



# McWilliam & Associates

Landscape Architecture + Urban Design

October 10, 2017

**Project:** Mississauga Road Environmental Assessment Study  
From Financial Drive to Queen Street, Peel Region

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## INTRODUCTION

The project involves the completion of a Class EA and Preliminary Design for the widening of Mississauga Road between Financial Drive and Queen Street, in the City of Brampton, a distance of approximately 2.0km. This section of the Mississauga Road corridor passes through a semi-rural environment and crosses the Credit River and associated valleylands.

This section of Mississauga Road is to be widened/updated from a four-lane to a six-lane urban cross section. The roadway is located on the urban fringe of the City of Brampton, where surrounding land uses range from a wooded valleylands to semi-rural residential development.

This streetscape/aesthetics study provides:

- an overview of the existing visual character of the road corridor
- a general analysis of the existing vegetation found along the roadway
- identifies the impacts of the road improvements and
- recommended streetscape upgrades.

The vegetation/aesthetic/streetscape site analysis was carried out in October, 2017. The vegetation analysis is limited to the existing woody vegetation located along the road frontage, typically within or immediately beside the road right-of-way (ROW), and provides an evaluation of the proposed road improvements on the existing vegetation and the aesthetics of the streetscape.

For inventory and analysis purposes, the streetscape has been divided into the following 4 distinct geographic sections

- Section A: Financial Blvd to top of Credit River valley slope
- Section B: South slope of valleylands
- Section C: Credit River valley bottomlands
- Section D: North slope of Credit River valleylands to Queen Street West

Figures L1-L3 show the location of existing vegetation, and land uses located along this section of the Mississauga Road corridor.

## GENERAL CORRIDOR AESTHETICS

This section of Mississauga Road is dominated by the Credit River valleylands which pass through the middle of the study area. Financial Drive is located on the tablelands south of the Credit River and Queen Street is situated at the top of the slope defining the north side of the Credit River valleylands.

The Credit River valleylands provide a significant natural, mostly undisturbed environment, contrasting the urbanized lands located along the Mississauga Road corridor on the tablelands to both the north and south.

Beyond the valleylands there are a couple of areas where some scattered mature trees remain as remnants of a more rural landscape.

The significant views from the road corridor include the views of the valleyland area as it is approached from both the north and south along Mississauga Road.

The following Streetscape Analysis provides a more detailed description of the existing conditions of the 4 sections of the study area and provides an estimation of impacts of the proposed undertaking and mitigation recommendations.

## STREETSCAPE ANALYSIS

### **Section A:** Financial Boulevard to the top of the Credit River valley slope

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**Distance:** approximately 0.3 km.

#### **Existing Conditions:**

The land uses along this section of the Mississauga Road are dominated by the Lionhead golf course and some rural residential homes on the east side of the roadway and a new (under construction) residential development on the west side.

#### **Existing Vegetation-West Side:**

The only existing trees on this side of the roadway are a row of newly planted street trees, including Basswood (*tilia*), Honeylocust (*gleditsia*) and Maple (*acer*) species.

#### **Existing Vegetation-East Side:**

The dominant existing vegetation on this side of Mississauga Road are a row of mature and mostly health Silver Maple (*acer saccharinum*) trees located along the frontage of the existing residences located at the crest of the Credit River Valleylands. These trees are very significant landscape feature. In addition to these trees there are some recently planted street trees which include Servicberry (*amelanchier*) and Maple (*acer*) species.

### **Impacts of the Undertaking:**

The road improvements may require the removal of some of the young street trees along both sides of this section of Mississauga Road. It should be noted that the new road corridor has been shifted to the east to minimize impacts to the row of Silver Maple trees.

### **Recommended Streetscape Treatments:**

The following landscape planting treatments are recommended for this section of the Mississauga Road corridor:

- Street trees are to be planted on 15 m. spacing along both sides of the roadway where space is available and existing street trees are either missing or dead.
- All efforts should be made to minimize impacts to the root zone of the row of mature Silver Maples.



**Photograph #1: View looking north along the east side of Mississauga Road, just north of Financial Boulevard showing recently planted street trees.**



**Photograph #2: A view of the row of Silver Maple trees located along the east side of Mississauga Road.**



**Photograph #3: A view of the same row of mature Silver Maple trees along the east side of Mississauga Road.**

**Section B:** South slope of the valleylands

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**Distance:** approximately 0.2km.

