BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

Updated Scoped Environmental Impact Study

3016-3032 Kirwin Avenue & 3031 Little John Lane, Mississauga, ON

Prepared For:

DVB Real Estate Investments Inc.

Prepared By:

Beacon Environmental Limited

Date: *Project:*

March 2021 **217067**

Table of Contents

Figures

Tables

Appendices

Appendix A. EIS Checklist
Appendix B. Plant List

1. Introduction

Beacon Environmental Limited (Beacon) was retained by DVB Real Estate Investments Inc. to prepare a Scoped Environmental Impact Study (EIS) is support of a proposed re-development of properties located at 3016, 3020, 3026, and 3032 Kirwin Avenue and 3031 Little John Lane in the City of Mississauga. Beacon had previously prepared an EIS in support of a similar site plan on behalf of a former landowner that was submitted in March of 2019. This EIS report has been update to address the currently proposed site plan.

The location of the subject property is illustrated on **Figure 1**. DVB Real Estate Investments Inc. is proposing to re-develop the eastern half of the property site to accommodate an 8-storey rental apartment building with a total of 148 units and associated aboveground and underground parking as well as an outdoor amenity space and landscaped areas. The southern half of the property overlaps with lands that are identified as Special Management Area (SMA) and represents a component of the City of Mississauga's Natural Heritage System (NHS). Development is not proposed within the NHS. SMA's are lands adjacent to or near Significant Natural Areas or Natural Green Spaces that are intended to be managed, restored or enhanced in a manner that supports the adjacent Significant Natural Area or Natural Green Space. The Cooksville Creek corridor immediately to the south and west of the site has been identified as a Significant Natural Area.

It is the policy of the City of Mississauga to require that an EIS be prepared in support of applications for development and/or site alteration within or adjacent to certain components of its Natural Heritage System, including SMAs.

The purpose of an EIS is to demonstrate that the proposed development and/or site alteration can proceed without negatively impacting upon significant natural heritage features or ecological functions and to also identify opportunities for protection, restoration, enhancement and expansion of the Natural Heritage System.

The scope of this EIS is limited to confirming whether the proposal has the potential to adversely impact the adjacent Significant Natural Area and to also identify opportunities for stewardship in a manner that is consistent with the City's objectives for SMAs.

The EIS had been prepared in accordance with the City of Mississauga EIS Checklist (October 2017) for a previous owner, and is still appliable to this 2021 version of the EIS. A copy of the completed checklist is provided in **Appendix A**.

1.1 Study Objectives and Scope

The objectives of this EIS are to:

- Characterize natural heritage resources and ecological functions in the study area;
- Identify significant natural heritage resources and functions;
- Identify environmental constraints and confirm development limits;
- Identify stewardship opportunities for the Special Management Area;
- Describe the proposed development plan;

- Assess potential impacts of the proposed development plan on significant natural heritage features and ecological functions; and
- Recommend mitigation measures for avoiding or minimizing potential development related impacts to significant natural heritage features and functions.

1.2 Study Area

The study area includes all of the properties located at 3016, 3020, 3026, and 3032 Kirwin Ave. and 3031 Little John Lane in the City of Mississauga as well as immediately adjacent lands. The EIS also considers the relationship of the study area to the overall Natural Heritage System that extends beyond the Study Area.

1.3 Study Team

This EIS was prepared using an integrated approach with input from a multi-disciplinary project team. The project team is comprised of experts in the fields of land use planning, hydrology, and ecology. The integrated approach to identification of environmental constraints and opportunities was used to arrive at a site plan design.

A list of Study Team members, their qualifications, and role in the project is provided in **Table 1**.

Table 1. Composition of Study Team, Key Roles and Reports Provided

Firm	Individuals	Title - Qualifications	Key Role and Reporting
Beacon Environmental Ltd.	Ken Ursic	Project Manager / Sr. Ecologist – M.Sc. Ecol.	Project Management *EIS Report – Primary Author*
	Daniel Westerhof	Ecologist – B.Sc., MES Certified Arborist	Vegetation Surveys, Incidental Wildlife, Tree Inventory and Preservation Plan. EIS Report Input
	Anna Cunningham	Ecologist - B. Sc.	EIS Report Input
Weston Consulting	Michael Vani	BURPI, MCIP, RPP Senior Planner	Planning and Policy Review
	Steven Pham	MscPL, HBSc Planner	
LEA Consulting Ltd.	Farshid Morshedi	Civil Engineer	*Functional Servicing and Stormwater Management Report*
Marton Smith Landscape Architects (MSLA)	Scott Passek	Jr. Project Manager - BLA	*Landscape Plan*
	Connor Flannery	Sr. Project Manger - OALA	

1.4 Report Outline

An overview of the sections on this EIS report and their content is provided below:

Site Location	Figure 1
EIS 3016-3034 Kirwin Avenue, Mississauga, Ontario	
BEACON ENVIRONMENTAL	Project: 217067 Last Revised: December, 2020
Client: DVB Real Estate Investments Inc.	Prepared by: DU Checked by: AC
N	1:2,000 — Inset Map:1:50,000

C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2017\217067 - EIS 3016-3034 Kirwin Avenue Mississauga\MXD\20201208_Figure01_SiteLocation_ 217067.mxd

Section 1 - Introduction: outlines the purpose, objectives and scope of work, and presents the report organization.

Section 2 - Environmental Policy Framework: describes the environmental planning context for the Study Area and provides an overview of key environmental policies, legislation, and regulation that are directly relevant to the EIS.

Section 3 - Study Methodology: describes the methodologies used to characterize the biophysical environment, identify constraints and opportunities, and assesses impacts related to the proposed development.

Section 4 - Study Findings: summarizes the findings of the background review and field investigations, characterizes the biophysical environment, and includes analyses to evaluate the significance of any biophysical resources in accordance with applicable environmental planning policies, regulations and legislation.

Section 5 - Constraints and Opportunities: identifies potential natural heritage and natural hazard constraints to future land uses and identifies stewardship opportunities for enhancement of the Natural Heritage System.

Section 6 - Description of the Proposed Development: describes the proposed site plan, including preliminary grading, servicing and stormwater management.

Section 7 - Impact Assessment and Recommended Mitigation: assesses the anticipated impacts of the proposed land uses on the Natural Heritage System and its functions and identifies a range of appropriate mitigation measures to address these impacts.

Section 8 - Policy Conformity Evaluation: evaluates the proposed site plan, and recommended mitigation measures, in terms of their compliance with the applicable environmental policies, regulations and legislation.

Section 9 - Conclusions: summarizes key study findings and recommendations and provides a concluding statement regarding impacts.

2. Environmental Policy Framework

This section includes an overview of key federal, provincial, and local environmental policies, legislation, and regulations that are directly relevant to this EIS and land use planning for the subject property. Key legislation, policies and regulations that have been reviewed and considered in preparing the EIS include the following:

- Provincial Policy Statement (2020);
- Ontario *Endangered Species Act* (2007);
- Region of Peel Official Plan (2018);
- City of Mississauga Official Plan (2019);
- *Conservation Authorities Act* – Ont. Reg. 160/06;
- Credit Valley Conservation – Watershed Planning and Regulation Policies; and
- City of Mississauga EIS Checklist (2017).

The environmental policy review presented in this EIS is not intended to be exhaustive, but rather to highlight the key policy, regulatory and legislative requirements to ensure that the proposed Site Plan is in conformity. **Section 8** describes how the proposed redevelopment conforms to the various environmental policies, legislation and regulations described below.

2.1 Provincial Policy Statement (2020)

The Provincial Policy Statement (PPS) provides policy direction to municipalities on matters of provincial interest as they relate to land use planning and development. The PPS provides for appropriate land use planning and development while protecting Ontario's natural heritage. Development governed by the *Planning Act* must be consistent with the policy statements issued under the PPS. These are outlined in Section 2.1 - Natural Heritage, Section 2.2 – Water, and Section 3.1 - Natural Hazards of the PPS, and relevant sections from each are provided in the following pages.

2.1.1 Natural Heritage

The PPS includes policies that speak to the identification and protection of natural heritage systems, as well as levels of protection for the various components that comprise such systems. Some of these features are present in the study area and must be assessed in the context of these policies.

The policies specific to natural heritage are found in Section 2.1 of the PPS and are provided in their entirety below:

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

2.1.4. Development and site alteration shall not be permitted in:
- *a. significant wetlands in Ecoregions 5E, 6E and 7E; and*
- *b. significant coastal wetlands.*

2.1.5 Development and site alteration shall not be permitted in:
- *a. significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
- *b. significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
- *c. significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
- *d. significant wildlife habitat;*
- *e. significant areas of natural and scientific interest; and*

f. coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b).

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

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

In terms of implementation, identification of the various natural heritage features noted above is a responsibility shared by the MNRF and the municipal planning authority. The MNRF is responsible for the identification of Provincially Significant Wetlands (PSWs) and Areas of Natural and Scientific Interest (ANSIs), while the Ministry of Environment, Conservation and Parks (MECP) is responsible for the confirmation of habitat of endangered species and threatened species, and for its regulation (under the *Endanger Species Act* 2007).

Local and regional planning authorities are responsible for the identification of Significant Woodlands, Significant Valleylands, and Significant Wildlife Habitat (SWH), with support from applicable guidance documents (i.e., *Natural Heritage Reference Manual* (MNR 2010); *Significant Wildlife Habitat Technical Guidelines* (MNR 2000), *Significant Wildlife Habitat Criteria for Ecoregion 6E*, MNRF 2015). Local and regional planning authorities in southern Ontario also typically work with their local conservation authority to identify and confirm significant natural heritage features that may have significance at the local or regional level. Identification and verification of fish habitat is now self-regulated although enforcement of the related policies and regulations is still managed by MNRF and regulated by the DFO (as previously described in **Section 2.1**).

In areas where significant natural heritage features are present, the boundaries of natural heritage features are further refined through site-specific studies undertaken as part of the planning process and in accordance with the requirements of municipal policies.

2.1.2 Water

Section 2.2 of the PPS directs planning authorities to protect, improve or restore the quality and quantity of surface and groundwater water resources through watershed and land use planning, as per the policies below cited in their entirety.

2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by:

a. Using the watershed as the ecologically meaningful scale for integrated and long-term planning, which can be a foundation for considering cumulative impacts of development;
b. Minimizing potential negative impacts, including cross-jurisdictional and cross-watershed impacts;
c. Evaluating and preparing for the impacts of a changing climate to water resource systems at the watershed level;
d. Identifying water resource systems consisting of ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas, which are necessary for the ecological and hydrological integrity of the watershed;
e. Maintaining linkages and related functions among ground water features, hydrologic functions, natural heritage features and areas, and surface water features including shoreline areas;
f. Implementing necessary restrictions on development and site alteration to:
    a. Protect all municipal drinking water supplies and designated vulnerable areas; and
    b. Protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;
g. Planning for efficient and sustainable use of water resources, through practices for water conservation and sustaining water quality;
h. Ensuring consideration of environmental lake capacity, where applicable; and
i. Ensuring stormwater management practices minimize stormwater volumes and contaminant loads, and maintain or increase the extent of vegetative and pervious surfaces.

2.2.2 Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored.

Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.

Compliance with these policies requires a multi-disciplinary and integrated approach to land use planning. Such an approach has been adopted through the preparation of this EIS.

2.1.3 Natural Hazards

In addition to balanced protection of natural heritage resources and water resources, the PPS also includes policy direction regarding reducing the potential risk to Ontario's residents from natural or human-made hazards. Section 3.1 of the PPS generally discourages development within identified natural hazards (i.e., areas that are at risk of flooding and / or erosion).

Notwithstanding the that development is generally discouraged within natural hazards, Policy 3.1.4 within the PPS states:

Despite policy 3.1.2, development and site alteration may be permitted in certain areas associated with the flooding hazard along river, stream and small inland lake systems:

a) In those exceptional situations where a Special Policy Area has been approved. The designation of a Special Policy Area, and any change or modification to the official plan policies, land use designations or boundaries applying to Special Policy Area lands, must be approved by the Ministers of Municipal Affairs and Housing and Natural Resources prior to the approval authority approving such changes or modifications; or

b) Where the development is limited to uses which by their nature must locate within the floodway, including flood and/or erosion control works or minor additions or passive non-structural uses which do not affect flood flows.

Natural hazards are also regulated by Credit Valley Conservation (CVC) under Ontario Regulation 160/06.

2.2 Ontario *Endangered Species Act* (2007)

Species at Risk in Ontario include species that are listed as endangered, threatened or special concern at the provincial level, however the Act only regulates the habitat of endangered or threatened species. Species listed as special concern are addressed through the Provincial Policy Statement and policies pertaining to significant wildlife habitat and are discussed in **Section 2.1**.

The *Endangered Species Act* (2007) provides legal protection to endangered and threatened species confirmed on a site. For context, relevant excerpts from this Act are included below:

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).

Subsection 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.

However, under subsection 17(1) of the Act, the Minster may issue a permit that authorizes a person to engage in an activity that would otherwise be prohibited by subsection 9(1) or 10(1) of the Act provided the applicable legislative requirements of subsection 17(2) are satisfied. The *Endangered Species Act* Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits (MNRF, 2012) is a document that provides guidance regarding permitting requirements under the Act. Relevant excerpts are provided below:

> *There are four types of permits that may be issued for authorizing activities where the activity:*
> - *is necessary for the protection of human health or safety - clause 17(2)(a);*
> - *has the main purpose to assist, and would assist, in the protection or recovery of the species - clause 17(2)(b);*
> - *has the main purpose not to assist in the protection or recovery of the species, but through specific and mandatory conditions outlined in the permit will result in an overall benefit to the species within a reasonable time - clause 17(2)(c); and,*
> - *will result in significant social or economic benefit to Ontario, but will not jeopardize the survival or recovery of species at risk - clause 17(2)(d).*
>
> *Permits may be issued where the following legislated requirements are satisfied:*
>
> *The Minister is of the opinion that the main purpose of the activity authorized by the permit is not to assist in the protection or recovery of the species specified in the permit; but,*
> - *(i) the Minister is of the opinion that an overall benefit to the species will be achieved within a reasonable time through requirements imposed by conditions of the permit,*
> - *(ii) the Minister is of the opinion that reasonable alternatives have been considered, including alternatives that would not adversely affect the species, and the best alternative has been adopted, and*
> - *(iii) the Minister is of the opinion that reasonable steps to minimize adverse effects on individual members of the species are required by conditions of the permit.*

The Minister is not obligated to issue an Overall Benefit Permit to a proponent. An Overall Benefit Permit may only be issued where the legislated requirements in clause 17(2)(c) of the Act will be met by the conditions in the permit.

2.3 Regional Municipality of Peel Official Plan (2018)

The Peel Region Official Plan (ROP) identifies a Greenlands System consisting of Core Areas, Natural Areas and Corridors (NAC's), and Potential Natural Areas and Corridors (PNAC's) and includes policies aimed at protecting, maintaining, and restoring this system.

