

**Solicitation No. 5P201-19-0091**  
**Reesor Forks Trail: Rouge National Urban Park**  
**Parks Canada**

# **SPECIFICATIONS**

## **APPENDIX B**



# HAZARD TREE ASSESSMENT REPORT

REESOR FORKS TRAIL: ROUGE NATIONAL  
URBAN PARK

PARKS CANADA

August 19, 2019



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## 1.0 Introduction

WSP Canada Inc. (WSP) is pleased to provide you with this Hazard Tree Assessment Report in support of trail construction within Rouge National Urban Park, in Markham, Ontario. This report is based on a hazard edge assessment for any wooded areas, hedgerows or individual trees that are scheduled to be retained. This report includes an assessment of hazard trees, snags that may be at risk of failing in the future and recommendations for the pruning of additional trees.

## 2.0 Field Observations

The field observations were made on June 5, 2019. The lengths of trail surveyed included a section to the east: York Durham Line to Reesor Road; and a west section from Elgin Mills Road to Reesor Road, City of Markham. A visual assessment was conducted to determine if any trees are at risk of failure. Individual deciduous and coniferous trees identified as hazard trees or snags were identified with blue flagging tape. A summary of individual hazard and snags is discussed under the Hazard Tree Assessment section of this report and in Table 1: Hazard Tree Assessment Chart.

## 3.0 Definitions

The following are the definitions of the assessment categories utilized in our tree assessment:

<b>Tree Number</b>	this number refers to the number on the reference plan.
<b>Species</b>	the botanical and common names are provided for each tree.
<b>DBH</b>	this refers to diameter (in centimetres) at breast height and is measured at 1.3 m above the ground for each tree.
<b>Target</b>	this refers to people, property or activities that could be injured damaged or disrupted by a tree failure.
<b>Target Zone</b>	this refers to the area in which the tree or branch is likely to strike when it fails.
<b>Dripline Radius</b>	this refers to the measured diameter (in metres) of the trees crown.

## 4.0 Tree Risk Categorization

The International Society of Arboriculture's Best Management Practices: Tree Risk Assessment (2011) was utilized as a resource for the preparation of this report. The likelihood of failure and likelihood of impacting a target are defined as follows:

### 4.1 Likelihood of Failure

This is based on an assessment of the significance of defects, conditions and response growth. Tree failures typically occur when there is a significant combination of tree defects, conditions and contributing environmental factors such as wind, rain, freezing rain or snow. The likelihood of failure can be categorized using the following guidelines:

<b>Improbable</b>	This refers to the tree or branch that is not likely to fail during normal weather conditions and may not fail in severe weather conditions.
<b>Possible</b>	Failure could occur, but it is unlikely during normal weather conditions.
<b>Probable</b>	Failure may be expected under normal weather conditions.
<b>Imminent</b>	Failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load.

## 4.2 Likelihood of Impacting a Target

This is based on an estimate of the occupancy rate of any targets within the target zone, and any factors that could affect the failed tree as it falls toward the target. In this case the occupancy rate is people using the trails and the target is people. Likelihood of impacting a target can be categorized using the following guidelines:

<b>Very Low</b>	The chance of a failed tree or branch impacting the specified target is remote.
<b>Low</b>	It is not likely that the failed tree or branch will impact the target. Pedestrian traffic is low with some obstructions.
<b>Medium</b>	The failed tree or branch may or may not impact the target with nearly equal likelihood.
<b>High</b>	The failed tree or branch will most likely impact the target.

## 5.0 Edge Management

The management of woodland edges, vegetation located along the trail and trees to be retained within the limits of construction is an important step in maintaining the overall health of these communities as well as ensuring the safety of people. The removal of surrounding trees, grading up to the dripline and the creation of new edges can present challenges and concerns for species. The implementation of tree preservation measures (shown on Landscape Plans L300-L335) will ensure that tree health is maintained during trail construction.

Trees to be retained have been assessed for defects, likelihood of failure and likelihood of impacting a target. The following sections discuss trees identified as hazards, trees to be pruned and restoration of the forest edge. Refer to Table 1: Hazard Tree Assessment Chart for species, tree numbers and recommendations.

