

TABLELAND TREE ASSESSMENT GUIDELINES

2018

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1. Introduction

The City of Brampton contains over 3.6 million trees, covering roughly 18 per cent of its total land area. The majority of urban forest tree canopy (roughly 59 per cent) is located within private lands, parks, and green infrastructure (i.e. streets, hydro corridors, stormwater management ponds). With the invasion of the Emerald Ash Borer and recent extreme weather events, Brampton's urban canopy has been significantly impacted.

Trees and other natural vegetation communities throughout Brampton provide significant contributions, such as air pollution removal, carbon storage and sequestration, air temperature control, stormwater runoff and flooding reduction, higher property values, improved mental health, as well as areas for recreation and respite. As land use patterns continue to change as a result of population growth, protecting and enhancing the urban tree canopy across the city is an integral part of a healthy, ecologically diverse, and resilient Brampton.

Protection and management of existing vegetation is always preferable within Brampton, however, the City recognizes that mitigation and replacement for trees lost to facilitate development, including infrastructure, servicing and parkland, may be appropriate, as determined through an assessment.

The *Tableland Tree Assessment Guidelines* have been prepared as part of the City's ongoing process to coordinate technical report requirements for planning applications to help update and streamline Block Plan, Draft Plan and Site Plan review and approval.

The Guidelines outline the general requirements for a *Vegetation Assessment* at the Block Plan stage, or a *Tree Evaluation Report* and/or a *Tree Preservation Plan* at the Plan of Subdivision and Site Plan stage, and as part of Capital Projects. It is recognized that the Guidelines may need to be scoped to address older Secondary Plans, Plans of Subdivision, and Site Plans that may not have the benefit of approved comprehensive environmental reports (e.g. Master Environmental Servicing Plan (MESP), Environmental Implementation Report (EIR), or Environmental Impact Study (EIS)).

2. Supporting Documents

The Guidelines align with the goals and objectives set out in several City documents, including the City and Regional *Official Plans*, *Brampton Grow Green Environmental Master Plan* (EMP), the *Natural Heritage and Environmental Management Strategy* (NHEMS), the Region of Peel's Urban Forest Strategy, and the City's Tableland Tree Cash-in-Lieu procedure.

2.1. Official Plans

Region of Peel Official Plan (2016)

- Region of Peel Official Plan Greenland System – the Region’s vision for protecting the natural environment.
- 2.5.2.9: Work jointly with agencies and area municipalities to develop urban forest strategies and to encourage and support programs and initiatives that maintain and enhance the Greenland System in Peel.
- 2.5.2.6: Support and encourage all efforts, including those of the area municipalities and conservation authorities, in restoring and enhancing components of the Greenland System.
- 2.5.2.1: Promote a wide range of environmental enhancement and restoration opportunities.

City of Brampton Official Plan (2006)

- 4.6.6.19: The City shall strive to achieve no net loss and if possible, a net gain in natural heritage features and areas.
- 4.6.8.11: The City may consider and implement planting programs of desired and compatible species on public lands or private lands in conjunction with landowners.
- 4.6.8.12: The City shall encourage other public and private bodies and agencies to pursue the preservation and enhancement of the City’s woodland and urban forest communities on private lands.

2.2. Brampton 2040 Vision

The *Brampton 2040 Vision* is a strategic plan to take the City to 2040, and sets out seven target visions, including Brampton being an interconnected green space environment. Action #1-3, entitled “Brampton Trees Project”, commits to 1 million new trees in public and semi-public realm of Brampton by 2040 to enhance Brampton’s urban forest.

2.3. Brampton Grow Green Environmental Master Plan

The *Brampton Grow Green Environmental Master Plan* (EMP) focuses on conserving, balancing and enhancing the city’s natural and built environments to create a healthy, resilient and environmentally sustainable city. The Plan outlines six core components of People, Air, Water, Land, Energy and Waste.

The *Tableland Tree Assessment Guidelines* are based on the Land objectives and actions, relating to the conservation of the natural heritage system and urban tree canopy, and promoting ecological diversity and services. One of the primary goals of the EMP is to increase the city’s tree canopy, and provides metrics and targets related to Brampton’s trees.

2.4. Natural Heritage and Environmental Management Strategy

The *Natural Heritage and Environmental Management Strategy* (NHEMS) is a proactive approach to ensure that the abundance of natural heritage and built green spaces in Brampton are protected, enhanced, and restored. The NHEMS speaks to several objectives relating to

protecting and enhancing the urban tree canopy and identifies the importance of having guidelines for the assessment of existing vegetation.

