a water known to contain fish species, have a potential for adverse effect on fisheries. Therefore, the proponent

conducting or planning the work has the responsibly to avoid and mitigate causing series impacts to the fish which may be present.

1.4 Species at Risk Act

The Species at Risk Act (2002) compiles and represents various elements to protect individual species and communities which are recognized as being threatened, endangered or extirpated.

1.5 Endangered Species Act

Ontario Regulation 230/08, of the Endangered Species Act (2007), lists species which are known as Species at Risk in Ontario (SARO), as well as their commonly associated habitats and breeding areas. The species listed or known as the SARO are legally protected on the Endangered Species Act. Subsection 9 (1) of the Act states that *"No person shall,*

(a) kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;
(b) possess, transport, collect, buy, sell, lease, trade or offer to buy, sell, lease or trade,
(i) a living or dead member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species,
(ii) any part of a living or dead member of a species referred to in subclause (i),
(iii) anything derived from a living or dead member of a species referred to in subclause (i); or
(c) sell, lease, trade or offer to sell, lease or trade anything that the person represents to be a thing described in subclause (b) (i), (ii) or (iii). 2007, c. 6, s. 9 (1)."

Additionally, Clause 10(1) (a) of the Act states that: "*No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an endangered or threatened species*".

2 SCOPE OF WORK

The EIS will focus on the parcels of land described as 2009 and 2013 Prince of Wales Drive, Ottawa, Ontario. According to the Ontario Ministry of Natural Resources' (MNR) *"Natural Heritage Polices of the Provincial Policy Statement (PPS), 2014"* the province identifies lands adjacent to a Natural Heritage Feature as follows:

- The PPS describes a fish habitat as "*the spawning grounds and nursery, rearing, food supply, and migration areas on which fish depend directly or indirectly in order to carry out their life processes*".

Section 4.9.3 (6) of the OP 2021-386 states that "*No site alteration or development is permitted within the minimum setback.*" According to the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023) "*an EIS is required when development or site alteration is proposed in or within a specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System (NHS), or hazardous forest types for wildland fire.*" This includes surface water features such as the Rideau River located along the eastern property boundary of the Site.

3 METHODOLOGY

The Scoped EIS was carried out in general accordance with the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023), and Section 4.8, with reference to the Natural Heritage Reference Manual (2010). The Site work and research with respect to the Scoped EIS was conducted by LRLs Environmental Services Team, overseen by the Team Lead who has more than 15 years of knowledge in the environmental field. The purpose of the Site visit was to identify wildlife and possible suitable habitats for species of concern on the Site, as well as identification of tree and vegetation species on the Site.

The purpose of the EIS is namely to confirm the existing on-Site characteristics of the Site and assess the proposed impacts to the Site's environmental functions as a result of the proposed land severance and development activities. Areas of focus for the EIS included to confirm the terrestrial features of the Site; if there any potential or actual aquatic habitats at the Site which may intrude into the proposed developments; potential mitigation measures for development; and are any species at risk or additional natural heritage features present on the Site or in proximity.

The EIS Site visit was completed on October 4, 2022.The conditions encountered at the time of the Site visit are summarized as follows:

- Temperature: 5ºC
- Weather Conditions: Partly Cloudy
- Timing: 9:00 am – 11:00 am

The scope of the Site visit generally included the following:

- Delineating and classifying vegetation communities on the Site following the Ecological Land Classification (ELC) System for Southern Ontario (1998).
- Review sensitivity and the significance of encountered vegetation communities on the Site, and adjacent lands (viewed from Site boundaries).
- Observe the Site for the presence of species at risk which may be present, more specifically those retrieved through the search of the Natural Heritage Information Centre, as discussed below, as well as their potential or likely habitats.
- Document the findings and complete a photograph inventory for future reference as required.

LRL has also completed and Environmental Site Assessment – Phase I, and Geotechnical Investigation with Slope Stability Assessment to the support the proposed development. The anticipated development layout has been designed by Jan Thomson Architect and the grading and stormwater management component of the proposed development has been completed by D. B. Gray Engineering Inc.

4 BACKGROUND

4.1 Fish Habitat

The City of Ottawa refers to the Rideau River, immediately east of the Site, as a watercourse feature. For the purposes of this report, it will be considered a fish habitat as discussed above in Section 1.2. The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

> *"as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes."*

Section 2.1 (Natural Heritage Policy) of the PPS states that development and site alteration may not take place in fish habitat except in accordance with Provincial and Federal requirements.

5 SITE DESCRIPTION

5.1 Existing Site Description

The Site contains two (2) addresses, 2009 and 2013 Prince of Wales Drive; each property is developed with a residential use unit. The Site (2009 Prince of Wales Drive) is an approximate 4,700 m² or 1.2 acre, and the Site (2013 Prince of Wales Drive) is an approximate 6,500 m² or 1.6 acres. The total area of the Site is an approximate 11,200 m² (2.8 acres). The Site is located approximately 140 m southeast of the Prince of Wales Drive and the Colonnade Road intersection. Its location is presented in the attached **Figure 1**. The activities on the Site from at least mid-1960's to present have been residential. Furthermore, the activities on adjacent lands within 250 m from at least the early 1980's to present have been mainly residential and light commercial.

The Site is generally flat, with a steep slope towards the Rideau River located immediately east of the property. The Site has an existing frontage of approximately 75 m along the Prince of Wales Drive (north-south) and a depth of approximately 155 m (east-west). The western portion of the Site is primarily treed and grassed land with two (2) driveways running from the Prince of Wales Drive to the Houses. The central portion of the Site is developed with two (2) residential houses, three (3) storage structure, and unpaved parking area. The eastern portion of the Site, adjacent to the Rideau River is primarily treed and grassed land. The Site features described herein are presented in **Figure 2**.

The adjacent lands generally include the following:

- Residential land to the north;
- Beachburg rail corridor followed by residential to the south;
- The Rideau River to the east followed by wooded, overgrown undeveloped lands; and
- Prince of Wales Drive followed by commercial development park to the west.

5.1.1 Zoning

According to the City of Ottawa interactive mapping, geoOttawa, zoning layer, the Site and neighbouring lands are zoned as R1E, which represents Residential First Density Zoning. It is understood that to accommodate the proposed new developments, and the limited lot frontages, a Zoning Amendment has been requested to the city. The land use (residential) will remain unchanged.

The City of Ottawa has also defined an area, extending approximately 8 m from the open water body to the west (on to the Site) as a Flood Plain. No development is permitted in the Flood Plain.

5.1.2 Hydrology

The inferred groundwater flow direction is east toward Rideau River. Based on the groundwater levels and observations collected by LRLs Geotechnical Engineering department during the corresponding subsurface investigation, groundwater levels are inferred to be approximately 4.8 m below grade. No further details were retrieved pertaining to groundwater levels below grade, however, due to the vicinity of the River to the Site, it is inferred that the true groundwater table is at the elevation of the Rideau River, between approximately 8 and 10 m below ground surface.

The western portion of the Site is generally flat with a slight incline towards the Rideau River at the eastern portion of the property. The top of the slope has an elevation of approximately 83 m above mean sea level (amsl), and the base (toe) of the slope has an approximate elevation of 76 m amsl.

The Site is currently not equipped with stormwater management catchment systems, however, based on the current grading, the drainage is inferred to be directed towards the Rideau River. Storm water catchment basins will be along the extents of the proposed private road to be constructed along the north of the subject Site The catchment basins will be inverted such that they flow easterly towards the proposed Lot 1 south-western extent. The infrastructure will then be diverted south towards the Rideau River, where an insulated pipe with lined ditch will outlet the stormwater into the river. Furthermore, an additional catchment pipe will traverse the southern extent of the Site, which ties into the outlet pipe and lined ditch. These drainage and stormwater management features are presented in **Attachment A**.

5.1.3 Geology

Maps were reviewed to obtain the regional geology and information on the surficial soil and bedrock. The generalized surficial geology[1] was described as Offshore Marine Deposits: clay and silt underlying erosional terraces; upper part of marine deposits removed to variable depths by fluvial erosion so in places clay is uniform blue-grey.

The generalized bedrock[2] was described as the Ottawa Formation: limestone with some shaly partings: some sandstone in basal part. According to available Ontario Ministry of the Environment, Conservation and Parks (MECP) water well records, bedrock is found to be between approximate 14 and 16 m below grade (estimated 70 and 72 m amsl).

[1] St-Onge, D.A.., Geological Survey of Canada, Surficial Geology, lower Ottawa valley, Ontario-Quebec, Scale 1:125,000, Map 2140A, 2009.
[2] Wilson, A.E., Department of Mines and Resources, Geological Survey, Ottawa-Cornwall, Ontario-Quebec, Scale 1:253,440, Map 852A, 1946.

5.1.3.1 Geotechnical Investigation, November 1, 2023 (Revised April 15, 2024) prepared by LRL Associates Ltd.

The fieldwork for this investigation was carried out on November 28, 2022. A total of five (5) boreholes were drilled on-Site to get a general representation of the site's underlying soil conditions, and labelled BH1 through BH5. The subsurface conditions encountered in the boreholes were classified based on visual and tactile examination of the materials recovered from the boreholes. The soil descriptions presented in this report are based on commonly accepted methods of classification and identification employed in geotechnical practice. The subsurface materials encountered were generally as follows:

- Topsoil
    - At the surface of most boring locations, a layer of topsoil was encountered. This was found to be about 600 mm thick and classified as topsoil based on colour and the presence of organic material and is intended as identification for geotechnical purposes only.
- Sandy Clay to Clayey Sand
    - Sandy clay to clayey sand was encountered beneath layers of fill material, silty clay and silty and clay. This soil was generally consistent across the Site and extended to a depth of 6.70 m bgs. (end of exploration). The natural moisture contents were found to range between 24 and 45%.

5.2 Proposed Development

It is understood that a total of seven (7) new residential lots, plus two (2) additional lots for future road-way expansion and green space will be created from the main approximate 2.8 acres parcels of land referred to herein as the Site. The developments will front a private road to be constructed along the northern portion of the Site, which will be accessible from Prince of Wales Drive (along the west of the Site). At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales) will remain on the subject property, however its present-day lot configuration will be altered to accommodate the additional development areas. The existing development of 2013 Prince of Wales will be demolished. As presented in **Figure 5**, the proposed development lots will range between 748 and 2,795 m^2 in size. The Lots sizes are as follows:

Lot No.	Proposed Details (with approximate permittable development area – while maintaining minimum setback requirements)
Lot 1	1,163 m² with an approximate 155 m² available for additional building construction with the existing 2009 Prince of Wales Drive resident remaining.
Lot 2	2,795 m² with an approximate 268 m² available the construction of a residence.
Lot 3	887 m² with an approximate 240 m² available the construction of a residence.
Lot 4	952 m² with an approximate 372 m² available the construction of a residence.
Lot 5	965 m² with an approximate 387 m² available the construction of a residence.
Lot 6	971 m² with an approximate 393 m² available the construction of a residence.
Lot 7	924 m² with an approximate 260 m² available the construction of a residence.
Lot 8	895 m².
Lot 9	748 m².

The available development footprints will include the northern portion Lot 2 through Lot 7, while the southern portions will be used for stormwater management and catchment. Proposed Lot 1 will remain in its current development configuration, post lot size reduction. The remaining proposed development area of Lot 1 (general western extent) has been confirmed to be of sufficient size that future development can meet the zoning requirements to accommodate a new building should the existing be demolished.

The proposed developments will be serviced by the City of Ottawa municipal water supply distribution system and municipal sanitary services. Proposed Lot 2 through Lot 7 have sufficient available area for a residence being approximately 95 m^2 in size, with a driveway. The remaining proposed development area of Lot 1 (general western extent) has been confirmed to be of sufficient size that future development can meet the zoning requirements to accommodate a new building. As discussed in later sections herein, the creation of the proposed Lot 3 through Lot 7 is beyond the 30 m development limits as established by the geotechnical hazard limit, established from the top of the slope at the eastern portion of the Site.

Storm water catchment basins will be along the extents of the proposed private road to be constructed along the north of the subject Site. The catchment basins will be inverted such that they flow easterly towards the proposed Lot 1 south-western extent. The infrastructure will then be diverted south towards the Rideau River, where an insulated pipe with lined ditch will outlet the stormwater into the river. Furthermore, an additional catchment pipe will traverse the southern extent of the Site, which ties into the outlet pipe and lined ditch. These drainage and stormwater management features are presented in **Attachment A**.

5.2.1 Setback Recommendations

The geotechnical investigation, as previously mentioned in Section 5.1.3.1, made recommendations to maintain a 30 m setback from the top of the slope along the eastern extent of the Site based on the inferred integrity of the topographic feature. According to the City of Ottawa's Official Plan (OP) 2021-386 "*Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*

a. *Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*
b. *Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*
c. *30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*
d. *15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."*

The recommended 30 m setback from the geotechnical study is considered appropriate to use as it is greater than the distance of points c and d, and no development limits have been established by the regional conservation authority. The 30 m setback from the top of the slope will increase the distance between the proposed development footprints and the inferred highwater mark of the Rideau River by more than 60 m. Maintaining this area with vegetation cover, will promote the stability of the slope, as well as protect species and habitats of wildlife which may frequent the area. The proposed development plan included in **Attachment A**.

To support the proposed creation and development of the new lots, development will be required within this 30 m setback. This will include:

- The creation of new lots and lot line adjustments as presented in **Attachment A**, and **Figure 5**. The reconfiguration of lots, or creation of lot limits within the 30 m setback is not considered a potential activity of concern with respect to the natural features identified on the Site and the neighbouring lands. No negative impacts are anticipated as a result of this activity, assuming that the mitigation measures included in Section 9.3 are followed during and after development;
- The inclusion of a drainage outlet pipe extending from the proposed private road towards the Rideau River. These activities are considered higher risk for potential impairment to the identified natural features and species as they will include excavation, and removal of existing vegetation cover. The activities for the installation of the drainage system are considered short term, however consideration for the future work on the service in the event it requires repair or replacement must be addressed. Controls and mitigation measures are discussed further in Section 9.3; and
- Re-grading in the vicinity of proposed residence anticipated to remain on the Site, to allow for adequate stormwater management and control. As discussed above, the activities for the re-grading are considered short term, however consideration for impacts during the work, and possible alterations to the existing surface water flow pattern are needed. Controls and mitigation measures are discussed further in Section 9.3.

5.3 Natural Features – Fish Habitat

The Rideau River, immediately east of the Site, is a watercourse and can also be considered as a fish habitat based on the known significance and overall features. The location of the fish habitat is indicated in both **Figure 1** and **Figure 2**.

The Provincial Policy Statement (2014) (PPS) defines fish habitat as:

> *"as defined in the Fisheries Act, c F-14, means spawning grounds and nursery, rearing, food supply, and mitigation areas on which fish depend directly or indirectly in order to carry out their life processes."*

Section 2.1 (Natural Heritage Policy) of the PPS states that development and site alteration may not take place in fish habitat except in accordance with Provincial and Federal requirements.

6 RARE, THREATENED AND ENDANGERED SPECIES

6.1 Species at Risk Screening

The Species at Risk (SAR) screening was completed to the subject Site, in addition to a 2 km radius from the property limits, known as the study area. The SAR screening focused on the review of readily available records accessible through various regulatory authorities as discussed herein and pertained to the species which have been identified as being threatened, endangered or as special concern as per the Endangered Species Act (ESA), in addition to the species that are protected under Schedule 1 of the Species at Risk Act (SARA). Using the available resources, species identified on the Site or within the study area, and the potential for their desired habitat, were consideration for their likeliness to be present on the site was reviewed.

The MNRF Natural Heritage Information Centre (NHIC) compiles, maintains and provides information on rare, threatened and endangered species and spaces in Ontario. This information is stored in a central repository containing a computerized database, map files and an information library, which are accessible for conservation applications, land use planning, park management,

etc. Natural areas and element occurrence data can be accessed through the MNRF Make a Map interactive map.

Our review of the information from the NHIC revealed that the following element occurrences for rare, threatened or endangered species are within two (2) kilometers of the Site. The grid references included in the search are as follows: 18VR4422; 18VR4522; 18VR4521; 18VR4520; 18VR4420; 18VR4421; 18VR4620; 18VR4621; and 18VR4622.