### 5.1 Hazard Tree Assessment

An analysis of hazard trees was conducted during field observations. Tree height, health, proximity to a target, target zone, likelihood of failure and likelihood of impacting a target were taken into consideration in determining hazard trees. Hazard trees and dead snags were identified with blue flagging tape wrapped around the trunk. A total of 41 hazard trees including dead standing snags have been identified along the two trail sections: York Durham Line to

Reesor Road and Elgin Mills Road to Reesor Road. It is recommended that 29 of these trees be removed due to their potential to fail and fall onto or within the vicinity of the proposed trail.

The table below summarizes the number of hazard trees observed according to DBH size.

Table 1. Number of Hazard Trees per DBH Size Class.

Hazard Tree Size (mm)	Number of Hazard Trees
< 150	12
150 - 300	9
> 300	20
<b>Total Hazard Trees</b>	<b>41</b>

## 5.2 Hazard Trees to be Removed

- Ash (*Fraxinus* sp.) trees were inspected for signs of Emerald Ash Borer (EAB) infestation, which is characterized by D-shaped exit holes in the bark. Since this insect can kill Ash trees within 2-3 years, an affected tree can become a hazard or snag within a short time period. As a result of EAB, 25 Ash trees (Trees #H01-H06, H12-H27, H30, H31 and H35) of the 41 hazard trees are either dead or EAB infested Ash trees that have been identified to be removed. These trees currently pose a hazard, or have a high potential to become a future hazard.
- One (1) Sugar Maple (*Acer saccharum*), Tree #H07 was observed as dead and is to be removed.
- One (1) Manitoba Maple (*Acer negundo*), Tree #H29 has significant canopy dieback and is a hazard tree to be removed.
- Along the southwest section of trail there is a mature Willow tree (*Salix* sp.) in poor condition (Tree #H36). There is a major cavity at the base of the trunk, which has extensive decay into the heartwood of the tree and the likelihood of failure is high. It is recommended that the tree be removed.
- Furthermore, one (1) dead Butternut (*Juglans cinerea*), Tree #DBNUT1, was noted and is to be removed; however, no additional Butternuts (dead or live) were observed. These trees and their locations are discussed in further detail in the Landscape Plans (L300-L335) and in Table 1.

## 5.3 Hazard Trees to be Retained

- Hazard trees #H08-H10, H28 and H32 show signs of decline as a result of EAB damage. These trees are not within close proximity to the trail alignment; therefore, trees can be retained to provide wildlife habitat and/or perches for bird species.
- Similarly, 1 dead Trembling Aspen (*Populus tremuloides*), Tree #H11, does not require removal since it is situated too far from the proposed trail.
- Tree #H37 is a mature (140 cm DBH) Black Walnut (*Juglans nigra*) that appears to have been struck by lightning. The damage has resulted in a severe cavity extending from the base of the trunk to approximately 1-2 m in height. There is extensive decay and a major limb has been broken off the main trunk. However, since this tree is not within close proximity to the proposed trail, this tree can be retained and is to be cut to 10m in height.

## 5.4 Potential Hazard Trees

- Trees #H33, H34 (both are Black Walnuts), H38, H39 and H40 (Sugar Maples [*Acer saccharum*]) were in declining condition, but are not necessarily in need of immediate removal. However, they should be reassessed by Urban Forestry within a few years due to the potential to become hazard trees in the future.

## 6.0 Trees to be Removed

Due to the percent of encroachment of the trail alignment into the TPZ area of Tree #R01 (*Prunus avium*), this tree is not likely to withstand damage from construction and is therefore recommended for removal.

Refer to Landscape Plans (L300-L335) for the location of the proposed trail alignment in conjunction with existing trees and trees proposed for removal.

## 7.0 Trees to be Retained

Some minor branch pruning may be necessary for trees #001-008 within the eastern section of trails from York Durham Line to Reesor Road. One (1) feature tree, a mature Willow tree is located adjacent to the trail and a visitor's viewing area. This tree should be retained due to its significance from a visitor's experience perspective, and shall be cut to 10m in height.

## 8.0 Summary and Recommendations

A total of 41 hazard trees were assessed. Of these trees, 29 have been recommended to be removed as they were deemed to be hazards. Five (5) of the surveyed trees do not pose an immediate threat to visitor safety, but their condition should be reassessed in subsequent years to monitor their future potential for failure.

One (1) Sweet Cherry (*Prunus avium*), tree #R01 is not a hazard tree, however is located where a proposed trail will run through and is therefore recommended for removal.