A priority goal within the NHEMS is to manage, restore, and enhance the natural heritage, urban forests, parks, and green infrastructure to maximize ecosystem services. In addition, the NHEMS outlines the need to expand on Official Plan policies to address the mitigation and compensation for loss of natural heritage features, functions, and linkages, and urban forest vegetation to facilitate development.

2.5. Peel Region's Urban Forest Strategy: Priority Tree Planting Tool

An action item from the *Peel Region Urban Forest Strategy* was the development of a Priority Tree Planting Tool that identifies and prioritizes opportunity areas for tree planting within Peel's urban areas based on the environmental, economic, and social benefits that trees in these areas could provide. The goal and objective is to provide a more equitable distribution of urban forest benefits across Peel Region.

3. Protecting Our Urban Forest

All trees throughout Brampton on public and private lands constitute its urban forest, including vegetation within natural woodlands, parks, and green infrastructure. The urban forest can also be found in the most urbanized parts of the city, including street trees in road boulevards and parking lots, vegetation planted on institutional lands, employment lands, commercial centres, and industrial areas, and the thousands of trees planted in the front and back yards of residential neighbourhoods.

Trees and other natural vegetation communities throughout Brampton provide significant sustainability contributions, such as air pollution removal, carbon storage and sequestration, air temperature control, stormwater runoff and flooding reduction, higher property values, positive mental health, as well as areas for recreation and respite. As land use patterns continue to change as a result of population growth, protecting and enhancing the urban tree canopy across the city is an integral part of a healthy, ecologically diverse, and resilient Brampton. The Tableland Tree Assessment Guidelines plays an important role in helping protect and enhance the city's urban tree canopy.

3.1. Compensation for the Loss of Healthy Tableland Trees

The City has updated its tableland tree compensation ratios, which was guided by the desire to link the loss of ecosystem services more closely to the size of the tree proposed for removal. Previously, all healthy tableland trees 15 cm diameter at breast height (dbh) or greater were compensated at a ratio of 3:1. This blanket ratio overcompensated for smaller trees, while undercompensated for large trees.

Through a comprehensive background review of neighbouring municipalities' tree compensation ratios, the City is moving forward with the following tableland tree compensation ratios for healthy trees:

Tree Removal Compensation Ratio for Healthy Tableland Trees

DBH (cm)	Ratio
15-20	1:1
21-35	2:1
36-50	3:1
51-65	4:1
>65	5:1

To reduce the impact of the removal of mature trees to the urban tree canopy, in most circumstance (e.g. parks and boulevards) compensation trees will be 70 mm dbh, unless otherwise approved by the City. A combination of whips and caliper trees may be considered for woodland buffers, valleyland buffers, and stormwater management ponds, at the discretion of City staff.

To be considered compensation, the proposed new trees must exceed the City's tree planting standards, to the satisfaction of the City. The table below provides a summary of the City's tree planting standards. More details are available in the City of Brampton's *Landscape Development Guidelines*.

	City Standard
Boulevards	8.0 - 10.0 m spacing
Parks	120 trees per hectare (50 trees per acre)
Valley Buffers	# trees = square area of buffer divided by 36.0 sq. m.
Woodland Buffers	1000 stems per hectare (includes whips, caliper trees, and does not include shrubs, flowers, and grasses)
SWM Ponds	# trees = square area of dry pond divided by 36.0 sq. m.

3.2. Cash-in-Lieu of Healthy Tableland Trees

The City's Tableland Tree Cash-in-Lieu (CIL) protocol plays an important role in protecting and enhancing the city's urban tree canopy. The program provides the City with the opportunity to assist development applications that are unable to meet the City's tree compensation requirements within the subject property. The applicant is able to compensate for the removal of

tableland trees through cash-in-lieu, and provide the City with the ability to plant compensation trees in a different location. The Tableland Tree CIL procedure will not be used to compensate for natural heritage features within the city.

The following Hierarchy of Protection will be used to guide the use of CIL for the removal of tableland trees:

- The primary goal for the City of Brampton is to protect healthy tableland trees, wherever possible.
- Where compensation for healthy tableland trees is required, planting will occur on the site of the proposed development that requires the removal of existing tableland trees.
- In circumstances where compensation planting cannot occur on site, Cash-in-Lieu will be considered.
- The Tableland Tree Cash-in-Lieu procedure will apply to all trees, as per the City's Tableland Tree Assessment Guidelines.
- The Tableland Tree Cash-in-Lieu procedure will apply to projects that require the removal of healthy tableland trees, including development applications, as well as capital projects undertaken by the City of Brampton and/or the Region of Peel.