Key elements of the Region's Greenlands System include the following:

- Areas of Natural and Scientific Interest;
- Environmentally Sensitive or Significant Areas (ESA);
- Escarpment Natural Areas;
- Escarpment Protection Areas;

- Fish and wildlife habitat;
- Habitats of threatened and endangered species;
- Wetlands;
- Woodlands;
- Valley and stream corridors;
- Shorelines;
- Natural lakes;
- Natural corridors;
- Groundwater recharge and discharge areas;
- Open space portions of the Parkway Belt West Plan; and
- Other natural features and functional areas.

The various components of the Regional Greenlands System are to be interpreted, identified and protected in accordance with ROP policies.

2.3.1 Core Areas

Core Areas of the Regional Greenlands System include features and areas that are considered significant at the provincial and regional levels. They generally correspond with significant features and areas listed in the PPS and include:

- Significant Wetlands;
- Significant Coastal Wetlands;
- Core Woodlands;
- Environmentally Sensitive or Significant Areas;
- Provincial Life Science ANSI;
- Significant Habitat of Threatened and Endangered Species;
- Escarpment Natural Areas of the Niagara Escarpment Plan; and
- Core Valley and Stream Corridors.

Core Areas of the Regional Greenlands System are mapped on Schedule A of the ROP. Schedule A does not identify any Core Areas on the site, but it does identify Core Areas northwest of the subject property, associated with Fletcher's Creek. As all Core Areas are mapped on Schedule A, the ROP should also be consulted to determine if any features are present that meet Core Area criteria. The EIS provides an assessment to determine if Core Areas are present.

Policy 2.3.2.6 prohibits development and site alteration within the Core Areas of the Greenlands System in Peel except for:

- Forest, fish and wildlife management;
- Conservation and flood or erosion control projects, but only if they have been demonstrated to be necessary in the public interest and after all reasonable alternatives have been considered;
- Essential infrastructure exempted, pre-approved or authorized under an environmental assessment process;
- Passive recreation;
- Minor development and minor site alteration;
- Existing uses, buildings or structures;

- Expansions to existing buildings or structures;
- Accessory uses, buildings or structures; and
- A new single residential dwelling on an existing lot of record, provided that the dwelling would have been permitted by the applicable planning legislation or zoning by-law on the date the Regional Official Plan Amendment (OPA) 21B came into effect. A new dwelling built after the Regional OPA 21B came into effect in accordance with this policy shall be deemed to be an existing building or structure for the purposes of the exceptions permitted in clauses g) and h) above.

Area municipalities are directed to adopt appropriate policies to allow the above exceptions when it can be demonstrated that there is no reasonable alternative location outside of the Core Area and the use, development or site alteration is directed away from the Core Area feature to the greatest extent possible; and the impact to the Core Area feature is minimized and any impact to the feature or its functions that cannot be avoided is mitigated through restoration or enhancement to the greatest extent possible.

2.3.2 Natural Areas and Corridors and Potential Natural Areas and Corridors

NACs include:

- Evaluated non-provincially significant wetlands;
- Woodlands meeting one or more of the criteria in Table 1 of the ROP;
- Significant wildlife habitat;
- Fish habitat;
- Regionally significant life science Areas of Natural and Scientific Interest;
- Provincially significant earth science Areas of Natural and Scientific Interest;
- Escarpment Protection Areas of the Niagara Escarpment Plan; and
- Lake Ontario shoreline and littoral zone and other natural lakes and their shorelines.

PNACs include:

- Unevaluated wetlands;
- Cultural woodlands and cultural savannahs within the Urban System and Rural Service Centres meeting one or more of the criteria in Table 1 of the ROP;
- Any other woodlands greater than 0.5 hectares (1.24 acres);
- Regionally significant earth science Areas of Natural and Scientific Interest;
- Sensitive groundwater recharge areas;
- Portions of historic shorelines;
- Open space portions of the Parkway Belt West Plan Area;
- Potential ESA's identified as such by the conservation authorities; and
- Any other natural features and functional areas interpreted as part of the Greenlands System PNAC's, by the individual area municipalities in consultation with the conservation authorities.

NAC's and PNAC's represent natural features and areas that are considered locally significant. NAC's and PNAC's are considered locally important. Regional policies pertaining to NAC's and PNAC's defer their interpretation, protection, restoration, enhancement, proper management and stewardship to local municipalities. The EIS provides an assessment to determine if NAC's and PNAC's are present.

2.4 City of Mississauga Official Plan (2019)

Section 6.3 of the Mississauga Official Plan (MOP) contains policies pertaining to the protection of the Green System. The Green System is composed of 1) the Natural Heritage System, 2) the Urban Forest, 3) Natural Hazard Lands; and 4) Parks and Open Spaces.

Components of the Green System that overlap with the subject property include the Natural Heritage System, Natural Hazard Lands and the Urban Forest. Policies pertaining to each of these Green System components are discussed below.

2.4.1 Natural Heritage System

The Natural Heritage System consists of 1) Significant Natural Areas, 2) Natural Green Spaces, 3) SMAs, 4) Residential Woodlands and 5) Linkages.

Portions of the subject property as well as the adjacent park lands to the west and south are identified as SMA on Schedule 3 of the Mississauga Official Plan. This schedule also identifies the Cooksville Creek corridor, further to the south and west of the subject property, as Significant Natural Area and Natural Greenspaces.

The exact limit of components of the Natural Heritage System are to be determined through site specific studies such as an EIS. Minor refinements to the boundaries of the Natural Heritage System may occur through Environmental Impact Studies or other appropriate studies accepted by the City without and official plan amendment.

2.4.1.1 Significant Natural Areas

Significant Natural Areas include one or more of the following features:

- Provincially or regional significant life science areas of natural and scientific interest (ANSI);
- Environmentally sensitive or significant areas;
- Habitat of threatened species or endangered species;
- Fish habitat;
- Significant wildlife habitat;
- Significant woodlands;
- Significant wetlands, including Provincially Significant Wetlands (PSW), coastal wetlands, and other wetlands greater than 0.5 hectares; and
- Significant valleylands, including the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek.

Policy 6.3.27 states:

> *Development and site alteration as permitted in accordance with the Greenlands designation within or adjacent to a Significant Natural Area will not be permitted unless all reasonable alternatives have been considered and any negative impacts minimized. Any negative impact that cannot be avoided will be mitigated through restoration and*

> *enhancement to the greatest extent possible. This will be demonstrated through a study in accordance with the requirements of the* Environmental Assessment Act*. When not subject to the* Environmental Assessment Act*, an Environmental Impact Study will be required.*

Policy 6.3.29 states:

> *Development and site alteration on lands adjacent to a provincially significant wetland, provincially significant coastal wetland and habitat of endangered species and threatened species or other Significant Natural Area will require an Environmental Impact Study, demonstrating no negative impact to the natural heritage features or on their ecological function, to the satisfaction of the City and appropriate conservation authority.*

2.4.1.2 Natural Green Spaces

Natural Green Spaces are areas that meet one or more of the following criteria:

- Woodlands greater than 0.5 hectares that do not qualify as significant woodland;
- Wetlands that do not qualify as significant wetland;
- Watercourses that do qualify as significant valleyland; and
- All natural areas greater than 0.5 hectares that have vegetation that is uncommon in the City.

MOP Policy 6.3.32 states that development and site alteration will not be permitted within or adjacent to Natural Green Spaces unless it has been demonstrated through an Environmental Assessment or Environmental Impact Study that there will be no negative impact to the natural heritage features and their ecological functions and opportunities for their protection, restoration, enhancement and expansion have been identified.

2.4.1.3 Special Management Areas

Areas identified as SMAs are subject to the following polices:

> *6.3.15 Special Management Areas are lands adjacent to or near Significant Natural Areas or Natural Green Spaces and will be managed or restored to enhance and support the Significant Natural Area or Natural Green Space.*
>
> *6.3.16 Where Special Management Areas are on private lands, the City working with the conservation authorities will encourage landowners to promote stewardship and enhancement of their lands*.

2.4.2 Natural Hazard Lands

Natural Hazard Lands are associated with valley and watercourse corridors and the Lake Ontario shoreline. These areas are prone to flooding and erosion and are generally unsuitable for development.

Development adjacent to valleylands and watercourse features must incorporate measures to ensure public health and safety; protection of life and property; as well as enhancements and restoration of the Natural Heritage System.

MOP Policy 6.3.47 states that development and site alteration will not be permitted within erosion hazards associated with valleyland and watercourse features. Where development or site alteration is proposed adjacent to erosion hazards, an appropriate buffer must be applied to the satisfaction of the City and conservation authority.

The majority of the study area is identified as natural hazard on Schedule 3 of the MOP. Natural hazards correspond with the floodplain of Cooksville Creek and overlap with most of the site.

2.4.3 Urban Forest Policies

MOP polices pertaining to the urban forest are as follows:

> *6.3.44 Development and site alteration will demonstrate that there will be no negative impacts to the Urban Forest. An arborist report and tree inventory that demonstrates tree preservation and protection both pre and post construction, and where preservation of some trees is not feasible, identifies opportunities for replacement, will be prepared to the satisfaction of the City in compliance with the City's tree permit by-law.*
>
> *6.3.45 Where tree replacement cannot be accommodated on-site, the City may require cash-in-lieu for replacement trees elsewhere or replacement plantings at a location approved by the City.*
>
> *6.3.46 Mississauga may require ecologically based woodland management plans of a landowner prior to municipal acquisition.*

2.5 Credit Valley Conservation (CVC) Authority Policies and Regulations

CVC regulates activities within and adjacent to wetlands, watercourses and hazard lands under Ontario Regulation 160/06 - *Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* under Section 28 of the *Conservation Authorities A*ct. A permit must be obtained from CVC for development or site alteration within regulated areas.

CVC's *Watershed Planning and Regulation Policies* (CVC 2010) document contains policies pertaining to the protection of natural heritage features and natural hazards. In general, CVC will not support development or site alteration within the natural heritage system, including natural heritage features and areas (valleylands, environmentally significant areas, ANSI, woodlands, wetlands, watercourse and fish habitat), significant natural areas, or natural hazards except in accordance with Chapters 6 and 7.

The policies contained in Chapter 6 provide guidance for CVC's review of proposals submitted pursuant to the *Planning Act.*

Policy 6.1(j) states:

> *CVC will not support modifications to components of the natural heritage system, including natural heritage features and areas, significant natural areas, hazardous land, erosion access allowances and associated buffers, to create additional useable area or to accommodate or facilitate development and site alteration unless the modifications have been appropriately addressed through an environmental assessment, comprehensive environmental study or technical report, to the satisfaction of CVC.*

Policy 6.1(l) states:

> *CVC recognizes that certain types of development and site alteration by their nature must locate within the natural heritage system, including natural heritage features and areas, significant natural areas, hazardous land, erosion access allowances and associated buffers. Considering this, CVC may support such works where they have been addressed through an environmental assessment, comprehensive environmental study or technical report, completed to the satisfaction of CVC. This may include, but is not limited to, the following:*
>
> *i. infrastructure, including stormwater management facilities;*
> *ii. development and site alteration associated with passive or low intensity outdoor recreation and education;*
> *iii. development which by its nature must locate within hazardous land;*
> *iv. development and site alteration associated with conservation or restoration projects or management activities following sustainable management practices;*
> *v. hazardous land remediation or mitigation works required to protect existing development;*
> *vi. modifications to components of the natural heritage system to implement the recommendations of an environmental assessment, comprehensive environmental study or technical report that has been completed to the satisfaction of CVC.*

According to Section 6.3:

> *CVC's review of site plane, variance or similar applications related to development (2) and Site alteration on lots of records will generally be based on policies in Chapter 7 to determine compliance with CVC's Section 28 permitting responsibilities. CVC will recommend that development (2) and site alteration be set back in accordance with policies 6.2.1 b) and 6.2.1. c), to the extent feasible.*

Policy 6.2.1 b) states that CVC will recommend that lots created through plan of subdivision or consent are set back a minimum of whichever is the greatest of the following buffers:

- 10 metres from the limit of flood hazards;
- 10 metres from the limit of erosion hazards;
- 10 metres from the limit of dynamic beach hazard;
- 10 metres from the drip line of significant woodlands;
- 10 metres from the limit of other wetlands;
- 30 metres from the limit of provincially significant wetlands;
- 30 metres from the bankfull flow location of watercourses; and/or

- A distance to be determined through the completion of a comprehensive environmental study or technical report, to the satisfaction of CVC, from the limit of the following:
    - Significant wildlife habitat;
    - Significant habitat of threatened species and endangered species;
    - Regionally and provincially significant life science ANSIs;
    - ESAs; and/or
    - Significant habitat of species of conservation concern.

CVC policies allow for alternate setbacks to those identified above based on the results of a comprehensive environmental study or site-specific technical report completed to the satisfaction of CVC, and consistent with provincial and municipal policy.

3. Methodology

3.1 Background Review

- Region of Peel Official Plan.
- City of Mississauga Official Plan.
- Natural Heritage Information Centre.
- City of Mississauga Natural Areas Survey.
- Ministry on Natural Resources and Forestry – SAR Screening with Bohdan Kowalyk, Management Biologist, Aurora District.
- Physiography of Southern Ontario (Chapman and Putnam 1984).

3.2 Field Investigations

The following field investigations were undertaken as part of this study to characterize the natural heritage features and functions associated with the property.

- Ecological Land Classification;
- Floristic Surveys;
- Tree Inventory; and
- Wildlife Surveys – Breeding Birds and SAR habitat.

3.2.1 Ecological Communities and Floristic Survey

A site visit was conducted on May 3 and October 20, 2017 to document the vegetation on the subject property. Ecological communities were mapped and described according to the Ecological Land Classification System for Southern Ontario (Lee *et al.*, 1998) and a list of a plant species was compiled for the property. Species conservation status is based on NHIC rankings, MNRF list (*Distribution and Status of the Vascular Plants of the Greater Toronto Area,* Varga *et al.,* 2005), and *Plants of the Credit River Watershed* (CVC 2002).

3.2.2 Tree Inventory

All trees with stem diameters of ≥10 cm at breast height (DBH, measured 1.4 m above grade) located on the subject property, as well as trees within 6.0 m of the subject property boundary were inventoried and assessed by an International Society of Arboriculture (ISA) Certified Arborist on April 25, May 3, and October 20, 2017. Inventoried trees on the subject property were marked with numbered aluminum forestry tags. Trees on adjacent properties were also inventoried and assessed. All inventoried trees were surveyed by a registered Ontario Land Surveyor (O.L.S.).

The assessment included collecting data on species, trunk diameter (DBH), and health and condition as described below. Individual trees were assessed in terms of overall health and structural integrity based on indicators such as live buds, dead wood, decay, structural defects, and presence of disease. Each tree was assigned a condition rating of good, fair, poor, or dead, based on the following criteria:

- **Poor** – Severe dieback, significant lean, missing leader, major defects, significant decay and/or disease presence;
- **Fair** – Moderate dieback and/or lean, limb defects, multiple stems, moderate foliage damage from stress;
- **Good** – Healthy vigorous growth, minor visible defects or damage; or
- **Dead** – No live crown.

This information was used to prepare an Arborist Report that includes recommendations for tree preservation and tree removal. A Revised Arborist Report was prepared by Beacon (2020) to address the most recent Site Plan and is provided under a separate cover.

