



Corporate Report

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DATE: March 25, 2014

TO: Chair and Members of Planning and Development Committee
Meeting Date: April 14, 2014

FROM: Edward R. Sajecki
Commissioner of Planning and Building

SUBJECT: **Natural Heritage and Urban Forest Strategy - Proposed
Mississauga Official Plan Amendments
PUBLIC MEETING**

RECOMMENDATION:

1. That the submissions made at the public meeting to be held at the Planning and Development Committee meeting on April 14, 2014 to consider the proposed Mississauga Official Plan amendments as outlined in the report titled "Natural Heritage and Urban Forest Strategy - Proposed Mississauga Official Plan Amendments" dated March 25, 2014, from the Commissioner of Planning and Building, be received.
2. That Planning and Building Department staff report back on the submissions.

REPORT HIGHLIGHTS:	<p>Proposed Mississauga Official Plan amendments to implement the Natural Heritage and Urban Forest Strategy include:</p> <ul style="list-style-type: none">• Revising the Green System policy framework to clarify Natural Heritage System components and include the Urban Forest;• Revising policies related to the Natural Heritage System to be clearly consistent with Provincial legislation and conform to Regional official plan policies;
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- Clarifying and strengthening policies related to the Natural Heritage System; and
- Redesignating selected City-owned sites identified as Significant Natural Areas to the “Greenbelt” land use designation.

BACKGROUND:

The Natural Heritage and Urban Forest Strategy, endorsed by City Council (GC-0023-2014) on February 12, 2014, proposes revisions to Mississauga Official Plan policies to strengthen the protection, enhancement, restoration, expansion and connectivity of Mississauga’s Natural Heritage System and Urban Forest.

The strategy concludes that while the Mississauga Official Plan Green System policy framework is fairly comprehensive and already includes a number of policies that are both appropriate and progressive, the following was noted:

- The Urban Forest is not included in the Green System framework;
- The term “Natural Areas System” continues to be used instead of the more widely accepted provincial standard “Natural Heritage System”;
- A clearer policy distinction between the three sub- categories of the Natural Areas System is needed;
- Explicit links between the Natural Areas System and Provincial and Regional policy direction regarding natural heritage are needed;
- The criteria for identification of some of the components of the Natural Areas System require clarification;
- Not all Significant Natural Sites and Natural Sites are designated as Greenbelt or Open Space; and
- Updated terms should be defined in the Mississauga Official Plan.

COMMENTS:**Proposed Amendments to Chapter 6: Value the Environment**

The proposed amendments which were prepared as part of the Natural Heritage and Urban Forest Strategy are shown in Appendix 1.

Deletions are shown as ~~strikeouts~~, additions are shown in red print and policies which have been moved are shown in green print.

A summary of the main additions to Mississauga Official Plan policies is provided below.

Revising the Green System policy framework to clarify Natural Heritage System components and include the Urban Forest

- Rename the “Natural Areas System” to the “Natural Heritage System”.
- Create a consolidated category for all natural heritage features afforded the highest level of protection called “Significant Natural Areas” and retain the existing category of “Natural Green Spaces” for features or areas where a more flexible approach is warranted.
- Revise the illustration of the Green System framework to reflect the policy changes above and include the Urban Forest with its related components.

Revising policies related to the Natural Heritage System to be clearly consistent with Provincial legislation and conform to Regional official plan policies

- Reflect the intent of the Provincial Policy Statement by using terminology and structure from the Provincial Policy Statement for the recommended natural heritage system and features to be included in the proposed “Significant Natural Areas” category (e.g., Significant Wetlands, Significant Woodlands, Significant Valleylands, etc.).
- Clarify the relationship to the Regional Greenlands System (ROPA 21b) so it is clear what features fall into the “Core Areas” or Natural Areas and Corridors” (in which development is largely constrained) and “Potential Natural Areas and Corridors” (where land uses are less constrained).
- Clarify what constitutes a significant woodland and significant valleyland within the proposed Significant Natural Area category by using Table 1 of ROPA 21b as the basis for the policy criteria.

Clarifying and strengthening policies related to the Natural Heritage System

- Designate Significant Natural Areas as Greenbelt to ensure their long term protection.
- Apply site plan control for development in Residential Woodlands.

Proposed Redesignation of Significant Natural Areas to “Greenbelt”

As listed above, a proposed policy amendment involves the redesignation of all natural features and areas comprising Significant Natural Areas to “Greenbelt”. While staff support this recommendation, they propose a phased approach where only City-owned sites that are already within the Natural Areas System be redesignated at this time.

A phased approach to the redesignation of Significant Natural Areas would allow for the opportunity to consult with private land owners and to undertake field work on sites that are not currently in the Natural Areas System. Further, a phased approach would allow for the opportunity to consider various implementation strategies and policy options which may involve the redesignation of lands in conjunction with a development application, inclusion of lands in an acquisition strategy, and special site policies and zoning to acknowledge any existing land uses.

The redesignation of selected City-owned Significant Natural Areas, would achieve the following:

- strengthen the protection of natural features;
- conform to the Peel Region’s Core Greenlands Official Plan policies; and

- demonstrate the City's commitment to protect Significant Natural Areas.

The sites proposed to be redesignated are shown in Appendix 2.

STRATEGIC PLAN: The proposed amendments are consistent with the Living Green pillar and the Strategic Plan goal to conserve, enhance and connect natural environments.

FINANCIAL IMPACT: Not applicable.

CONCLUSION: It is proposed that Mississauga Official Plan be amended to implement the recommendations of the Natural Heritage and Urban Forest Strategy. These amendments affect Chapter 6: Value the Environment. Also, it is proposed that City-owned lands that have been identified as Significant Natural Areas and are currently within the Natural Areas System be redesignated to "Greenbelt" at this time and a phased approach to the redesignation of other Significant Natural Areas be taken.

ATTACHMENTS:

APPENDIX 1:	Mississauga Official Plan Chapter 6: Value the Environment Amendments.
APPENDIX 2:	City-owned Significant Natural Areas to be Redesignated Greenbelt.

Edward R. Sajecki
Commissioner of Planning and Building

Prepared By: Eva Kliwer, Policy Planner

6 Value the Environment

6.1 Introduction

Mississauga is located on the shore of Lake Ontario, part of the largest system of freshwater lakes in the world. Mississauga contains watersheds of the Credit River, Etobicoke Creek and other *watercourses* that form part of the Great Lakes drainage basin. Mississauga is partially within the Carolinian Forest Ecoregion, Canada's most biologically diverse ecological region. This region contains Canada's most rare and endangered plants and animals, and is the most threatened ecological region in Ontario.

The City's Strategic Plan identifies "Living Green" as one of the five pillars of the strategic vision for the

city. Living Green involves implementing measures that are sensitive to, and complement, the natural environment. As the city continues to grow, it is imperative that growth does not compromise the natural environment, including the climate. The health of the natural environment is critical to human and economic vitality and the overall well-being of society. It provides the fundamental necessities of life – clean air, land and water – and is an essential component of the fabric and character of communities. Further, climate change affects land use policies and transportation choices that can contribute to improving the quality of the environment and lead to developing a sustainable city. These policies are the subject of this chapter.