The Cash-in-Lieu rate for compensation is \$500 per tree. For further detail on the Tableland Tree Cash-in-Lieu procedure, please refer to Appendix 2 and 3.

4. Assessments

4.1. Block Plans: Vegetation Assessment Report

The purpose of the *Vegetation Assessment Report* at the Block Plan stage is to identify significant trees that should be conserved and integrated into the design of the community. A *Vegetation Assessment Report* is required in conjunction with all applications for Official Plan and Zoning By-law amendments for designated Block Plan areas, and includes an assessment of all existing tableland trees 30 cm dbh or larger.

This collaborative assessment prepared by a Professional Landscape Architect, certified Arborist, and/or Ecologist should be undertaken in conjunction with the *Environmental Implementation Report (EIR)* or *Master Environmental Servicing Plan (MESP)*. The *Vegetation Assessment Report* should build upon the ecological assessment of natural heritage features and functions, and the report recommendations integrated with and/or complementary to the natural heritage system conservation recommendations, as appropriate. The *Vegetation Assessment Report* recommendations should also have regard for any vegetation conservation recommendations provided as part of cultural heritage resources evaluations (e.g. Cultural Heritage Study, Heritage Impact Assessment).

4.1.1. Vegetation Assessment Report Requirements

Vegetation Assessment

- a) A topographical survey at 1:1000 (or an alternative scale satisfactory to the City) of the existing plant material of the site and 10 metres beyond the property boundary, identifying all trees (i.e. 15 cm at dbh or larger) that are located outside the proposed Natural Heritage System (NHS).
- b) Colour aerial photography mapping at 1:1000 (or an alternative scale satisfactory to the City) of the site identifying all trees 30 cm dbh or larger that are located outside the proposed Natural Heritage System (NHS). The proposed Block Plan concept should be shown as an overlay, and should highlight the NHS (valleyland, woodlots, etc.) and park land.
- c) A table that inventories all trees over 30 cm dbh or larger.
- d) A table that inventories grouping of trees as well as hedgerows. The table should outline the following characteristics of trees 30 cm dbh or larger that have the potential for retention through the development process:
 - i. plant species
 - ii. diameter breast height (dbh)
 - iii. crown reserve (diameter)
 - iv. location
 - v. condition assessment
 - vi. tolerance to development
- e) Photos of the inventoried trees that show the existing tree groupings evaluated and trees 30 cm dbh or larger.
- f) A detailed description of any specific areas of interest that meet and/or address the City's cultural heritage, environmental, and/or urban design policies, including areas with cultural heritage significance, or outstanding specimens, groups or individuals that are worth preserving (e.g. a hedgerow of trees lining a historic laneway or roadway).
- g) Identify the functional relationships of any trees/groupings/hedgerows, etc. to individual natural features and/or the preliminary natural heritage system.

Vegetation Management Recommendations

The management recommendations must be prepared to identify opportunities where trees, tree groupings, and hedgerows, are to be preserved within the development area, and shall include:

- h) A 1:1000 aerial photo (or an alternative scale satisfactory to the City) figure (max. 24" x 36") and list that confirms the existing tableland vegetation to be preserved, with an overlay of the proposed Block Plan development (e.g. roads, lotting, land uses, etc).
- i) A discussion on the rationale and justification for removing a significant tree, tree grouping, and/or hedgerow.
- j) A brief description of the management recommendations (i.e. plans and/or techniques) to maintain the trees identified for preservation that will be addressed through future detailed plans. This will include but will not be limited to: driveway pairing, installation of protective fencing as per standard City details, maintenance of existing conditions within the protective fencing area, maintenance of existing drainage patterns, etc.

- k) A brief description of the mitigation measures proposed that will be undertaken at the expense of the applicant to address the loss of trees that are identified for removal, and/or are damaged by development activities (e.g. tree compensation as per Section 3.1).

Upon review and approval of the final *Vegetation Assessment Report*, the City will require that all trees recommended for preservation be appropriately tagged for future reference.

4.2. Plans of Subdivision and Site Plans: Tree Evaluation Report

The purpose of the *Tree Evaluation Report* for a Plan of Subdivision or Site Plan stage is to evaluate all trees greater than 15 cm dbh to ensure no net loss to Brampton's urban tree canopy, and to facilitate the long-term protection of significant tableland trees. This detailed report is ideally based on a *Vegetation Assessment Report* that was prepared during the Block Plan stage in conjunction with the EIR. However, the City recognizes that there are areas of the City that may not be covered by a current comprehensive environmental report (i.e. MESP/EIR). As such, the individual development may require an Environmental Impact Study (EIS). Therefore, where feasible, the *Tree Evaluation Report* should be undertaken in conjunction with the EIS, and build upon the ecological assessment of the site's natural heritage features.