3.2.3 Breeding Bird Surveys

Surveys of avifauna were completed on June 3, 2017 and June 10, 2017. The purpose of the surveys was to document bird species that could potentially be breeding in the study area. Surveys were completed the early morning on days with ideal weather conditions (while the temperature was within 5° C of normal, it was not raining, nor excessively windy). The subject property and adjacent lands were surveyed using visual observations and call. Breeding evidence was noted for each species detected and locations mapped. Survey details are presented in **Table 2**.

Table 2. Breeding Bird Survey Details

	Survey 1	Survey 2
Date:	June 3, 2017	June 10, 2017
Start Time:	7:42 am	7:47 am
End Time:	8:11 am	8:14 am
Temperature (˚C):	14°C	17 °C
Wind speed (km/h):	0-5 km/h	0-5 km/h
Cloud cover (%):	0 %	0 %
Precipitation:	None	None

4. Study Findings

4.1 Topography and Soils

The study area is located within the Iroquois Plain physiographic region of Southern Ontario, a lowland area bordering Lake Ontario from the Niagara River to the Trent River. The Iroquois Plain represents the ancient shoreline and lakebed of former Lake Iroquois. In the Cooksville district of Mississauga, the old shoreline is cut into the grey shale of the Georgian Bay Formation (Chapman and Putnam 1984). Between the ancient shoreline and the existing Lake Ontario shoreline, the plain is slightly sloping and covered with stratified sand, eroded red shale, or shallow till over bedrock (Chapman and Putnam 1984).

Soils underlying the subject property are mapped as Fox Sand, a well-drained soil that occurs on smooth, gently sloping topography in southern areas of Peel Region (Hoffman and Richards 1953).

The study area is relatively flat and gently slopes west toward Cooksville Creek. The majority of the surface runoff from the subject property is conveyed via sheet flow toward Cooksville Creek, while a small area on the east side drains to Kirwin Ave. The total drainage area is approximately 0.64 ha. (Ref. *Stormwater Management and Servicing Brief* (LEA Consulting Ltd. March 2019).

4.2 Aquatic Habitat

There are no watercourses, waterbodies or aquatic habitat associated with the subject property. The nearest aquatic habitat is Cooksville Creek which is located approximately 70 m to the south and west of the subject property. Until recently, no fish have been recorded in Cooksville Creek upstream of the QEW, which has been attributed to the presence of barriers in the lower reaches. However, fish sampling conducted in 2015 by CVC staff found Longnose Dace downstream of the Study Area between King Street and Dundas Street East (Eric James, CVC Planner, and May 27, 2016).

4.3 Ecological Communities

The subject property is situated adjacent to Natural Area CV12. The Cooksville Creek corridor to the southwest is mapped as Lowland Forest (FOD7-3), however no ecological communities are mapped on or adjacent to the subject property in the City of Mississauga Natural Areas Survey (2017).

There are four ecological units associated with the subject property. All of the units are considered cultural in origin as they are associated with highly modified lands that were developed for residential uses, park, lawn and gardens. A review of historical aerial photographs dating from the 1950 to 2017 has confirmed that there are no remnant natural ecological communities present in the study area.

Descriptions of the individual ecological units are provided below. A map illustrating the locations of the ecological units is presented in **Figure 2**.

ELC Unit 1: Cultural Woodland (CUW1)

This unit is located on the western third of the site. It is dominated by mid-aged non-native trees, notably Manitoba Maple (*Acer negundo*), Siberian Elm (*Ulmus pumila*), Black Locust (*Robinia pseudo-acacia*). Other species include Norway Maple (*Acer platanoides*), Black Walnut (*Juglans nigra*), and Catalapa (*Catalpa* sp.). The understory is dominated by Common Buckthorn (*Rhamnus cathartica*), Tartarian Honeysuckle (*Lonicera tatarica*), and European Spindletree (*Euonymus europaeus*). The ground layer is dominated by Garlic Mustard (*Alliaria petiolata*), with lesser amounts of other species such as Tall Goldenrod (*Solidago altissima*), Urban Avens (*Geum urbanum*), Greater Celandine (*Chelidonium majus*), Goutweed (*Aegopodium podagraria*), and Enchanter's Nightshade (*Circaea lutetiana*). This area has been heavily disturbed by trampling and dumping.

ELC Unit 2: Staghorn Sumac Cultural Thicket (CUT1-1)

This unit, located along the northwestern property boundary, is dominated by Staghorn Sumac (*Rhus hirta*). Ground covers include Tall Goldenrod, Garlic Mustard, Urban Avens, and Greater Celandine.

ELC Unit 3: Anthropogenic

This unit is associated with the eastern half of the subject property and overlaps with areas associated with former single-family homes and areas that have largely been cleared of vegetation. The area consists of pavement and mostly non-native, invasive trees (i.e. Norway Maple).

ELC Unit 4: Hedgerow - Cultural Plantation (CUP)

This unit corresponds with a hedgerow of planted coniferous trees (Norway Spruce and Scotch Pine). Understorey and groundcover vegetation is sparse and dominated by non-native species.

4.4 Flora

A total of 36 species of vascular plants were identified on the subject property. A complete plant list is presented in **Appendix B**. Approximately 58% of the species on the property are non-native, which is very high and reflects the disturbed nature of the site. Of the 15 native species present, Black Walnut is ranked S4? by the Natural Heritage Information Centre (NHIC) indicating that it is Apparently Secure in Ontario. Black Walnut is very common as it has been extensively planted and easily regenerates from plantings. All other native species on the subject property are ranked S5 by the Natural Heritage Information Centre (NHIC) indicating that they are common and secure in Ontario. One species, Cleavers (*Gallium aparine*) is listed as rare in Peel Region (Varga et al. 2005); however, it is Beacon's experience that this species is quite common throughout the GTA, and often occurs in disturbed areas. No species ranked as S1 through S3 (Critically Imperiled through Vulnerable) by the province were present.

Existing Conditions

Figure 2

EIS 3016-3034 Kirwin Avenue,
Mississauga, Ontario

Legend

- Subject Property
- ELC Communities

ELC Unit	ELC Community Type	ELC Code
1	Deciduous Cultural Woodland	CUW1
2	Staghorn Sumac Cultural Thicket	CUT1-1
3	Anthropogenic	ANT
4	Hedgerow	H

BEACON ENVIRONMENTAL

Project: 217067
Last Revised: December, 2020

Client: DVB Real Estate Investments Inc.

Prepared by: DU
Checked by: AC

N

1:600

0 10 20 m

C:\Dropbox\Dropbox (Beacon)\All GIS Projects\2017\217067 - EIS 3016-3034 Kirwin Avenue Mississauga\MXD\20201208_Figure02_ExistingConditions 217067.mxd

4.5 Trees

A total of 228 trees were documented on and adjacent to the subject property. The majority of the trees on the property are non-native, invasive species including Norway Maple, Manitoba Maple, Black Locust, and Siberian Elm. Trees range in size from 10 to 80 cm DBH, with a median DBH of 20 cm. A full list and summary of the trees in provided in the Revised Arborist Report (Beacon 2021).

4.6 Breeding Birds

A total of 10 species of breeding, or potentially breeding birds, were recorded on the subject property. Five additional species were observed adjacent to the subject property (**Table 3).** The majority of the species encountered were common species that are widespread in open, scrubby habitats, or fragmented or disturbed habitats, such is as found on most of the subject property. Some of the more abundant species observed included: American Robin (*Turdus migratorius*), European Starling (*Sturnus vulgaris*), House Finch (*Haemorhous mexicanus*) and House Sparrow (*Passer domesticus*). Species that were observed flying or foraging over the subject property that were not believed to be breeding on the subject property were limited to Chimney Swift (*Chaetura pelagica*).

There were also a number of species found that are closely associated with more heavily treed areas that were primarily encountered in the wooded section of the property, including species such as Great-crested Flycatcher (*Myiarchus crinitus)* and Downy Woodpecker (*Picoides pubescens)*.

One species observed foraging on and adjacent to the subject property, the Chimney Swift (*Chaetura pelagica*), is listed as federally and provincially threatened under the *Endangered Species Act* (2007). This species is an aerial insectivore and nests in dark, sheltered areas and will attach its nest to vertical surfaces; chimneys are the most common structure use (COSEWIC, 2007). No suitable nesting habitat exists on the property.

No species ranked as S1 through S3 (Critically Imperiled through Vulnerable) by the province were present.

Table 3. Breeding Bird Survey Results

Common Name	Scientific Name	Status				Breeding Pairs on Subject Property	Breeding Pairs Adjacent to Subject Property
		National Species at Risk COSEWIC[a]	Species at Risk in Ontario Listing [b]	Provincial breeding season SRANK [c]	TRCA Status [d]		
Rock Pigeon	*Columba livia*	-	-	SNA	L+	-	2
Chimney Swift	*Chaetura pelagica*	THR	THR	S4	L4	F	F
Downy Woodpecker	*Picoides pubescens*	-	-	S5	L5	1	1
Great Crested Flycatcher	*Myiarchus crinitus*	-	-	S4	L4	1	-
American Robin	*Turdus migratorius*	-	-	S5	L5	2	2
Gray Catbird	*Dumetella carolinensis*	-	-	S4	L4		1
Cedar Waxwing	*Bombycilla cedrorum*	-	-	S5	L5	1	1
European Starling	*Sturnus vulgaris*	-	-	SE	L+	4	-
Northern Cardinal	*Cardinalis cardinalis*	-	-	S5	L5	1	1
Chipping Sparrow	*Spizella passerina*	-	-	S5	L5	-	1
Common Grackle	*Quiscalus quiscula*	-	-	S5	L5	-	1
Baltimore Oriole	*Icterus galbula*	-	-	S4	L5	-	1
House Finch	*Haemorhous mexicanus*	-	-	SNA	L+	4	-
American Goldfinch	*Spinus tristis*	-	-	S5	L5	1	1
House Sparrow	*Passer domesticus*	-	-	SNA	L+	4	1

[a] COSEWIC = Committee on the Status of Endangered Wildlife in Canada

[b] Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario); THR= Threatened

[c] S-Rank (from Natural Heritage Information Centre) for breeding status if: S4 (Apparently Secure), S5 (Secure), SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)

[d] Toronto and Region Conservation Authority L rank (Dec 2010): L4 Urban concern; L5 Secure through region; L+ Non-native

4.7 Evaluation of Significance

While the subject property is contained in the City's NHS, it is identified as an SMA as opposed to an SNA. As such, the features associated with the subject property are not considered significant natural heritage features, but rather they represent features that can restored to provide supportive functions to the adjacent natural area. To ensure that the SMA does not support any significant natural heritage features or functions, the EIS has completed an evaluation of significance. The following subsections describe the process for evaluating the significance of any natural heritage features and ecological functions associated with the study area.

The relative significance of natural heritage features, ecological functions and attributes is generally determined by applying significance criteria that have been developed at the local and regional level. Where such criteria are not available, provincial criteria and guidelines have been considered.

Key sources of guidance for determining significance of the natural features and areas include: the PPS (OMNR 2020), the Peel Region Official Plan, the *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study* (NSEI *et al.*, 2009), and Mississauga Official Plan (2010). The following sections provide a summary of which natural heritage features and areas within the study area would be considered significant according to the policies, criteria and guidance provided in the above noted guidance documents. An overview of the relevant policies was provided in **Section 2** and additional details provided below.

4.7.1 Habitat of Endangered Species and Threatened Species

Significance, as it relates to the habitat of endangered species and threatened species is defined by the PPS (2020) as:

> *The habitat, as approved by the Ontario Ministry of Natural Resources, that is necessary for the maintenance, survival, and/or the recovery of naturally occurring or reintroduced populations of endangered species or threatened species, and where those areas of occurrence are occupied or habitually occupied by the species during all or any part(s) of its life cycle.*

Correspondence from MNRF (Ben Keen, June 6, 2017) confirmed that MNRF has records for Butternut (endangered) and Peregrine Falcon (special concern) in the vicinity of the Study Area. There is also potential for endangered bats (i.e., Eastern Small-footed Myotis [*Myotis leibii*], Little Brown Myotis [*Myotis lucifugus*], Northern Myotis [*Myotis septentrionalis*], and Tri-colored Bat [*Perimyotis subflavus*]).

The vegetation surveys and tree inventory work have confirmed that there are no Butternut on or adjacent to the property through the vegetation survey or tree inventory. The study area also does not support suitable habitat (tall buildings) for Peregrine Falcon and none were observed during the breeding bird surveys.

A previous version of this EIS (Beacon 2017) had identified a number of trees on the subject property that exhibited characteristics consistent with potential bat habitat, however based on more recent guidance received from Aurora District MNRF, (Mark Heaton, May 2018), it is our understanding that MNRF does not consider cultural treed features as habitat for Little Brown Myotis and Northern Myotis. The following ecosites are consider as potential habitat for these species (MNRF 2016):

- Deciduous Forest and Deciduous Swamp (FOD and SWD);
- Mixed Forest and Mixed Swamp (FOM and SWM); and
- Coniferous Forest and Coniferous Swamp (FOC and SWC).

According to the Recovery Strategy of the Eastern Small-foot Bat, they require similar habitat to Little Brown Myotis and Northern Myotis (Humphrey 2017). As the subject property does not support these ecosites, we did not consider the site to support habitat for these species.

The fourth endangered bat that was noted as being potentially present was the Tri-coloured Bat. Beacon is of the opinion the that habitat does not support this species. The MNRF guidance document for assessing endangered bat habitat (2017) states that oaks are the preferred tree species for Tri-coloured Bats, and this tree species is not present on the subject property or adjacent lands. The MNRF also noted in their guidance that Tri-coloured Bat is far less likely to occur than Little Brown Myotis or Northern Myotis.

4.7.2 Significant Woodlands

Significant Woodlands are recognized as components of the City's Natural Heritage System. Significant Woodlands are defined in the PPS, and in the ROP and MOP. All of the definitions are consistent with respect to attributes and functions that make a woodland significant, however there is some variability in how they are to be identified.

The PPS defines Significant Woodlands as follows:

> *… an area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. These are to be identified using criteria established by the Ontario Ministry of Natural Resources.*

As the ROP was approved by MMAH and is considered be consistent with the PPS, we have relied upon the ROP definitions.

The ROP defines Significant Woodlands as follows:

> *An area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or …the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history.*

The MOP defines Significant Woodlands as follows:

> *An area which is ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past*

> *management history. These will be identified using criteria established by the Region of Peel in consultation with the City.*

Based on the significant woodland definition in the MOP, it appears that City relies upon regional criteria in determining woodland significance (underline added for emphasis).

Prior to application of the significant woodland criteria, it is necessary to first identify which of the treed features in the Study Area satisfy the definition of a "woodland" using the definitions contained in the ROP and MOP.