Species Common Name	Species Scientific Name	SARO Status	Suitable Habitat Observed on the Site	Evidence
Skillet Clubtail	Gomphurus ventricosus	DD	Yes	No
Midland Painted Turtle	Chrysemys picta marginata	--	Yes	No
Eastern Meadowlark	Sturnella magna	THR	Yes	No
Bobolink	Dolichonyx oryzivorus	THR	Yes	No
Butternut	Juglans cinerea	END	Yes	No
Snapping Turtle	Chelydra serpentina	SC	Yes	No
Blistered Jellyskin	Leptogium corticola	--	Yes	
Cupped Fringe Lichen	Heterodermia hypoleuca	--	Yes	
Least Bittern	Ixobrychus exilis	THR	Yes	No
Greater Redhorse	Moxostoma valenciennesi			
Peregrine Falcon	Falco peregrinus	SC	No	No
Eastern Wood Peewee	Contopus virens	SC	No	No
Eastern Whip-poor-will	Antrostomus vociferus	THR	No	No
Grasshopper Sparrow	Ammodramus savannarum	SC	No	No
Wood Thrush	Hylocichla mustelina	SC	No	No

Notes:

SARO	Species at Risk Ontario
SC	Special Concern
THR	Threatened
END	Endangered
DD	Data Deficient
--	No data available

The species retrieved with 2 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. Although none of the species listed were identified on the Site at the time of the Site visit, potential suitable habitats were observed on the either the subject Site, or the neighbouring lands. The species listed above, their likely preferred habitats, and potential for visiting or residing on the Site are outlined in summary table included in **Attachment D**.

6.2 Ontario Breeding Bird Atlas

A summary of potential breeding birds which may be present on the Site, or have been identified within proximity of the Site according to the Ontario Breeding Bird Atlas (2001 - 2005) are summarized in **Attachment B**. According to the Ontario Breeding Bird Atlas, select species of concern have been identified within proximity of the Site. These species include the following.

Threatened Species	
Bank Swallow	Riparia riparia
Barn Swallow	Hirundo rustica
Boblink	Dolichnyz oryzivorus
Whip-poor-will	Caprimulgus vociferus
Special Concern Species	
Eastern Wood-Pewee	Contopus virens
Grasshopper Sparrow	Ammodramus savannarum
Wood Thrush	Catharus mustelinus

Potential habitats of select bird species listed were encountered at the time of the Site visit as follows, in addition to those included above in Section 5.1:

- Bank Swallows often burrow in areas that include natural and human-made settings along vertical faces, within sandy or silt deposits. They are also found to nest along banks of rivers and lakes. The banks of the Rideau River located immediately east of the Site are considered possible suitable habitats for the Barn Swallow. **The proposed development on the Site will have no negative impact if the below mentioned mitigation measures are followed, as outlined in Section 9.3;**
- Barn Swallows nest in mud nests for the most part in open barns, under bridges, in culverts and other man-made structures. The underside of the railway line, southeast of the Site over the Rideau River, could be a possible suitable habitat for the Barn Swallow. **No negative impacts are anticipated to possible Barn Swallows, as the subject Site itself is not considered a likely habitat for such species. Furthermore, the use of the mitigation measures outlined in Section 9.3 will further ensure negligible impacts to this species;**
- The Bobolink nests primarily on the groundsurface, and mainly in areas of sense tall grass such as prairies, hayfields or grasslands. The Site is not considered a suitable habitat for the Bobolink. **No negative impacts are anticipated to possible Bobolink, as the subject Site itself is not considered a likely habitat for such species. Furthermore, the use of the mitigation measures outlined in Section 9.3 will further ensure negligible impacts to this species;**
- The Grasshopper Sparrow prefer grassed lands to reside and nest in. Although the Site is unlikely a suitable habitat for the Grasshopper Sparrow, as the grassed portion of the Site are manicured, the undeveloped land to the east of the Site following Rideau River could potentially include a suitable habitat for this species. **No negative impacts are anticipated resulting from the proposed development towards possible Grasshopper Sparrow in the area, as the subject Site itself is not considered a likely habitat for such species. Furthermore, the use of the mitigation measures outlined in Section 9.3 will further ensure negligible impacts to this species;** and

- The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Wood Thrush, Whip-poor-will, and the Eastern Wood Pewee. The Whip-poor-will prefers areas of a mix of open and forest coverage, including deciduous and mixed forests, and the Eastern Wood Pewee resides in mid-canopy layers primarily along forest edges or forest clearings. The Wood Thrush prefers mature deciduous forests and mixed (conifer-deciduous) forests. **The Site, being currently developed, is not considered a likely habitat for these species, therefore the no negative impact related to the future development on the Site towards this species. Furthermore, the use of the mitigation measures outlined in Section 9.3 will further ensure negligible risk to this species.**

6.3 Species at Risk Review - Handbook for Ottawa

The Ottawa Stewardship Council has compiled "The Species at Risk Handbook for Ottawa' which is a compilation of data from various sources to provide insight on what species reside with in the City of Ottawa, that are considered to be species at risk (SAR) based on the provincial ranking system. A review of available document has revealed the following SAR within the City of Ottawa limits. It is possible that these species may reside in the vicinity of the Site, although no formal records or sightings have been documented.

6.3.1 Birds

- The Bald Eagle (*Haliaeetus leucocephalus*), with an Endangered Species Act (Ontario) (ESA) ranking of 'Special Concern'. The Bald Eagle is commonly found to reside in forests preferably near lakes and rivers. The Site is not forested, and undeveloped land to the east is considered 'young', therefore are not considered a suitable habitat for the Bald Eagle;
- The Bank Swallow (*Chlidonias niger*), with an ESA ranking of 'Threatened'. The Bank Swallow's preferred habitat is naturally or artificially exposed silt and sand deposits vertical faces such as riverbanks or sand and gravel pits. The banks of the Rideau River located immediately east of the Site are considered possible suitable habitats for the Barn Swallow. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Barn Swallow (*Hirundo rustica*), with an ESA ranking of 'Special Concern'. The Barn Swallow's preferred habitat is typically within man-made structures such sheds or barns, along the underside of bridges, or in culverts. The neighbouring railway bridge may be considered a suitable habitat for the Barn Swallow. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Black Tern (*Chlidonias niger*), with an ESA ranking of 'Special Concern'. The Black Tern is commonly found to reside in shallow marches where they construct floating nests commonly within Cattails. The Site and neighbouring lands are not considered a suitable habitat for the Black Tern;
- The Bobolink nests primarily on the groundsurface, and mainly in areas of sense tall grass such as prairies, hayfields or grasslands. The Site is not considered a suitable habitat for the Bobolink. The risk of the future development towards possible Bobolink in the area is considered low, as the subject Site itself is not considered a likely habitat for such species. Furthermore, the use of the mitigation measures outlined in Section 9.2 will further ensure negligible risk to this species;
- The Canada Warbler (*Cardellina canadensis*), with an ESA ranking of 'Special Concern'. The Canada Warbler's commonly resides in deciduous and coniferous forests, although prefers saturated forest with a dense shrub. The Site is not considered a suitable habitat for the Canada Warbler, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;

- The Cerulean Warbler (*Setophaga cerulea*), with an ESA ranking of 'Threatened'. The Cerulean Warbler is found to reside in mature deciduous forest where the base of the canopy is open. The Site is not considered a suitable habitat for the Cerulean Warbler, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Chimney Swift (*Chaetura pelagica*) with an ESA ranking of 'Threatened'. The Chimney Swift preferred habitat are man-made structures in the vicinity of water bodies. The adjacent railway bridge may be considered a suitable habitat for the Chimney Swift. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Common Nighthawk (*Chordeiles minor*) with an ESA ranking of 'Special Concern'. The Common Nighthawk is a bird which does not build nests for egg laying, but rather has then directly on the ground surface. These species prefer to reside in rock outcrops, recent cleared areas, lakeshores, or other open areas without, or with minimal, ground vegetation. The Site and neighbouring lands are not considered a suitable habitat for the Common Nighthawk;
- The Eastern Meadowlark (*Sturnella magna*), with an ESA ranking of 'Threatened'. The Eastern Meadowlark's common habitat includes grasslands such as hayfields, overgrown fields or roadsides. The Site is not considered a suitable habitat for the Eastern Meadowlark, however the wooded, undeveloped land east of the Rideau River may be a suitable habitat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Eastern Whip-poor-will, (*Caprimulgus vociferus/Antrostomus vociferous*) with an ESA ranking of 'Threatened'. The Eastern Whip-poor-will's preferred habitat are mixed forests with open lands as mentioned above in Section 6. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Eastern Whip-poor-will. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Eastern Wood Peewee (*Contopus virens*) with an ESA ranking of 'Special Concern'. The Eastern Wood Pewee is commonly found to reside in the mid-canopy layer of deciduous or mixed forests, as well as along the clearings and edges of these forests as mentioned in Section 6. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Eastern Wood Peewee. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Golden-winged Warbler (*Vermivora chrysoptera*) with an ESA ranking of 'Special Concern'. The Golden-winged Warbler is commonly found to nest in areas comprised of shrubby within the vicinity of mature forests. The undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat for the Golden-winged Warbler. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Henslow's Sparrow (*Ammodramus henslowii*) with an ESA ranking of 'Endangered'. The Henslow's Sparrow is found within open fields where tall grass and scattered shrubs are present. The Site is not considered a desirable habitat for the Henslow's Sparro, however the undeveloped land to the east of the Site, following the Rideau River, may be a suitable habitat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Least Bittern (*Ixobrychus exilis*) with an ESA ranking of 'Threatened'. This species prefers to live in areas of cattail marshes or open water bodies such as pools or channels. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species. No negative impacts are anticipated toward this species

as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;

- The Peregrine Falcon (*Falco peregrinus*) with an ESA ranking of 'Special Concern'. The Peregrine Falcon's preferred habitat are nests and cliffs within the vicinity of larger water bodies. The Site is not considered a suitable habitat for the Peregrine Falcon;
- The Short-eared Owl (*Asio flammeus*) with an ESA ranking of 'Threatened'. This species resides in open grassland areas, or in areas of marshes. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Short-eared Owl. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Wood Thrush (*Hylocichla mustelina*) with an ESA ranking of 'Special Concern'. The Wood Thrush is commonly found in mature deciduous and mixed forests (conifer-deciduous) and tend to reside in locations with a well-developed undergrowth. They prefer to construct their nests in smaller shrubs or samplings, commonly sugar maple or American beech. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Wood Thrush. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3; and
- The Yellow Rail (Coturnicops noveboracensis) with an ESA ranking of 'Special Concern'. The Yellow Rail resides in areas of shallow wetlands such as marshes. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Yellow Rail. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3.

6.3.2 Mammals

- The Eastern Small-Footed Bat (*Myotis leibii*), with an ESA ranking of 'Endangered'. The Eastern Small-Footed Bat commonly resides in areas of deciduous forests and have been found in open grassy lands. The Site is not considered a suitable habitat for the Eastern Small-Footed Bat based on forest cover type. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Eastern Small Footed Bat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Little Brown Bat (*Myotis lucifugus*) with an ESA ranking of 'Endangered'. This species preferred habitat are attics of buildings, abandoned buildings or barns. The Site, and neighbouring lands are developed, and may be considered a suitable habitat for the Little Brown Bat, although not observed at the time of the Site visit. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3; and
- The Northern Myotis/Northern Long-eared Bat (*Myotis septentrionalis)* with an ESA ranking of 'Endangered'. The Northern Myotis/Northern Long-eared Bat's preferred habitat are boreal forests, where they roost under loose bark or in the cavities of trees. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Northern Myotis/Northern Long-eared Bat. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3.

6.3.3 Reptile

- The Eastern Ribbonsnake (*Thamnophis sauritus)* with an ESA ranking of 'Special Concern' and a Federal SARA of 'Special Concern'. The Eastern Ribbon Snake is most commonly found close to water such as marshes. The Site is considered a suitable habitat for the Eastern Ribbonsnake. No

negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;

- The Milksnake (*Lampropeltis Triangulum*) with an ESA ranking of 'Special Concern', and a Federal SARA of 'Special Concern'. The Milksnake can be found across a range of habitats such as rocky outcrops, in grassed areas or fields and forest edges. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Milksnake. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Blading Turtle (Emydoidea blandingii) with an ESA ranking 'Threatened'. The Blading Turtle prefers a habitat of shallow water, often including large wetlands or shallow lakes with substantial aquatic plants available. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Eastern Musk Turtle (Sternotherus odoratus) with an ESA ranking of 'Special Concern'. The Eastern Musk Turtle reside in lakes, marshes, ponds and rivers that have slow flows and a lot of aquatic vegetation. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Northern Map Turtle (Graptemys geographica) with an ESA ranking of 'Special Concern'. The Rideau River may be a suitable habitat for the Northern Map Turtle as they prefer to reside in rivers and lakeshores, where there is area available along the shores for sun basking. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Snapping Turtle (Chelydra serpentina) with an ESA ranking of 'Special Concern'. The Rideau River may be a suitable habitat for the Snapping Turtle. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- The Spiny Softshell Turtle (Apalone spinfera) with an ESA ranking of 'Endangered'. The Rideau River may be a suitable habitat for the Spiny Softshell Turtle. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3; and
- The Spotted Turtle (Clemmys guttata) with an ESA ranking of 'Endangered'. The Rideau River may be a suitable habitat for the Spotted Turtle. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3.

6.3.4 Fish

- The American Eel (Anguilla rostrata) with an ESA ranking of 'Endangered'. The American Eel are unique where they can be found in both fresh and salt water communities, including lakes and rivers. The Rideau River may be a suitable habitat for the American Eel. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- Channel Darter (Percina copelandi) with an ESA ranking of 'Special Concern'. The Channel Darter prefers clean streams or lakes that have a gravel to sandy floor. The base of the river was not confirmed, however, based on the turbidity encountered at the time of the Site visit, it is unlikely that the Channel Darter would reside in the Rideau River;
- Lake Sturgeon (Acipenser fulvescens) with an ESA ranking of 'Endangered'. The Lake Sturgeon prefer deep, freshwater lakes or rivers, with soft bases including mud, sand or

gravel. The Rideau River may be a suitable habitat for the Lake Sturgeon. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;

- Northern Brook Lamprey (Ichthyomyzon fossor) with an ESA ranking of 'Special Concern'. The Northern Brook Lamprey are more often found in clear water streams. The Rideau River is a large, turbid water body, and is not considered a suitable habitat for the Northern Brook Lamprey; and
- The River Redhorse (Moxostoma carinatum) with an ESA ranking of 'Special Concern'. The River Redhorse may be found in the Rideau River as they prefer a habitat of medium to large rivers, with a strong flow, however they may be deterred to reside in Rideau River due to the turbidity of the water body. The proposed development on the Site is considered low risk to this species, if the below mentioned mitigation measures are followed, as outlined in Section 9.3.

6.3.5 Plants

- American Ginseng (*Panax quinquefolius*) with an ESA ranking of 'Threatened'. American Ginseng grows in soils that are well-drained and in deciduous forests including mapper, ash and basswood. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for American Ginseng. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- Butternut (*Juglans cinereal*) with an ESA ranking of 'Endangered'. The Site is densely wooded and is not considered a suitable habitat for the Butternut tree, although the north and southern edges are exposed to fields and a roadway which may be considered suitable or desired growing conditions. Butternut trees were not observed on the Site at the time of the Site visit. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;
- Eastern Prairie Fringed-Orchid (*Platanthera leucophaea*), with an ESA ranking of 'Endangered'. The Eastern Prairie Fringed-Orchid grows in areas of wetlands, fens and swamps as well as regions of tallgrass. The Site is not considered a suitable habitat for the Eastern Prairie Fringed-Orchid;
- Flooded Jellyskin (*Leptogium rivulare*) with an ESA ranking of 'Threatened'. The Flooded Jellyskin grows on barks of trees within seasonal, or periodically saturated areas. Common trees species which the Flooded Jellyskin grows on includes Black Ash, Red Maple, Elm and Poplar. The Site, namely the eastern extent within the seasonal flooding area, is considered a suitable habitat for the Flooded Jellyskin. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3; and
- Pale-Bellied Frost Lichen (*Physconia subpallida*) with an ESA ranking of 'Endangered'. Commonly found to grow on the barks of hard wood, but has also been encountered on fence posts or even boulders in shaded areas. The Site is not considered a suitable habitat for the Pale-Bellied Frost Lichen based on the overall Site features.