Figure 6-1: As an environmentally responsible community, Mississauga is committed to environmental protection, conducting its corporate operations in an environmentally responsible manner and promoting awareness of environmental policies, issues and initiatives. Residents and businesses have a large role to play to help protect and enhance the land, air, water and energy resources that are enjoyed by all in the city. (Credit River Valley)

Promoting transit as a form of transportation supported by transit supportive uses, which employ compact design principles, will assist in addressing the issues that are negatively impacting the environment. Other chapters of this Plan address these matters and support the Living Green pillar of the Strategic Plan.

There are many opportunities for all lands within the city to contribute to the health of the natural environment. The Green System in Mississauga, consisting of the Natural Areas Heritage System, the Urban Forest, Natural Hazard Lands and Parks and Open Spaces, contributes to a valuable natural environment in the city. These areas provide habitats for flora and fauna to thrive and although not all of these areas are within the Natural Heritage System, they serve to support and connect the Natural Heritage System. These areas also provide locations for residents, employees and visitors to recreate and enjoy nature. The Urban Forest, comprising trees on public and private properties in the city, also contributes to a healthy and sustainable city, and should be protected and enhanced where possible.



Figure 6-2: Mississauga's Natural Areas and their ecological functions will be preserved and enhanced, and natural resources managed wisely, so that current and future generations enjoy a healthy and safe environment

Water, air and land are essential elements of the environment affected by human activity. Issues such as stormwater, air quality, **contaminated sites**, noise and **waste** generation have a significant impact on the environment and require mitigation and management to reduce their impacts. Sustainably managing land means directing growth to protect and enhance the natural environment, maximize public benefit and contribute to the economy. It means that development is integrated into the community, while negative impacts to the Green System, the Urban Forest, ecological processes and biological diversity are avoided. It also means protecting, enhancing and, where possible, restoring the Natural Areas Heritage System.

The rehabilitation and development of brownfield sites presents an opportunity to remediate existing contamination and provide opportunities for community improvement. The generation of **waste** and how it is managed is another critical factor in creating a healthy environment. Noise is a common occurrence in an urban environment. Traffic and aircraft noise as well as noise generated by various land use activities needs to be managed and mitigated in order to create a comfortable living and working environment.

6.1.1 Mississauga will:

- a. protect, enhance and restore the Natural **Heritage Areas** System;
- b. protect life and property from natural and human made hazards;
- c. **encourage the stewardship and enhancement of other areas within the Green System, particularly where it enhances the function and linkage of the Natural Heritage System:**
- d. promote pollution prevention, reduction of natural resource consumption and increased use of renewable energy; and
- e. ensure land use compatibility.

6.1.2 Mississauga will promote an **ecosystem approach** to planning.

6.1.3 Mississauga will protect the quality and integrity of its air, land, water and biota for current and future generations.

6.1.4 Mississauga will promote pollution prevention in order to help protect the quality of the air, land and water.

6.1.5 Mississauga will promote education, awareness, community involvement and commitment to community stewardship for the protection and enhancement of the environment.

6.1.6 Mississauga will work with other jurisdictions and levels of government and encourage and support partnerships among the City, industries, businesses and the community to improve air quality, protect and enhance the natural environment, reduce energy use and manage *waste*.

6.1.7 Mississauga will work with other jurisdictions and levels of government, industries, businesses and the community to address climate change mitigation and adaptation.

6.1.8 Sensitive land uses will not be permitted adjacent to existing major facilities such as the airport, transportation corridors, wastewater treatment plants, *waste* sites and industrial and aggregate activities, if adverse effects from these facilities cannot be mitigated.

6.1.9 Sensitive land uses may be considered in proximity to major facilities such as the Airport, transportation corridors, wastewater treatment plants, *waste* sites, industries and aggregate activities only where effective control is provided through appropriate site and building design, buffers and/or separation distances to prevent adverse effects from these facilities.

6.1.10 In accordance with the Provincial Government guidelines, the development proponent will be required to undertake a feasibility study in those cases where:

- a. a sensitive land use is proposed within the area of influence of a facility that generates contaminant discharges; or

- b. facility generates contaminated discharges or a proposed facility is likely to generate contaminated discharges. The study will evaluate the impacts, both before and after any proposed mitigation measures are applied and identify options for mitigation both at the source or elsewhere to the satisfaction of the City and other appropriate approval authorities.

6.2 Living Green

To create a sustainable environment, everyone should aspire to “live green”. The integration of green development techniques contribute to the environment in a variety of ways. For example, landscaped areas can be naturalized, trees can be planted, stormwater can be managed on-site and green roofs can be constructed.

Climate change is a daunting issue that requires the collective actions of many. While no individual development or municipality can solve the issue of climate change, it is necessary to consider the environmental impacts of every development proposal and planning decision, and mitigation measures to avoid environmental harm and adapt to changing environmental conditions.

Other chapters of this Plan address creating an urban structure that directs growth to Intensification Areas where compact, mixed use areas will be supported by transit and where walking and cycling will be viable modes of transportation. This is essential to creating an environmentally sustainable city.



Figure 6-3: Naturalized landscaping with native, non-invasive plants species in the city's employment areas benefits the environment in many ways, such as improving air quality, reducing water consumption and pesticide use, and providing habitat for birds and insects.

This Plan also contains policies regarding the Natural **Heritage Areas** System. In addition to preserving and enhancing the Natural **Heritage System Areas**, **stormwater best management practices** for new development can also be employed. Use of green development standards such as Leadership in Energy & Environmental Design (LEED), Green Globes or other customized standards can do much to ensure that new development or existing development is environmentally sustainable.

Individual sites and portions of the public realm can contribute to the health of the environment by incorporating measures such as:

- orienting buildings to be “solar ready” to take advantage of passive heating and cooling;
- connecting to district energy systems;
- using **renewable energy** sources such as solar or geothermal energy;
- managing stormwater runoff using **stormwater best management practices**;
- naturalizing landscapes with native, non-invasive species;
- planting trees;
- installing green roofs or white roofs;
- supporting urban agriculture;
- preventing and reducing pollution; and
- considering the impact of development on sensitive land uses.

6.2.1 Mississauga will strive to be a leader in sustainable development to mitigate, manage and adapt to the impacts of climate change.

6.2.2 Mississauga will build communities that are environmentally sustainable and encourage sustainable ways of living.

6.2.3 Mississauga will develop a green development strategy to enhance environmental sustainability.

6.2.4 Mississauga may develop incentive programs to encourage green development.

6.2.5 Mississauga encourages the retrofitting of existing buildings and developed sites to be more environmentally sustainable.

6.2.6 Mississauga will encourage naturalized landscaped areas ~~adjacent to Natural Areas~~ using native, non-invasive species, **especially on lands within the Green System**.

6.2.7 Mississauga will require development proposals to address the management of stormwater using **stormwater best management practices**.

6.2.8 Mississauga will encourage the use of green technologies and design to assist in minimizing the impacts of development on the health of the environment.

6.2.9 Pollution concerns may affect land, water and air quality. Mississauga will support other levels of government in their efforts to monitor land, water and air quality and where feasible, to establish programs to screen proposals for their impacts in this regard.

6.2.10 Mississauga will support and encourage initiatives and pollution prevention programs to prevent and reduce the causes and impacts of pollution.