The following recommendations pertain to trees to be removed:

- All removals must be felled into the work area to ensure that damage does not occur to the trees within the TPZ.
- Cut stump to a maximum height of 0.3 m above grade. No grubbing.
- The removal of Ash trees is subject to the Canadian Food and Inspection Agency's (CFIA) directives. No Ash products are permitted to leave the regulated area.
- Any trees slated for removal should be done so with care, avoiding and mitigating any negative impacts to adjacent trees to be retained, and in accordance with good arboricultural practices.

## 9.0 CFIA Directive (D-03-08): Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer, *Agrilus planipennis* (Fairmaire)

Canada Food and Inspection Agency (CFIA) Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer (EAB),

*Agilus planipennis* (Fairmaire) applies to Ash species observed on properties that are located within the EAB Regulated Areas of Canada, prepared by the CFIA and dated February 2017. This area covers all south and central Ontario and western Quebec. Ash trees that require removal are subject to this directive.

#### Applicability to Project:

- The CFIA restricts the movement of all Ash material including wood, bark, chips or bark chips from being transported outside of the Regulated Area. A Movement Certificate is required by the CFIA for any Ash material leaving the Regulated Area.
- Ash are permitted to be chipped on site and/or removed or cut down and removed from site. Chipped Ash material that is to remain on site must be ground or chipped to a size of less than 2.5 cm in any two dimensions. All Ash material chipped or whole that is to be removed from site must be disposed of within the Regulated Areas of Canada. Please refer to the following link to access a map showing the EAB Regulated Areas of Canada:  
[http://www.inspection.gc.ca/DAM/DAM-plants-vegetaux/STAGING/images-images/pestrava\\_agrpla\\_ministerial\\_image1a\\_1372765048219\\_eng.jpg](http://www.inspection.gc.ca/DAM/DAM-plants-vegetaux/STAGING/images-images/pestrava_agrpla_ministerial_image1a_1372765048219_eng.jpg)

## 10.0 Preservation and Protection Recommendations

The survival rates for trees, which are in proximity to construction, are dependent on the resultant changes to a variety of environmental and anthropogenic factors. These construction activities bring about changes to a variety of environmental features including the existing microclimate including winds, temperature, soil moisture, amount of available sunlight, soil quality, and the level of the water table. Increased human activities may also damage the structure and/or physiological activities of the trees. The full effects of the damage may not appear until several years after its occurrence. Thus, it is essential that both vegetative clearing and preservation methods follow the guidelines below and those generally accepted as keeping with good horticultural and construction practices. The guidelines are subject to adjustments deemed reasonable and appropriate considering the proximity and number of trees involved and the site-specific requirements.

### 10.1 General Recommendations

The following is a list of practical considerations for the construction phase of the project that applies to all trees that may be impacted by the construction.

- Tree protection fencing should be erected prior to the start of construction and should be limited to areas in close proximity to the trail alignment where there are large clusters of trees that may be affected by the proposed alignment. Fencing should be placed at the limit of the TPZ area;
- Prior to the commencement of tree removals, all limits of the locations of the tree preservation fencing must be clearly staked in the field and approved by WSP. All trees within the tree preservation zone must be left standing. The tree removals must be coordinated to be completed outside of the nesting season, April 1 to August 31, or a visual survey must be undertaken by an ornithologist to ascertain that there are no nests present within the nesting season;
- No tree removals will be permitted within the nesting season (April 1 to August 31) unless a visual survey has been undertaken by an ornithologist to ascertain that there



are no nests present within the nesting season. All removals must be felled into the work area to ensure that damage does not occur to the trees within the tree preservation zone;