The ROP defines 'woodlands" as follows:

> *Ecosystems comprised of treed areas, woodlots, forested areas and the immediate biotic and abiotic environmental conditions on which they depend. Woodlands provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, the provision of clean air and the long-term storage of carbon, the provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include woodlots, cultural woodlands, cultural savannahs, plantations and forested areas and may also contain remnants of old growth forests.*
>
> *Woodlands are further defined as any area greater than 0.5 ha that has:*
> - *a) a tree crown cover of over 60% of the ground, determinable from aerial photography, or*
> - *b) a tree crown cover of over 25% of the ground, determinable from aerial photography, together with on-ground stem estimates of at least:*
>   - *i. 1,000 trees of any size per hectare,*
>   - *ii. 750 trees measuring over five centimetres in diameter at breast height (1.37m), per hectare,*
>   - *iii. 500 trees measuring over 12 centimetres in diameter at breast height (1.37m), per hectare, or*
>   - *iv. 250 trees measuring over 20 centimetres in diameter at breast height (1.37m), per hectare (densities based on the Forestry Act of Ontario 1998)*
>
> *and, which have a minimum average width of 40 metres or more measured to crown edges.*
>
> *Treed portions with less than the required stocking level will be considered part of the woodland as long as the combination of all treed units in the overall connected treed area meets the required stocking level. Woodlands experiencing changes such as harvesting, blowdown or other tree mortality are still considered woodlands. Such changes are considered temporary whereby the forest still retains its long-term ecological value*

The MOP definition of "woodland" is identical to the ROP definition above but also included the following additional text:

> *Woodlands may exclude treed communities which are dominated by invasive non-native tree or shrub species such as buckthorn (Rhamnus cathartica) and Norway maple (Acer*

> *plantanoides) that threaten the ecological diversity of native communities, good forestry practices and environmental management. Such exceptions may be considered where native tree species comprise less than 10 percent of the tree crown cover and are represented by less than 100 stems of any size per hectare.*

Similar wording is also included in ROP which identifies certain types of treed features do not warrant classification as Core Woodlands or Significant Woodlands if they meet the criteria in ROP Policy 2.3.2.21 which states:

Exclude as Core woodlands and significant woodlands, plantations that are:

> *a) managed for production of fruits, nuts, Christmas trees or nursery stock;*
> *b) managed for tree products with an average rotation of less than 20 years (e.g. hybrid willow or poplar); or*
> *c) established and continuously managed for the sole purpose of complete removal at rotation, as demonstrated with documentation acceptable to the Region or area municipality, without a woodland restoration objective.*
>
> *Additional exclusions may be considered for treed communities which are dominated by invasive non-native tree species such as buckthorn (Rhamnus species), Norway maple (Acer platanoides), or others deemed to be highly invasive, that threaten the ecological functions or biodiversity of native communities.*
>
> *Such exceptions should be supported by site-specific studies that:*
> *1) the degree of threat posed;*
> *2) any potential positive and/or negative impact on the ecological functions or biodiversity of nearby or adjacent native communities; and*
> *3) the projected natural succession of the community.*
>
> *Communities where native tree species comprise approximately 10 percent or less of the tree crown cover and approximately 100 or fewer stems of native tree species of any size per hectare would be candidates for exclusion.*

This EIS has determined that extent of contiguous treed area on and adjacent to the subject property is collectively 0.37 ha which is less than 0.5 ha requirement to satisfy the definition of a “woodland”. As such, the treed areas are not considered woodlands and would also not qualify for consideration as a “significant woodland” under MOP Policy 6.3.12f.

4.7.3 Significant Wetlands

Regarding wetlands, significant is defined by the PPS (2020) as:

> *An area identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time.*

There are no wetlands associated with the study area, including Provincially Significant Wetlands (PSWs) or evaluated wetlands.

4.7.4 Significant Coastal Wetlands

The PPS defines coastal wetlands as:

> a) *any wetland that is located on one of the Great Lakes or their connecting channels (Lake St. Clair, St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers); or*
> b) *any other wetland that is on a tributary to any of the above-specified water bodies and lies, either wholly or in part, downstream of a line located 2 kilometres upstream of the 1:100 year floodline (plus wave run-up) of the large water body to which the tributary is connected.*

There are no wetlands associated with the study area, coastal or otherwise.

4.7.5 Significant Valleylands

Regarding valleylands, significant is defined by the PPS (2020) as:

> *Ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system …*

Significant valleylands are normally identified by municipalities with input from their agency partners. Significant valleylands are also recognized regionally as Core Areas of the Greenlands System and locally as Significant Natural Areas and part of the City's Natural Heritage System.

The MOP criteria for significant valleylands reads as follows:

> *6.3.12 g significant valleylands are associated with the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek.*

As Cooksville Creek drains directly to Lake Ontario, the valleylands associated with this watercourse would qualify as significant valleylands.

4.7.6 Significant Wildlife Habitat (SWH)

Significant Wildlife Habitat (SWH) represents a combination of natural heritage features, attributes and functions that are intended to capture the best examples of wildlife habitat within a planning area such as an upper or lower tier municipality. This responsibility for confirming SWH is assigned to the planning authority (i.e. Region); however, municipalities often rely upon proponents to identify "candidate SWH" through planning studies.

The Region of Peel has developed SWH criteria and thresholds to be applied throughout the Region. These criteria are included in Figure 5 of the ROP. It should be noted that these criteria and the various thresholds have not been adopted as Regional policy. The City of Mississauga definition of SWH defers to the Region of Peel definition; however, the ROP does not include a definition for SWH, so it is presumed that it is defined as per the PPS.

> *Significant: means:* d) *"in regard to other features and areas, ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system"*

According to the *Significant Wildlife Habitat Technical Guidelines* (OMNR 2000), there are four broad categories of Significant Wildlife Habitat (SWH):

- Seasonal Concentration Areas of Animals;
- Rare Vegetation Communities or Specialized Habitat for Wildlife;
- Habitat for Species of Conservation Concern; and
- Animal Movement Corridors.

Within each of these categories, there are multiple types of SWH, each of which is intended to capture a specialized type of habitat. To determine the subject property supports candidate SWH, features on the subject property were screened through the Region of Peel SWH criteria (based on *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study*, NSEI *et al*., 2009), and the more recent *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF 2015).

4.7.6.1 Animal Movement Corridor

The *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study* (NSEI *et al.,* 2009) defines three classes of animal movement corridors at different spatial scales.

- Primary: Inter-regional movement corridors following major physiographic features (e.g., along the Niagara Escarpment or ORM);
- Secondary: Regional movement corridors (e.g., along natural linear features such as river valleys, or across active and abandoned agricultural lands in rural areas); and
- Tertiary: Local movement corridors (e.g., hedgerows, riparian strips).

The Cooksville Creek valley could be considered a tertiary movement corridor and therefore qualify as candidate SWH for Animal Movement Corridor.

4.7.6.2 Migratory Landbird Stopover Area

The *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study* (NSEI *et al.,* 2009) suggest that any "natural area," including forest, wetland, and cultural ELC communities, located 5 km from Lake Ontario within a stream corridor represents SWH for Migratory Landbird Stopover Area. As there are no size thresholds associated with this particular SWH criterion, it effectively qualifies individual trees as candidate SWH, which in our opinion was not the intent. For this reason, it is necessary to consider the provincial criteria as well. The *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (OMNR 2015) takes a more conservative approach, identifying forest and treed swamp ELC communities over 5 ha in size within 5 km of Lake Ontario as Migratory Landbird Stopover Area.

Given that subject property is located along a watercourse approximately 4.5 km from the Lake Ontario shoreline, the cultural woodland portion of the property technically satisfies the SWH criterion of the *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study* (NSEI *et al.,* 2009). However, the Peel-Caledon SWH study (NSEI *et al.*, 2009) also notes that mature upland forests are preferred by more migrating birds over riparian forests, especially in an urban settings, and preferred

sites are generally characterized by a dominance of native trees and shrubs, as well as a more mixed layered canopy (i.e., tall trees, mid-level trees and shrubs, and a thick understory). Additionally, (NSEI *et al*., 2009) suggest that suitable woodland habitat for migratory birds should:

- Exhibit diverse plant species composition and structure;
- Be square or circular (rather than linear) to decrease the amount of edge habitat; and
- Be at least 50 to 100 m wide if used as a corridor.

Based on this information, the cultural treed features on the subject property do not provide the compositional or structural attributes consistent with a significant stopover area. The treed area is very small consists of primarily mid-aged, non-native trees, and the understory is also predominantly non-native species. Additionally, at 4.5 km north of Lake Ontario in a heavily urbanized setting, the vegetation on the property does not support more migratory birds than would be encountered in other urban habitats such as treed parks/residential areas or tree-lined boulevards. Based on this assessment, the cultural woodland likely does not provide high quality SWH for migrating land birds. Therefore, the significance of the cultural woodland as a stopover area for migrating birds is questionable and the provincial guidelines were likely not intended to capture these types of features as SWH, as indicated by the criteria in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (OMNR 2015).

4.7.7 Significant Areas of Natural and Scientific Interest

In regard to Areas of Natural and Scientific Interest (ANSIs), significant is defined by the PPS as:

> *Areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education.*

There are no ANSIs in proximity to the study area.

4.7.8 Fish Habitat

The PPS (2020) treats all fish habitat equivalently regardless of significance. All water features (i.e. permanent or intermittent streams, seasonally flooded areas, and natural ponds are generally considered fish habitat. The PPS applies only to waterbodies that constitute fish habitat, as defined by the *Fisheries Act* (1985).

There are no watercourses associated with the subject property; however, Cooksville Creek is located approximately 70 m to the southwest.

Until recently, no fish have been recorded in Cooksville Creek upstream of the QEW, which has been attributed to the presence of barriers in the lower reaches. However, fish sampling conducted in 2015 by CVC staff found Longnose Dace just downstream of the subject property between King Street and Dundas Street East (Eric James, CVC Planner, and May 27, 2016).

Cooksville Creek is considered fish habitat.

4.7.9 Natural Heritage System

The PPS (2020) describes natural heritage systems as follows:

> *A system made up of natural heritage features and areas, linked by natural corridors which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species and ecosystems.*

One of the objectives of this EIS is to "preserve, enhance and protect environmental features, biological communities and natural heritage system."

All significant features that would comprise Significant Natural Areas (fish habitat, significant woodlands, and significant wildlife habitat) are restricted to the Cooksville Creek corridor and are outside the limits of the subject property. It should however also be noted that the southern portion of the site is identified as a SMA which is considered part of the City's Natural Heritage System.

5. Constraints & Opportunities

The purpose of the constraint analysis is to identify natural heritage features and functions as well as natural hazards that could represent constraints to redevelopment of the subject property. While impact avoidance is considered the primary method for environmental protection, it is also recognized that constrained areas cannot always be avoided, and that other effective methods exist that can mitigate potential adverse impacts of development on the environment.

In addition to the identification of environmental constraints, the EIS has identified opportunities to restore and enhance the natural environment which should be implemented as part of the proposed development.

5.1 Constraints

There are a number of biophysical features associated with the Study Area that represents constraints to the proposed redevelopment of the subject property. These are discussed below.

5.1.1 Natural Heritage Constraints

Based on a review of the background information, information from the biophysical characterization and evaluation of significance presented in **Section 4**, natural heritage constraints identified within the study area include the following:

- Significant Valleylands (Cooksville Creek - off-site);
- Candidate SWH for Animal Movement Corridor (Cooksville Creek - off-site);
- Watercourse (Cooksville Creek - off-site); and
- Fish Habitat (Cooksville Creek – lower reaches - off-site).

Components of the Regional Greenlands System within the study area include Natural Areas and Corridors (NAC) and Potential Natural Areas and Corridors (PNAC). The Cooksville Creek corridor qualifies as a NAC based the presence of fish habitat. Portion of the subject property and surrounding parklands qualify as PNAC based on their designation by the City as a SMA.

Components of the City's Natural Heritage System within the study area include: 1) Significant Natural Areas and 2) SMA.

- The Cooksville Creek valleylands are identified as Significant Natural Area based on the presence of watercourse, fish habitat, significant valleylands, and candidate significant wildlife habitat. The subject property is not included as Significant Natural Area.
- Portions of the subject property are identified as SMA based on the City's objective to enhance lands adjacent to Significant Natural Areas.

5.1.1.1 Buffers

It is the policy of the City of Mississauga that ecological buffers to natural features be determined on a site-specific basis as part of an EIS or similar study, to the satisfaction of the City and appropriate conservation authority. CVC's lot creation policies provide recommendations for buffers to be applied to certain natural heritage features. Significant natural heritage features are limited to the Cooksville Creek valley which is situated approximately 70 m to the west of the subject property. Application of CVC's recommended buffers to the watercourse and valleylands would not extend onto the subject property and as such do not represent a constraint. There are no other natural features in proximity to the subject property that would warrant buffers.

5.1.2 Natural Hazards

5.1.2.1 Slope Hazard

There are no constraints related to slope hazards that would constrain the proposed redevelopment. The reach of Cooksville Creek that is adjacent to the site is contained in a constructed channel and is located at least 70 m from the subject property.

5.1.2.2 Flood Hazard

LEA Consulting Ltd. notes that Cooksville Creek was modelled by R.V. Anderson Ltd. In February of 1996, which was then subsequently updated and completed by CVC. However, in September of 2020, Weston Consulting and CVC came to the agreement that the previously approved AMEC floodline (February 11, 2011) will be the limit of development and that no buffering or setbacks from the floodline will be required. The AMEC floodline and CVC's most recent floodline have been illustrated on Drawing C-02 (LEA Consulting Inc. 2020).

5.1.3 Development Limits

Based on consideration of the constraints described above, it is recommended that the development limits be established to coincide with the AMEC floodline. This will ensure that natural hazards are addressed and that the SMA is maintained.

5.2 Opportunities

The characterization of natural heritage features completed as part of this EIS has confirmed that the ecological integrity of the cultural woodland on the subject property has been severely compromised by former land uses, ongoing disturbances, and dominance and proliferation of invasive tree and shrub species. All these factors contribute to the decline of native diversity and ecological integrity of the broader NHS. A previous version of this EIS (Beacon 2017) had recommended that that the portion of the property identified as SMA be restored to a native woodland using progressive restoration methods, including replacement of existing non-native trees and shrubs with native trees, shrubs and groundcover to provide enhanced ecological function within the natural heritage system. Through subsequent consultation with the City and CVC, it was decided that the existing trees within the SMA would be maintained. It is our understanding that the City will assume responsibility for future stewardship and management of these lands.

Redevelopment of the subject property presents some opportunities for enhancement to the ecological system, including:

- Managing invasive alien species planted on the subject property; and
- Incorporating native trees and shrubs into the landscaping of the proposed development to provide a native seed source for the NHS.

6. Proposed Development

The proposed redevelopment for the subject consists of an 8-storey rental apartment building with a total of 148 units and associated aboveground and underground parking as well as an outdoor amenity space and landscaped areas (ref. Site Plan [KFA Architects and Planners Inc. 2020] - **Figure 3**).

Grading

Grading and excavation will be required to accommodate the proposed redevelopment. Grading and excavation will be confined to the limits of development established on the Site Plan and will correspond with the limits of the previously approved development fill pad. A copy of the preliminary grading plan is included on **Figure 4** (Drawing C-01 - LEA Consulting Inc. 2021a).