6.3.6 Insects

- The Bogbean Buckmoth (*Hemileuca species)* with an ESA ranking of 'Endangered', is found in areas of low shrub fens where bogbean is present. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Bogbean Buckmoth. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3;

- The Monarch Butterfly (*Danaus plexippus*) with an ESA ranking of 'Special Concern'. Monarchs Butterflys are found in areas of milkweed growth during their caterpillar stage, and in areas with wildflowers during their adult stage. The undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for Monarch Butterfly. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3; and
- The Rusty Patched Bumblebee (*Bombus afinis*) with an ESA ranking of 'Endangered'. The Rusty Patched Bumblebee is found in open areas such as mixed farmland, urban settings, and open woods or sand dunes. The Site may be considered a suitable habitat for the Rusty Patched Bumblebee. No negative impacts are anticipated toward this species as a result of the proposed development, if the below mentioned mitigation measures are followed, as outlined in Section 9.3.

None of the identified rare, threatened or endangered species listed above were encountered at the time of the Site visit on October 4, 2022. No butternuts or other Species at Risk were observed at the time of the field survey. Species encountered are described above in Section 6.

6.4 Rare Vegetation Communities in Ontario (Ottawa-Carleton Region)

According to the Ministry of Natural Resources, the following rare vegetation communities have been identified within the Ottawa-Carleton region of Ontario:

- Dry Lichen-Moss, commonly found in open alvar or pavement covered surface habitats;
- Northern Dropseed – Little Bluestem sedge, commonly found in alvar grassland habitats;
- White Cedar commonly found in grassed treed alvar grassland habitats;
- Common Juniper found in alvar shrubland habitats; and
- Jack Pine found in alvar shrubland type.

No grassland or alvar type habitats were identified on the Site based on the vegetation communities encountered at the time of the site visit. Alvar and grassland habitats are commonly identified by vascular plants which generally include the following:

Habitat Type	Common Vegetation Types
Alvar	Nodding Wild Onion, Wild Chives, Cooper's Milk-vetch, Downy Wood Mint, Side Oats Grama, Crawe's Sedge, Juniper Sedge, Richardson's Sedge, Bulrush Sedge, Hill's Thistle, Coreopsis, Tufted Hair Grass, Flattened Spike-rush, Tinted Spurge, Carolina Cranesbill, Prairie Smoke, Lakeside Daisy, Mousetail, Vernal Forget-me-not, Panic-grass, Alaskan Orchid, Alpine Bluegrass, Seneca-snakeroot, Early Buttercup, Small Skullcap, Houghton's Goldenrod, Upland Goldenrod, Northern Dropseed, False Pennyroyal, Corn-salad, Simple Vervain.
Grassland	Gattinger's Agalinis, Skinner's Agalinis, Colicroot, Arrow-feather Three-awn, Prairie Milkweed, Whorled Milkweed, Willow Aster, Wild Indigo, Side-oats Gramma, Blue-hearts, Bicknell's Sedge, Sun Sedge, Mead's Sedge, Midland Sedge, Prairie Straw Sedge, Dwarf Hackberry, Tall Tickseed, Hazel Dodder, Sessile-leaved Tick-trefoil, Hairy Fimbristylis, White Prairie Gentian, Orange-grass, Two-flowered Rush, Short-fruited Rush, Orange dwarf, Dandelion, Leggett's Pinweed, Slender Bush Clover, Dense Blazing Star, Leiber's Panic Grass, Hairy Panic Grass, Ridged Panic Grass, Cross-leaved Milkwort, Pink Milkwort, Hoary Mountain Mint, Whorled Mountain Mint, Dwarf Chinquapin Oak, Papilose Nut-rush, Tall Nut-rush, Prairie Dock, Showy Goldenrod, Early Bunch Grass, Small-flowered Ladie's Tresses, Ohio Spiderwort, Bird's-foot Violet.

6.5 Significant Wildlife Habitat

Significant wildlife habitats are generally categorized into four (4) types, as outlined in the Significant Wildlife Habitat Technical Guide (2000). They include:

- Seasonal concentrations areas such as conifer forests for deer wintering activities;
- Rare vegetation communities or specialized habitats for wildlife;
- Animal migration or movement corridors; and
- Habitats for species which are considered of concern (i.e. endangered or threatened).

The Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry has compiled a list of endangered, threatened and vulnerable species across Ontario. The complete list of species can be found in the *Significant Wildlife Habitat Technical Guide*. Species identified on the list which may considered the Site or adjacent lands a suitable habitat are summarized below. The column in the following table, which describes possible suitable habitats for the species listed is based on the findings by LRL during the Site visit on October 4, 2022, as described in Section 7. The findings, more specifically related to species which according to the NHIC database, are included in **Attachment D**.

No significant wildlife habitats were identified on the Site, however the Rideau River immediately east of the Site was considered a potential suitable habitat for various species of concern including select turtle species, as well as neighbouring lands. Further discussion related to the low anticipated impacts to these identified species are provided below in subsequent reporting sections.

Although select species identified in the following summary table are not known to occur in the Ottawa limits, they have been included for discussion to provide an understanding to reviewers of this report (contractors, landowner, etc.) of provincially significant species at risk. In the event they are observed.

Common Name	Scientific Name	Common Habitat	Potential Habitat Encountered on the Site
Vascular Plants			
Endangered Vascular Plants			
Engelmann's Quillwort	*Isoetes engelmannii*	Aquatic plant that grows in shallow water in lakes and rivers.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Toothcup	*Rotala ramosior*	Grows along lake and river shorelines on thin sandy, muddy or gravely soils on Precambrian bedrock.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Threatened Vascular Plants			
Small-flowered Lipocarpha	*Lipocarpha (Hemicarpha) micrantha*	Grows on sandy beaches that are seasonally flooded and are protected from high waves or strong currents.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
American Water-willow	*Justicia americana*	Grows along the shores and in the waters of streams, rivers, lakes, ditches and occasionally wetlands.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Amphibians			
Endangered Amphibians			
Blanchard's Cricket Frog	*Acris crepitans blanchardi*	Prefers habitat around the edges of lakes, ponds, rivers, and streams with dense aquatic vegetation and muddy shorelines..	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.

Common Name	Scientific Name	Common Habitat	Potential Habitat Encountered on the Site
Reptiles			
Threatened Reptiles			
Eastern Spiny Softshell	*Apalone spinifera spinifera*	They are found primarily in rivers and lakes but also in creeks and even ditches and ponds near rivers. Key habitat requirements are open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and suitable habitat for crayfish and other food species.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Spotted Turtle	*Clemmys guttata*	A semi-aquatic species and prefers ponds, marshes, bogs and even ditches with slow-moving, unpolluted water and an abundant supply of aquatic vegetation. They are found in different types of wetlands throughout the province, depending on the types of habitats that are available.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Eastern Massasauga Rattlesnake	*Sistrurus catenatus catenatus*	Massasaugas live in different types of habitats throughout Ontario, including tall grass prairie, bogs, marshes, shorelines, forests and alvars. Within all of these habitats, Massasaugas require open areas to warm themselves in the sun.	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.
Birds			
Endangered Birds			
Peregrine Falcon	*Falco peregrinus*	Peregrine Falcons usually nest on tall, steep cliff ledges close to large bodies of water.	The Pergrine Falcon is known to reside in a wide variety of possible habitats that can include major city centres, to tundra conditions or desert canyons. Due to its wide range in possible suitable habitats, it is possible that this species could be present in area. Namely, along the underside of the railway bridge traversing the Rideau River, southeast of the Site.
Prairie Warbler	*Dendroica discolor*	Prefers locations close to water (often on islands, peninsulas and bays), but even in these preferred areas, Prairie Warblers are absent from some areas of apparently suitable habitat, and there are often gaps between individual territories	The lands intercepting the Rideau River, along the eastern extent of the Site, may be a suitable habitat for this species.

Common Name	Scientific Name	Common Habitat	Habitat Encountered on the Site
Mammals			
Vulnerable Mammals			
Eastern mole	Scalopus aquaticus	The Eastern mole's preferred habitat includes forests, open woodlands, meadows, pastures, and fields in addition to urban settings such parks, cemeteries and residential yards that have stone-free sand and sandy loam overburden material with a woody plant cover.	The Site, namely the manicured lawn, and that of adjacent lands, may be a suitable habitat for the Eastern mole.

7 SITE VISIT

LRL visited the subject Site on October 04, 2022, to assess the Site and adjacent watercourse (Rideau River) in addition to the rivers floodplain which extends onto the eastern perimeter of the Site. The Site visit was intended to verify the conditions of the property, as well as the natural features and species which are present. Select photographs from the Site visit are included in **Attachment C**.

The general topography of the Site is considered to be flat with gentle slope towards south and southwest. When approaching the Rideau River there is a sudden slope followed by a flat land before the shore of the river. There are two boat docks at the east portion of the Site.

The Rideau River, which borders the Site to the east, was observed to be flowing in a north-south direction. The shore of the river was observed to be sand and rocks. The bank of the river was a gentle slope, and some grasses and other plant species were present along the shore of the riverbank. The vegetation species observed on the bank of the Ottawa River during the Site visit were as follows:

- Honeysuckle;
- Riverbank grape;
- Virgin creepers;
- Thicket creepers; and
- Elm tree.

Each of the vegetation species encountered are not a federal or provincially recognized species at risk. The banks of the river were approximately 3.6 to 4.0 m in height, and the flattened inferred seasonal flood area extended an additional 6.0 m from the toe of the slope to the open River body.

7.1 Wildlife

During the site visit conducted October 4, 2022, no wildlife was observed. This was likely the result of the general activities and developments on the Site and the general area.

8 ECOLOGICAL LAND CLASSIFICATION

The classification system of vegetation communities across the southern portion of the Ontario that was developed the MNRF is referred to as the Ecological Land Classification (ELC) system. The ELC breaks down the various types of woodlands and other vegetation communities or land uses (i.e. wetlands, developed areas) into distinct categories based on features such as primary tree cover or flora characteristics. An ELC is a method used to aid in the description and designations of terrestrial ecosystems including forests. It is important to establish the ELC prior to development of a site as it can be used to examine and execute mitigations measures to lessen the impact on the neighbouring properties and environment. The ELC is comprised of three (3) levels including Ecozones, Ecoregions and Ecodistricts.

With reference to the 2013 Version 3 ELC system, the Ecosites of Ontario Operational Draft dated April 20, 2009 and in conjunction with LRLs site visit on October 4, 2022 in addition to our review of aerial photographs obtained from the City of Ottawa's interactive mapping system, geoOttawa, the Site is found not to be representative of the available categorized ecosites. The Rideau River to the east is considered an Open Water- Open Aquifer, however the sparse trees which convert the site, the manicured lawn and residential developments are not considered Ecological Lands.

9 IMPACT STATEMENT

It is understood that a total of seven (7) new residential lots, plus two (2) additional lots for future road-way expansion and green space, will be created from the main approximate 2.8 acres parcels of land. One (1) of the existing residences (2009 Prince of Wales Drive) will remain on the Site, while the second residence will be removed in support of the re-development activities (2013 Prince of Wales Drive). Greater details related to the proposed development of the Site is included in Section 5.2.

The activities associated with the construction of a residential developments typically include tree clearing, removal and stock piling of topsoil, construction of house and driveway construction and paving. Based on the revised site development plan prepared by Jane Thompson Architect, dated September 9, 2022, and the site servicing plan prepared by D.B. Gray Engineering Ltd. (2024), and included in **Attachment A**, the following proposed development footprints (development envelopes) are anticipated:

Lot No.	Proposed Details (with approximate permittable development area – while maintaining minimum setback requirements)
Lot 1	1,163 m² with an approximate 155 m² available for additional building construction with the existing 2009 Prince of Wales Drive resident remaining.
Lot 2	2,795 m² with an approximate 268 m² available the construction of a residence.
Lot 3	887 m² with an approximate 240 m² available the construction of a residence.
Lot 4	952 m² with an approximate 372 m² available the construction of a residence.
Lot 5	965 m² with an approximate 387 m² available the construction of a residence.
Lot 6	971 m² with an approximate 393 m² available the construction of a residence.
Lot 7	924 m² with an approximate 260 m² available the construction of a residence.
Lot 8	895 m².
Lot 9	748 m².

A private road will be constructed along the north of the proposed Lot 2 through Lot 7, and west of proposed Lot 1. The road will be approximately 6.0 m wide, set approximately 3.0 m from the available area for the construction of the residences, and be approximately 148 m in length.

9.1 Development Setback Recommendations

The development setback recommendations in support of this project have been considered based and refined through LRLs EIS visit to Site, LRLs geotechnical investigation, and available development and grading plans prepared by others. The proposed development setback recommendations have considered the following:

- The protection of identified natural features both on the Site and on neighbouring lands;
- Management of setbacks or buffers from the identified natural features, namely the Rideau River;
- Protection of natural features, including surface water body quality and quantity, through implementation of erosion and sediment control plans, and stormwater management plans; and
- Vegetation, including trees, protection measures, such as critical root zone fencing and contractor education.

The geotechnical investigation, as previously mentioned in Section 5.1.3.1, made recommendations to maintain a 30 m setback from the top of the slope along the eastern extent of the Site based on the inferred integrity of the topographic feature. According to the City of Ottawa's Official Plan (OP) 2021-386 "*Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following*:

a. *Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*

b. *Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*

c. *30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*

d. *15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."*

The recommended 30 m setback from the geotechnical study is considered appropriate to use as it is greater than the distance of points c and d, and no development limits have been established by the regional conservation authority.

The 30 m setback from the top of the slope will increase the distance between the proposed development footprints and the inferred highwater mark of the Rideau River by more than 60 m. Maintaining up to half of this area with vegetation cover (15 m from the top of the slope, as well as along the slope) will promote the stability of the slope, as well as protect species and habitats of wildlife which may frequent the area. This area will be a riparian buffer area and will include native species. The proposed development plan included in **Attachment A**.

To support the proposed creation and development of the new lots, development will be required within this 30 m setback. This will include:

- The creation of new lots and lot line adjustments as presented in **Attachment A**, and **Figure 5**. The reconfiguration of lots, or creation of lot limits within the 30 m setback is not considered a potential activity of concern with respect to the natural features identified on the Site and the neighbouring lands. No negative impacts are anticipated as a result of this activity, assuming that the mitigation measures included in Section 9.2 are followed during and after development;
- The inclusion of a drainage outlet pipe extending from the proposed private road towards the Rideau River. These activities are considered higher risk for potential impairment to the identified natural features and species as they will include excavation, and removal of existing vegetation cover. The activities for the installation of the drainage system are considered short term and generally reversible, however consideration for the future work on the service in the event it requires repair or replacement must be addressed. Controls and mitigation measures are discussed further in Section 9.2; and
- Re-grading in the vicinity of proposed residence anticipated to remain on the Site, to allow for adequate stormwater management and control. As discussed above, the activities for the re-grading are considered short term, however consideration for impacts during the work, and possible alterations to the existing surface water flow pattern are needed. Controls and mitigation measures are discussed further in Section 9.2.

As presented in **Figure 5**, the existing development on the proposed Lot 1 is within the 30 m setback. Although the existing residence, and associated features, in Lot 1 will remain in its current configuration, according to the City of Ottawa's OP, Section 4.9.3, 7b), exceptions to the setbacks shall be considered by the City "*where development is proposed on existing lots where, due to the historical development in the area, it is impossible to achieve the minimum setback because of the size or location of the lot, approved or existing use on the lot or other physical constraint, providing the following conditions are met to the City's satisfaction:*

a) *The ecological function of the site is restored and enhanced, to the greatest extent possible, through naturalization with native, non-invasive vegetation and bioengineering techniques to mitigate erosion and stabilize soils; and*

b) *Buildings and structures are located, or relocated, to an area within the existing lot that improves the existing setback, to the greatest extent possible, and does not encroach closer to the surface water feature.*

The Rideau River is located immediately east of the Site. A 30 m setback from the watercourse will be maintained from the top of the slope as presented in the development plan included in **Attachment A**. This setback is maintained from the top of the slope along the eastern extent of the Site. The existing residence on 2009 Price of Wales Drive to remain is located within the 30 m setback, at a distance of 26.7 m from the river Flood Plan (as shown in **Figure 5**). As presented in the included proposed development plans in **Attachment A**, the remaining proposed development area of Lot 1 (general western extent) has been confirmed to be of sufficient size that future development can meet the zoning requirements to accommodate a new building should the existing be demolished. The concerns with maintaining the existing development in the present configuration are negligible. The following has been considered:

- Assuming no alterations, the existing riparian buffer area on the proposed Lot 1 is approximately 15 m from the edge of the Flood Plain of the Rideau River, as shown in **Figure 5**. This area is generally vegetated, and will remain as such during and post re-development of the Site;
- The remaining proposed development area of Lot 1 (general western extent) has been confirmed to be of sufficient size that future development can meet the zoning requirements to accommodate a new building should the existing be demolished;
- The existing riparian buffer zone of 15 m from the top of the slope should be maintained following any re-development of the Lot 1; and
- Mitigation measures during possible re-development of Lot 1 should follow those outlined herein.