- Upon completion of the tree removals, all felled trees are to be removed from within the trail corridor, and all brush chipped. All brush, roots and wood debris must be shredded into pieces that are smaller than 25 mm in size to ensure that any insect pests that could be present within the wood are destroyed. This work must be completed outside of the nesting season, April 1 to August 31, or a visual survey must be undertaken by an ornithologist to ascertain that there are no nests present within the nesting season;
- The CFIA has issued a prohibition of movement where the EAB has been confirmed. EAB has been found within the Region of Peel and is within the EAB Regulated Area which covers most of Ontario and a portion of western Quebec. This directive pertains to the movement of regulated materials (including but not limited to ash wood or bark and ash wood chips or bark chips) from a regulated area. EAB regulated articles moving out of a regulated area must be accompanied by a Movement Certificate issued by the CFIA. Refer to the EAB Regulated Areas of Canada found on the CFIA website.
- Ash materials may be removed from the site and disposed of within the 'Regulated Area' (see CFIA website for the 'Regulated Area' limits). Should it be necessary to dispose of Ash products outside of the 'Regulated Area' a 'Movement Certificate' will be required from the CFIA prior to transport.
- Areas within the tree preservation zone are not to be used for any type of storage (e.g. storage of debris, construction material, surplus soils, and construction equipment). No trenching or tunneling for underground services shall be located within the Tree Protection Zone (TPZ) or dripline of trees designated for preservation within or adjacent to the construction zone;
- No grade changes shall occur within tree preservation zone unless approved as part of this report. In the event that any grade changes may occur, either as a cut or fill situation, the consulting arborist must be notified prior to such work occurring to ensure that all precautions to preserve the tree can be made;
- Trees shall not have any rigging cables or hardware of any sort attached or wrapped around them, nor shall any contaminants be dumped within the protective areas. Further, no contaminants shall be dumped or flushed where they may come into contact with the feeder roots of the trees; and,
- In the event that it is necessary to remove additional limbs or portions of trees after construction has commenced, or to accommodate construction, the consulting arborist is to be informed and under their direction the removal is to be executed carefully and in full accordance with arboricultural techniques, by a certified arborist.

### 10.1.1 Pruning Practices:

- All limbs damaged or broken during construction should be pruned cleanly, utilising bypass secateurs in accordance with approved horticultural practices. Should there be a potential risk of transfer of disease from infected to non-infected trees, tools must be disinfected after pruning each tree by dipping in methyl hydrate. This practice is

particularly important during periods of tree stress and when pruning many members of the same genera, within which a disease could be spread quickly (i.e., Verticillium Wilt on Maples or Fireblight on genera of the Rosacea family);

- During excavation operations in which the root area is affected, the contractor is to prune all exposed roots cleanly. Pruned root ends are to be neatly and squarely trimmed and the area is to be backfilled with clean native fill as soon as possible to prevent desiccation and promote root growth. The exposed roots should not be allowed to dry out, and the contractor shall discuss watering of the roots with the consulting arborist so that the roots shall maintain optimum soil moisture during construction and backfilling operations, yet so not to interfere with construction operations. Backfilling must be with clean uncontaminated topsoil from an approved source. Texture must be coarser than existing soils, and to come into clean contact with existing soils (remove air pockets, sod, etc.);
- All pruning cuts should be made to a growing point such as a bud, twig or branch, cut just outside the branch collar (the swollen area at the base of the branch that sometimes has a bark ridge), and perpendicular to the branch being pruned rather than as close to the trunk as possible. This minimizes the site of the wound. No stubs should be left. Poor cut location, poor cut angle and torn cuts are not acceptable;
- Tree roots should not be excavated within the critical structural rooting area. This is the minimum area of the root system necessary to maintain vitality or stability of the tree. Typically, this area extends to the dripline of the tree. The severing of one root can cause approximately 5-20% loss of the root system. A reduction of this area by greater than 30% can pose stability concerns for the tree; and,
- Extensive pruning is best completed before plants break dormancy. Pruning should be limited to the removal of no more than one third (1/3) of the total bud and leaf bearing branches. Pruning should include the careful removal of:
  - deadwood;
  - branches that are weak, damaged, diseased and those which will interfere with construction activity;
  - secondary leaders of conifers,
  - trunk and root suckers;
  - trunk waterspouts; and,
  - tight V-shaped or weak crotches (included unions).

The Contractor must report immediately any damage to trees such as broken limbs, damage to roots, or wounds to the main trunk or stem systems so that the damage can be assessed immediately.

The tree protection fencing will be maintained until all construction is completed, soils are stabilized and all of the equipment has been removed from the site.

### **10.1.2 Establishment of Tree Protection Zone (TPZ)**

- No grade changes shall occur within the TPZ area. In the advent that grade changes occur either as a cut or fill situation, the consulting arborist must be notified so that

precautions to preserve the tree can be determined prior to the placement of fill or excavation activities.