6.2.11 A Pollution Prevention Plan must be undertaken for development, which has the potential to generate pollutant discharges to a storm sewer system or to a water body prior to approval. The plan must consider the use of processes, practices, materials or technology that avoids or minimizes the creation of pollutant discharges to a storm sewer system or to a water body. The implementation of the recommended measures will be conditions of approval.

6.2.12 Mississauga will encourage tree planting on public and private lands ~~allowing for an~~ **and will strive to** increase in the Urban Forest canopy.

6.3 Green System

6.3.1 Introduction

The Green System makes up almost 23 per cent of total land cover in Mississauga and is composed of:

- Natural Areas Heritage System;
- The Urban Forest;
- *Natural Hazard Lands*; and
- Parks and Open Spaces.

The four principal components of the Green System, as listed above, are part of a broader urban ecosystem and should be viewed within the context of a single, inter-related system of green spaces. As shown in Figure 6.4 these four components are not mutually exclusive.

It is challenging to achieve a high level of ecological function and connectivity in an urban area. The Green System is a response to this challenge and creates a framework to maximize ecological functions and connectivity within the city.

The most significant natural heritage features and areas in Mississauga are captured within the Natural Heritage System. Other components of the Green System support the Natural Heritage System, and are particularly important for providing connections among natural heritage features and areas within the Natural Heritage System. These connections may be direct connections, as when a city park is situated between two natural areas within the Natural Heritage System, or they may provide “stepping stones” that allow temporary refuge for species that are moving between natural heritage features and areas that lack direct connections.

Lands within the Natural Areas Heritage System perform an essential ecological function. They sustain *biodiversity* by providing habitat for plants and animals and they clean the air and water. The connectivity of the Natural Areas Heritage System is important for maintaining native vegetation communities and providing corridors for urban wildlife. Preserving and enhancing these lands in their natural state is essential to the overall health and functioning of the natural environment. As such, Mississauga will promote and be proactive in the management of its Natural Areas Heritage System.

The Urban Forest includes all the trees within the City of Mississauga on both public and private lands, within the Natural Heritage System as well as along streets, in parks, in yards and on a wide range of open spaces and other land uses. The Urban Forest, as a whole, contributes to the city's health and the quality of life for those who live, work and play here. As such, the City of Mississauga will promote and be proactive in the sustainable management of its Urban Forest.



Figure 6-4: The Green System as set out in these four components provides opportunities for management, enhancement and stewardship.

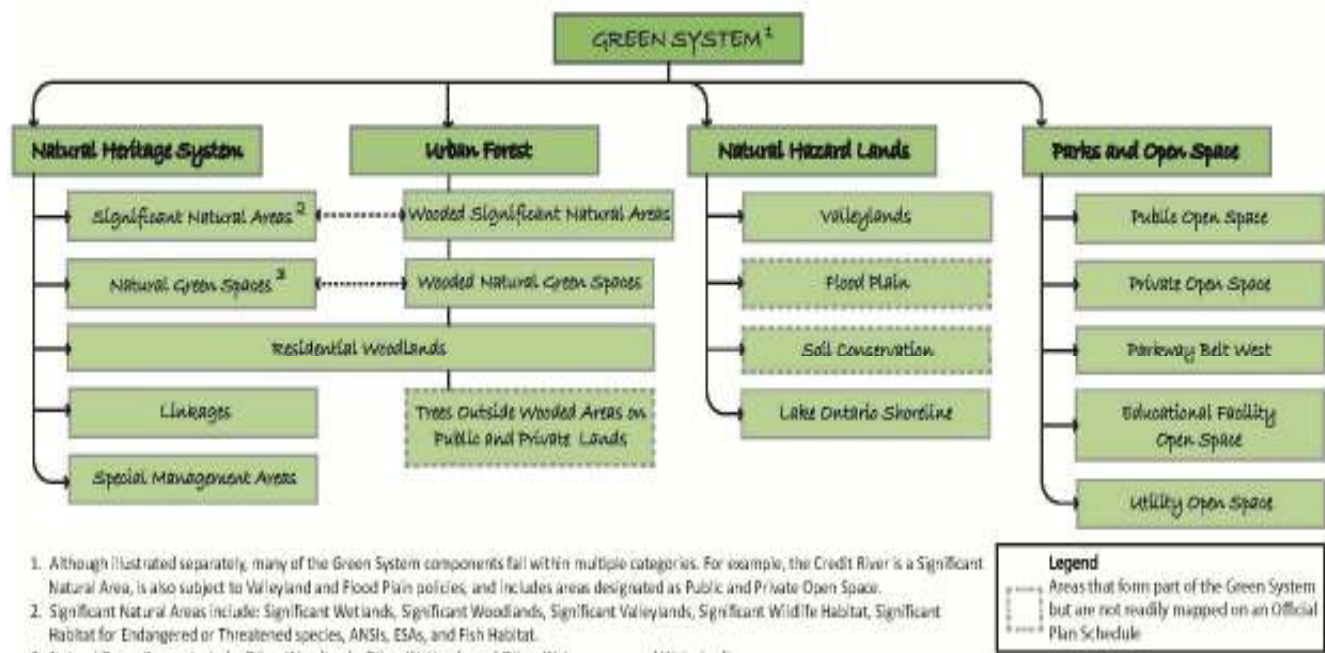


Figure 6.4-5: The Green System is composed of the Natural Heritage System, Urban Forest, Natural Hazard Lands and Parks and Open Spaces.