To support the proposed creation and development of the new lots, development will be required within this 30 m setback, as mentioned above (lot creation, stormwater management infrastructure, and re-grading). The re-development of this Site is not anticipated to impact the natural features or ecological functions of the natural features, potential species that reside in these area, or habitats as rationalized in the following screening table:

Natural Heritage System Component & Ecological Functions	Additional Consideration	Rational
Erosion and sediment runoff prevention	The removal of existing ground cover, for the installation of utilities or final grading, can create increase potential for surface runoff and erosion. This could result in: • The smothering of incubating eggs or other organisms that live in possible near-by streams or water bodies; • Exposure of root systems to remaining vegetation which lead to damage by pests and other wildlife as a food or habitat source, disruption to growth or the weakening of their support root system, and a greater susceptibility to disease and parasites; • Unstable slopes and ground surface which could result in the compromising of neighbouring structures integrity such as roadways or buildings; and • Reduces the ability for the natural infiltration and storage of water and nutrients into the soils. However, it is anticipated that there will be no negative impacts to the overall functions of the identified natural features will be negligible if the mitigation measures outline below in Section 9.3 are followed.	A15 m riparian buffer zone will maintained from the top of slope, extending west, on proposed Lot 2. As the existing development on proposed Lot 1 will remain, the riparian zone will be reduced on proposed Lot 1 to 15 m from the limits of the flood plain. This is considered an adequate buffer to maintain and protect the integrity of the natural features, and species which may considered it a suitable habitat or resting ground. However, should future development be proposed on the Lot 1, the 15 m riparian buffer will be increased to that of the adjacent Lot 2 (15 m from the top of slope. The inclusion of the stormwater management outlet will involve excavation in the buffer area, however, once installation is completed, the area should be returned as promptly as possible to the natural state, with introduction of native species to prevent erosion, sediment runoff or the abundance if invasive species. Introduction of buffer planting and improvement of the ecological characteristics of the riparian zone. The introduction of additional native species in the identified riparian zones are recommended on the respective lots. By improving the vegetation community in this area, it will further add diversity to these zones and will improve the benefits of the buffer. It will limit sediment from being diverted into the waterway, and restrict erosion. To minimize the potential impacts on wildlife, no woody vegetation removal should occur between April 15th and the end of September unless a species specific survey, completed by a qualified professional within five (5) days of the proposed vegetation removal, detects no breeding activity. Re-grading within the riparian buffer zone should be completed in a manner that limits the disturbance of vegetation as best possible. Promptly following the re-grading, native species should be re-introduced, with the inclusion of silt fencing or additional sediment control measures to prevent further erosion or runoff. Consideration to seasonal influence should be given. For example, working in the riparian buffer zone should be completed in late fall to early spring, when vegetation cover is minimal to begin, breeding and nesting activities are prominent, and wildlife such as replies, amphibians and birds are less likely.

		Properly installed sedimentation barriers (such as silt fences or straw bails) should be used along the banks or in any drainage ditches or swales that can flow toward the river. The sedimentation barriers should be installed prior to construction and be maintained throughout the project. They shall be left in place until the vegetation (i.e. grass) has been established on the Site. Once construction is complete, the compacted soil will be aerated to allow vegetation to establish more quickly. Revegetation after development with native species to reduce non-native species invasion. Equipment used during the construction activities should be properly maintained to reduce any fuel or lubricant leaks. No fuel should be stored on Site and the equipment should be fuelled off-site. Any leaks or spills must be promptly contained and addressed. During construction, mud-mats should be implemented to reduce the amount of mud and debris being tracked onto roadways. Due the proposed modifications in the 30 m setback from the River, Policy 7 of the City of Ottawa OP, Section 4.9.3, requires that the riparian area be restored to enhance the ecological function of the setback. It is anticipated that there will be no negative impacts to the overall function of the River of its respective habitats it introduces.
Nutrient Cycling	Forested land and vegetation can remove nutrients from the soils and alter them into a form which is better suited and can be used by other creatures or vegetation.	Minimal alterations to the existing vegetation cover on the majority of the Site, and neighbouring lands, is anticipated during construction, or post-construction. Ground disturbance in the vicinity of the buffer zone for the inclusion of a stormwater management infrastructure. The addition of the private road will reduce the overall existing landscaped area which is currently present. And the inclusion of additional residences will increase the non-permeable ground coverage of the area. However, based on the proposed development type, and the use of the mitigation measures detailed in Section 9.3, the impact to the overall nutrient cycling of the identified natural features, and neighbouring lands will be negligible as a result of the development. Once construction is complete, the compacted soil will be aerated to allow vegetation to establish more quickly. Encouraging vegetation growth is an affective way increase the nutrient cycle.

Wildlife Habitat and Linkages	Wildlife, including birds would likely be discourage from using the work area as a short-term resting ground due to the restlessness of the work activities and the noise generated.	The findings of the geotechnical investigation (December 2022 – revised April 2023) recommends a 30 m setback from the top of the slope along the eastern extent of the Site to maintain a safe distance from the identified Limit of Hazard Lands. Although the majority of the proposed development at the Site will maintain the 30 m setback from the top of slope (top of bank), the following development activities are anticipated within this area: ▪ The creation of new lots and lot line adjustments; ▪ The inclusion of a drainage outlet structure; and ▪ Re-grading in the vicinity of proposed residence to remain for adequate stormwater drainage purposes. Furthermore, the existing development on proposed Lot 1 is within the 30 m limit of hazard lands. Future re-development of proposed Lot 1 must maintain the 30 m setback from the top of slope. Mitigation measures, as outlined further in Section 9.3 can be used to further reduce the impact to wildlife during construction which can include: ▪ Riparian buffers are to be maintained along the extents of natural features on the Site to protect potentially vulnerable aquatic habitats. ▪ It is recommended that excavation activities not be done between April 15th and the end of September, which are the typical breeding season for wildlife, including birds or mammals; ▪ A pre-clearing survey for active stick nests and cavity nests must also be conducted between April 1st and April 15th, in order to identify and protect early-nesting species such as owls and raptors; ▪ To minimize the potential impacts on wildlife, no woody vegetation removal or disturbance to grasslands and old fields should occur between April 15th and August 15th until verified by a qualified person, unless a breeding bird survey, completed by a qualified professional within 24 hours of the proposed vegetation removal, detects no breeding activity; ▪ Consideration to limit work within the riparian buffer zone during winter months is recommended as these seasonal conditions are outside of nesting and spawning times and

		will further reduce the potential for impacts to species, although short term. ▪ Consideration must be taken pertaining to sensitive time windows for species that may inhabit the site. Site clearing activities should be considered in regard to sensitive time windows or additional mitigation measures should be followed including: o The Site should be kept clean and secure at all times possible ▪ The encouragement of wildlife to leave the Site by pre-stressing activities outlined in the document. No development is permitted in the identified river, without obtaining permission from the applicable regulatory authorities (Rideau Valley Conservation Authority, Parks Canada and the Ontario Ministry of the Environment).
Diversity	Disruption to the natural diversity of the overall adjacent watercourse is not anticipated. Although there will be work completed within 30 m of the body, the Site is presently developed. The proposed development will include a significant riparian buffer in the vicinity of the river to encourage the current eco-system functions and promote species to remain with little impacts. The neighbouring lands are currently developed within the same distance, and setbacks from the natural features, as the anticipated re-development of the Site. This is presented in **Attachment A**.	The Site is currently developed, and the re-development will be comparable to the adjacent lands. Ecosystem networks will remain generally as is for species in the area.
Economic and Social Function Values	The land re-development is not anticipated to influence the economic and social function values of the area.	The proposed re-development will be six (6) new single-family residence, on the subject lot. Much like those on the neighbouring lands and on the proposed remaining 2009 Prince of Wales Drive.

It is understood that a total of seven (7) new residential lots, plus two (2) additional lots for future road-way expansion and green space, will be created from the main approximate 2.8 acres parcels of land at the above referenced locations. At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales), and associated features, will remain on the subject property. According to the City of Ottawa's Official Plan (OP) 2021-386 "*Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*

- *Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*
- *Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*
- *30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*
- *15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."*

Furthermore, Section 4.9.3 (6) of the OP 2021-386 states that "*No site alteration or development is permitted within the minimum setback*." As discussed in greater detail in the report, a geotechnical investigation completed in support of the proposed development. The findings of the geotechnical investigation (December 2022 – revised April 2023) recommends a 30 m setback from the top of the slope along the eastern extent of the Site to maintain a safe distance from the identified Limit of Hazard Lands.

Section 2.1.6 of the Provincial Policy Statement states that "*Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements*". Development and site alterations will generally not be permitted within the 30 m setback from the top of the slope, with the exception of those listed above. The proposed development with the 30 m of the Rideau River is considered low risk when the mitigation measures are followed, as outlined in further sections of this report. No negative impacts are anticipated resulting from the proposed development.

This Environmental Impact Study was completed in accordance with the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023). The guideline states that "*an EIS is required when development or site alteration is proposed in or within a specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System (NHS), or hazardous forest types for wildland fire.*" This includes surface water features.

The work associated with the re-development on the Site is anticipated to be short term and reversible. Once construction is complete, lawn, vegetation and structures will be set and grown which will limit future erosion or runoff issues.

The recommended 30 m setback from the geotechnical study is considered appropriate to use as it is greater than the distance of points c and d, and no development limits have been established by the regional conservation authority. The 30 m setback from the top of the slope will increase the distance between the proposed development footprints and the inferred highwater mark of the Rideau River by more than 60 m. Maintaining this area with vegetation cover, will promote the stability of the slope, as well as protect species and habitats of wildlife which may frequent the area. To support the proposed creation and development of the new lots, development will be required within this 30 m setback. This will include:

- The creation of new lots and lot line adjustments as presented in **Attachment A**, and **Figure 5**. The reconfiguration of lots, or creation of lot limits within the 30 m setback is not considered a potential activity of concern with respect to the natural features identified on the Site and the neighbouring lands. No negative impacts are anticipated as a result of this activity, assuming that the mitigation measures included in Section 9.2 are followed during and after development;
- The inclusion of a drainage outlet pipe extending from the proposed private road towards the Rideau River. These activities are considered higher risk for potential impairment to the identified natural features and species as they will include excavation, and removal of existing vegetation cover. The activities for the installation of the drainage system are considered short term, however consideration for the future work on the service in the event it requires repair or replacement must be addressed. Controls and mitigation measures are discussed further in Section 9.3; and
- Re-grading in the vicinity of proposed residence anticipated to remain on the Site, to allow for adequate stormwater management and control. As discussed above, the activities for the re-grading are considered short term, however consideration for impacts during the work, and possible alterations to the existing surface water flow pattern are needed. Controls and mitigation measures are discussed further in Section 9.3.

The existing development on proposed Lot 1 is within the 30 m limit of hazard lands. Future re-development of proposed Lot 1 must maintain the 30 m setback from the top of slope.

The impact to the overall function of the river, and species which consider the river and adjacent shorelines as a suitable habitat or nesting area, will be negligible. The anticipated construction activities, and the duration of time to which erosion and sediment concerns are prevailing, are considered short term and the effects of the development are considered reversible. It is our opinion that the information presented in this EIS provides sufficient support that no negative impacts on the natural features or ecological functions is anticipated. No development is permitted in the identified river, without obtaining permission from the applicable regulatory authorities (Rideau Valley Conservation Authority, Parks Canada and the Ontario Ministry of the Environment).

As mentioned above in Section 6, the NHIC was reviewed to retrieve element occurrences for rare, threatened or endangered species are within 2 kilometers of the Site. 15 species were retrieved within 2 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. The species retrieved with 2 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. Although none of the species listed were identified on the Site at the time of the Site visit, potential suitable habitats were observed on the either the subject Site, or the neighbouring lands. The species listed above, their likely preferred habitats, and potential for visiting or residing on the Site are outlined in summary table included in **Attachment D**.

As described further in Section 7, no rare, endangered or species at risk were observed at the site of our Site visit. Mitigation measures specific to the protection of these identified rare, threatened or endangered species and their habitats are outlined in Section 9.3.

9.2 Potential Effects of Development

The potential effects with respect to construction activities include:

- Grading and construction activities can change the soil's characteristics such as water table levels, the density of the soil (through compaction), erosion potential, surface run-off and the drainage patterns;
- Increase in sediment runoff towards the River and other identified natural features through excavation activities, stockpiling of soil and removal of trees, which can control erosion. Increase in sediments can smother incubating eggs or other organisms that live in the fish habitat;
- Vegetation buffer can also be impacted during construction activities. Riparian zones are important features to protect as they directly contribute to aquatic habitat by providing biofilters, protecting aquatic environments from excessive sedimentation, polluted surface runoff and erosion;
- Fuel spills as a result of vehicle use and storage. Spills can lead to soil, surface water and groundwater contamination;
- The Site may be more vulnerable to invasion by non-native species of plants or wildlife;
- Disturbance of wildlife species as a result of construction activities;
- Increased erosional potential, changes in natural drainage and increased surface run-off;
- Construction activities can damage roots of trees that remain on Site; and
- Nutrients (phosphorous and nitrates) generated by septic system effluent have the potential to cause eutrophication in the surface water if the septic system is inadequately constructed or fails.

9.3 Mitigation Measures

The impacts of the construction activities on the watercourse, and overall Site natural features, can be mitigated using the following measures:

- Buffer Management
    - A15 m riparian buffer zone will maintained from the top of slope, extending west, on proposed Lot 2. Although the remaining proposed development area of Lot 1, it has been confirmed that future development can meet the zoning requirements to accommodate a new building should the existing be demolished and is outside the water course setback. New development on Lot 1 must maintain the 15 m riparian buffer zone from the top of slope;
    - The inclusion of the stormwater management outlet will involve excavation in the buffer area, however, once installation is completed, the area should be returned as promptly as possible to the natural state, with introduction of native species to prevent erosion, sediment runoff or the abundance if invasive species;
    - Introduction of buffer planting and improvement of the ecological characteristics of the riparian zone. The introduction of additional native species in the identified

riparian zones are recommended on the respective lots. By improving the vegetation community in this area, it will further add diversity to these zones and will improve the benefits of the buffer. It will limit sediment from being diverted into the waterway, and restrict erosion; and

- To minimize the potential impacts on wildlife (i.e. reptiles, birds and bats), no woody vegetation removal should occur between April 15th and end of September, unless a species-specific survey (i.e. bird or bat) is completed by a qualified professional within five (5) days of the proposed vegetation removal, detects no breeding activity;
- Re-grading within the riparian buffer zone should be completed in a manner that limits the disturbance of vegetation as best possible. Promptly following the re-grading, native species should be re-introduced, with the inclusion of silt fencing or additional sediment control measures to prevent further erosion or runoff. Consideration to seasonal influence should be given. For example, working in the riparian buffer zone should be completed in late fall to early spring, when vegetation cover is minimal to begin, breeding and nesting activities are prominent, and wildlife such as replies, amphibians and birds are less likely.
- No development is permitted in the identified river, without obtaining permission from the applicable regulatory authorities (Rideau Valley Conservation Authority, Parks Canada and the Ontario Ministry of the Environment).