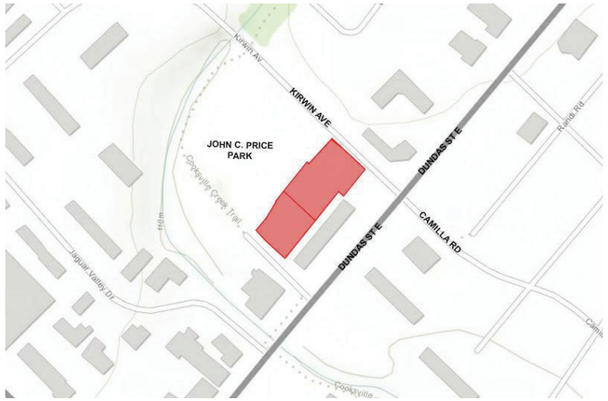
Servicing

The proposed redevelopment will be serviced via water and sanitary connections to existing municipal infrastructure along Kirwin Ave. A copy of the servicing plan is included on **Figure 5 (**Drawing C-02 - LEA Consulting Inc. 2021b).

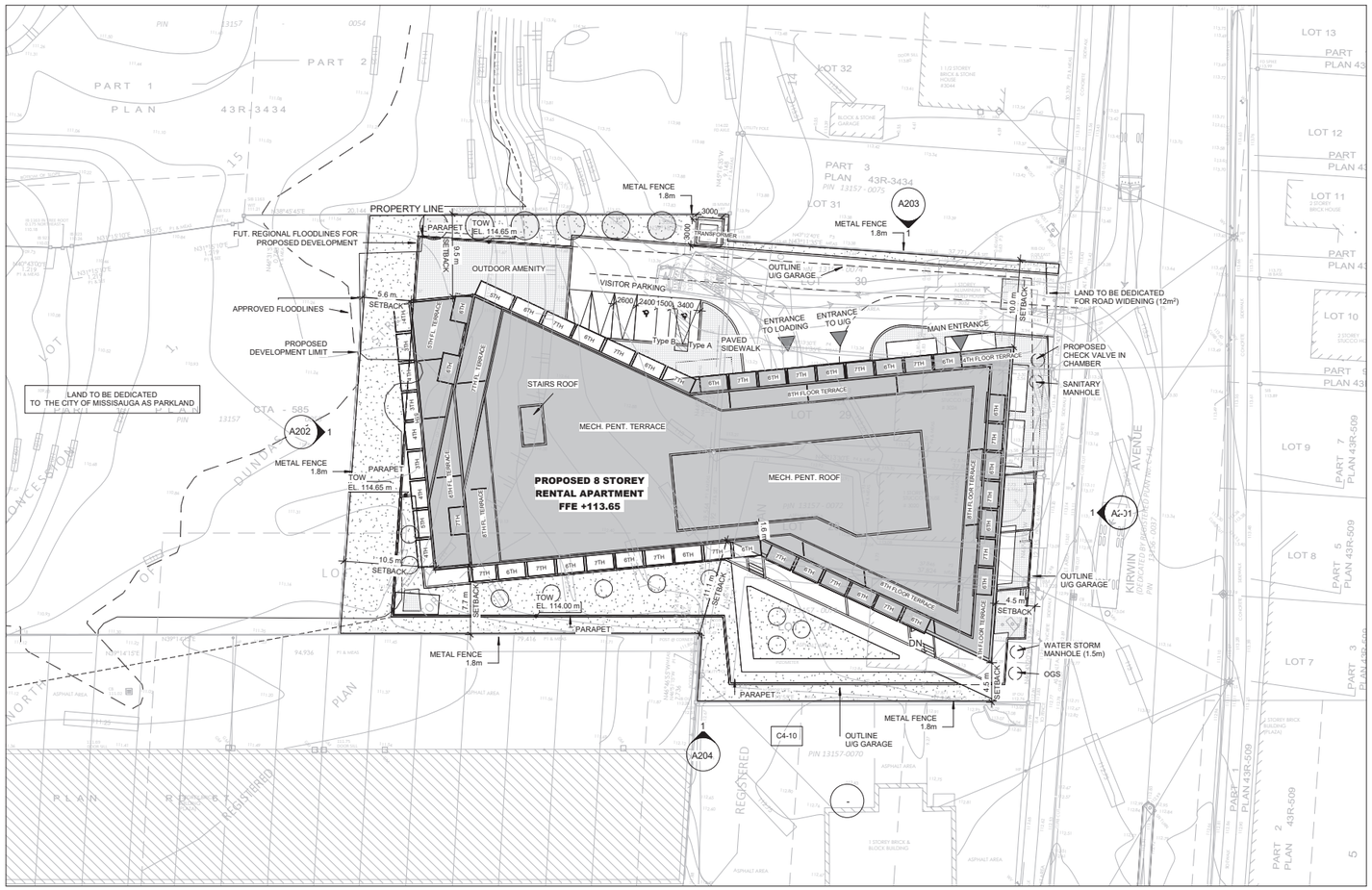
Stormwater

The majority of the existing runoff from the subject property drains toward Cooksville Creek, with only a small area fronting Kirwin Ave. that drains east. Under the proposed re-development plan, drainage

1. SATELLITE AERIAL VIEW



2. TOPOGRAPHIC AERIAL VIEW



3. SITE PLAN / 1:300

3016-3022 Kirwin Ave

Review: February 04th, 2021

Legal Description

ALL OF LOTS 27 TO 30 REGISTERED PLAN No. C-14 AND PART OF LOT 5 REGISTERED PLAN TOR-12 AND PART OF LOT 15 CONCESSION 1, NORTH OF DUNDAS TREET CITY OF MISSISSAUGA REGIONAL MUNICIPALITY OF PEEL

Site

Gross Site Area		**6,385.0** m²	*68,730 sf*
Parkland Dedication		2,450.0 m²	*26,372 sf*
Road Widening Area		12.0 m²	*129 sf*
Net Site Area		**3,923.0** m²	*42,228 sf*
Lot Frontage		50.3 m	
Lot Depth		131.4 m	

Building proposal

Building Footprint		1,703.0 m²	
Building Height		25.5 m	**Mech. Pent. Excluded*
Gross Floor Area	*(Based on GFA - Apartment Zone)*	11,120.0 m²	
Lot Coverage (%)	*(Based on Gross Site Area)*	27%	
Lot Coverage (%)	*(Based on Net Site Area)*	43%	
FSI	*(GFA / Gross Site Area)*	**1.74**	
FSI	*(GFA / Net Site Area)*	**2.83**	

Proposed Areas	Floor	**GCA** (m²)**	**GFA* (m²)**	*Total (ft²)*
	Ground Floor	1,583.0	930.0	*10,011*
	TH 2nd Floor	600.0	600.0	*6,459*
	2nd Floor	1,585.0	1,525.0	*16,415*
	3rd Floor	1,703.0	1,628.0	*17,524*
	4th Floor	1,508.0	1,448.0	*15,587*
	5th Floor	1,427.0	1,367.0	*14,715*
	6th Floor	1,370.0	1,297.0	*13,961*
	7th Floor	1,311.0	1,265.0	*13,617*
	8th Floor	1,106.0	1,060.0	*11,410*
	Total GFA	12,193.0	11,120.0	*119,699*
Total Proposed GFA			**11,120.0 m²**	*119,699 ft²*

***Gross Floor Area (GFA)** - Apartment Zone means the sum of the areas of each storey of a building above or below established grade, measured from the exterior of outside walls of the building including floor area occupied by interior walls but excluding any part of the building used for mechanical floor area, stairwells, elevators, motor vehicle parking, bicycle parking, storage lockers, below-grade storage, any enclosed area used for the collection or storage of disposable or recyclable waste generated within the building, common facilities for the use of the residents of the building, a day care and amenity area.*

****Gross Construction Area (GCA)** - The total enclosed area of a floor or building measured to the outside surface of the permanent exterior walls of the building or structure or to a predetermined surface, or plane as in the case of overhangs and projections to the outside surface of the building.*

Unit Count	Units	1 Bed	2 Bed	3 Bed
Ground Floor	10			
2nd Floor	20			
3rd Floor	23			
4th Floor	22			
5th Floor	20			
6th Floor	19			
7th Floor	18			
8th Floor	16			
Total Units	**148**	113	32	3
		76.4%	21.6%	2.0%

Vehicular Parking

Parking Required	UNITS	PARKING	RATIO
Rental 1 Bed @1.18 per unit	113	133	*1.18*
Rental 2 Bed @1.36 per unit	32	44	*1.36*
Rental 3 Bed @1.5 per unit	3	5	*1.50*
	Tot:	**181**	
Rental Visitors @ 0.15 per unit	148	22	*0.15*
Total Vehicular Parking Required		**Tot:** **204**	

Parking Provided (estimated)	At Grade	P1 Level	P2 Level	Sub Total	*Ratio*
Residential	0	64	93	157	*1.06*
Residential Visitor	5	16	0	21	*0.14*
	5	80	93	178	
Total Vehicular Parking Provided				**Tot:** **178**	**1.20**

Bicycle Parking

Required

	Ratio	
Short Term Residential	*0.08 x unit*	12
Long Term Residential	*0.7 x unit*	104
	Tot:	**115**

Provided (estimated)

	At Grade	P1 Level	
Short Term Residential	14	0	
Long Term Residential	0	101	
		Tot:	**115**

Landscaped Area

Soft Landscaping	912.0 m²	*23%*
Hard Landscaping	760.0 m²	*19%*
Green Roof	466.0 m²	*12%*
Total Landscape	**2138.0 m²**	*54%*

Amenity Area

Amenity Area Required

5.6 m² per unit	828.8 m²
Total Amenities Required	**828.8 m²**

Amenity Area Provided (estimated)

1) **Indoor**		
Ground Floor	330.0 m²	
2) **Outdoor**		
Ground Floor	100.0 m²	
Roof	450.0 m²	
Total Amenities	**880.0 m²**	*5.9 sqm x unit*

3016
KIRWIN AVE

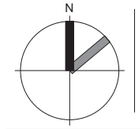
3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	Issued for Review	2020/07/27
2	Issued for Review	2020/09/29
3	Issued for Review	2020/12/17
4	Issued for OPA/ZBA	2021/02/04

Figure 3

11x17 FORMAT
HALF SCALE

North Arrow



Stamp

KFA architects + planners inc.
197 SPADINA AVE - SUITE 500
TORONTO - ON - M5T 2C8
416.633.6226
www.kfarchitecture.com

Project No:	20009
Scale:	1 : 300
Date:	Feb. 04, 2020
Drawn by:	FC

Drawing Title

SITE PLAN & STATS

Drawing Number

A001

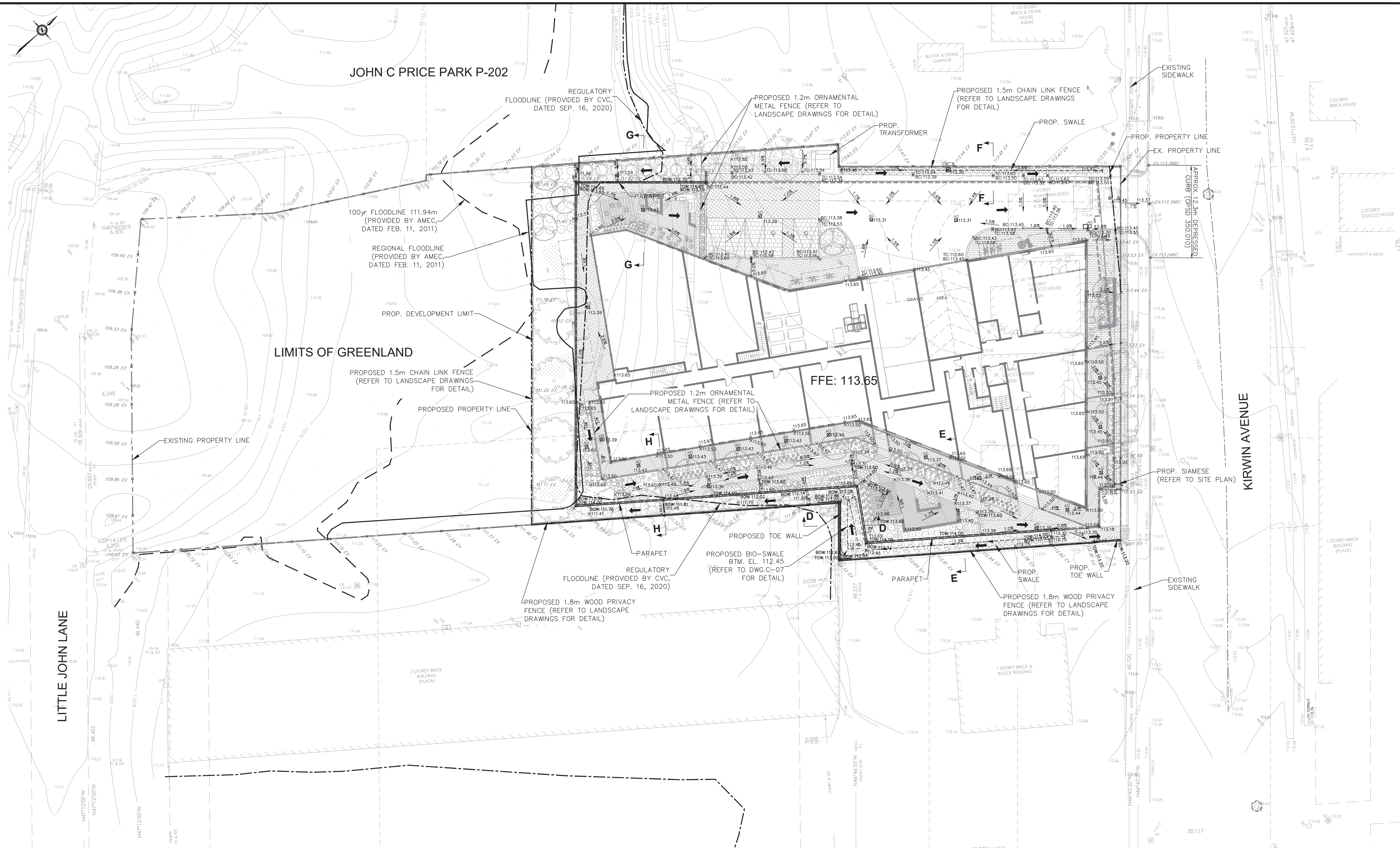
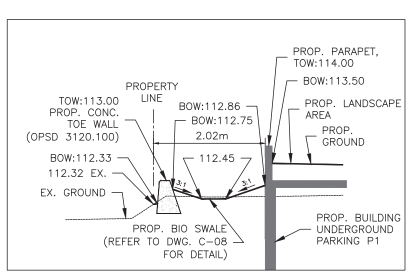
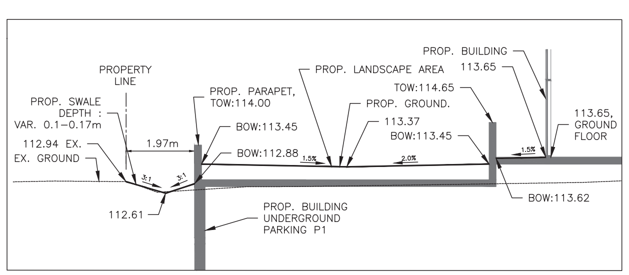