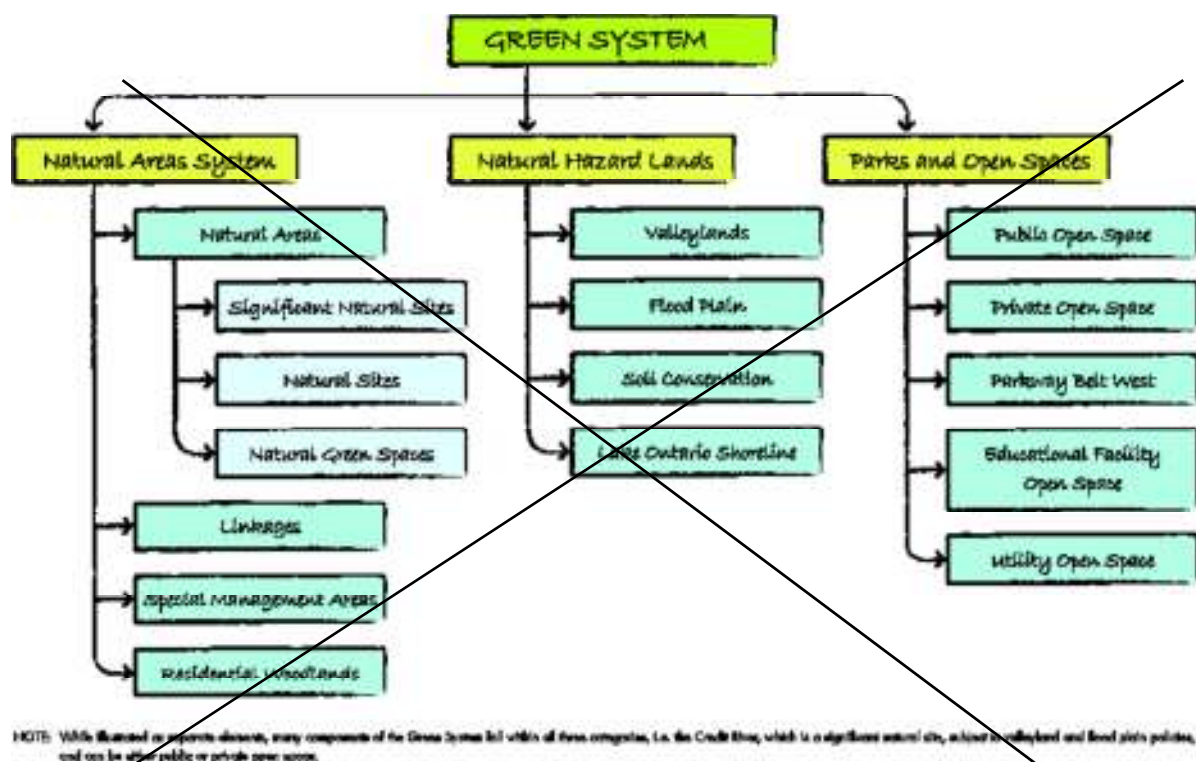


Figure 6.4: The Green System is composed of the Natural Areas System, Natural Hazard Lands and Parks and Open Spaces.

Natural Hazard Lands are generally associated with **valley and watercourse corridors** and the Lake Ontario shoreline. These areas are generally unsafe for development due to naturally occurring processes such as flooding and erosion and are shown in Schedule 3: Natural System. **Although the significant valleylands and the valley and watercourses are included and discussed under Natural Hazard Lands, they are also Significant Natural Areas and form part of the city's Natural Heritage System.**

Watercourse corridors and the Lake Ontario shoreline, including the physical hazards associated with these areas, are critical to the **Natural Areas Heritage** System due to the ecological functions, **including linkage function, that** they provide. Of particular concern within **valley and watercourse corridors** is the preservation and enhancement of fish habitat as an indicator of a healthy environment and for leisure activity and tourism.

Natural hazard lands, Significant Natural Areas and buffers are generally designated Greenbelt to protect life and property and to provide for the protection and enhancement of Natural Areas and features and their ecological functions.

Buffers are vegetated protection areas that provide a physical separation of development from the limits of **Natural Hazard Lands** and **Significant** Natural Areas. Benefits and functions of buffers can include the following:

- maintenance of slope stability and reduction of erosion on valley slopes;
- attenuation of stormwater runoff;
- reduction of human intrusion into **Significant** Natural Areas and allowance for predation habits of pets, such as cats and dogs;
- protection of tree root zones to ensure survival of vegetation;
- provision of a safety zone for tree fall next to woodlands;
- enhancement of woodland interior and edge areas through native species plantings; and

- enhanced wildlife habitat and corridors for wildlife movement.

Buffers shall be determined on a site specific basis as part of an Environmental Impact Study (EIS) or other similar study.

Natural Hazard Lands, Significant Natural Areas and buffers may provide opportunities for passive recreational activities, in appropriate locations.

Parks and Open Spaces within the Green System, as shown on Schedule 4: Parks and Open Spaces, have primary uses such as recreational, educational, cultural and utility services. These lands contain a significant amount of open space such as landscaped areas, lawns, sports fields, etc. These areas have the potential to be managed in a manner that supports and enhances the **Natural Areas Heritage** System, **particularly by providing linkages between natural heritage features and areas.**

6.3.1.1 Mississauga will give priority to actions that protect, enhance, restore and expand the Green System and the natural environment for the benefit of existing and future generations.

6.3.1.2 The City will promote the Green System to public and private stakeholders as being integral to protecting the city's natural heritage, particularly its role in providing ecological linkages and ecosystem services.

6.3.1.3 The City, in partnership with conservation authorities, will seek to initiate a landowner contact program to encourage stewardship on privately-owned lands in the Green System and support partnerships for the naturalization of these lands where feasible.

6.3.1.4 The City will work with the conservation authorities to encourage restoration, enhancement, stewardship and management of lands identified by conservation authorities as part of their natural heritage systems.

6.3.1.5 The City will, where feasible, explore and consider opportunities to naturalize City-owned lands, particularly where it abuts or directly connects areas within the Natural Heritage System.



Figure 6-5 6: Mississauga's parks, green spaces, recreation areas and Natural Areas make up the majority of the city's Green System. In addition to its recreational use, the BraeBen Golf Course, built on the former Britannia Landfill site, provides natural habitat through the design of landscaping and water features.

6.3.1.6 The City will seek to enhance the linkage function of lands within the Green System through management, enhancement and restoration, especially where such lands provide direct linkage among features in the Natural Heritage System. On privately owned lands, linkage enhancement will be accomplished through support and encouragement of stewardship initiatives.

6.3.42 Natural Areas Heritage System

Mississauga's natural heritage system is known as the Natural Areas System. The Natural Areas System consists of the following:

- Significant Natural Areas
- Natural Green Spaces
- Linkages
- Special Management Areas; and
- Residential Woodlands.

The location and extent of the Natural Areas Heritage System is conceptually illustrated on Schedule 3: Natural System. Detailed information

regarding the natural heritage features within the Natural Heritage System can be found in the Natural Areas Survey and supporting fact sheets.

While the city's Natural Heritage System focuses on the protection of natural features, areas and linkages, the conservation authorities have differing natural heritage systems, which include additional lands that could assist in the achievement of ecological targets to protect and enhance biological diversity. The City recognizes the value of these lands. Although they are not all included within the city's Natural Heritage System, some of the lands are part of the city's broader Green System and recognized as supporting the city's Natural Heritage System. Restoration, enhancement, management and stewardship of these additional areas is encouraged where feasible.

Although some Significant Natural Areas are of higher quality than others, a fundamental premise is that all Significant Natural Areas and their ecological functions are part of the Natural Areas Heritage System, and the total or partial loss of any portion of the system diminishes the entire system. As such, all Significant Natural Areas will be protected, enhanced and restored. In addition, Natural Green Spaces, Linkages and Special Management Areas should be restored to Significant Natural Areas or managed to support the Natural Areas Heritage System. Residential Woodlands should be protected and enhanced.

Significant Natural Areas include features such as valley and watercourse corridors, meadows, woodlands, and wetlands that represent the pre-settlement landscape and also include remnant parcels of native vegetation or areas that have been restored to a natural state through naturalization or successional growth.