- Every precaution must be taken to prevent damage to trees and root systems from damage, compaction and contamination resulting from the construction to the satisfaction of the consulting arborist.
- Trees that require pruning to permit construction activities have been identified in the Edge Management Report. In the event that it is necessary to remove additional limbs or portions of trees, after construction has commenced, to accommodate construction, the consulting arborist is to be informed and under their direction the removal is to be executed carefully and in full accordance with arboricultural techniques, by a certified arborist.
- Any damage to trees such as broken limbs, damage to roots, or wounds to the main trunk or stem systems are to be reported to the consulting arborist so that the damage can be assessed immediately and mitigation can be promptly implemented.

## **10.2 Construction Implementation**

### **10.2.1 Pre-Construction**

- A site meeting is recommended to be held with Contractor, City forestry representative and consulting arborist to review the trees to be removed and pruned;
- The tree removals must be coordinated to be completed outside of the nesting season, April 1 to August 31, or a visual survey must be undertaken by an ornithologist to ascertain that there are no nests present within the nesting season; and,
- It is highly recommended that tree reductions along the forest edge be conducted from the roadside to minimize any impacts to existing healthy trees. Stumps adjacent to trees identified for retention are to be cut at 0.3m height or 3m height in standing water locations in order to avoid impacts to retained trees.

### **10.2.2 Construction**

- Periodic inspections will be undertaken by the site supervisor to ensure that the mitigation measures are being maintained during construction;
- The TPZ fencing is to be maintained throughout the entire construction period. No equipment storage, flushing of fuel, washing of construction equipment, and storage of spoil or construction debris is to occur behind the fencing;
- To avoid root zone impacts on trees to be retained, excavated material will not be stored against the TPZ fencing; and,
- Where the root system of trees to be preserved are exposed or damaged through construction activities, the cut ends are to be neatly and squarely trimmed back to the limits of disturbance and the area is to be backfilled with clean native fill as soon as possible to prevent desiccation and promote root growth. Proportional selective thinning

of the canopy is not recommended as canopy pruning is only recommended in the event that the health of the tree declines.

### 10.2.3 Post-Construction

- The TPZ fencing will be removed last after all of the construction has ended, soils are stabilized and all of the equipment has been removed.

## 11.0 Limitations of Assessment

It is our policy to attach the following clause regarding limitations. We do this to ensure that the client is aware of what is technically and professionally realistic in retaining trees.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of all the above ground parts of the tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the trees and the surrounding site, and the proximity of property and people. Except where specifically noted, the trees were not cored, probed or climbed and there was no detailed inspection of the root crowns involving excavations.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions.

While reasonable efforts have been made to ensure that the subject trees are healthy, no guarantees are offered, or implied, that these trees or any of their parts will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or its component parts under all circumstances. Inevitably, a standing tree will always pose some level of risk. Most trees have the potential for failure under adverse weather conditions, and the risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the trees should be re-assessed periodically. The assessment presented in this report is valid at the time of inspection.