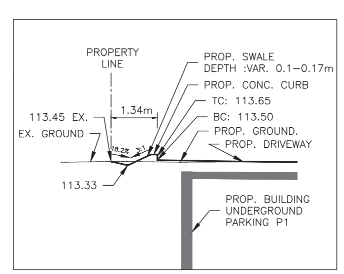
Figure 4



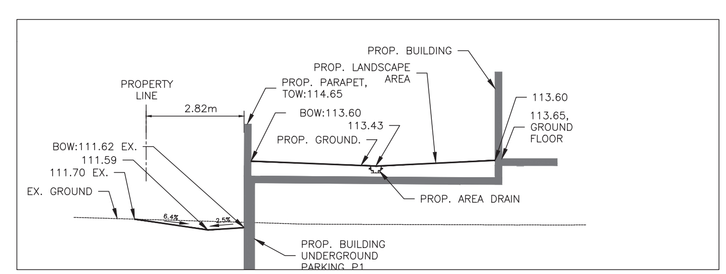
SECTION D-D
SC 1:100



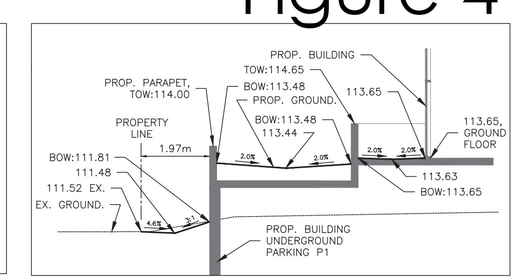
SECTION E-E
SC 1:100



SECTION F-F
SC 1:100

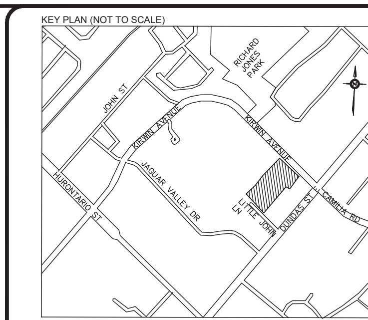


SECTION G-G
SC 1:100



SECTION H-H
SC 1:100

KEY PLAN (NOT TO SCALE)



LEGEND:

	PROPOSED V & B
(D)	PROPOSED DETECTOR CHECK VALVE CHAMBER
	PROPERTY LINE
CB	EXISTING CATCHBASIN
	EXISTING SANITARY MANHOLE
	EXISTING STORM MANHOLE
	PROPOSED SANITARY MANHOLE
	PROPOSED STORM MANHOLE
	EXISTING FIRE HYDRANT
WV	EXISTING FIRE HYDRANT
HP	EXISTING HYDRO POLE
AD	PROPOSED AREA DRAIN
CB	PROPOSED CATCHBASIN
EX: 113.24	EXISTING GROUND ELEVATION (WHERE THE EXISTING GRADES ARE TO BE MATCHED)
EX BOC: 113.24	EXISTING BOTTOM OF CURB ELEVATION
111.56	EXISTING GROUND ELEVATION
112.86	PROPOSED GROUND ELEVATION
TOC: 113.01	TOP OF CURB ELEVATION
BOC: 112.86	BOTTOM OF CURB ELEVATION
TOW: 113.23	TOP OF WALL ELEVATION
BOW: 112.36	BOTTOM OF WALL ELEVATION
T/G: 112.91	TOP OF GRATE ELEVATION
	OVERLAND FLOW ROUTE
	UNDERGROUND PARKING WALL
	OUTLINE OF THE BUILDING
	PROPOSED SWALE
	ACOUSTIC WALL
	CHAIN LINK FENCE
	WOOD PRIVACY FENCE

GENERAL NOTES:

1. ELEVATIONS ARE REFERRED TO THE CITY OF MISSISSAUGA BENCHMARK NO. 793 LOCATED ON THE NORTH FACE AT THE EAST CORNER OF CONCRETE END POST OF BOX CULVERT UNDER DUNDAS STREET EAST ON SOUTH SIDE OF DUNDAS STREET EAST, 15M EAST OF JAGUAR VALLEY DRIVE; HAVING A PUBLISHED ELEVATION OF 110.955 METERS.
2. NO EXTERNAL DRAINAGE OR GRADING PERMITTED INTO PARK BLOCKS

No.	Revision	Date	By	App.
	ISSUED FOR ZBA SUBMISSION	19-03-2021	M.N.	B.H.

LICENSED PROFESSIONAL ENGINEER
F. MORSHEDI
100229200
19-03-2021
PROVINCE OF ONTARIO

625 Cochrane Drive, Suite 900
Markham, Ontario
L3R 9R9, Canada
Tel: (905)470-0015
Fax: (905)470-0030

Owner/Client:
DVB REAL ESTATE INVESTMENTS INC.

Location:
3031 LITTLE JOHN & 3016-3032 KIRWIN AVE DEVELOPMENT

Title:
PRELIMINARY SITE GRADING PLAN

Designed By: M.N.	Drawn By: M.N./J.W.	Checked By: B.H.
Scale: 1:250	Date:	Drawing No.: C-01
Project No.: 21111		

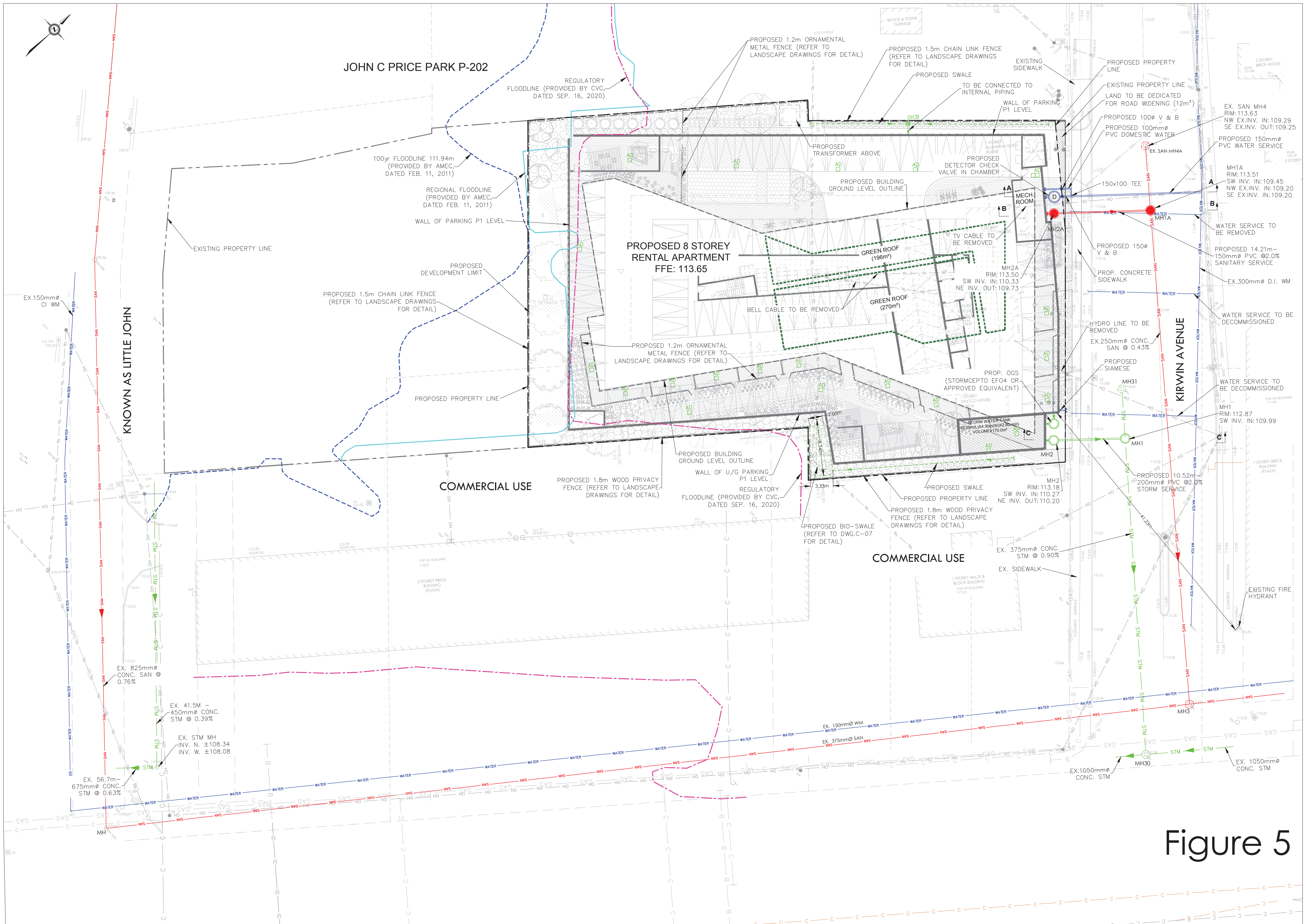
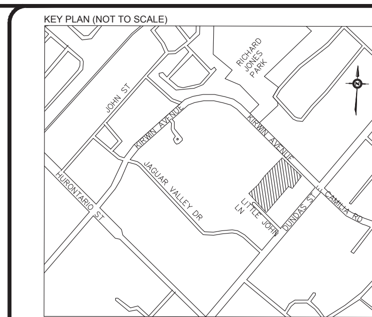


Figure 5

KEY PLAN (NOT TO SCALE)



LEGEND:

- PROPOSED STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- PROPOSED OIL GRIT SEPARATOR
- PROPOSED V & B
- PROPOSED DETECTOR CHECK VALVE CHAMBER
- PROPOSED CATCHBASIN
- PROPOSED AREA DRAIN
- PROPERTY LINE
- BUILDING OUTLINE ABOVE
- EXISTING CATCHBASIN
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING FIRE HYDRANT
- EXISTING HYDRO POLE
- EXISTING WATERMAIN
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING GAS MAIN
- EXISTING HYDRO
- EXISTING BELL CABLE
- EXISTING TV CABLE
- EXISTING BELL CONDUIT
- EXISTING BURIED BELL CABLE
- EXISTING AERIAL ROGERS CABLE

GENERAL NOTES:

1. REFER TO DWG C-05 "SITE SERVICING CROSS SECTIONS" FOR SERVICING CROSS SECTIONS.
2. NO EXTERNAL DRAINAGE OR GRADING IS PERMITTED INTO PARK BLOCKS.
3. ALL AREA DRAINS TO BE CONNECTED TO INTERNAL BUILDING PLUMBING. THE ENTIRE MECHANICAL STORM PIPING BELOW FINISHED FLOOR TO BE JOINT RESTRAINED AND WATERTIGHT.

No.	Revision	Date	By	App.
1	ISSUED FOR ZBA SUBMISSION	19-03-2021	F.M.	B.H.

LICENSED PROFESSIONAL ENGINEER F. MORSHEDI 100229200 19–03–2021 PROVINCE OF ONTARIO

625 Cochrane Drive, Suite 900
Markham, Ontario
L3R 9R9, Canada
Tel: (905)470-0015
Fax: (905)470-0030

Owner/Client: DVB REAL ESTATE INVESTMENTS INC.

Location: 3031 LITTLE JOHN & 3016-3032 KIRWIN AVE DEVELOPMENT

Title: PRELIMINARY SITE SERVICING PLAN

Designed By: F.M.	Drawn By: J.W.	Checked By: B.H.
Scale: 1:250	Date: FEB., 2021	Drawing No.: C-02
Project No.: 21111		

F:\21111.00 3016-3032 Kirwin Ave\Municipal\Drafting\Contract Drawings\C-02-Site Servicing Plan.dwg PRINTED: 3/18/2021

will be split into two sub-catchments. Drainage from the future development on the western portion of the site will be stored and treated to City standards prior to discharging to the storm sewer system along Kirwin Avenue. An on-site storage tank with approximate 170.0 m^3 in volume will be provided to control the post-development 100-year stormwater flows to 2-year pre-development level.

The impact of the proposed amenity areas and walkways is negligible, no SWM facilities are necessary, and therefore not proposed.

Drainage from the southern portion of the site will remain in its existing condition and continue to flow to Cooksville Creek.

Landscaping

A Landscape Plan has been prepared for the site by Marton Smith Landscape Architects (MSLA 2021) and is included as (**Figure 6)**. The landscape plan incorporates some native species of trees, shrubs and groundcovers.

7. Impact Assessment and Mitigation

This section discusses the potential direct and indirect impacts that the proposed development may have on components of the City's Natural Heritage System, including recommendations for impact avoidance, mitigation and compensation.

7.1 Impact Assessment

Terrestrial Vegetation

The western portion of the subject property supports a treed feature that is classified as a cultural woodland and is also identified as a SMA. The EIS has confirmed that based on the size, shape and composition of the treed features, they are too small to qualify as a woodland as defined by the Region and City. The treed areas are largely comprised of non-native invasive trees, many in poor condition, which represent a threat to the native biodiversity of other woodlands in the area. It is for this reason that the City has been identified as a SMA. The treed area corresponding with the SMA will be preserved, with only a small encroachment requiring the removal of nine trees from the edge of the woodland, including one Manitoba Maple, two Norway Maple, five Siberian Elms and one Catalpa.