**Existing Conditions:**

The valley slopes on both the east and west sides of this section of Mississauga Road are heavily wooded.

**Existing Vegetation-West Side:**

The wooded slope on this side of Mississauga Road is dominated by White Oak (*quercus alba*), White Pine (*pinus strobus*), Basswood (*tilia*), Birch (*betula*), Willow (*salix*), Sugar Maple (*acer saccharum*) and Cedar (*thuja*).

**Existing Vegetation-EastSide:**

The wooded slope on this side of Mississauga Road is dominated by Ash (*fraxinus*), Walnut (*juglans*), Cedar (*thuja*) and Poplar (*populus*)

**Impacts of the Undertaking:**

It is anticipated that the road improvements will have an impact to the existing wooded areas on both sides of the road corridor

**Recommended Streetscape Treatments:**

The following landscape planting treatments are recommended for this section of the Mississauga Road corridor:

- Woodland edge restoration plantings
- Slope stabilization plantings



**Photograph #4: A view looking north west showing the wooded slope on the west side of Mississauga Road.**



**Photograph #5: A view looking north along the east side of Mississauga Road showing the wooded area associated with the valley slope.**

### **Section C: Credit River valley bottomlands**

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**Distance:** approximately 0.7km.

#### **Existing Conditions:**

This section of the Mississauga Road corridor is relatively flat. The roadway crosses the Credit River at the northern end of this flat area, at the base of the north valley slope.

The west side of the roadway passes beside a few rural homes, wetland areas, abandoned fields and the intersection with Embleton Road.

The east side of the roadway passes beside a significant wetland area, some rural homes and the bank of the Credit River.

#### **Existing Vegetation-West Side:**

There are a few scattered mature trees located along the road corridor, south of Embleton Road, including mature Silver Maples (*acer saccharinum*), Manitoba Maples (*acer negundo*) and Spruce (*picea*). North of Embleton Road the Credit River bank is heavily wooded with Black Locust (*robinia*), Manitoba Maple (*acer negundo*), Ash (*fraxinus*), Willow (*salix*) and Sumac (*rhus typhina*).

#### **Existing Vegetation-East Side:**

There are some densely planted Blue Spruce (*picea glauca*), functioning as a visual buffer between Mississauga Road and two adjacent residences. In addition to these trees there are some scattered Maple (*acer*) and Elm (*ulmus*) trees along the road corridor. The river bank area is populated with a variety of Sumac (*rhus typhina*), Alder (*alnus*), and Buckthorn (*rhamnus*).

#### **Impacts of the Undertaking:**

Many of these existing trees and wooded areas will be impacted by the roadway improvements.

#### **Recommended Streetscape Treatments:**

The following landscape planting treatments are recommended for this section of the Mississauga Road corridor:

- Tree/shrubs are to be planted where required to replace trees/landscaped areas removed/disturbed due to construction activities.
- Street trees are to be planted on 15 m. spacing along both sides of the roadway
- Woodland edge restoration plantings
- Slope stabilization plantings



**Photograph #6: A view looking north-west, showing the scattered mature vegetation along the west side of Mississauga Road, south of Embleton Road.**



**Photograph #7: A view looking north down the east side of Mississauga Road, showing the row of Spruce trees along the residential frontage**





**Photograph #8: A view looking north-west, along the west side of Mississauga Road, of the wooded area located on the south bank of the Credit River.**

**Section D:** North slope of Credit River valleylands to Queen Street West

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**Distance:** approximately 0.3km.

**Existing Conditions:**

This north slope of the Credit River valleylands have some scattered areas of remnant wooded areas located between the numerous rural homes located along both sides of this section of Mississauga Road.

On the west side River Road runs parallel to Mississauga Road. There are a number of homes that front onto the west side of River Road.

**Existing Vegetation-West Side:**

At the base of the slope, adjacent to the Credit River, there is a wooded area dominated by Manitoba Maple (*acer negundo*), Elm (*ulmus*), and Ash (*fraxinus*). Further up the slope between River Road and Mississauga Road, there are a row of young street trees, mostly Oak (*quercus*), many of which are dead or in poor condition, and some more mature Norway Maples (*acer platanoides*).