6.3.2.1. Significant Natural Areas

~~6.3.1.1 Natural Areas include Significant Natural Sites, Natural Sites and Natural Green Spaces~~

~~a. Significant Natural Sites~~ **Areas** are areas that meet one or more of the following criteria:

- **Provincially significant life science** all areas of natural and scientific interest (ANSI);
- **Regionally significant life science areas** of natural and scientific interest (ANSI);
- **environmentally sensitive or significant areas** and other areas designated for outstanding ecological features;
- ~~all areas with a **Floristic Quality Index (FQI)** of greater than or equal to 40;~~
- ~~all areas with a mean **floristic co-efficient** greater than or equal to 4.5;~~
- ~~all woodlands greater than or equal to ten ha;~~
- ~~all areas that support Provincially significant species or species at risk listed as special concern~~ **Significant habitat** of threatened species or endangered species;
- ~~all Significant woodlands that meet one or more of the following criteria :with the potential to provide interior conditions;~~
 - all woodlands **including cultural woodlands and plantations** greater than or equal to ~~ten~~ **four** ha;
 - any woodland, excluding cultural woodlands and plantations, greater than or equal to two ha and less than four ha;
 - any woodland excluding cultural woodlands and plantations greater than or equal to 0.5 ha and less than two ha that:
 - ~~all woodlands that support~~ **s** old growth trees (greater than or equal to 100 years old);
 - **supports a significant linkage function as determined through a natural heritage study approved by the City;**
 - **is located within 100 m of another Significant Natural Area supporting a significant ecological relationship**

between the two features;

- **is located within 30 m of a watercourse or significant wetland; or**
- **supports significant species or communities;**

- ~~all s-~~ **Significant wetlands including:**

- **Provincially significant coastal wetlands;**
- **Provincially significant wetlands;** and
- **other wetlands** greater than ~~two ha or more~~ **0.5 ha;**

- the Credit River and Etobicoke Creek valley**lands and other definable valleylands** associated with tributaries of the Credit River and Etobicoke Creeks except for discontinuous valleyland features and other non-valley landforms; and

- **Fish habitat;** and

- **Significant wildlife habitat.**

~~b. Natural Sites are areas that meet one or more of the following criteria:~~

- ~~all woodlands greater than or equal to two ha but less than ten ha (woodland being defined as forests, which support appropriate understorey as well as woody canopy species);~~
- ~~all woodlands composed of uncommon (in the context of the city) canopy species;~~
- ~~all areas that represent uncommon vegetation associations in the city;~~
- ~~all areas that support regionally significant plant or animal species;~~
- ~~all areas with a Floristic Quality Index (FQI) of 25 to 39.99;~~
- ~~all areas with a mean **floristic co-efficient** of 3.5 to 4.49; and~~
- ~~all areas that include natural (i.e. not engineered) landscape features including but not limited to valleylands, **watercourses** and unusual landform features; and~~

6.3.2.2 Natural Green Spaces

~~e.a.~~ Natural Green Spaces are areas that meet one or more of the following criteria:

- all ~~other watercourses that have some riparian vegetation other than mowed grass~~ even if they are predominantly engineered;
- all ~~wooded areas~~ woodlands that are ~~less than~~ between 0.5 to 2 ha and do not fulfill any of the criteria for Significant ~~Natural Sites~~ woodlands and Lake Aquitaine and Lake Wabukayne; and
- all areas greater than 0.5 ha that represent uncommon vegetation associations in the city.

b. Where Natural Green Spaces have been restored or enhanced to a natural state, they may fulfill the criterion of Section 6.3.2.1 and may be identified as a Significant Natural Area.

6.3.2.3 Linkages

~~6.3.1.2 Linkages are areas that serve to link~~ connect two or more of the natural heritage features and areas components of the Natural Areas Heritage System within the city, or to natural heritage features and areas outside of the city boundaries. Linkages are necessary to maintain biodiversity and support ecological functions. As noted in section 6.3.1, ecological linkage is difficult to achieve within urban areas. For this reason, some Linkages consist of private and public lands captured in the Green System, while others are identified within the Natural Heritage System. Also, some linear Significant Natural Areas, notably the Credit River and Etobicoke Creek valleys, provide significant linkage functions. It is important that the extent of linkage among natural heritage features and areas include consideration of the Green System. Linkages may include; ~~but are not limited to the following:~~

- stormwater management facilities including ponds; and
- lands along watercourses;
- designated public open space;



Figure 6-6 7: Historically, agricultural practices and land development have resulted in displacement and fragmentation of much of the natural environment. The Credit River Valley Corridor is a major component of Mississauga's Natural Areas System, containing the majority of the city's Significant Natural Areas.

- utility corridors;
- rights-of-way; and
- green space along major arterial roads providing there is an adequate barrier between the linkage and the roadway.

Linkages are lands that are necessary to connect Natural Areas to maintain biodiversity and support ecological functions. Where lands within Linkages have been restored or enhanced to a natural state they may will fulfill the criteria in section 6.3.2.1 and be identified as Significant Natural Areas. Other and where lands that have not been restored they will remain as Linkages within the Natural Areas Heritage System.

6.3.2.4 Special Management Areas

6.3.1.3 Special Management Areas are lands adjacent to or near existing Significant Natural Areas and Natural Green Spaces with the potential for management and/or restoration that will enhance and support the adjacent natural feature, and of which should be planned or managed specially due to their proximity to the existing Significant Natural Area. While the primary use of some of these lands may be for parks, stormwater management or other purposes, they provide opportunities for ecological benefits to the Natural Heritage Areas System. 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. When If lands within Special Management Areas have been enhanced or restored to a natural state and meet the criteria for a Significant Natural Area, they will be identified as a Significant Natural Area. Where lands have not been restored, they will continue to be identified as a Special Management Area within the Natural Heritage Areas System.

6.3.2.5 Residential Woodlands

6.3.1.4 Residential Woodlands are areas within Neighbourhoods, generally in older residential areas with large lots that have mature trees forming a fairly continuous canopy. Some These areas are

generally zoned for residential use and generally have minimal native understorey due to maintenance of lawns and landscaping, which distinguishes them from significant woodlands. Residential Woodlands provide a number of ecological benefits such as habitat for tolerant canopy birds (both in migration and for breeding) and other urban wildlife, linkage, and facilitating ground water recharge due to the high proportion of permeable ground cover. Development proposals in Residential Woodlands will seek to protect, enhance, restore and expand the existing tree canopy, understorey, ecosystem functions and wildlife habitat.

The City may require a scoped site plan approval for any new buildings or expansions of floor area to existing buildings greater than 15% in Residential Woodlands to ensure canopy and ecosystem functions and services are maintained.



Figure 6-78: Mississauga promotes and is proactive in the management of its Natural Areas and the protection of its ecological functions.

~~6.3.1.5~~ **6.3.2.6** The Natural **Heritage Areas** System will be protected, enhanced, restored and expanded through the following measures:

- a. placing those natural heritage features and areas comprising Significant Natural Areas within the City's Greenbelt designations and areas identified for protection, enhancement, restoration and acquisition through development applications in the appropriate land use designation and zoning category to ensure their long term protection;
- b. ensuring that development in or adjacent to the other components of the Natural Heritage System protects and maintains the ecological features and functions through such means as appropriate building siting, landscaping, and parking area locations and restriction in the application of site plan control;
- c. placing those areas identified for protection, enhancement and restoration in public ownership where feasible;
- d. discouraging fragmentation of ownership of **Significant** Natural Areas and buffers;
- e. using native plant materials and non-invasive species, and reducing and/or eliminating existing invasive, non-native plant species to improve ecological value and the sustainability of indigenous vegetation, where appropriate;
- f. retaining areas in a natural condition and/or allowing them to regenerate to assume a natural state;
- g. controlling activities that may be incompatible with the retention of **natural heritage features, areas and Linkages, including their ecological functions**;
- h. the promotion of stewardship within privately and publicly owned **lands within the Natural Heritage System** ~~Natural Areas~~; and
- i. regulation of encroachment into **Significant** Natural Areas, **Natural Green Spaces** and other public open spaces.