- Erosion and Sediment Control
  - Stockpiled soil should be placed as far from water bodies as practically possible during construction. The stockpiles should be covered, especially during any rain events, to reduce any sedimentation run-off from the construction Site;
  - Properly installed sedimentation barriers (such as silt fences or straw bails) should be used along the banks or in any drainage ditches or swales that can flow toward the water body. The sedimentation barriers should be installed prior to construction and be maintained throughout the project. They shall be left in place until the vegetation (i.e. grass) has been established on the Site;
  - Use sedimentation and erosion controls and maintain as much vegetation as possible during construction to reduce erosion. Prior to any Site alteration, silt fencing should be placed along the perimeters of the watercourse setback (identified as the western extent of the riparian zone). It is important that the fence is properly keyed in and maintained during the entire construction phase to filter any surface water runoff and to contain sediment before the water leaves the work area. The fencing should be checked weekly and following a rain event to ensure that the temporary structure is suitable for erosion control purposes;
  - The installation of temporary swales to direct runoff towards the sediment control measures implemented;
  - Once construction is complete, the compacted soil will be aerated to allow vegetation to establish more quickly. Revegetation after development with native species to reduce non-native species invasion;
  - Equipment used during the construction activities should be properly maintained to reduce any fuel or lubricant leaks. No fuel should be stored on Site and the equipment should be fuelled off-site. Any leaks or spills must be promptly contained and addressed;

- During construction, mud-mats should be implemented to reduce the amount of mud and debris being tracked onto roadways.

- Stormwater Strategy
  - Post-development, runoff will be diverted along the proposed new roadway into strategically placed and graded catch basins. The catch basins will collect the runoff and transport it into the corresponding infrastructure which outlets into the Rideau River, south of the proposed Lot 2. Rip-rap will be introduced and maintained at the drainage outlet to reduce sediment introduction into the River;
  - The entirety of the property will be graded such that controls the flow of stormwater runoff into designated locations.
- Other Construction Best Management Practices
  - Turtles breeding/nesting period extends generally from June 1st through August 15th and their wintering period extends between October 20th and March 15th. The following turtle specific mitigation measures must be considered:
    i. Limit as best possible the extents of the excavation activities and clearly identify the riparian buffer area to remain with marking flags or fencing;
    ii. The use of sediment control barriers, such as bails or silt fencing, is also a useful mechanism to deter terrestrial species from entering into the work zone. Maintaining these barriers along the extents of the riparian zone, or swales which intercept the river, can effectively discourage turtles from entering into the work zone;
    iii. Contractors should be aware of the potential of these species being present, and must be aware of the steps to be taken if encountered, including:
      1. Do not disturb a turtle encountered which is laying eggs;
      2. Do not conduct any activities within at least 20 m of the turtle while laying their eggs;
      3. Contact the Ministry of Natural Resources and Forestry (MNRF) for advice and recommendation of the subsequent procedures to be followed. These will likely include marking of the location of the eggs, and prohibit any activities in that area which may disturb them until they hatched and the young have relocated;
    iv. If work activities must be completed during the sensitive timing window (June 1st – August 15th), the following should be considered:
      1. Retention of a trained or qualified professional (consult with the proper authorities for direction) can be used to capture and transfer injured turtles which may be uncovered during the work;
        a. Injured captured turtles should be stored outside of direct sunlight;
        b. An Authorized Rehabilitator should be contacted immediately to provide directions and to arrange for transfer.
      2. Contact the MNRF immediately upon capturing an injured turtle to seek advice and arrange for proper removal from the Site;

3. If a turtle nest is uncovered during the work area, immediately stop all activity near the nest. Staff can gently cover the nest with soil or organic material (leaves). It is absolutely prohibited to drive within 5 m of the nest. Marking and notice should be posted;
4. Stockpiled material should be isolated with fencing.

v. Detailed visual examination of machinery should be inspected prior to use, each morning for the presence of turtles. This includes inspecting beneath the machinery.

- Noise impacts can be reduced by delaying the construction until later in the spring, after breeding has occurred and migrating birds have left the area. The effects of noise will be short term, only during construction activities, and no negative impacts will persist beyond this time;
- The following techniques can minimize impacts on the health and longevity of retained individual trees during and post-construction;
  - Around the treed perimeter erect a sturdy 1 m high snow fence to protect adjacent trees, if applicable. This should be placed at a minimum distance of the critical root zone (CRZ) and remain in place until construction is completed. The critical root zone is established as being 10 centimeters from the trunk of a tree for every centimeter of trunk diameter at breast height (DBH). This prevents damage to the retained tree from compaction of the soil due to heavy equipment. Excavations are not permitted in proximity to the edge of the work areas so the critical root zones of the adjacent retained trees will be well protected;
  - If excavation must take place adjacent to or within the CRZ, tunnel or bore carefully by hand and cut the root cleanly. Machinery should be kept to the outside of the cut, away from the tree trunk. An arborist will be required on Site if excavation within the CRZ is required;
  - If surface tree roots are disturbed, they should be covered with soil, woodchips or filter cloth and kept moist until construction is complete under the guidance of an on-Site arborist;
  - If limbs need to be trimmed or removed due to utilities or construction, they should be cut using a chain saw using accepted arboricultural practices; and
  - All grading and other site disturbances are to be restricted to the work area. Changes to grading or water flow around preserved trees can impact on the health of the tree. Where grade changes cannot be avoided, the installation of retaining walls or tree wells should be considered for retained trees under the guidance of an on-Site arborist.
- The Site is currently developed, and it is understood that the re-development of Site will include upgrading the exiting features. The proposed re-development activities will maintain a 30 m setback from the Rideau River, comparable to that of the neighbouring lands;
- The Rideau River is considered a suitable habitat, as well as the neighbouring lands, for various species as mentioned above. To minimize the impact during development on this species, the following mitigation measures should also be considered in addition to those listed in the remainder of this section:

- As mentioned above, avoid deforestation and construction activities during periods of nesting and fledgling activity, between May 15th and August 15th; and
- Should at any time during the works, a nest or eggs, or any species of bird, turtle or fish, be encountered, it is prohibited to destroy or damage them. It is best practice to either leave the findings in place without disturbing them, however if necessary (i.e. susceptible to damage or disturbance), they may be carefully relocated to a safe area as close to the original location as possible. A qualified person, such a as biologist may assist with this activity.

9.3.1 Species at Risk – Specific Mitigation Measures

According to the Ontario Ministry of the Environment, Conservation and Parks, Endangered Species Act, 2007, and corresponding reference guide entitled "*Categorizing and Protecting Habitat under the Endangered Species Act*", February 2012, a habitat of a species which is identified under the Act as bring extirpated, endangered or threatened species, receives protection under Section 10 of the ESA.

There are three (3) categories of habitats with respect to extirpated, endangered or threatened species. These categories are as follows:

- Category 1 – Red: Highly sensitive habitat areas where the species is anticipated to have the lowest tolerance to alteration.
  - With few exceptions, activities with potential to alter category 1 habitat areas will likely damage and destroy the habitat, and would require authorization to continue.
- Category 2 – Orange: Moderately sensitive habitat areas where the species is anticipated to have a moderate tolerance to alteration.
  - Relatively high impact or large scale activities with potential to alter category 2 habitat areas will likely damage and destroy the habitat, and would require authorization to continue.
- Category 3 – Yellow: Highly tolerable habitat areas where the species is anticipated to have the highest tolerance to alteration.
  - Certain high impact or large scale activities that alter category 3 habitat areas will likely damage and destroy the habitat, and would require authorization to continue.

The species identified by the NHIC has potentially residing in the vicinity of the Site has identified select species with a SAR status of threatened and endangered. No potential habitats were observed directly on the Site, although the Rideau River and flood zone extents may be considered a Category 1 habitat. Of the species identified within 2 km of the Site they were considered to have a low probability of occurrence on the Site.

The following species were considered to have a moderate probability of occurrence on the Site. They include the Blistered Jellyskin, the Cupped Fringed Lichen, the Midland Painted Turtle, and Snapping Turtle. The following species specific mitigation measures should be considered prior to, during, and after re-development of the Site to minimize risk towards species identified as threatened or endangered which have been identified within 2 km of the Site.

9.3.1.1 Butternut

The Site is not considered a suitable habitat for the Butternut, however as a conservative approach for the re-development of the Site, the following mitigation measures should be considered to protect this species, and respective habitat.

- Maintain a 30 m setback from the top of the slope. This is considered sufficient distance from the banks of the Rideau River, which would be adequate to prevent disruption of possible suitable habitats east of the Site.
- Retain the services of a Designated Butternut Health Assessor to complete a survey of the Site to confirm the absence of this species.

9.3.1.2 Wood Thrush

It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species. The following mitigation measures should be considered to protect this species, and respective habitat.

- Maintain a 30 m setback from the top of the slope. This is considered sufficient distance from the banks of the Rideau River, which would be adequate to prevent disruption of possible suitable habitats east of the Site;
- Avoid construction activities during periods of nesting and fledgling activity, between April 15th and August 15th;
- To minimize the potential impacts on wildlife, no woody vegetation removal or disturbance to grasslands and old fields should occur between April 15th and August 15th until verified by a qualified person, unless a breeding bird survey, completed by a qualified professional within 24 hours of the proposed vegetation removal, detects no breeding activity; and
- The encouragement of wildlife (Birds) to leave the Site by pre-stressing activities which can include having one or more people visit the Site while talking loudly or playing loud music; and
- The monitoring of the Site by a qualified person(s) during the clearing activities and the retention of an organization to care for either injured or displaced species. If clearing will take place over multiple days during the nesting season, then multiple Site visits and nesting surveys will be required.

9.3.1.3 Eastern Whip-poor Will

The Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species. The mitigation measures included in Section 9.3.1.2 should be considered to protect this species, and respective habitat.

9.3.1.4 Least Bitten

The Least Bittern can be found to reside in various wetland habitats, but is most often found in areas of cattail growth with a variety of open water pools and water channels. The Site is not considered a suitable habitat for the Least Bittern, even if it is adjacent to an open water body, based on the existing conditions. It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species. The mitigation measures included in Section 9.3.1.2 should be considered to protect this species, and respective habitat.

9.3.1.5 Eastern Meadowlark

The Eastern Meadowlark preferred habitat includes moderately tall grasslands such as hayfields and pastures. They are also found to reside in areas of other agricultural type fields, along the boarders of croplands, roadsides and other open areas which densely covered in weedy matter. The Site is not considered a suitable habitat for the Eastern Meadowlark, however the wooded,

undeveloped land east of the Rideau River may be a suitable habitat. The mitigation measures included in Section 9.3.1.2 should be considered to protect this species, and respective habitat.

9.3.1.6 Skillet Clubtail

The preferred habitat for the adult Skillet Clubtail includes forests, bogs and fields which are located near rivers suitable for larvae. These waters include clear of naturally turbid locations which are flowing. The Rideau River is considered a suitable habitat for the larvae, and the wooded, overgrown undeveloped lands east of the River is considered a suitable habitat for the adult stage of this species. The following mitigation measures should be considered to protect this species, and respective habitat.

- Maintain a 30 m setback from the top of the slope. This is considered sufficient distance from the banks of the Rideau River, which would be adequate to prevent disruption of possible suitable habitats east of the Site.

9.4 Significance of Environmental Impacts Following Mitigation

The 30 m setback from the top of the slope will increase the distance between the proposed development footprints and the inferred highwater mark of the Rideau River by more than 60 m. The existing development on proposed Lot 1 is within the 30 m limit of hazard lands. Future re-development of proposed Lot 1 must maintain the 30 m setback from the top of slope.

Maintaining this area with vegetation cover, will promote the stability of the slope, as well as protect species and habitats of wildlife which may frequent the area. To support the proposed creation and development of the new lots, development will be required within this 30 m setback. This will include:

- The creation of new lots and lot line adjustments as presented in **Attachment A**, and **Figure 5**. The reconfiguration of lots, or creation of lot limits within the 30 m setback is not considered a potential activity of concern with respect to the natural features identified on the Site and the neighbouring lands. No negative impacts are anticipated as a result of this activity, assuming that the mitigation measures are followed during and after development;
- The inclusion of a drainage outlet pipe extending from the proposed private road towards the Rideau River. These activities are considered higher risk for potential impairment to the identified natural features and species as they will include excavation, and removal of existing vegetation cover. The activities for the installation of the drainage system are considered short term, however consideration for the future work on the service in the event it requires repair or replacement must be addressed.
- Re-grading in the vicinity of proposed residence anticipated to remain on the Site, to allow for adequate stormwater management and control. As discussed above, the activities for the re-grading are considered short term, however consideration for impacts during the work, and possible alterations to the existing surface water flow pattern are needed.

No development is permitted in the identified river, without obtaining permission from the applicable regulatory authorities (Rideau Valley Conservation Authority, Parks Canada and the Ontario Ministry of the Environment).

No significant adverse cumulative effects are anticipated as a result of the construction activities following the use of the above mitigation measures. No on-going monitoring is recommended following the construction activities.

10 CONCLUSIONS

It is understood that a total of seven (7) new residential lots, plus two (2) additional lots for future road-way expansion and green space, will be created from the main approximate 2.8 acres parcels at the Site. At this time, it is proposed that one (1) of the existing residential developments (2009 Prince of Wales), and associated features, will remain on the subject property.

According to the City of Ottawa's Official Plan (OP) 2021-386 "*Where a Council-approved watershed, subwatershed or environmental management plan does not exist, or provides incomplete recommendations, the minimum setback from surface water features shall be the greater of the following:*

- *Development limits as established by the conservation authority's hazard limit, which includes the regulatory flood line, geotechnical hazard limit and meander belt;*
- *Development limits as established by the geotechnical hazard limit in keeping with Council approved Slope Stability Guidelines for Development Applications;*
- *30 metres from the top of bank, or the maximum point to which water can rise within the channel before spilling across the adjacent land; and*
- *15 metres from the existing stable top of slope, where there is a defined valley slope or ravine."*

The findings of the geotechnical investigation (December 2022 – revised April 2023) recommends a 30 m setback from the top of the slope along the eastern extent of the Site to maintain a safe distance from the identified Limit of Hazard Lands. Although the majority of the proposed development at the Site will maintain the 30 m setback from the top of slope (top of bank), the following development activities are anticipated within this area:

- The creation of new lots and lot line adjustments;
- The inclusion of a drainage outlet structure; and
- Re-grading in the vicinity of proposed residence to remain for adequate stormwater drainage purposes.

Section 2.1.6 of the Provincial Policy Statement states that "*Development and site alterations shall not be permitted in fish habitat except in accordance with provincial and federal requirements*". Development and site alterations will generally not be permitted within the 30 m setback from the top of the slope, with the exception of those listed above. The proposed development with the 30 m of the Rideau River is considered low risk when the mitigation measures are followed, as outlined in further sections of this report. No negative impacts are anticipated resulting from the proposed development.

This Environmental Impact Study was completed in accordance with the City of Ottawa's Environmental Impact Study Guideline (Last Revised June 2023). The guideline states that "*an EIS is required when development or site alteration is proposed in or within a specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System (NHS), or hazardous forest types for wildland fire.*" This includes surface water features.

No development is permitted in the identified river, without obtaining permission from the applicable regulatory authorities (Rideau Valley Conservation Authority, Parks Canada and the Ontario Ministry of the Environment).

A15 m riparian buffer zone will maintained from the top of slope, extending west, on proposed Lot Lot 2. The existing development on proposed Lot 1 is within the 30 m limit of hazard lands. Future re-development of proposed Lot 1 must maintain the 30 m setback from the top of slope. It has

been confirmed that future re-development on Lot 1 can meet the zoning requirements to accommodate a new building should the existing be demolished and is outside the water course setback.

The species retrieved with 2 km of the Site include select with SARO classifications of Threatened and Endangered, as well as those of Special Concern. Although none of the species listed were identified on the Site at the time of the Site visit, potential suitable habitats were observed on the either the subject Site, or the neighbouring lands. Mitigations outlined in this report must be followed to ensure protection of the identified species at risk which may frequent the neighbouring lands.

It should also be noted that Lot 1 (existing residence to remain), will have limitations should future development or alterations be required in the future unless additional investigations or design are completed which would reduce the requirement of the 30 m setback from the top of the slope.

No significant adverse cumulative effects are anticipated as a result of the construction activities following the use of the above mitigation measures. No on-going monitoring is recommended following the construction activities.

Yours truly,
LRL Associates Ltd.