### **Existing Vegetation-East Side:**

There are some scattered mature trees scattered along the road corridor including, Walnut (*juglans*), Catalpa (*catalpa*), and Red Maple (*acer rubrum*). In addition to these mature trees there are some newly planted street trees including Serviceberry (*amelanchier*) and Maple (*acer*).

### **Impacts of the Undertaking:**

The road improvements will impact some of the existing trees, primarily along the east side of the Mississauga Road corridor.

### **Recommended Streetscape Treatments:**

The following landscape planting treatments are recommended for this section of the Mississauga Road corridor:

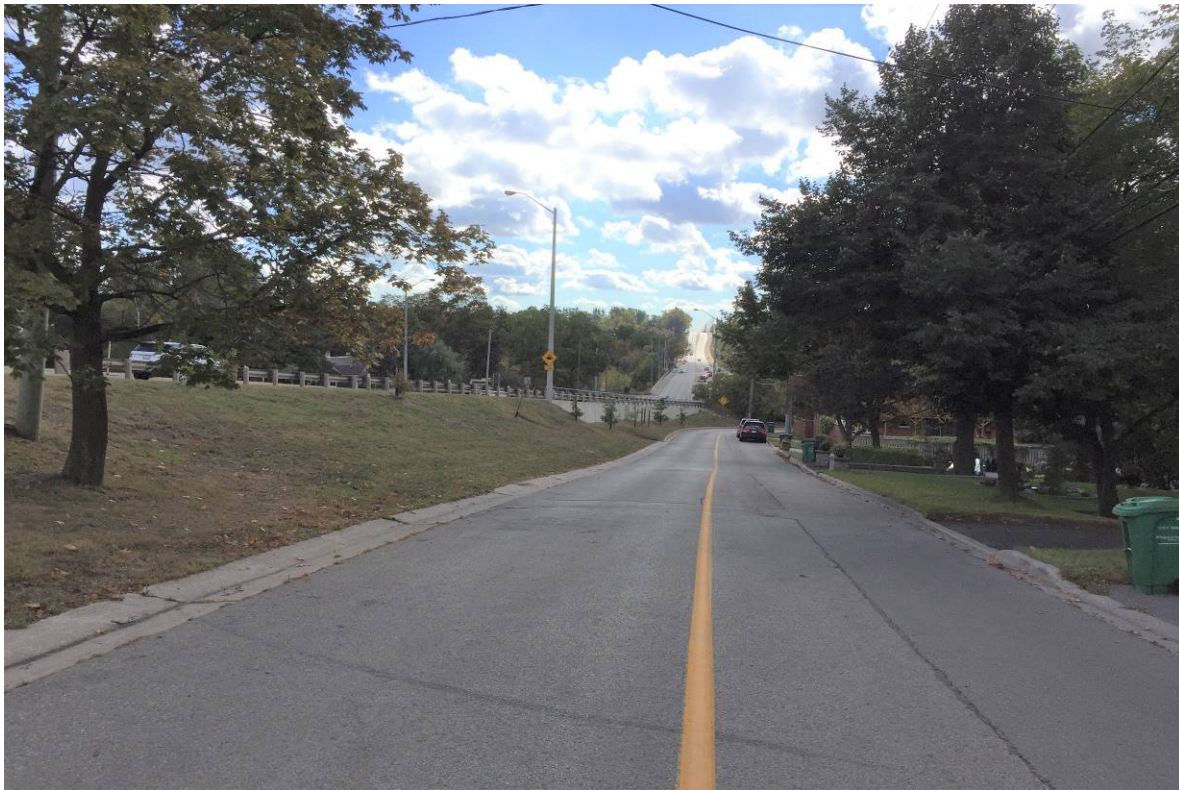
- Tree/shrubs are to be planted where required to replace trees/landscaped areas removed/disturbed due to construction activities.
- Street trees are to be planted on 15 m. spacing along both sides of the roadway



**Photograph #9: A view looking north along the east side of Mississauga Road, showing the wooded slopes along the Credit River.**



**Photograph #10: A view looking north along the east side of Mississauga Road, showing some recently planted street trees and a wooded area in the background**



**Photograph #11: A view looking south along River Road with Mississauga Road in the background, showing the recently planted street trees on the bank.**

## CONCLUSIONS

The undertaking will have some impacts on existing trees along this section of Mississauga Road. The impacts will include the removal of numerous mature and immature street trees, along the edges of existing wooded areas and to the vegetation located along the banks of the Credit River.