~~6.3.1.13~~ **6.3.2.7** Development and site alteration will not be permitted within or adjacent to **Significant** Natural Areas, Linkages, **Natural Green Spaces** and Special Management Areas unless it has been demonstrated that there will be no negative impacts to the **natural** features and **their** ecological functions ~~of or to the function of~~ the Natural **Areas Heritage** System. An Environmental Impact Study (EIS) will be required, and the Terms of Reference will be provided by the City. The EIS will be approved by the City, in consultation with the relevant conservation authority, at the early stages of a proposal's consideration. The EIS will delineate the area to be analysed, describe existing physical conditions, identify environmental opportunities and constraints, and evaluate the ecological sensitivity of the area in relation to a proposal. It will also outline measures to protect, enhance, and restore the natural features, area and Linkages including their ecological functions.

6.3.2.8 The requirement for an EIS for Special Management Areas and for Linkages may be waived at the discretion of the City in consultation with the appropriate agency where the impacts of the proposed development or site alteration are expected to be limited in area or scope, or if it is determined through a site visit that development will not likely result in negative impacts on the natural feature or area or its ecological functions, or where other environmental studies fulfilling the requirement of an EIS have been previously prepared.

~~6.3.1.16~~ **6.3.2.9** Notwithstanding policy 6.3.2.7, development, site alteration and new utilities will not be permitted in Provincially significant wetlands, and Provincially significant coastal wetlands. ~~and significant habitat of endangered species and threatened species.~~

6.3.2.10 Notwithstanding policy 6.3.2.7, development, site alteration and new utilities will not be permitted in significant habitat of endangered species and threatened species **except in accordance with Provincial requirements.**

~~6.3.1.20~~ **6.3.2.11** Development and site alteration will not be permitted in areas of fish habitat and potential fish habitat, except in accordance with

Provincial and Federal requirements. Setbacks and buffers adjacent to fish habitat areas will be determined by an Environmental Impact Study, which shall conform to approved fisheries management plans.

~~6.3.1.22~~ 6.3.2.12 Notwithstanding policy 6.3.2.7, development and site alteration will not be permitted in:

- **environmentally sensitive or significant areas;**
- Provincial Life Science Areas of Natural and Scientific Interest;
- significant woodlands meeting the criteria for Core woodlands in Table 1 of the Region of Peel Official Plan;
- valley and stream corridors meeting the criteria for Core valley and stream corridors in Table 2 of the Region of Peel Official Plan;

except for:

- forest, fish and wildlife management;
- conservation;
- flood and/or erosion works;
- passive recreational activity;
- **minor development and minor site alteration;**
- existing uses, buildings and structures and expansion thereto; and
- accessory uses, buildings or structures.

~~the Core Areas of the Greenlands System, as defined in the Region of Peel Official Plan, except for those uses permitted in the Greenbelt designation of this Plan.~~

~~6.3.1.18~~ 6.3.2.13 Development and site alteration on lands adjacent to a Provincially significant wetland, Provincially coastal wetland and significant habitat of endangered species and threatened species will require an Environmental Impact Study, demonstrating no negative impact to the natural features or on their ecological function, to the satisfaction of the City and appropriate conservation authority.

~~6.3.1.6~~ 6.3.2.14 Mississauga will continue to establish a program of protection alternatives for the

Natural ~~Heritage Areas~~ System. This may include, but will not be limited to: **monitoring**, information/education programs, stewardship or management agreements, Parks Watch, ~~and~~ land securement **and ongoing updates to the City's database of natural areas including boundary refinements in response to changing land use.**

~~6.3.1.7~~ 6.3.2.15 The expansion and connection of the Natural ~~Heritage Areas~~ System will be encouraged. Where appropriate, **Significant** Natural Areas, **Natural Green Spaces** and buffers will be incorporated with public parkland and will be managed in accordance with Natural ~~Heritage Areas~~ System policies.

~~6.3.1.8~~ 6.3.2.16 In **Significant** Natural Areas **and Natural Green Spaces**, recreation potential will be restricted to protect their ecological function and sustainability. Formalized passive recreational uses may be permitted to mitigate the impacts of uncontrolled public access.

~~6.3.1.9~~ 6.3.2.17 Where lands defined as part of the Natural ~~Heritage Areas~~ System are privately owned, it is not intended that they be free and open to the general public. Consideration will be given, however, to public acquisition of these areas through the development approval process or through the City's land securement program.

6.3.2.18 Where development or site alteration is approved within Special Management Areas, restoration and enhancements that will expand and/or enhance the ecological features and functions of the adjacent Significant Natural Area will be encouraged as part of the development application.

~~6.3.1.10~~ 6.3.2.19 Mississauga may require ecologically based woodland management plans of a landowner prior to municipal acquisition.

~~6.3.1.11~~ 6.3.2.20 Mississauga will have regard for the maintenance of the long term ecological integrity of the Natural ~~Heritage Areas~~ System in all decisions regarding development and site alteration.

~~6.3.1.12~~ 6.3.2.21 The exact limit of components of **Significant** Natural ~~Areas~~ **and Natural Green Spaces** will be determined through **site-specific** studies **such**

as an Environmental Impact Study, as well as the processing of development applications.

~~6.3.1.14~~ 6.3.2.22 Public sector undertakings such as roadways and linear utility corridors will not be permitted within the Natural Heritage Areas System unless it has been demonstrated through an Environmental Assessment or other appropriate study that there will be no negative impacts to the features and ecological functions of the Natural Areas System Significant Natural Areas. Essential services, such as water and wastewater systems or road crossings, will only be permitted if other alternatives are studied and are determined to be not feasible. In addition, any negative impacts on the Natural Areas System Significant Natural Areas will be mitigated and compensation provided to the satisfaction of the City.

~~6.3.1.15~~ 6.3.2.23 When public works, not subject to the *Environmental Assessment Act*, are planned to traverse, coincide with, or otherwise affect the Natural Areas System Significant Natural Areas, an Environmental Impact Study will be required.

~~6.3.1.17~~ 6.3.2.24 Conservation, education, trails and nature appreciation activities may be allowed in Provincially significant wetlands and Provincially significant coastal wetlands subject to review and approval by the City and appropriate conservation authority.

~~6.3.1.19~~ Development and site alteration in and adjacent to other wetlands will require the completion of an Environmental Impact Study to the satisfaction of the City and appropriate conservation authority demonstrating no negative impacts to the natural features or on their ecological function.

~~6.3.1.21~~ Development and site alteration will not be permitted in significant woodlands, significant valleylands, significant wildlife habitat and significant areas of natural and scientific interest (ANSI) unless it has been demonstrated, through an Environmental Impact Study, that there will be no negative impacts on the Natural Areas System or natural features including their ecological function.



Figure 6-89: Natural Areas provide habitat for many plants, birds, insects and animals which are important for maintaining biological diversity.