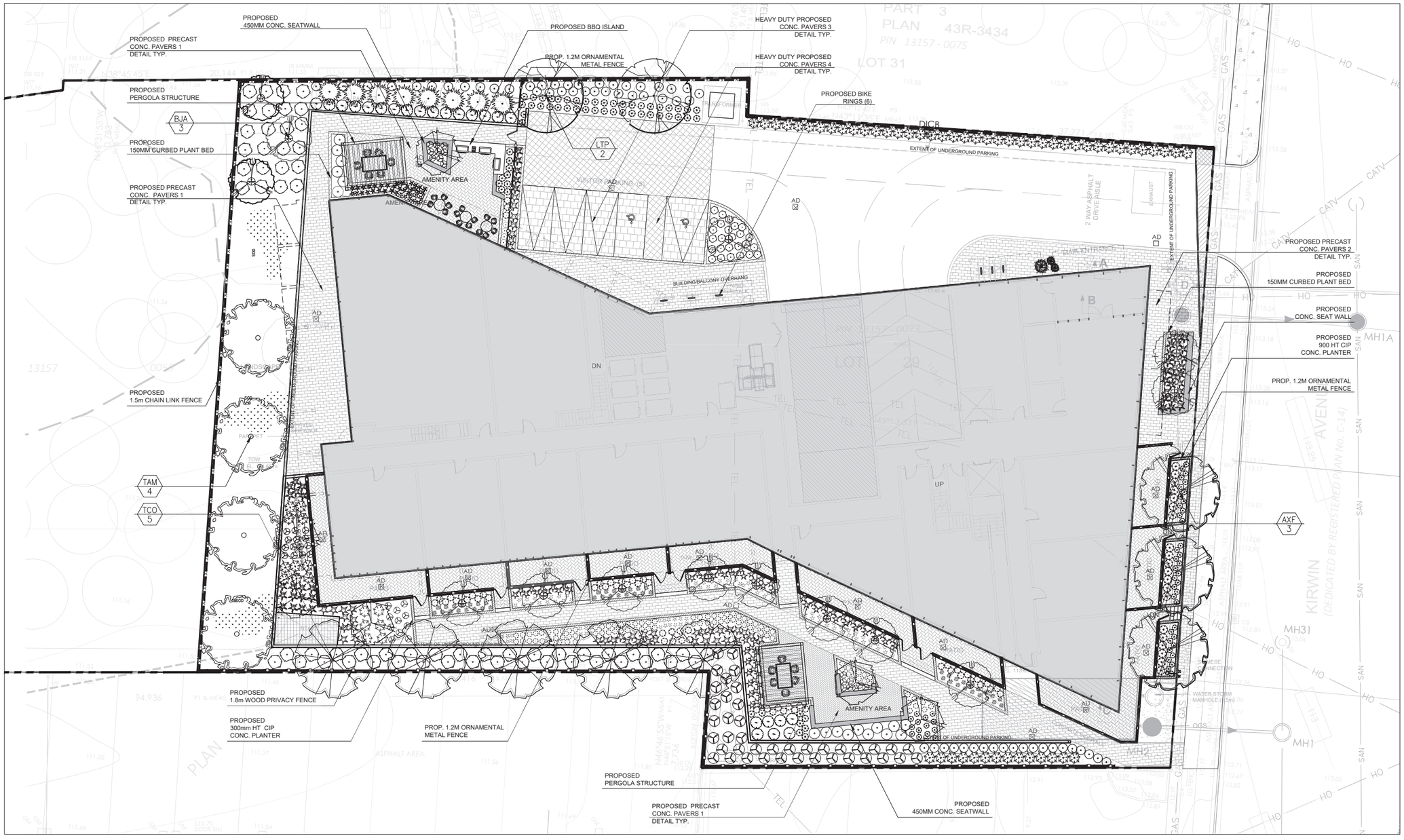
Erosion Hazards and Valleylands

The proposed redevelopment will be located outside of the future regional floodline and approximately 120 m from the creek. Therefore, no direct impacts to the valleyland are anticipated. Indirect impacts can be avoided by implementing the mitigation measure outlined below.

7.2 Mitigation

Impacts to the City's NHS can largely be avoided or minimized through implementation of the following mitigation recommendations:

1. All servicing infrastructure (sewers, catch basins, culverts, etc.) should also be contained within the accepted development limits;
2. All grading should be confined to the grading limits identified on the proposed grading plans;
3. Low impact design measures should be utilized to the extent feasible in the design to promote on-site infiltration (i.e., bioswales, infiltration trenches). Runoff from paved surfaces should be diverted to the City's storm water system or equivalent onsite storage and treatment. Runoff from the eastern portion of the site should be permitted to drain to Cooksville Creek as it does under pre-development conditions;
4. Landscaping plans for the site should utilize a diversity of local native species that are complimentary to the adjacent valley corridor;
5. The erosion and sediment control plan should be implemented prior to the start of construction works;
6. The recommendations from the Revised Arborist Report (Beacon 2021) should be implemented to ensure protection of trees identified for preservation;
7. Following construction, temporary erosion and sediment control measures should be removed after soils are sufficiently covered and stabilized. Exposed soils should be stabilized as soon as possible through re-vegetation using native species or other appropriate methods;
8. Permanent fencing should be established along the limit of development adjacent to the cultural woodland to discourage residential encroachments (e.g. debris dumping, informal trails);
9. A total of 84 trees are proposed for removal from the subject property and adjacent lands. To off-set the loss of trees from the urban forest, an equivalent number of trees should be planted on the subject property. A total of 24 trees are proposed on the Landscape Plan (MSLA 2021) within the proposed development. Additional native trees can be planted within the cultural woodland or in the adjacent parkland;
10. The removal of trees from the site has the potential to disturb breeding birds that may be nesting in the trees. The federal *Migratory Birds Convention Act* protects the nests, eggs and young of most bird species from harassment, harm, or destruction. The breeding bird season in southern Ontario is generally from April 1 to August 31; therefore, the clearing of vegetation should be outside of these dates. For any proposed clearing of vegetation between mid-April and late July an ecologist should undertake detailed nest searches immediately prior (within two days) to site alteration to ensure that no active nests or territorial birds are present;
11. With the construction of buildings adjacent to treed areas, there is a risk of birds colliding against windows. Birds are unable to perceive clear or reflective glass they sometimes fly into windows when trees or sky are reflected in the glass. There are several options available that help make glass visible to birds. For example, patterns or films applied to glass can reduce reflection and provide visual markers that allow birds to perceive and avoid the windows. Window applications are especially important at the first 12 m above grade. It is recommended that the building architects consult the Bird-Friendly Development Guidelines (City of Toronto 2007) for building design recommendations to reduce the risk of bird strikes; and
12. No ecological buffers are recommended as there are no significant natural heritage features located adjacent to the proposed development.



Suggested Plant Material List

KEY	QNTY	BOTANICAL NAME	COMMON NAME	HT/CAL	SPREAD	ROOT	REMARKS
DECIDUOUS TREES							
AXF	3	Acer x freemanii 'Jeffersred'	Jeffersred Freeman Maple	70 mm		B.&B.	Full Form
BJA	3	Betula jacquemontii (multi–stem)	Himalayan White Birch – 3 Stem	70 mm		B.&B.	Specimen
LTP	2	Liriodendron tulipifera	Tulip Tree	70 mm		B.&B.	Full Form
TAM	4	Tilia Americana	Basswood Linden	70 mm		B.&B.	Full Form
TCO	5	Tilia cordata 'Greenspire'	Greenspire Linden	70 mm		B.&B.	Full Form
CONIFEROUS TREES							
JVC	7	Juniperus virginiana	Red Cedar	200 cm		B.&B.	Full Form
DECIDUOUS SHRUBS							
ACB		Amelancier canadensis 'Ballerina'	Ballerina Serviceberry	200 cm		B.&B.	Multi Stem
CCA		Cercls canadensis 'Multi Stem'	Eastern Red Bud	180 cm	pink/pur	B.&B.	Multi Stem
CNR		Cornus racemosa	Gray Dogwood	80 cm		C.G.	Full Form
CNS		Cornus stolonifera	Red Osier Dogwood	80 cm		B.&B.	Full Form
DPL		Dirca palustris	Leatherwood	70 cm		C.G.	Full Form
HAV		Hamemelis virginiana	Common Witch–hazel	80 cm		C.G.	Full Form
HPB		Hydrangea paniculata 'Bombshell'	Dwarf Bombshell Hydrangea	60 cm		5 gal.	Full Form
PON		Physocarpus opulifolius 'Nanus'	Dwarf Ninebark	60 cm		C.G.	Dwarf
RHA		Rhus aromatica	Fragrant Sumac	70 cm		C.G.	Full Form
SBS		Spirea bumalda 'Snow Mound'	Snow Mound Spirea	50 cm		C.G.	Full Form

KEY	QNTY	BOTANICAL NAME	COMMON NAME	HT/CAL	SPREAD	ROOT	REMARKS
DECIDUOUS SHRUBS CONT.							
SJL		Spirea japonica 'Little Princess'	Dwarf Red Spirea	60 cm		C.G.	Full Form
SMP		Syringa meyeri 'Palibin'	Purple Dwarf Korean Lilac	60 cm		C.G.	Full Form
VAC		Viburnum acerifolium	Maple–leaf Viburnum	50 cm		C.G.	Full Form
CONIFEROUS SHRUBS							
TMH		Taxus media 'Hillii'	Hill's Yew	70 cm		C.G.	Full Form
ORNAMENTAL GRASSES							
CAC		Calamagrostis acutiflora 'Karl Foerster'	Karl Foerster Feather Reed Grass			5 Gal.	Full Form
DEC		Deschampia cespitosa	Tufted Hairgrass			2 Gal.	Full Form
HPA		Hystrix patula	Bottlebrush Grass			2 Gal.	Full Form
LMB		Liriope muscari 'Big Blue'	Big Blue Lily Turf			2 Gal.	Full Form
PAV		Panicum virgatum	Switch Grass			2 Gal.	Full Form
PERENNIALS							
ABB		Astilbe 'Bridal Veil'	Bridal Veil White Astilbe			2 Gal.	Full Form
AUU		Arctostaphylos uva–ursi	Bearberry			1 Gal.	Full Form
ECH		Echinacea purpurea	Purple Cone Flower			2 Gal.	Full Form
HJS		Hemerocallis 'Joan Senior'	Joan Senior (white) Daylilies			2 Gal.	Full Form
PLS		Perovskia atriplicifolia 'Little Spire'	Little Spire Russian Sage			2 Gal.	Full Form
POL		Polygonatum multiflorum	Solomuns seal			2 Gal.	Full Form

Legend

Key Map

MARTON SMITH LANDSCAPE ARCHITECTS

170 The Donway W Suite 206,
Toronto, Ontario, Canada, M3C 2G3
tel. 416.492.9966 | email. info@msla.ca

Architect:

Municipality:

MISSISSAUGA

Notes:

Figure 6

No.	Revision	Date
05	Issued for Submission	03/19/21
04	Issued for Coordination	03/09/21
03	Issued for Coordination	02/26/21
02	Issued for Review	02/19/21
01	Issued for Review	01/28/21

North:

Stamp:

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS
OALA
MEMBER

Project:
Proposed Residential Development
3016 Kirwin Ave.
Mississauga, Ontario

Scale: **1:150** Date: **Jan. 2021**
Drawn By: **C.F.** Checked By: **L.M.**

Drawing Title:
Landscape Plan

Project No. **21108**
Sheet No. **L1-01**

All information contained in these plans shall be checked by the contractor. All discrepancies shall be reported to the Landscape Architect (L.A.) before commencing with construction. All drawings have copyright and shall remain the property of the Landscape Architect. Copying or any reproduction in part or whole shall only be permitted with written consent of L.A. Drawings shall not be used for construction unless sealed & SIGNED.
All drainage patterns must drain positively away from buildings or structures at 2% min. The position of existing above ground and underground utilities and facilities are not necessarily shown on the drawings, and where shown, the accuracy of the position of utilities or facilities is not guaranteed. Before starting work, the contractor shall confirm the exact location of all existing utilities and facilities, and shall assume liability for damages.
NOTE: FOR ANY AND ALL GRADING INFORMATION REFER TO SITE GRADING ENGINEERING DRAWINGS. NO SLOPES ARE TO EXCEDE 3:1 • PROPERTY LINES AND SETBACKS MUST BE CONFIRMED BY CONTRACTOR PRIOR TO CONSTRUCTION • ANY AND ALL RETAINING WALLS MUST BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO CONSTRUCTION
DO NOT SCALE DRAWINGS • PRELIMINARY NOT FOR CONSTRUCTION • THESE DRAWINGS ARE NOT TO BE USED FOR CONSTRUCTION UNTIL COUNTERSIGNED BY L. ARCHITECT • SIGNED ________ DATE ________

8. Policy Conformity

A summary of federal, provincial and municipal environmental protection and planning policies and regulations applicable to the Subject Property were discussed in **Section 2**. An evaluation of how the proposed re-development complies with the applicable l policies and legislation is summarized in **Table 4.**

Table 4. Policy Compliance Assessment

Applicable Policy / Legislation	Relevant EIS Findings And Recommendations
***Endangered Species Act* (2007)**	Not applicable. There is no habitat for endangered or threatened species associated with the subject property.
Provincial Policy Statement (2020) Section 2.1 – Natural Heritage	
1. Habitat for Threatened and Endangered Species	See above.
2. Significant Valleylands	According to ROP and MOP policies, Cooksville Creek satisfied criteria as a Significant Valleyland. Development is not permitted within significant valleylands unless it can be demonstrated though and EIS that there will be no negative impact on the feature or its functions. The proposed redevelopment will be setback from the Cooksville Creek valley by more than 70 m and will not negatively impact the Significant Valleyland.
3. Significant Wetlands	Not applicable – There are no Significant Wetlands in the Study Area.
4. Significant Woodlands	Not applicable - There are no Significant Woodlands in the Study Area.
5. Significant Wildlife Habitat	There is no Significant Wildlife Habitat associated with the subject property. The EIS has identified the Cooksville Creek valleylands as Candidate Significant Wildlife Habitat for its Animal Movement Corridor functions. The proposed redevelopment will not negatively impact on this function.
6. Significant Areas of Natural and Scientific Interest	Not applicable – There are no Areas of Natural or Scientific Interest in the Study Area.
7. Fish Habitat	All development will be setback over 75 from the Cooksville Creek; therefore, no impacts to fish habitat are anticipated.
Region of Peel OP	The Regional Greenlands System consists of “Core Areas”, “Natural Areas and Corridors (NAC)”, and “Potential Natural Areas and Corridors (PNAC)”. The subject property does not support Core Areas or NAC. The cultural woodland may qualify as a PNAC. Regional policies pertaining to NAC’s and PNAC’s defer their interpretation, protection, restoration, enhancement, proper management and stewardship to local municipalities (in this case the City of Mississauga, see below).
Mississauga OP (2019)	
1. Natural Heritage System	The western portion of the subject property is mapped as a SMA. It is the policy of the City to manage, restore and enhance SMAs in a manner that compliments and supports the adjacent Significant Natural Area or Natural Green Space. The SMA

Applicable Policy / Legislation	Relevant EIS Findings And Recommendations
	corresponds with parkland to the west and a cultural woodland feature on the subject property.
2. Natural Hazard Lands	The western portion of the subject property corresponds with the Cooksville Creek floodplain and is mapped as Natural Hazard Land in the MOP. All proposed structures will be located outside the natural hazard lands. Refer to LEA SWM Design Brief 2021.
3. Urban Forest	The City's Urban Forest is recognized as a component of the NHS. The proposed development will require removal of 84 trees from the subject property and adjacent lands. The removal of these trees will be off-set by planting an equivalent number of trees on the subject property and/or the adjacent lands.
CVC Regulations and Policies	CVC regulates hazard lands including floodplains. The western portion of the property overlaps with the Cooksville Creek floodplain. No structures are proposed within the proposed future floodplain.

9. Conclusion

DVB Real Estate Investments Inc. is proposing to redevelop properties located at 3016, 3020, 3026, and 3032 Kirwin Avenue and 3031 Little John Lane in the City of Mississauga (subject property). The proposed redevelopment consists of an 8-storey rental apartment building with a total of 148 units and associated aboveground and underground parking as well as an outdoor amenity space. The proposed redevelopment will occur outside of the floodline.

The subject property corresponds with former single-family residential developments fronting Kirwin Avenue and a vacant parcel on Little John lane. The residences have been demolished and much of the site has been cleared. The western portion of the subject property has been identified as a SMA and forms part of the City's Natural Heritage System. It is the policy of the City of Mississauga to require that an EIS be prepared in support of applications for development and/or site alteration within or adjacent to certain components of its Natural Heritage System, including SMAs.

Beacon was retained by DVB Real Estate Investments Inc. to prepare a Scoped Environmental Impact Study (EIS) in support of the proposed redevelopment application. The purpose of an EIS is to demonstrate that the proposed development and/or site alteration can proceed without negatively impacting upon on significant natural heritage features or ecological functions and to also identify opportunities for protection, restoration, enhancement and expansion of the Natural Heritage System.