It is noted that none of the trees inventoried along this section of the Mississauga Road corridor are identified as significant specimen trees or rare species.

Although the proposed undertaking will require the removal of some existing trees, the reconstruction of this portion Mississauga Road will provide an opportunity to improve the overall aesthetics of this major thoroughfare, with a comprehensive streetscaping/tree planting plan.

The following chart summarizes the streetscape opportunities as noted in this report.

OPPORTUNITY	STREETScape TREATMENT
<b>Financial Drive to top of Credit River valley slope (0.50 km)</b>	
Boulevard Trees	to be planted on 15m centres
<b>South slope of Credit River valleylands, (0.30 km)</b>	
Boulevard Trees	To be planted on 15m centres
Woodand Edge Restoration	Native tree/shrub planting to complement the woodland ecosystem
Slope Restoration	Mass planting of native shrubs
<b>Credit River bottomlands, (0.65 km)</b>	
Boulevard Trees	To be planted on 15m centres
Woodand Edge Restoration	Native tree/shrub planting to complement the woodland ecosystem
Riparian Zone Planting	Native tree/shrub planting to complement the riparian ecosystem
<b>North slope of Credit River valleylands to Queen Street W. (0.25 km)</b>	
Boulevard Trees	To be planted on 15m centres
Woodand Edge Restoration	Native tree/shrub planting to complement the woodland ecosystem
Riparian Zone Planting	Native tree/shrub planting to complement the riparian ecosystem

## RECOMMENDATIONS

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The following recommendations relate to the streetscape improvements that are to be implemented along this portion of the Mississauga Road corridor:

### **Vegetation Assessment:**

A Vegetation Assessment will be required, prepared by a certified ISA arborist. All existing vegetation removed as part of this project should be inventoried and replaced. Note this document is to be used as a preliminary guideline as tree conditions will change over time.

### **Mitigation During Construction:**

- Construction activities are to avoid damaging existing, healthy, trees located close to the ROW wherever possible. This is to be accomplished by installing suitable tree protection fencing, extending to the 'dripline' of trees designated for protection. This tree protection zone is to remain undisturbed by excavation, storage of materials and equipment, and other construction related activities. The fencing is to remain in place through the duration of construction activities.
- Existing trees scheduled for removal are to be inspected to determine if transplanting is a feasible option.
- Existing landscaping along adjacent subdivisions are not to be affected if possible.

### **Street Tree Planting and Planting/Streetscape Design:**

- Tree planting/streetscape plans are to be prepared for the corridor by a registered landscape architect, as part of the detailed design of the roadway. These plans are to address:
  - Compensation for vegetation requiring removal on or near private property
  - Planting of new street trees to improve the aesthetics of the streetscape, to be planted at 12.0 to 18.0m O/C and 8.0 to 12.0m O/C where overhead utilities are located
  - Restoration of disturbed boulevard landscaped areas
- All trees to be planted are to be selected from both the current City of Brampton Approved Plant Chart and the City of Brampton and Brampton Hydro Approved Tree List. This is to be obtained from The City of Brampton's Open Space Planning Design and Construction Section
- The planting of new trees along the corridor is to be coordinated with existing and proposed utility corridors, and light standards
- Construction impacts at stream crossing areas are to be mitigated with the planting of riparian vegetation. This vegetation should be native, non-invasive, riparian vegetation, as approved by CVCA.
- Trees to be planted near overhead utilities to be selected to conform to mature height limitations (Hydro approved species)
- New street trees to be installed as per Peel Region 'Regional Streetscape Policy' and the Landscape Architect consultant is to work collectively with the City of Brampton's Open Space Planning Design and Construction Section
- Coloured or coloured/patterned concrete treatments to include 'kill-strips', island medians at all intersections to the length of 75.0m. Asphalt impressed crosswalks art to be reviewed during detailed design

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