Areas of Fish Habitat and Potential Fish Habitat

- | | |
|---------------------------------------|----------------------|
| • Lake Ontario Shoreline | • Avonhead Creek |
| • Credit River and its tributaries: | • Birchwood Creek |
| ○ Aquitaine Creek, | • Cawthra Creek |
| ○ Carolyn Creek, | • Cooksville Creek |
| ○ Fletcher's Creek, | • Joshua Creek |
| ○ Levi Creek, | • Kennollie Creek |
| ○ Loyalist Creek, | • Lornewood Creek |
| ○ Mullet Creek, | • Mary Fix Creek |
| ○ Sawmill Creek, | • Mimico Creek |
| ○ Wabukayne Creek | • Serson Creek |
| • Etobicoke Creek and its tributaries | • Sixteen Mile Creek |
| • Sheridan Creek and its tributaries | • Stavebank Creek |
| • Turtle Creek and its tributaries | • Tecumseh Creek |
| • Applewood Creek | • Wolfedale Creek |

Figure 6-9 10: Areas of Fish Habitat and Potential Fish Habitat are identified by the Provincial Government.

~~6.3.1.23~~ **6.3.2.25** Mississauga, in consultation with the appropriate conservation authority, will continue to enhance and restore the **watercourses** and Lake Ontario shoreline, including the use of native non-invasive plant materials, establishment of buffer areas and shoreline restoration and protection, where applicable, to improve ecological functions.

6.3.2.26 Minor refinements to the boundaries of the Natural Heritage System may occur through Environmental Impact Studies, updates of the Natural Heritage System, or other appropriate studies accepted by the City without amendment to this Plan. Major boundary changes require an amendment to this Plan

6.3.2-3 Natural Hazard Lands

-No policy change-

6.3.3-4 Parks and Open Spaces

-No policy change-

6.3.4.5 Urban Forest

The Urban Forest within Mississauga consists of 2.7 million trees on both private and public property and exists on lands within and outside of the Green System.

Trees are a fundamental component of a healthy city and sustainable community. As such, trees are a valuable asset to the city and contribute to community pride and cultural heritage.

The city's Natural **Heritage Areas** System specifically recognizes the **urban forest within wooded Significant Natural Areas and Natural Green Spaces, as well as** Residential Woodlands in the Mineola, Gordon Woods and Clarkson Lorne Park neighbourhoods **and other neighbourhoods where designated.**



Figure 6-4516: All trees and woodlands make up Mississauga's Urban Forest. Trees and woodlands play an important role in climate moderation, air and water quality, erosion control, providing wildlife habitat and have a significant role in reducing air temperature in the city.

Trees in the urban setting provide environmental, social and economic benefits such as:

- reducing air pollution by removing carbon, dust and airborne particles;
- improving overall air quality;
- reducing urban heat island effect;
- reducing energy needs for cooling and heating;
- assisting in mitigating climate change effects;
- intercepting rainfall to reduce runoff, increase **groundwater recharge** and prevent soil erosion;
- reducing noise pollution;
- creating wildlife habitat and flora and fauna diversity;
- assisting in improving public health; and
- contributing to the quality and character of the urban environment.

The urban forest will be protected and managed with the goals of:

- **maintaining and increasing the city's canopy cover;**
- **improving both species and structural diversity, as well as overall health; and**
- **being more evenly distributed across the City.**

6.4.1 3.5.1 Mississauga will protect and enhance the Urban Forest.

6.4.2 3.5.2 The preservation of trees and woodlots on public and private property that serve to connect and enhance the overall vegetative system and improve wildlife habitat will be encouraged.

6.4.3 3.5.3 Development and site alteration will demonstrate that there will be no negative impacts to the ~~trees~~ **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, must will be prepared to the satisfaction of the City in compliance with the City's tree permit by-law.

3.5.4 Where tree replacement cannot be accommodated on-site, the City may require replacement plantings at another suitable location or cash-in-lieu for replacement trees elsewhere.

6.4.43.5.5 The Urban Forest will be protected and enhanced by:

- a. developing and implementing a strategic planting program, specific to distinct geographic areas within the city;
- b. developing and implementing a strategic proactive maintenance program pertaining to trees on public land;
- c. providing sustainable growing environments for trees by allocating adequate soil volumes and landscaped areas during the design of new development and infrastructure projects;
- d. developing and implementing consistent standards for tree protection and planting across the city;
- e. ensuring development and site alteration will not have negative impacts on the Urban Forest;
- f. increasing tree canopy coverage and diversity, by planting trees appropriate to the location and avoiding the use of non-native tree and shrub species that are invasive;
- g. regulating the injury and destruction of trees on public and private property;
- h. promoting the management and enhancement of the Urban Forest on public and private lands;
- i. providing public education and stewardship;
- j. providing strategic partnerships with regulatory agencies and others to address invasive alien

non-native species and diseases and other management challenges; and

- k. compliance with by-laws pertaining to tree preservation and protection.



Figure 6-4617: Mississauga is fortunate to be located on the shore of Lake Ontario, part of the largest system of freshwater lakes in the world. The Great Lakes and their watersheds make up one of Canada's richest and most biologically diverse regions, home to a huge variety of fish, wildlife and plant species.

6.5 Water

- No policy change-

6.6 Air Quality

- No policy change-

6.7 Brownfields

- No policy change-

6.8 Waste Management

- No policy change-

6.9 Noise

- No policy change-

20 Glossary

CULTURAL SAVANNAHS

means a treed vegetation community originating from, or maintained by, anthropogenic influences and culturally based disturbances; often containing a large proportion of non-native species and having 25 to 35% cover of coniferous or deciduous trees. Cultural savannahs may be second or third growth woodlands that occur on land where the forest was completely or partially removed at various points in time. These woodlands vary in composition and quality depending on the length of time that the forest has been re-establishing, the nature and duration of the land use while it was cleared, and the underlying environmental characteristics such as soil type, moisture, exposure and seed bank all of which influence natural succession processes and species composition.

CULTURAL WOODLANDS

means a treed vegetation community originating from, or maintained by, anthropogenic influences and culturally-based disturbances; often containing a large proportion of non-native species and having 35 to 60 percent cover of coniferous or deciduous trees. Cultural woodlands may be second or third growth woodlands that occur on land where the forest was completely or partially removed at various points in time. These woodlands vary in composition and quality depending on the length of time that the forest has been re-establishing, the nature and duration of the land use while it was cleared, and the underlying environmental characteristics such as soil type, moisture, exposure and seed bank all of which influence natural succession processes and species composition.

MINOR DEVELOPMENT

means development, which due to its scale or intensity, can demonstrate no significant incremental or cumulative impacts on the landform, features or ecological functions of the Natural Heritage System.

MINOR SITE ALTERATION

means site alteration, which due to its scale or intensity, can demonstrate no significant incremental or cumulative impacts on the landform, features or ecological functions of the Natural Heritage System.

NATURAL HERITAGE FEATURES AND AREAS

means features and areas, including significant wetlands, significant coastal wetlands, fish habitat, significant woodlands south and east of the Canadian Shield, significant valleylands south and east of the Canadian Shield, significant habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

NO NEGATIVE IMPACT

means in regards to the urban forest, no net loss to the existing canopy cover. Replacement canopy cover will be evaluated based on the potential canopy cover into the future (eg. 10 to 20 years) assuming normal growth of planted stock.

PLANTATION

means a treed community in which the majority of trees have been planted or the majority of the basal area is in trees that have been planted, often characterized by regularly spaced rows. With time and forest management, natural regeneration can become established and eventually convert the community to natural forest.