The tree preservation and management recommendations of the *Tree Evaluation Report* should be integrated with, and/or complementary to, recommendations for the conservation of the natural heritage feature, as appropriate in the opinion of the City. It will be very important to recognize in these recommendations the maintenance of existing surface runoff and/or groundwater conditions that are necessary for the long-term preservation of the trees identified for retention.

4.2.1. Tree Evaluation Report Requirements

Tree Inventory and Assessment

As part of the *Tree Evaluation Report*, a detailed tree inventory and assessment will be prepared collaboratively by a Professional Landscape Architect, certified Arborist and/or Ecologist as defined by the City of Brampton's *Tree Preservation By-law*. It will address all trees, groupings, and/or hedgerows with particular attention given to those that were identified for preservation based on the approved *Vegetation Assessment Report*, and consist of:

- a) A 1:1000 (or an alternative scale satisfactory to the City) aerial photo Tree Inventory Plan figure (max. 24" x 36") that indicates all tagged trees (i.e. 15 cm at dbh or larger), with an overlay of the proposed draft Plan of Subdivision and/or Site Plan.
- b) A detailed description and evaluation chart of all tagged trees, including tree species, size, arboricultural condition, and critical rooting zones.
- c) An assessment of all potential impacts to the preservation of the tagged trees based on detailed grading and servicing plan, including but not limited to such issues as: building

locations and working envelopes, driveways and servicing locations, changes to existing grades and surface drainage, changes to groundwater conditions, etc.

- d) Confirmation of the trees to be preserved, along with a detailed rationale why recommended trees, groupings, and/or hedgerows cannot be preserved.
- e) A photo-journal of trees, keyed to the description and evaluation chart, that will be preserved/protected or removed due to hazards, poor health, grading, and/or construction constraints.
- f) A separate detailed *Compensation Planting Plan* that clearly identifies (e.g. with different colours and/or hatching) the trees to be preserved or removed, and new trees to be planted. Compensation trees should be further labelled with their own unique colour/hatching to differentiate them from standard tree requirements. Please refer to Section 3.1 for details regarding tableland tree compensation. The *Compensation Planting Plan* must also include a table that quantifies the trees to be preserved, tree to be removed, tree to be planted because of standard City requirements, as well as trees planted as compensation.

Management and Quality Assurance

Based on the confirmation of vegetation to be preserved and/or removed, the *Vegetation Assessment Report* will provide a Management and Monitoring Plan that includes detailed descriptions, as appropriate, for tree preservation and inspection, long-term management and maintenance measures, and monitoring for the tagged trees, at the following phases of development:

- g) Pre-Construction Phase: including, but not limited to, construction setback and hoarding, canopy trimming and pruning, root pruning, fertilizing, and tree structure enhancement.
Note: The Landscape Architect or certified Arborist will provide written certification to the City that all protective hoarding and sediment control measures have been satisfactorily installed prior to the issuance of a Fill Permit.
- h) Construction Phase: including, but not limited to, monitoring by a certified Arborist, pruning of exposed roots, etc.
- i) Post-Construction Phase: including, but not limited to, removal of tree protection barriers and additional tree care measures to maintain tree health post construction, in addition to a mitigation planting plan for vegetation that will be removed.
Note: Monitoring of the vegetation to be preserved and planted shall be undertaken for approximately 2 years for Plans of Subdivision, and 1 year for Site Plans after preliminary acceptance by the City.

4.3. Detailed Design: Tree Preservation Plan

A *Tree Preservation Plan* will be required to support the detailed design. This *Tree Preservation Plan* will be submitted as part of the landscape package, alongside the Landscape Plan, Schedule of Quantities, and Cost-Estimates.

5. Submission Requirements

All assessments identified in these Guidelines, whether contained in an MESP, EIR, or EIS, or submitted as an independent document, will be forwarded to the City's Development Planner assigned to the application. The Development Planner will ensure internal circulation of the submission and the coordination of municipal comments from appropriate commenting bodies. All submissions to the City shall include a minimum 4 colour hard copies and one digital copy on CD of the reports.