Jessica Arthurs
Environmental Engineering Manager, Associate

FIGURES

LRL
ENGINEERING | INGÉNIERIE

5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

PROJECT

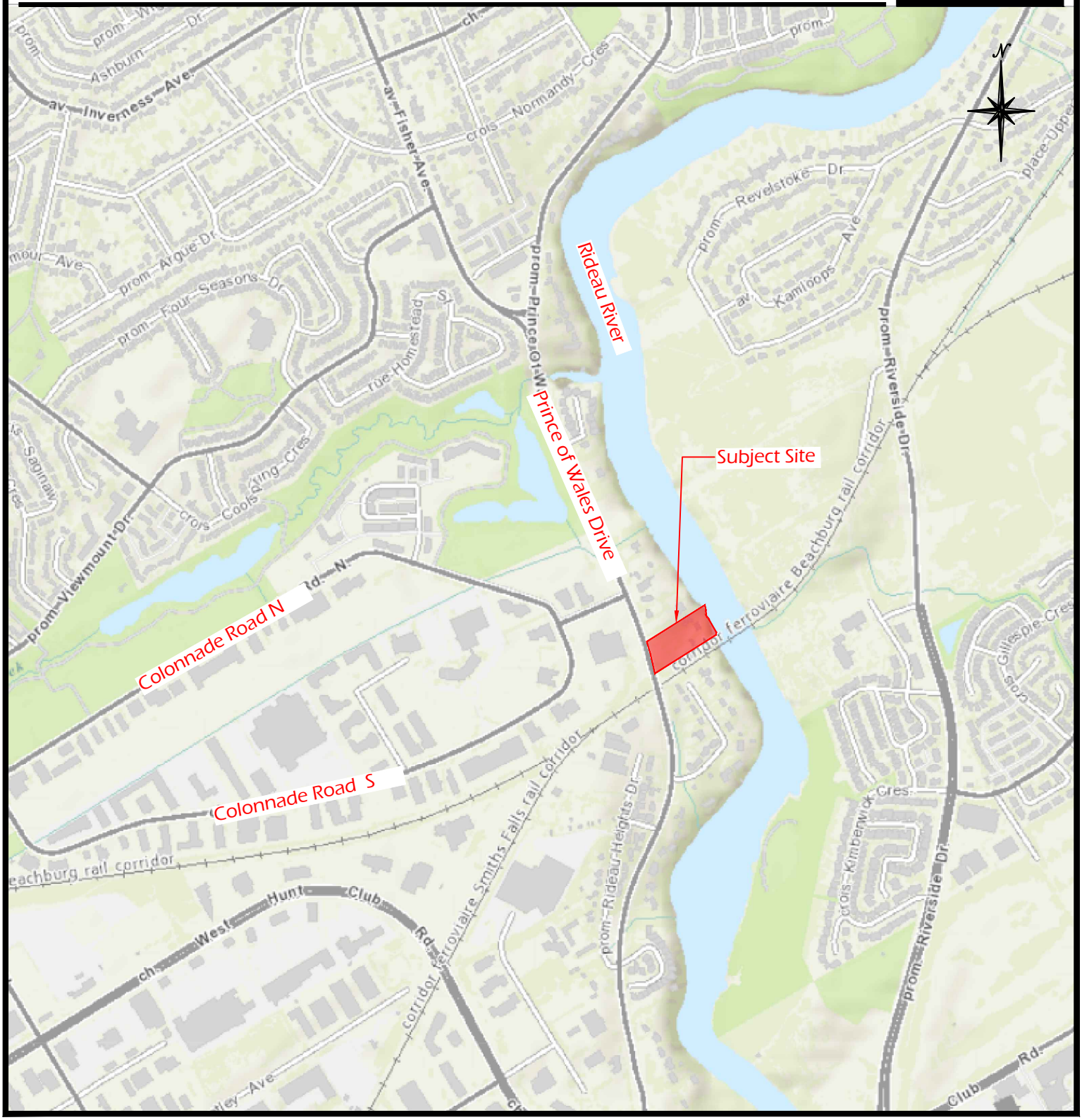
ENVIRONMENTAL IMPACT STATEMENT - FISH HABITAT
2009 & 2013 PRINCE OF WALES DRIVE
OTTAWA, ONTARIO

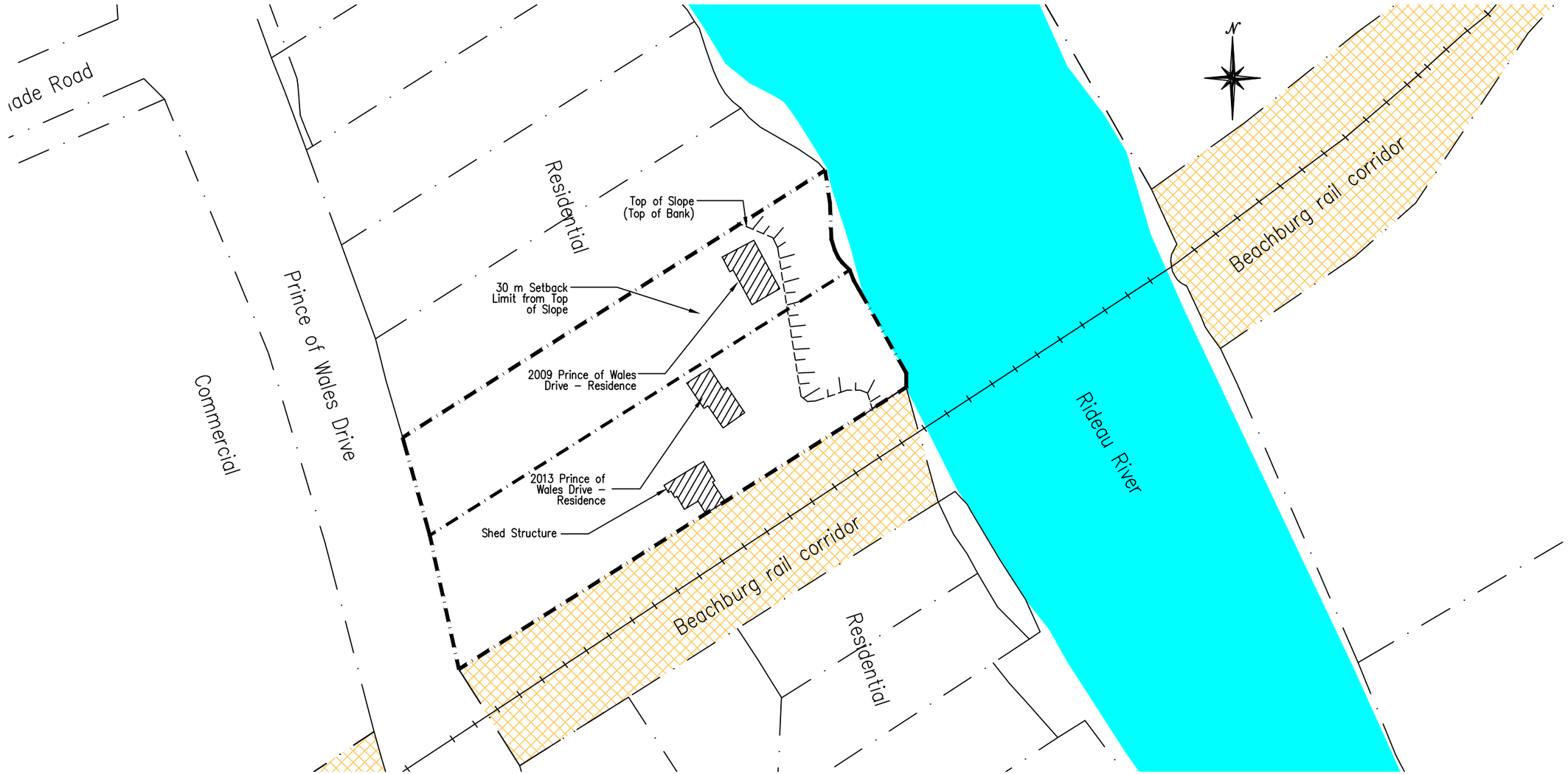
DRAWING TITLE

SITE LOCATION
(NOT TO SCALE)
SOURCE: GEOOTTAWA

CLIENT	DATE	PROJECT
JANE THOMPSON ARCHITECT	JUNE 2024	220528

FIGURE1





LEGEND

- Property Line – Subject Site (2009 & 2013 Prince of Wales Drive)
- Neighbouring Property Boundaries
- Existing Building
- Rideau River
- Rail Line (Train Track)
- Rail Corridor
- Top of Slope

15m 0 30 60m

SCALE: 1:1250

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.K.	12/10/2022

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CLIENT

JANE THOMPSON ARCHITECT

DESIGNED BY:	DRAWN BY:	APPROVED BY:
A.K.	A.K.	J.A.

PROJECT

ENVIRONMENTAL IMPACT STATEMENT - FISH HABITAT
2009 AND 2013 PRINCE OF WALES DRIVE
OTTAWA, ONTARIO

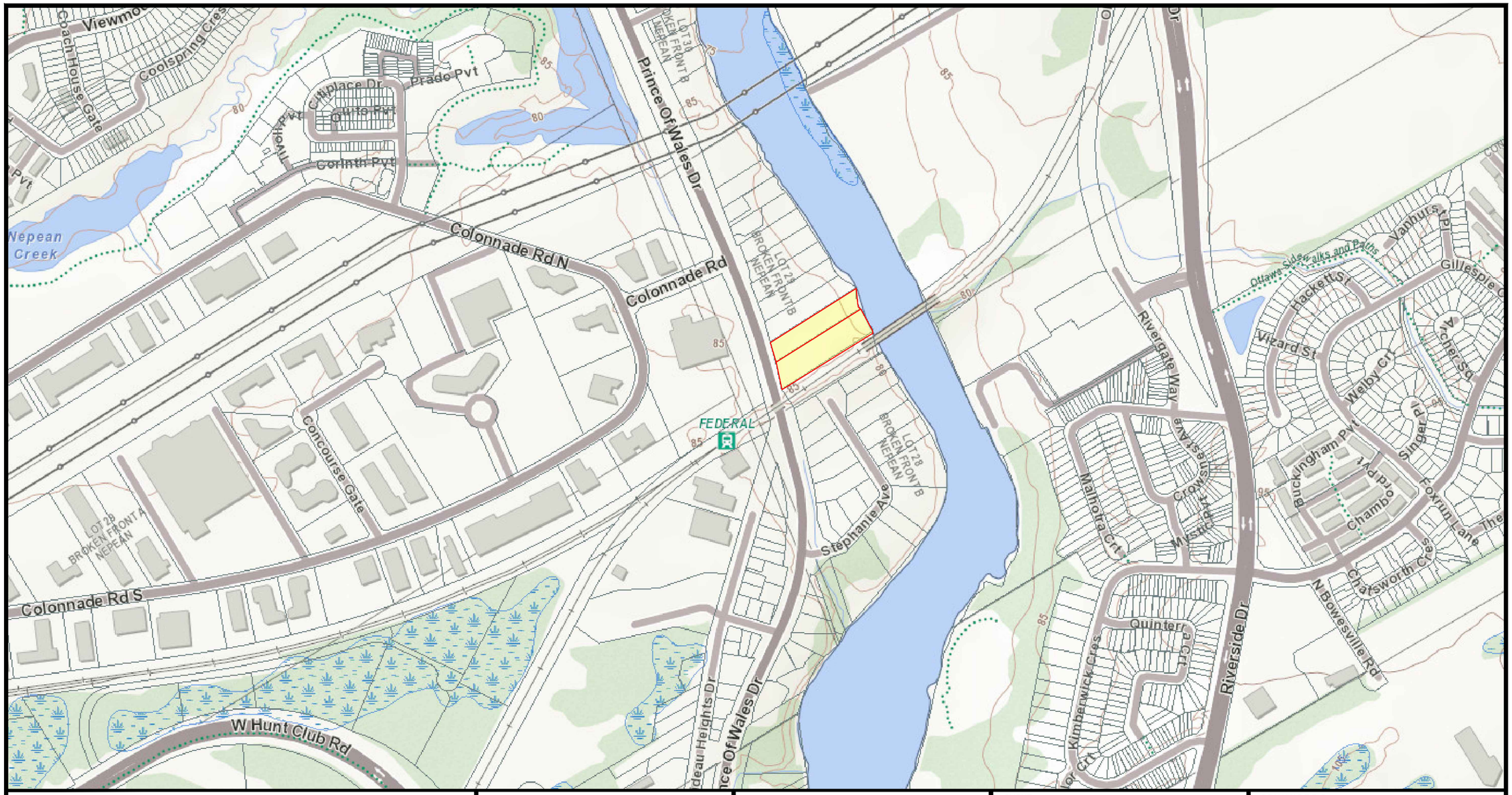
DRAWING TITLE

SITE PLAN

PROJECT NO.
220528

DATE
JUNE 2024

FIGURE2



LEGEND

Property Line – Subject Site
(2009 & 2013 Prince of Wales Drive)

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.K.	12/10/2022

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CLIENT
JANE THOMPSON ARCHITECT

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A.K.	A.K.	J.A.

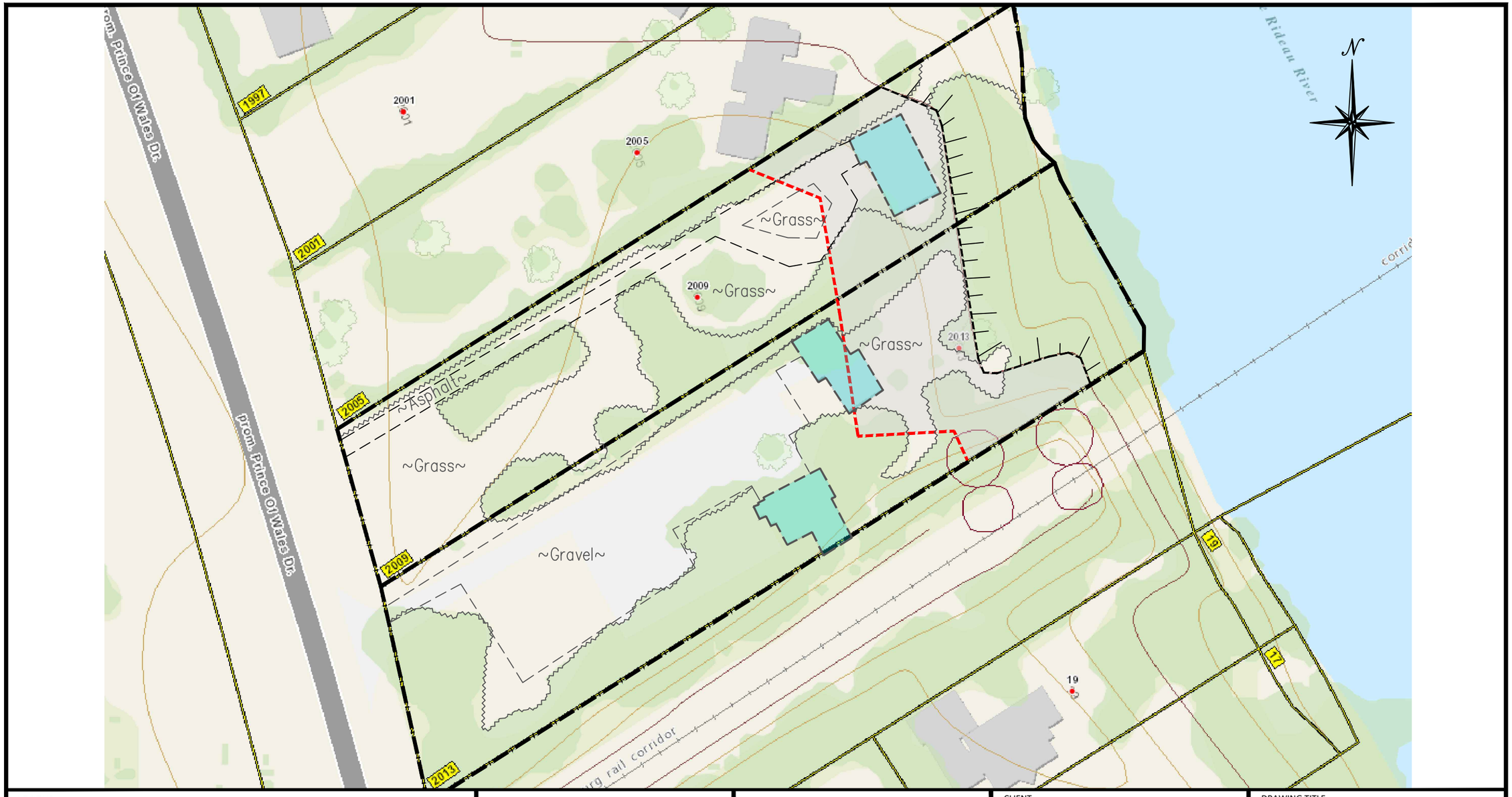
PROJECT
ENVIRONMENTAL IMPACT STATEMENT - FISH HABITAT
2009 AND 2013 PRINCE OF WALES DRIVE
OTTAWA, ONTARIO

DRAWING TITLE
NATURAL HERITAGE AREAS IN THE VICINITY OF THE SITE
(SOURCE: MNRF - MAKE A MAP NATURAL HERITAGE AREA)
NOT TO SCALE

PROJECT NO.
220528

DATE
JUNE 2024

FIGURE3



LEGEND

- Property Line – Subject Site (2009 & 2013 Prince of Wales Drive)
- Existing Building
- Top of Slope (Top of Bank)
- 30 m Setback from Top of Slope
- Existing Tree Line
- No Development Zone (Within 30 m of the Top of Slope)
- Difference between various surface covering materials
- XX Contour Line (As Per City of Ottawa geoOttawa)

10m 0 10 20 30m

SCALE: 1:750

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.K.	12/10/2022

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CLIENT
JANE THOMPSON ARCHITECT

DESIGNED BY:	DRAWN BY:	APPROVED BY:
A.K.	A.K.	J.A.