The EIS was prepared in accordance with the City of Mississauga EIS Checklist (October 2017) and has been scoped to confirm whether the redevelopment proposal has the potential to adversely impact the adjacent Significant Natural Area and to identify stewardship opportunities for the SMA. The EIS describes the natural heritage features and ecological functions associated with the property, assesses the potential direct and indirect impacts of the proposed re-development on these features and functions, and recommends mitigation and enhancement measures to protect and restore the ecological integrity of the Natural Heritage System.

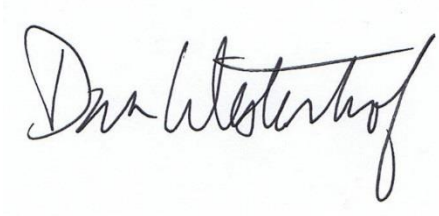
Significant natural heritage features in the broader Study Area include fish habitat, significant valleylands and significant wildlife habitat. All these significant natural heritage features are associated with the Cooksville Creek corridor which is located 70 m to the west and west of the subject property and more than 120 m from the proposed development. The impact assessment presented in the EIS

has confirmed that the proposed re-development will not adversely impact upon the identified Significant Natural Area.

The EIS has evaluated the SMA that overlaps with the western portion of the subject property and determined that the area is partially wooded and in very poor condition due to past land uses and the predominance of non-native invasive vegetation cover. A previous version of the EIS (Beacon 2017) recommended a comprehensive restoration plan for this area, which was to be undertaken by the proponent; however, through subsequent consultation with the City and CVC, it was agreed that the trees corresponding with the SMA will be maintained. Additionally, in September of 2020, Weston Consulting and CVC came to the agreement that the previously approved AMEC floodline will be the limit of development and that no buffering or setbacks from the floodline will be required

In summary, the proposed redevelopment will not adversely impact upon any significant natural heritage features and ecological functions associated with the Natural Heritage System. Therefore, it is our opinion that the proposed re-development is in conformity with the various environmental policies and regulations that apply to the site.

Report prepared by:
Beacon Environmental



Dan Westerhof, B.Sc., M.E.S.
Terrestrial Ecologist,
ISA Certified Arborist (ON-1536A)

Report prepared by:
Beacon Environmental

Anna Cunningham, B.Sc.(Hons.)
Ecologist

Report reviewed by:
Beacon Environmental

Ken Ursic, B.Sc., M.Sc.
Principal, Senior Ecologist

10. References

Aquafor Beech Ltd. and Limniotech. 2012.
Cooksville Creek Flood Evaluation Master Plan EA. July 2012.

Aquafor Beech Ltd. 2011.
Cooksville Creek Watershed Study and Impact Monitoring Characterization Report. March 2011.

Beacon Environmental Ltd. 2017.
Scoped Environmental Impact Study 3016-3032 Kirwin Avenue & 3031 Little John Lane, Mississauga, ON. December 2017.

Beacon Environmental Ltd. 2021.
Revised Arborist Report for 3016-3032 Kirwin Avenue & 3031 Little John Lane, Mississauga, ON. March 2021.

COSEWIC. 2007.
COSEWIC assessment and status report on the Chimney Swift *Chaetura pelagica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp.

Credit Valley Conservation. 2002

Credit Valley Conservation (CVC). 2002.
Plants of the Credit River Watershed.

Credit Valley Conservation (CVC). 2010.
Watershed Planning and Regulation Policies. April 9, 2010.

Credit Valley Conservation (CVC). No date.
A Landowner's Guide to Managing and Controlling Invasive Plants.

Chapman, L.J. and D.F. Putnam. 1984.
The Physiography of Southern Ontario, Third Edition. Ontario Geological Survey, Special Volume 2, 270p. Accompanied by Map P.2715 (coloured), scale 1:600,000.

City of Mississauga. 2017 – City of Mississauga Official Plan – August 2, 2017 Consolidation.

Dougan and Associates and North South Environmental Inc. 2009.
Migratory Birds in the City of Toronto. August 2009.

Hoffman, D. W. and N. R. Richards. 1953.
Soil Survey of Peel County. Report No. 18 of the Ontario Soil Survey. Guelph, ON.: Department of Agriculture.

Humphrey, C. 2017.
Recovery Strategy for the Eastern Small-footed Myotis (*Myotis leibii*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 76 pp.

KFA Architects and Planners Inc. 2020.
Drawing A001 - Site Plan and Stats. November 12, 2020.

LEA Consulting Inc. 2021.
Functional Servicing and Stormwater Management Report. March 2021.

LEA Consulting Inc. 2021a.
Preliminary Site Grading Plan. Sheet C-01.

LEA Consulting Inc. 2021b.
Preliminary Site Servicing Plan. Sheet C-02.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. *Ecological Land Classification for Southern Ontario: First Approximation and Its Application*. Ontario Ministry of Natural Resources. SCSS Field Guide FG-02. 225 pp.

Marton Smith Landscape Architects. 2021.
Landscape Plan – Sheet No. L1-01. March 19, 2021.

Newmaster, S.G. and S. Ragupathy. 2012.
Flora Ontario – Integrated Botanical Information System (FOIBIS), Phase I. University of Guelph, Canada. Available at: http://www.uoguelph.ca/foibis/

North South Environmental Inc. (NSEI) and City of Mississauga. 2017.
Natural Areas Fact Sheet CV 12.

North South Environmental Inc (NSEI), Dougan and Associates, and Sorensen Gravely Lowes. 2009.
Peel-Caledon Significant Woodland and Significant Wildlife Habitat Study. June 2009.

Ontario Ministry of Natural Resources. 2000.
Significant Wildlife Habitat Technical Guide. October 2000.

Ontario Ministry of Natural Resources. 2010.
Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. March 18, 2010.

Ontario Ministry of Natural Resources. 2012.
Endangered Species Act Submission Standards for Activity Review and 17 (2)(c) Overall Benefit Permits. February 2012.

Ontario Ministry of Natural Resources. 2015.
Significant Wildlife Habitat Criteria for Ecoregion 7E. January 2015.

Ontario Ministry of Natural Resources and Forestry. 2016
Guelph District. 2017. Bat and bat habitat surveys of treed habitats. Updated April 2017. 13 p.

Ontario Ministry of Municipal Affairs and Housing (MMAH). 2020.
Provincial Policy Statement. Toronto, Ontario.

Region of Peel. 2016 – Peel Region Official Plan – December 2016 Consolidation.

Varga. 2005.
Distribution and Status of the Vascular Plants of the Greater Toronto Area.

Appendix A

EIS Checklist

Environmental Impact Study Checklist
October 2017

MISSISSAUGA

Applicant: Tim Jessop (Nyx Capital Corp.) Env. Consultant: Ken Ursic (Beacon Environmental)

Phone: (416) 548-5590 x1006 Phone: (519) 826-0419 x23

Email: tim@nyxcapital.com Email: kursic@beaconenviro.com

PAM and/or DARC # and Date: DARC 17-45, May 17, 2017

Development Application (check): ☐ Official Plan Amendment ☐ Zoning By-law Amendment ☒ Site Plan Application ☐ Subdivision ☐ Condominium ☐ Other

Site / Property Address: 3016, 3020, 3026, and 3032 Kirwin Avenue and 3031 Little John Lane

Process

- Applicant requests site meeting prior to initial submission
- After site meeting, environmental consultant completes EIS Checklist based on on-site discussion and submits to City for confirmation
- EIS, with EIS Checklist included as an appendix, becomes part of complete application
- Depending on application type, an addendum may be required with subsequent applications (eg. level of detail required at OPA versus Site Plan)
- Natural heritage records generally require updates or field verification after 5 years
- If additional questions, please contact Ken Ursic (Beacon Environmental)

Content

The following is a checklist of all the potential sections that may need to be addressed as part of an EIS. However, depending on the scope and scale of the proposed development and/or site alteration, as well as the nature and extent of natural heritage features and areas to be considered, not all elements will necessarily be required. Components not included in the Terms of Reference, with a rationale for their exclusion, should be marked as "N/A".

1. Introduction

- ☒ Description of subject property (natural features and areas, land cover, existing hard surfaces or buildings)
- ☒ Description of the type and scale of the development proposal (including, but not limited to, servicing, above and below ground structures, proposed grading)
- ☒ Describe the historical and present uses of the subject property:
  - ☒ grading/filling activities
  - ☐ brownfield contamination
- ☒ Description of the site context/study area and the subject property's relationship to the surrounding landscape
- ☒ Include map(s) of the development location, subject property and study area
  - ☒ Orthographic map with known natural heritage features/areas overlaid

2. Planning Context

- ☒ Current land uses designation and zoning for the subject property and for the adjacent lands, including Upper and Lower Tier designations
- ☒ Identify the type of required development applications
- ☒ Include map(s) of the development location and extent of the area to be studied including current Land Use / Zoning City Land Use and Zoning are discussed in EIS.
- ☒ Identify environmental legislative, regulatory and policy requirements that may affect the development proposal, including clauses relevant to the proposal (Federal, Provincial, Municipal – Upper and Lower Tier, and Conservation Authority)

3. Background Review

- ☒ Identify relevant information from existing studies, plans, databases and other sources to be analyzed as part of the EIS including, but not limited to, Natural Heritage and Urban Forest Strategy, Natural Areas Survey, Region of Peel data, Conservation Authority data, Natural Heritage Information Centre

4. Characterizing the Natural Environment: Approach and Methodology

- ☒ Detailed study methods for studying natural heritage features and areas, wildlife habitat and Species at Risk (including time of year, level of searcher effort, etc.)
- ☒ Identify and describe the approach and methods to be used to assess natural environment of the subject property and the adjacent lands for:
  - ☒ Geology and Soils
  - ☒ Hydrology and Hydrogeology
  - ☒ Aquatic and Fish Habitat
  - ☒ Terrestrial Vegetation (including wetlands)
  - ☒ Vegetation Communities (Ecological Land Classification)
  - ☒ Wildlife
  - ☒ Natural Hazards
  - ☒ Connectivity and Ecological Linkages
- ☒ Identify whether there are potential natural heritage features and areas that do not need to be assessed, and provide a rationale for their exclusion
- ☒ Complete a screening for Significant Wildlife Habitat
- ☒ Include map(s) showing locations for field studies (i.e. points, plots, transects) Site is very small and entire area was surveyed. EIS explains the methodology further.
- ☒ Tree inventory and preservation plan for trees outside of the NAS

5. Data Analysis: Approach and Methodology

- ☒ Evaluation of Significance and Natural Hazards—identify that the following assessments are in scope and any known analysis that will need to be included
  - ☒ Natural heritage features and areas against the appropriate policies and guidelines to determine significance:
  - ☒ Natural heritage features and areas against the appropriate policies and guidelines related to natural hazards:
  - ☒ Appropriate buffers and/or setbacks to the natural heritage features
- ☒ Natural Heritage Opportunities and Constraints— identify that it is in scope
- ☒ Environmental Policy Analysis (confirmation of policies and legislation to be addressed)
- ☒ Impact Assessment—identify that the scope includes direct, indirect, and cumulative impacts
- n/a ☐ Evaluation of Alternative Options/Measures—establish key analysis points to be addressed in the EIS
- ☒ Recommended Mitigation Measures (including, but not limited to avoidance, enhancement, restoration, education and stewardship)

6. Monitoring

- ☒ Monitoring Plan (outline of the types of monitoring to be included in the EIS)

7. Recommendations and Conclusion

- ☒ Recommendations Concluding Statement (confirm they are to be provided in the EIS)

Signatures

Env. Consultant: _____ Date: December 8, 2017

City Of Mississauga: _____ Date: _____

Appendix B

Plant List

Appendix B

Plant List

Family Name	Scientific Name	Common Name	S-RANK[a]	Peel[b]
Juglandaceae	*Juglans nigra*	Black Walnut	S4?	
Aceraceae	*Acer negundo*	Manitoba Maple	S5	
Anacardiaceae	*Rhus hirta*	Staghorn Sumac	S5	
Asteraceae	*Solidago altissima var. altissima*	Tall Goldenrod	S5	
Asteraceae	*Symphyotrichum lanceolatum* ssp. *lanceolatum*	Panicled Aster	S5	
Cupressaceae	*Juniperus virginiana*	Eastern Red Cedar	S5	
Geraniaceae	*Geranium robertianum*	Herb-robert	S5	
Oleaceae	*Fraxinus pennsylvanica*	Green Ash	S5	
Rosaceae	*Prunus virginiana* var. *virginiana*	Choke Cherry	S5	
Rosaceae	*Rubus idaeus* ssp. *strigosus*	Wild Red Raspberry	S5	
Rubiaceae	*Galium aparine*	Cleavers	S5	R4
Ulmaceae	*Ulmus americana*	American Elm	S5	
Violaceae	*Viola sororia*	Woolly Blue Violet	S5	
Vitaceae	*Parthenocissus vitacea*	Thicket Creeper	S5	
Vitaceae	*Vitis riparia*	Riverbank Grape	S5	
Aceraceae	*Acer platanoides*	Norway Maple	SNA	
Apiaceae	*Aegopodium podagraria*	Goutweed	SNA	
Asteraceae	*Taraxacum officinale*	Common Dandelion	SNA	
Bignoniaceae	*Catalpa speciosa*	Northern Catalpa	SNA	
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	SNA	
Brassicaceae	*Hesperis matronalis*	Dame's Rocket	SNA	
Caprifoliaceae	*Lonicera tatarica*	Tartarian Honeysuckle	SNA	
Celastraceae	*Euonymus europaea*	European Spindle-tree	SNA	
Cyperaceae	*Carex spicata*	Spiked Sedge	SNA	
Fabaceae	*Robinia pseudo-acacia*	Black Locust	SNA	
Lamiaceae	*Leonurus cardiaca* ssp. *cardiaca*	Common Motherwort	SNA	
Liliaceae	*Convallaria majalis*	European Lily-of-the-valley	SNA	
Papaveraceae	*Chelidonium majus*	Greater Celadine	SNA	
Pinaceae	*Picea abies*	Norway Spruce	SNA	
Pinaceae	*Pinus sylvestris*	Scotch Pine	SNA	
Poaceae	*Dactylis glomerata*	Orchard Grass	SNA	
Poaceae	*Poa pratensis* ssp. *pratensis*	Kentucky Bluegrass	SNA	
Rhamnaceae	*Rhamnus cathartica*	Buckthorn	SNA	

Family Name	Scientific Name	Common Name	S-RANK[a]	Peel[b]
Rosaceae	*Geum urbanum*	Clover-root	SNA	
Salicaceae	*Salix* x *rubens*	Reddish Willow	SNA	
Ulmaceae	*Ulmus pumila*	Siberian Elm	SNA	

a - SRANK (from Natural Heritage Information Centre) for breeding status if: S4 (Apparently Secure), S5 (Secure) SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)
b - Varga, 2005 (Distribution and Status of the Vascular Plants of the Greater Toronto Area): R^x, where x is the number of stations for a rare native specie