SIGNIFICANT SPECIES OR COMMUNITIES

means any G1, G2, G3, S1, S2 or S3 plant or animal species, or community as designated by the Natural Heritage Information Centre (NHIC). The rankings G1, G2, G3, S1, S2 and S3 refer to the conservation status of species assigned by the Ministry of Natural Resources' NHIC. 'G' or Global ranks (GRANKS) are assigned by a consensus of the network of Conservation Data Centres, including the NHIC, scientific experts and The Nature Conservancy to designate a rarity rank based on the range-wide status of a species. 'S' or Sub-national ranks (SRANKS) are assigned by the NHIC for species and vegetation communities in Ontario. The rankings are as follows:

G1 – extremely rare

G2 – very rare

G3 – rare to uncommon

S1 – critically imperiled

S2 – imperiled

S3 – vulnerable

SIGNIFICANT WETLAND

means a wetland identified as provincially significant by the Ontario Ministry of Natural Resources using evaluation procedures established by the Province, as amended from time to time or a wetland that could be considered a wetland for the purpose of evaluation using the Ontario Wetland Evaluation

System (OWES) and which provide a biological or hydrological function which should be protected.

URBAN FOREST

means all the trees in the city, including those within and outside of the Natural Heritage System, and on public and private lands, as well as the soils that sustain them.

WETLANDS

means lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case, the presence of abundant water has caused the formation of hydric soils (soils in which there is an abundance of moisture) and has favoured the dominance of either hydrophytic or water tolerant plants. The four main categories of wetland are swamps, marshes, bogs and fens.

WOODLANDS

means complex ecosystems comprising communities of trees, shrubs, ground vegetation comprised of treed 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 are treed areas that 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:
 - 1,000 trees of any size per hectare, or
 - 750 trees measuring over five centimetres in diameter at breast height (1.37m), per hectare, or-
 - 500 trees measuring over 12 centimetres in diameter at breast height (1.37m), per hectare, or
 - 250 trees measuring over 20 centimetres in diameter at breast height (1.37m), per hectare (densities based on the Forestry Act of Ontario 1998)

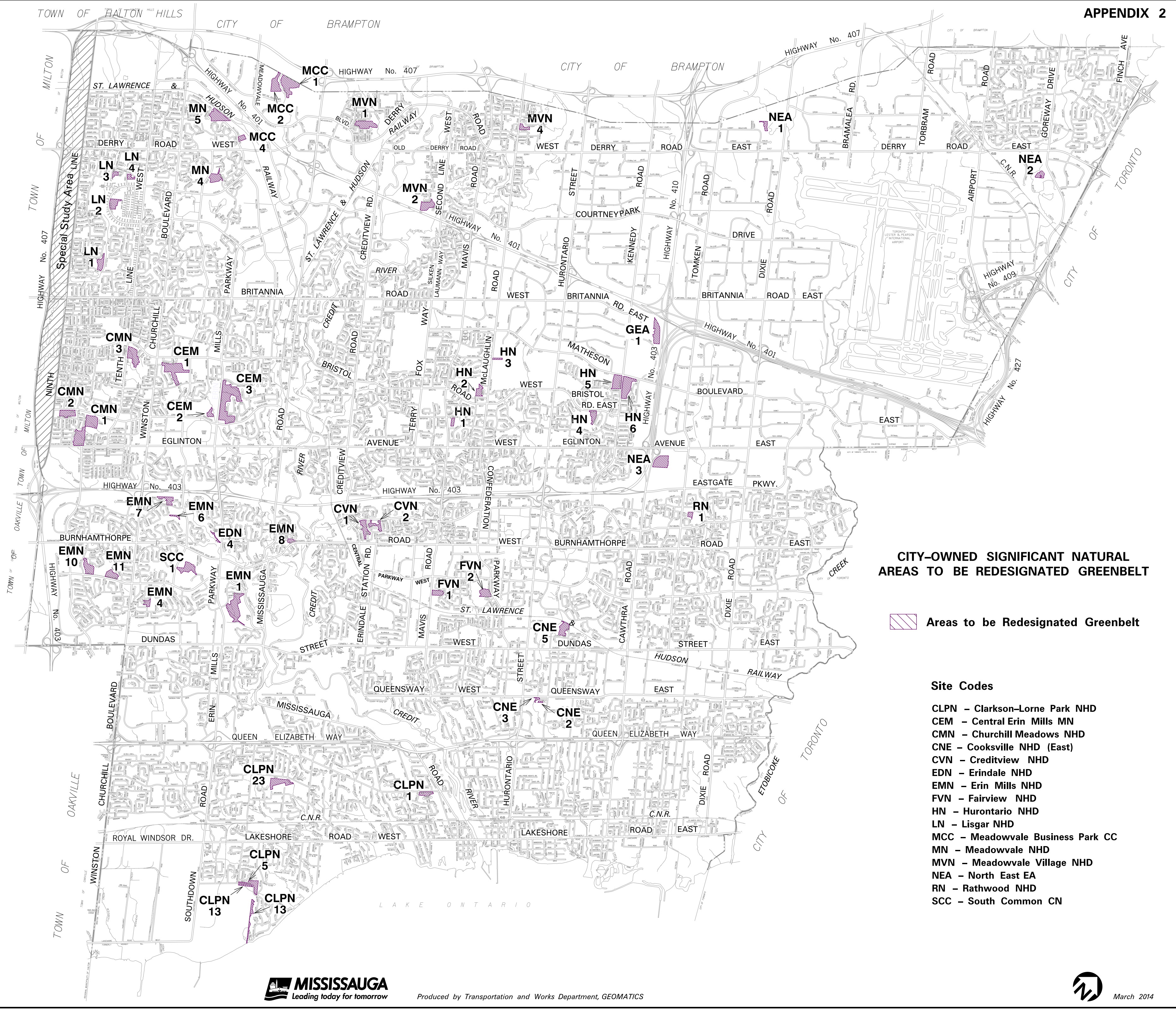
and, which have a minimum average width of 40 metres or more measured to crown edges.

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.

Woodlands exclude *plantations* that are:

- i) managed for production of fruits, nuts, Christmas trees or nursery stock;
- ii) managed for tree products with an average rotation of less than 20 years (e.g. hybrid willow or poplar); or
- iii) established and continuously managed for the sole purpose of complete removal at rotation, as demonstrated with documentation acceptable to the City, without a *woodland restoration* objective.

Additional exclusions may be considered for treed communities which are dominated by invasive non-native tree or shrub species such as buckthorn (*Rhamnus* species) 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% of the tree crown cover and are represented by less than 100 stems of any size per hectare.



CITY-OWNED SIGNIFICANT NATURAL AREAS TO BE REDESIGNATED GREENBELT

 Areas to be Redesignated Greenbelt

Site Codes

- CLPN – Clarkson–Lorne Park NHD
- CEM – Central Erin Mills MN
- CMN – Churchill Meadows NHD
- CNE – Cooksville NHD (East)
- CVN – Creditview NHD
- EDN – Erindale NHD
- EMN – Erin Mills NHD
- FVN – Fairview NHD
- HN – Hurontario NHD
- LN – Lisgar NHD
- MCC – Meadowvale Business Park CC
- MN – Meadowvale NHD
- MVN – Meadowvale Village NHD
- NEA – North East EA
- RN – Rathwood NHD
- SCC – South Common CN