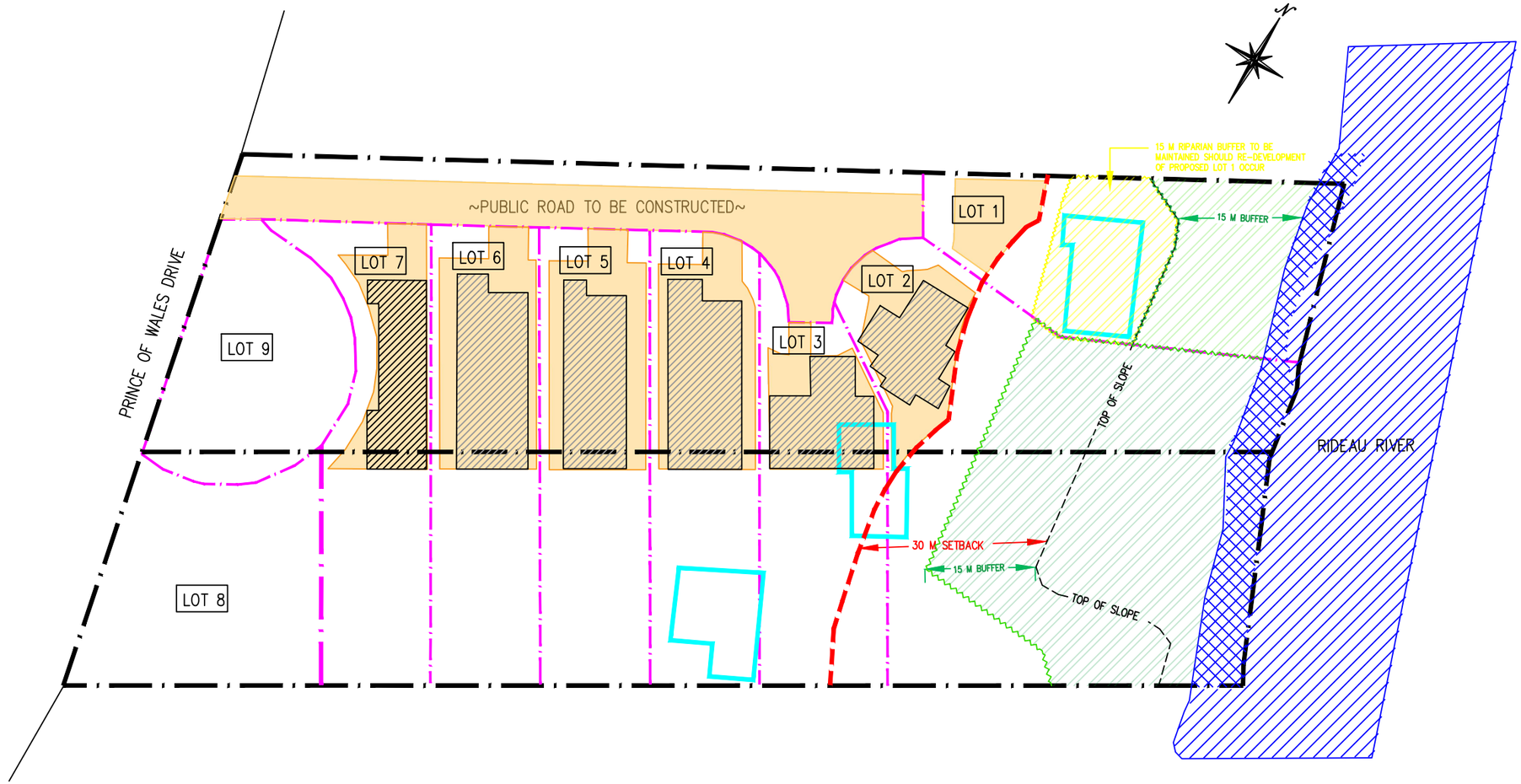
PROJECT
ENVIRONMENTAL IMPACT STATEMENT - FISH HABITAT
2009 AND 2013 PRINCE OF WALES DRIVE
OTTAWA, ONTARIO

DRAWING TITLE
EXISTING NATURAL FEATURES AND DEVELOPMENT
(SOURCE: GEOOTTAWA)

PROJECT NO.
220528

DATE
JUNE 2024

FIGURE4



LEGEND

- Property Line – Subject Site (2009 & 2013 Prince of Wales Drive)
- Proposed Lot Lines
- Existing Building
- Proposed Building (For Discussion)
- 30 m Setback from Top of Slope
- Riparian Zone to be maintained
- Rideau River
- Build-able Area
- Flood Plain
- Additional 15 M Riparian area to be maintained should re-development of Lot 1 occur

10m 5 0 10 20m

SCALE: 1:600

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	A.K.	12/10/2022

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CLIENT
JANE THOMPSON ARCHITECT

DESIGNED BY:	DRAWN BY:	APPROVED BY:
A.K.	A.K.	J.A.

PROJECT
ENVIRONMENTAL IMPACT STATEMENT - FISH HABITAT
2009 AND 2013 PRINCE OF WALES DRIVE
OTTAWA, ONTARIO

DRAWING TITLE
PROBABLE PROPOSED DEVELOPMENT PLAN (FOR DISCUSSION)

PROJECT NO.
220528

DATE
JUNE 2024

FIGURE5

TABLE

Taxon	Common Name	Scientific Name	Endangered Species Act (Reg. 228/21) SARO List Status [1]	COSEWIC Status [2]	Preferred Habitat Descriptions	Probability of Occurance on Site	SARA Critical Habitat Defined
Arthropod	Skillet Clubtail	Gomphurus ventricosus	DD	END	According to the Government of Canada, Recovery Strategy for the Skillet Clubtail (Gomphus ventricosus) in Canada 2021, the preferred habitat for the adult Skillet Clubtail include forests, bogs and fields which are located near rivers suitable for larvae. These waters include either clear of naturally turbid locations which are flowing.	Low - no suitable habitat on the Site	The Rideau River is considered a suitable habitat for the larvae, and the wooded, overgrown undeveloped lands east of the River is considered a suitable habitat for the adult stage of this species.
Bird	Eastern Meadowlark	Sturnella magna	THR	THR	The Eastern Meadowlark preferred habitat includes moderately tall grasslands such as hayfields and pastures. They are also found to reside in areas of other agricultural type fields, along the boarders of croplands, roadsides and other open areas which densely covered in weedy matter.	Low - no suitable habitat on the Site	The Site is not considered a suitable habitat for the Eastern Meadowlark, however the undeveloped land east of the Rideau River may be a suitable habitat.
Bird	Bobolink	Dolichonyx oryzivorus	THR	THR	The Bobolink nests primarily on the groundsurface, and mainly in areas of sense tall grass such as prairies, hayfields or grasslands.	Low - no suitable habitat on the Site	None.
Bird	Least Bittern	Ixobrychus exilis	THR	THR	The Least Bittern can be found to reside in various wetland habitats, but is most often found in areas of cattail growth with a variety of open water pools and water channels. The Site is not considered a suitable habitat for the Least Bittern, even if it is adjacent to an open water body, based on the existing conditions.	Low - no suitable habitat on the Site	It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.
Bird	Peregrine Falcon	Falco peregrinus	SC	NAR	The Pergrine Falcon is known to reside in a wide variety of possible habitats that can include major city centres, to tundra conditions or desert canyons.	Low - no suitable habitat on the Site	Due to its wide range in possible suitable habitats, it is possible that this species could be present on the neighbouring lands.
Bird	Eastern Wood Peewee	Contopus virens	SC	SC	The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests.	Low - no suitable habitat on the Site	It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.
Bird	Eastern Whip-poor-will	Antrostomus vociferus	THR	THR	The Eastern Whip-poor-will is usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests.	Low - no suitable habitat on the Site	It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.
Bird	Grasshopper Sparrow	Ammodramus savannarum	SC	SC	It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. Its nests are well-hidden in the field and woven from grasses in a small cup-like shape.	Low - no suitable habitat on the Site	It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.

Taxon	Common Name	Scientific Name	Endangered Species Act (Reg. 228/21) SARO List Status [1]	COSEWIC Status [2]	Preferred Habitat Descriptions	Probability of Occurance on Site	SARA Critical Habitat Defined
Bird	Wood Thrush	Hylocichla mustelina	SC	THR	The wood thrush lives in mature deciduous and mixed (conifer-deciduous) forests. They seek moist stands of trees with well-developed undergrowth and tall trees for singing perches.	Low - no suitable habitat on the Site	It is possible that the undeveloped, wooded and overgrown land to the east of the Site, following the Rideau River, may be a suitable habitat for this species.
Fish	Greater Redhorse	Moxostoma valenciennesi		--	The Greater Redhorse are often found in rivers, medium- to larger-sized, with strong flowing water, much like that of the Rideau River located immediately east of the Site.	Low - no suitable habitat on the Site	The Rideau River, located to the east of the Site is a potentially suitable habitat for the Greater Redhorse.
Lichen	Blistered Jellyskin	Leptogium corticola	--	--	The Blistered Jellyskin is often found to grow in areas where seasonal flooding occurs, and often over the bark surface of deciduous trees or rocks.	*Moderate - rocks and tree bark along the eastern extent of the Site may be a sutable habitat for the Blistered Jellyskin.*	The area along the Site which is susceptible to seasonal highwater flooding, namely the eastern extent, could be a suitable habitat for the Blistered Jellyskin, as is the that of the neighbouring lands, although not encountered.
Lichen	Cupped Fringe Lichen	Heterodermia hypoleuca	--	--	The Cupped Fringe Lichen is often found growing on rocks or across the ground was cover.	*Moderate - rocks and tree bark along the eastern extent of the Site may be a sutable habitat for the Cupped Fringe Lichen.*	At the time of the Site visit, no Cupped Fringe Lichen was observed, however it is possible along the undeveloped portion of the property such as along the shore line of the Rideau River.
Reptile	Midland Painted Turtle	Chrysemys picta marginata	--	SC	Midland Painted Turtles are found to reside waterbodies, including ponds, marshes, lakes and slow-moving creeks, with a soft basal layer. The Midland Painted Turtle often bask on shorelines of the selected waterbodies, or on logs and rocks present.	*Moderate - the eastern extent of the Site, namely the river shoreline, may be a suitable habitat for this reptile species.*	The Rideau River may be a suitable habitat for the Midland Turtle.
Reptile	Snapping Turtle	Chelydra serpentina	SC	SC	The Snapping Turtle resides in shallower waters, and nest in sandy or gravel overland areas.	*Moderate - the eastern extent of the Site, namely the river shoreline, may be a suitable habitat for this reptile species.*	The Rideau River to the east of the Site may not be a suitable habitat due to its size, and lack of sandy or gravel nesting areas.
Vascular Plant	Butternut	Juglans cinerea	END	END	The Butternut tree is typically grown in small groups or alone and prefers to reside in moist, well-drained soils and commonly along streams, and rarely in areas of dry rock soil. The Butternut tree does not grow particularly well in areas of increased shade and is more often found in sunny openings of forests, or near forest edges. No Butternut was observed on the Site.	Low - no suitable habitat on the Site	The wooded, undeveloped land east of the Rideau River may present suitable conditions for this species.

Notes

1 Endangered Species Act (ESA), 2007, (amended April 2021, O. Reg. 228/21).

EXP	Extirpated
END	Endangered
THR	Threatened
SC	Special Concern

2 Committee on the Status of Endangered Wildlife in Canada (COSEWIC)

Italics Moderate Potential Occurance on Site

APPENDIX A

Proposed Development Plan

DRAWING LEGEND

- SUBJECT SITE
- ZONING BOUNDARY
- LOT LINE
- ZONING SETBACK
- EASEMENT
- RAILWAY SETBACK
- TOP OF STABLE SLOPE
- TOE EROSION SETBACK
- ACCESS ALLOWANCE & WATERCOURSE SETBACK
- FUTURE ROAD EXPANSION
- o/h wires OVERHEAD WIRES
- UP UTILITY POLE
- FH FIRE HYDRANT
- TOS TOP OF SLOPE
- BOS BOTTOM OF SLOPE
- NEW CHAIN LINK FENCE
- BUILDABLE AREA
- LANDSCAPED AREA
- FLOOD PLAIN LIMIT
- NEW PRIVATE ROAD
- NEW 20'X12' DECK
- NEW SINGLE DETACHED HOUSE (House size depicted for illustration purposes only.)
- SNOW STORAGE
- DWELLING UNIT MAIN ENTRY (Entrance depicted for illustration purposes only.)
- LP LIGHT POST
- EXISTING TREES
- EXISTING HEDGE
- NEW TREE

PROPOSED ZONING - R3B[XXXX] PUD (ONE LOT FOR ZONING PURPOSES) - No Variances Required

REQUIRED PROVISIONS

Minimum Lot Width(m)	Minimum Lot Area (m2)	Maximum Building Height (m)	Minimum Front Yard Setback (m)	Minimum Corner Side Yard Setback (m)	Minimum Rear Yard Setback (m)	Minimum Interior Side Yard Setback (m)
N/A	1400 (10,540.8 provided)	As per dwelling type Detached,Duplex, SemiDetached and Townhouse:10m or 11m if a bldg has a peaked roof 4/12 or steeper Three Unit: 10.7m	3.0	N/A	7.5m *	1.2m and 1.8m **

* Subject to Water Course Setback
** Subject to 30m Railway Setback

Section 131 - PUD provisions
min. width of private way: 6.0m;
min. setback for any wall of a residential use building to a private way: notwithstanding any front yard setback requirement associated with any zone or subzone, the min. setback for any wall of a residential use building to a private way is 1.8m;
min. setback for any garage or carport entrance from a private way: 5.2m;
min. separation area between buildings within a planned unit development: 1.2m where the height of abutting buildings within the PUD is less than or equal to 14.5m;
Landscaping and Parking:
a) In the case of a PUD consisting of detached, linked-detached, semi-detached, three-unit or townhouse dwellings, or any combination thereof, all lands locted between the dwelling unit or oversize dwelling unit, the extension of the main wall of the dwelling unit or oversize dwelling unit, and the private way are to be landscaped with soft landscaping, other than the area used for a driveway leading to the dwelling unit's associated parking space, garage or carport;
b) In no case may any dwelling unit or oversize dwelling unit located within a PUD that has its own driveway leading to its associated parking space, garage or carport have a driveway that is wider than the associated parking space, garage or carport. Furthermore, the remaining area between the dwelling unit or oversize dwelling unit and the private way must be landscaped with soft landscaping, and a walkway extending from the private way back to the principal entranceway is prohibited. A path, that is mostly parallel to the street, that provides pedestrian access from the driveway to the principal entranceway of no more than 1.2m is permitted;
c) Despite a) and b), where a development parcel containing a dwelling unit or oversize dwelling unit, located within a PUD in an R1, R2, R3 or R4 Zone with Schedule 342 has frontage on a prublic street, whether severed or not, the area between the dwelling unit or oversize dwelling unit and the street lot line is subject to the requirements of Sections 139 and 140.