6. Capital Projects

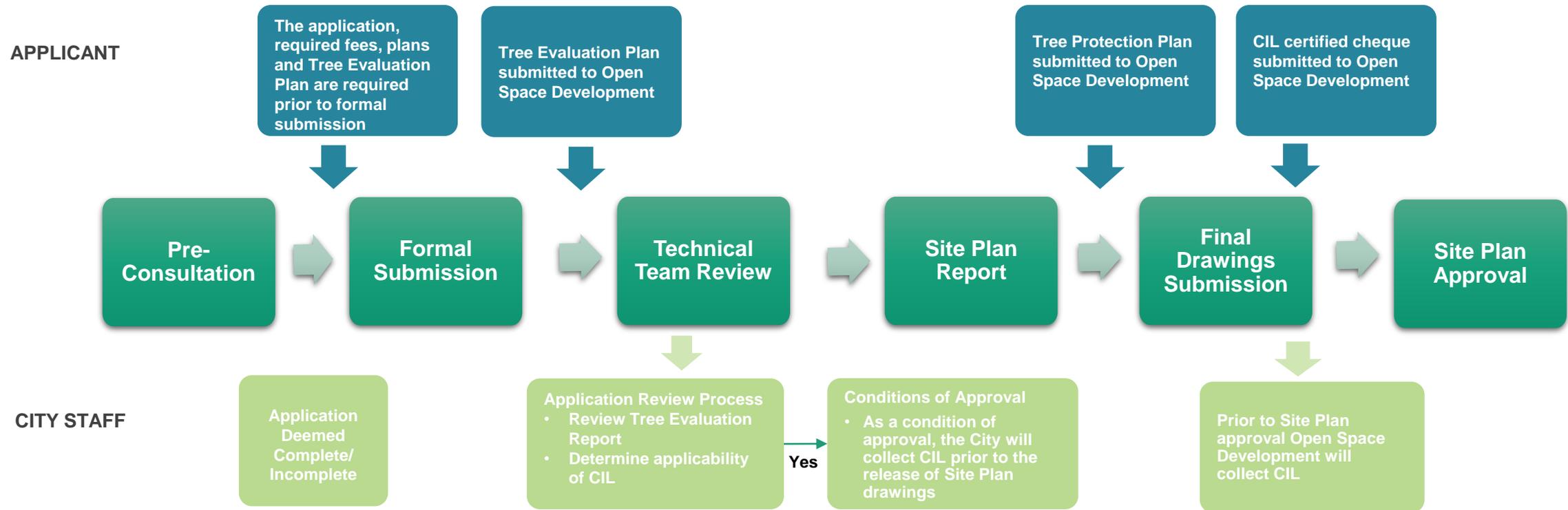
A *Tree Preservation Plan* will be required to support the City and Region's capital projects that necessitate the removal or protection of healthy tableland trees. Along with the *Tree Preservation Plan*, the City requires a Landscape Plan, as well as a Schedule of Quantities be completed. During the tender process, the full cost of tree removal and compensation will be reflected.

It is expected that Capital Projects completed by the City of Brampton or the Region of Peel will follow the City's tree standards and compensation ratios outlined in this document.

Appendix 1: Summary Table of Tableland Tree Assessment Guidelines

PLANNING STAGE	SUBMISSION REQUIREMENTS	CONTENT	KEY DELIVERABLES
Block Plan (Initial Submission)	Draft Vegetation Assessment Report	Site Overview <ul style="list-style-type: none"> Preliminary Vegetation Inventory and Assessment Preliminary Vegetation Preservation 	<ul style="list-style-type: none"> 1:1000 aerial photo of all vegetation Table of species, location and condition Detailed description of areas of interest Figure and list of vegetation to be preserved and tagged based on preliminary grading
Block Plan (Final Approval)	Final Vegetation Assessment Report	Management Recommendations <ul style="list-style-type: none"> Vegetation Conservation Plan 	<ul style="list-style-type: none"> Overview of management measures and opportunities to conserve vegetation
Plan of Subdivision or Site Plan	Tree Evaluation Report	Tree Inventory and Assessment <ul style="list-style-type: none"> Tree Inventory Plan Tree Assessment Table Compensation Planting Plan Management and Quality Assurance <ul style="list-style-type: none"> Management and Monitoring Plan Tree Preservation Plan Mitigation Plan	<ul style="list-style-type: none"> 1:1000 aerial photo of all tagged trees Description/assessment chart of tagged trees Assessment of impacts to preserved trees and description of tree preservation and inspection, management, monitoring and maintenance measures for pre, during, and post-construction phases Photo-journal of trees to be removed Planting plan

Cash in Lieu and Summary Review Process – Site Plan



Cash in Lieu and Summary Review Process – Plan of Subdivision