	LOT AREA	BUILDABLE AREA
LOT 1	1163m²	130m² (1400 ft²)
LOT 2	2795m²	311m² (3355 ft²)
LOT 3	887.9m²	291m² (3135 ft²)
LOT 4	952.9m²	431m² (4640 ft²)
LOT 5	965.5m²	443m² (4770 ft²)
LOT 6	971.8m²	448m² (4830 ft²)
LOT 7	924m²	298m² (3200 ft²)
LOT 8	895.9m²	Storm Water Management
LOT 9	748.9m²	Future Street Widening
LOT 10	12.9m²	Future Street Widening
LOT 11	984.8m²	Private Road & Common Elements

Survey Info
Surveys completed by Farley, Smith & Denis Surveying Limited on December 10, 2020 and July 11, 2022 which were revised on November 24, 2022.
Updated property boundaries and topographic info is taken from R-PLAN 404 by Farley, Smith & Denis Surveying Limited on June 13, 2023.

no.	date	revision
4	2024-07-16	REVISED SUBMISSION
3	2023-12-20	REVISED SUBMISSION
2	2023-06-29	ISSUED FOR PLAN OF SUBDIVIS...
1	2023-06-29	ISSUED FOR ZONING BYLAW AM...

GENERAL NOTES
1. Contractor must verify dimensions and conditions on site before proceeding with any portion of this work.
2. Do not scale from drawings.
3. All work to comply with the Ontario Building Code and municipal regulations.
4. This drawing to be read in conjunction with all material relevant to this project.

1 A101 CONCEPT SITE PLAN

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scale	1:300
job no.	2112
project	2009 / 2013 Prince of Wales Ottawa, ON
date	July 16, 2024
drawing	CONCEPT SITE PLAN
designed	JT, ED
drawn	ED, IC, AH
checked	JT, ED
dwg no.	A101

D02-02-23-0061 & D07-16-23-0009

APPENDIX B

Ontario Bird Atlas

Species Common Name	Scentific Name	Evidence Category	Species Common Name2	Scentific Name3	Evidence Category4
Alder Flycatcher	*Empidonax alnorum*	Possible to Probable	Killdeer	*Charadrius vociferus*	Confirmed
American Bittern	*Botaurus lentiginosus*	Possible to Probable	Least Flycatcher	*Empidonax minimus*	Possible to Probable
American Black Duck	*Anas rubripes*	Possible to Probable	Magnolia Warbler	*Dendroica magnolia*	Possible
American Crow	*Corvus brachyrhybcgis*	Confirmed	Mallard	*Anas platyrhynchos*	Confirmed
American Goldfinch	*Carduelis tristis*	Probable to Confirmed	Merlin	*Falco columbarius*	Possible
American Kestrel	*Falco sparverius*	Probable to Confirmed	Mounring Dove	*Zenaida macroura*	Confirmed
American Redstart	*Setophaga ruticilla*	Possible to Probable	Mourning Walbler	*Oporomis philadelphia*	Possible to Probable
American Robin	*Turdus migratorius*	Confirmed	Nashville Warbler	*Vermivora ruficpilla*	Possible to Probable
American Woodcock	*Scolopax minor*	Possible to Probable	Northern Cardinal	*Cardinalis cardinalis*	Possible to Probable
Baltimore Oriole	*Icterus galbula*	Confirmed	Northern Flicker	*Colaptes auratus*	Confirmed
Bank Swallow	*Riparia riparia*	Confimed	Northern Harrier	*Cicrus cyaneus*	Possible to Probable
Barn Swallow	*Hirundo rustica*	Confirmed	Northern Pintail	*Anas acuta*	Probable
Belted Kingfisher	*Megaceryle alcyon*	Probable to Confirmed	Northern Rough-winged Swall	*Stelgidopteryx serripennis*	Probable to Confirmed
Black and White Walbler	*Mniotilta varia*	Possible to Probable	Northern Waterthrush	*Seiurus noveboracensis*	Possible to Probable
Black-billed Cuckoo	*Coccyzus erythropthalmus*	Possible	Ovenbird	*Seiurus aurocapilla*	Probable to Confirmed
Black-capped Chickadee	*Poecile articapillus*	Confirmed	Pied-billed Grebe	*Podilymbus podiceps*	Possible
Blue Jay	*Cyanocitta cristata*	Confirmed	Pileated Woodpecher	*Dryocopus pileatus*	Possible to Probable
Boblink	*Dolichnyz oryzivorus*	Probable to Confirmed	Pine Siskin	*Carduelis pinus*	Possible
Borad-winged Hawk	*Buteo platypterus*	Possible	Pine Warbler	*Dendrocia pinus*	Possible
Brown Thrasher	*Toxostoma rufum*	Probable to Confirmed	Purple Finch	*Carpodacus purpureus*	Possible to Probable
Brown-headed Cowbird	*Molothrus*	Probable to Confirmed	Red-breasted Nuthatch	*Sitta canadensis*	Possible to Probable
Canada Goose	*Branta Canadensis*	Probable	Red-eyed Vireo	*Vireo olivaceus*	Probale to Confirmed
Cedar Waxwing	*Bombycilla cedrorum*	Probable to Confirmed	Red-tailed Hawk	*Buteo jamaicensis*	Probable to Confirmed
Chestnut-sided Warbler	*Dendrocia pensylvanica*	Possible to Probable	Red-winged Blackbird	*Agelaius phoeniceus*	Confirmed
Chipping Sparrow	*Spizella passerine*	Confirmed	Rock Dove	*Columba livia*	Probable to Confirmed
Clay-colored Sparrow	*Spizella pallida*	Possible to Probable	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	Confirmed
Cliff Swallow	*Petrochelidon pyrrhonota*	Confirmed	Ruby-throated Hummingbird	*Archilochis colubris*	Possible to Probable
Common Grackle	*Quiscalus quiscula*	Confirmed	Ruffed Grouse	*Bonasa umbellus*	Possible to Probable
Common Raven	*Corvus corax*	Confirmed	Savannah Sparrow	*Passerculus sandwichensis*	Confirmed
Wilson's Snip	*Gallinago delicata*	Possible to Probable	Scarlet Tanager	*Piranga olivacea*	Possible to Probable
Common Yellowthroat	*Geothlypis trichas*	Confirmed	Sharp-shinned Hawk	*Accipiter striatus*	Possible
Cooper's Hawk	*Accipiter cooperii*	Possible	Song Sparrow	*Melospiza melidia*	Confirmed
Downy Woodpecher	*Picoides pubescens*	Possible to Confirmed	Sora	*Porzana carolina*	Possible
Eastern Bluebird	*Sialia sialis*	Confirmed	Spotted Sandpiper	*Tringa macularia*	Probable to Confirmed
Eastern Kingbird	*Tyrannus tyrannus*	Confirmed	Swamp Sparrow	*Melospiza georgiana*	Probable to Confirmed
Eastern Meadowlark	*Sturnella magna*	Probable to Confirmed	Tree Swallow	*Tachycineta bicolor*	Confirmed
Eastern Phoebe	*Sayornis phoebe*	Confirmed	Turkey Vulture	*Cathartes aura*	Possible
Eastern Wood-Pewee	*Contopus virens*	Possible to Probable	Upland Sandpiper	*Bartramia longicauda*	Possible to Probable
European Starling	*Sturnus vulgaris*	Confirmed	Veery	*Catharus fuscescens*	Probable to Confirmed
Field Sparrow	*Spizella pusilla*	Possible	Vesper Sparrow	*Pooecetes gramineus*	Possible
Grasshopper Sparrow	*Ammodramus savannarum*	Possible	Virgina Rail	*Rallus limicola*	Possible
Gray Catbird	*Dumetella carolinensis*	Probable to Confirmed	Warbling Vireo	*Vireo gilvus*	Probable to Confirmed
Gray Partridge	*Perdix perdix*	Possible to Probable	Whip-poor-will	*Caprimulgus vociferus*	Possible to Probable
Great Blue Heron	*Ardea herodias*	Possible	White-breasted Nuthatch	*Sitta carolinensis*	Probable to Confirmed
Great Crested Flycatcher	*Myiarchus crinitus*	Probable to Confirmed	White-throated Sparrow	*Zonotrichia albicollis*	Probable to Confirmed
Great Horned Owl	*Bubo virinianus*	Possible	White-winged Crossbill	*Loxia leucoptera*	Possible to Probable
Hairy Woodpecher	*Picoides cillosus*	Probable to Confirmed	Wild Turkey	*Meleagris gallopavo*	Possible to Probable
Hermit Thrush	*Catharus guttatus*	Possible	Willow Flycatcher	*Empidonax traillii*	Possible to Probable
Horned Lark	*Eremophila alpestris*	Possible to Probable	Winter Wren	*Troglodytes troglodytes*	Possible
House Finch	*Carpodacus mexicanus*	Possible to Probable	Wood Duck	*Aix sponsa*	Confirmed
House Sparrow	*Passer Domesticus*	Confirmed	Wood Thrush	*Catharus mustelinus*	Probable
House Wren	*Troglodytes aedon*	Probable to Confirmed	Yellow Warbler	Dendroica petechia	Confirmed
Indigo Bunting	*Passerina cyanea*	Possible to Probable	Yellow-vellied Sapsucker	Sphyrapicus varius	Confirmed
			Yellow-rumped Warbler	Dendroica coronata	Probable to Confirmed

Notes:

Endangered Species according to O. Reg. 230/08

Threatened Species according to O. Reg. 230/08

Special Concern Species according to O. Reg. 230/08

APPENDIX C

Site Visit Photographs

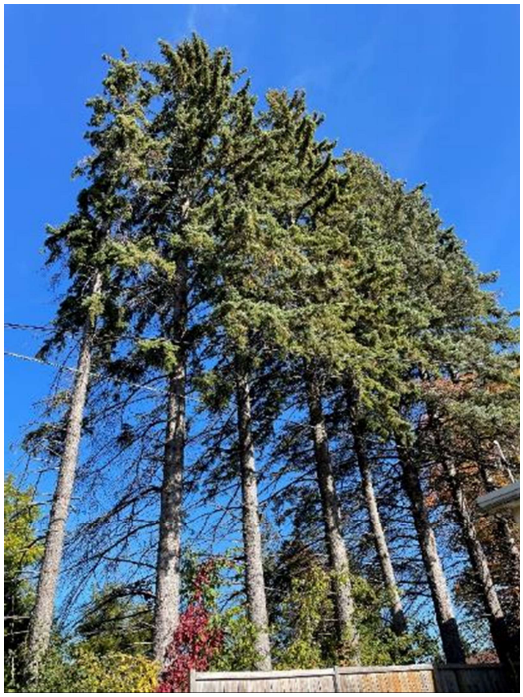
SITE VISIT PHOTOGRAPHS

Our File Ref.: 220528
Client: Jane Thompson Architect
Project: Environmental Impact Statement
Site Location: 2009 & 2013 Prince of Wales Drive, Nepean, Ontario

Photograph No. 1 Date: 4/10/2022 Description Facing south-east of the Site along the Prince of Wales Drive, at the north-western corner of the Site	

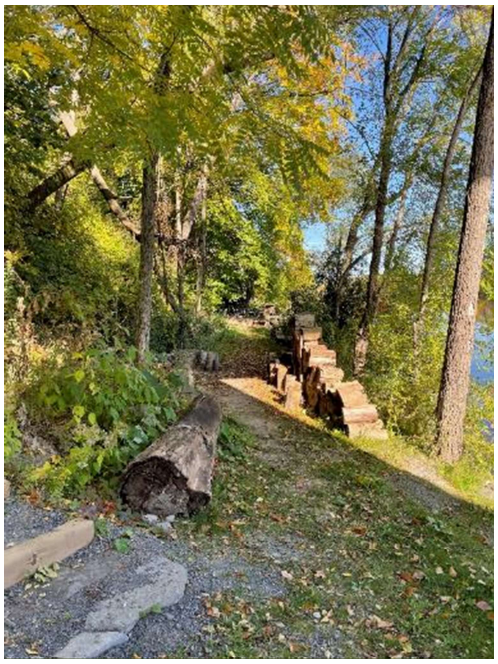
Photograph No. 2 Date: 4/10/2022 Description Typical ground cover of the western portion of the Site. Photo taken facing south.	

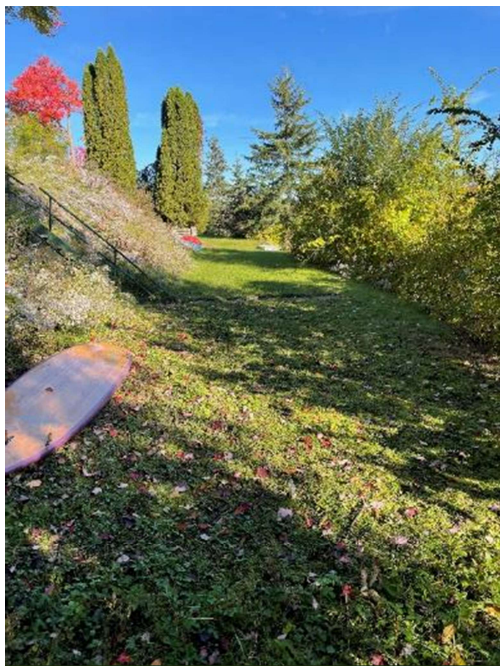
Photograph No. 3 Date: 4/10/2022 Description Typical ground cover of the eastern portion of the Site. Photo taken facing southeastern	

Photograph No. 4 Date: 4/10/2022 Description Trees line between the two properties at the Site (between 2009 & 2013 Prince of Wales Drive)	

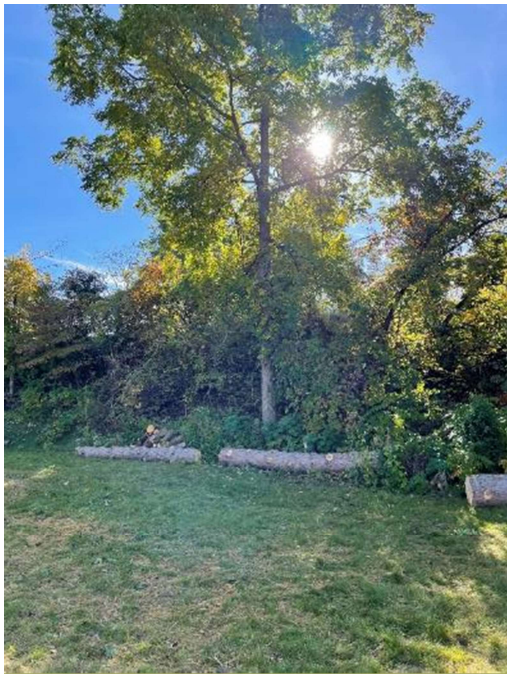
Photograph No. 5	
Date: 4/10/2022	
Description Site conditions at the middle portion of the Site (2013 Prince of Wales Drive).	

Photograph No. 6	
Date: 4/10/2022	
Description Site conditions at the middle portion of the Site (2013 Prince of Wales Drive).	

Photograph No. 7	
Date: 4/10/2022	
Description Facing north of the Site along the Rideau River, at the eastern portion of the Site (2013 Prince of Wales Drive).	

Photograph No. 8	
Date: 04/10/2022	
Description Facing north of the Site along the Rideau River, at the eastern portion of the Site (2009 Prince of Wales Drive).	

Photograph No. 9	
Date: 4/10/2022	
Description Rideau River located immediately along the eastern portion of the Site.	

Photograph No. 10	
Date: 4/10/2022	
Description Typical Site conditions along the Beachburg rail corridor. Photo taken facing south.	

Photograph No. 11	
Date: 6/11/2020	
Description Existing residence on the Site (2009 Prince of Wales Drive), eastern portion of the Site. Photo taken facing east.	

Photograph No. 12	
Date: 4/10/2022	
Description Existing residence on the Site (2013 Prince of Wales Drive), eastern portion of the Site. Photo taken facing east.	