**WSP Canada Inc. (WSP)**



Carlene Perkin, B.Sc.  
Ecologist, ISA Certified Arborist ON-2306A



**Table 2: Hazard Tree Assessment Charts**

Project: Rouge Park Trail		Field Work Completed By: Carlene Perkin		Date of Fieldwork: June 5, 2019		Weather: 15C, cloudy, precipitation							
Tree Assessment Criteria:				Tree Condition									
TI - Trunk Integrity: assessment of the trunk for any defects or weaknesses.				Good: tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
CS - Canopy Structure: assessment of scaffold branches, unions and canopy				Fair: tree displays 15-40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown				Poor: tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
Conditions:				Legend:									
G=Good, F=Fair, P=Poor, D=Dead				Tree Grouping									
				Minimum TPZ reduction / No Injury									
				Minimum TPZ reduction / Injury									
				Hazard Tree to be Removed									
				Trees to be Preserved / Retained									
				Trees to be Removed									
Tree #	Code	Botanical Name	Common Name	No.	DBH (cm)	Effective DBH	Tree Condition			Dripline Radius (m)	Tree Protection Zone (m)	Recommendation	Remarks
							TI	CS	CV				
<b>East Section (York Durham Line to Reesor Road)</b>													
1	Ulmume	<i>Ulmus americana</i>	American Elm	1	50	50.0	G	G	G	4.5	6	Retain - With protection measures	Trail proposed to go beneath dripline
2	Ulmupum	<i>Ulmus pumila</i>	Siberian Elm	1	55	55.0	G	G	G	6	7.2	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
3	Malu_sp	<i>Malus sp.</i>	Apple sp.	1	30,30,25	49.2	F	G	G	3	6	Retain - With protection measures	Trail proposed to go beneath dripline
4	Prunavi	<i>Prunus avium</i>	Sweet Cherry	1	34	34.0	G	G	G	3	4.8	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
5	Prunavi	<i>Prunus avium</i>	Sweet Cherry	1	28	28.0	G	G	G	2.5	3.6	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
R01	Prunavi	<i>Prunus avium</i>	Sweet Cherry	1	17	17.0	F	G	G	1.5	3.6	Remove	Trail proposed to go through trunk location
H01	Fraxame	<i>Fraxinus americana</i>	White Ash	1	24	24.0	F	F	F	2	3.6	Remove	
6	Acerneg	<i>Acer negundo</i>	Manitoba Maple	1	10,15,25,26	40.3	F	G	G	4	4.8	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
7	Acerneg	<i>Acer negundo</i>	Manitoba Maple	1	20,10,10,6	25.2	F	G	G	3	3.6	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
8	Acerneg	<i>Acer negundo</i>	Manitoba Maple	1	20,15,16	29.7	F	G	G	3	3.6	Retain - Prune lower branches to ISA standards	Trail proposed to go beneath dripline
F01	Sali_sp	<i>Salix sp.</i>	Willow sp.	1	55,24	60.0	F	G	G	3	7.2	Retain - With protection measures	Feature tree
H02	Fraxame	<i>Fraxinus americana</i>	White Ash	1	26	DEAD	-	-	-	-	-	Remove	EAB evidence
H03	Fraxame	<i>Fraxinus americana</i>	White Ash	1	22	22.0	P	P	P	2	3.6	Remove	EAB evidence, dieback
H04	Fraxame	<i>Fraxinus americana</i>	White Ash	1	22	22.0	P	P	P	2	3.6	Remove	EAB evidence, dieback
H05	Fraxame	<i>Fraxinus americana</i>	White Ash	1	30	DEAD	-	-	-	-	-	Remove	EAB evidence
H06	Fraxame	<i>Fraxinus americana</i>	White Ash	1	60	DEAD	-	-	-	-	-	Remove	EAB evidence
DBNUT1	Juglcin	<i>Juglans cinerea</i>	Butternut	1	20	DEAD	-	-	-	-	-	Remove	Broken branches, peeling bark, canker
H07	Acersas	<i>Acer saccharum</i>	Sugar Maple	1	32	DEAD	-	-	-	-	-	Remove	Broken branches, peeling bark
<b>West Section (Elgin Mills Road to Reesor Road)</b>													
H08	Fraxame	<i>Fraxinus americana</i>	White Ash	1	50	50.0	P	P	P	3	6	Retain	EAB evidence, dieback
H09	Fraxame	<i>Fraxinus americana</i>	White Ash	1	30,22,20,20,13	48.5	P	P	P	3	6	Retain	EAB evidence, dieback, dead stems
H10	Fraxame	<i>Fraxinus americana</i>	White Ash	1	32	32.0	P	P	P	2	4.8	Retain	EAB evidence, dieback, dead stems
H11	Poputre	<i>Populus tremuloides</i>	Trembling Aspen	1	18	DEAD	-	-	-	-	-	Retain	Peeling bark at base
H12	Fraxame	<i>Fraxinus americana</i>	White Ash	1	36,32,30,17	59.2	P	P	P	4	7.2	Remove	EAB evidence, dieback
H13	Fraxame	<i>Fraxinus americana</i>	White Ash	1	50	50.0	P	P	P	4	6	Remove	EAB evidence, dieback
H14	Fraxame	<i>Fraxinus americana</i>	White Ash	1	10,8	12.8	P	P	P	1	3.6	Remove	EAB evidence, dieback
H15	Fraxame	<i>Fraxinus americana</i>	White Ash	1	20	20.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H16	Fraxame	<i>Fraxinus americana</i>	White Ash	1	13	13.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H17	Fraxame	<i>Fraxinus americana</i>	White Ash	1	9,4	9.8	P	P	P	1	1.2	Remove	EAB evidence, dieback
H18	Fraxame	<i>Fraxinus americana</i>	White Ash	1	12	12.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H19	Fraxame	<i>Fraxinus americana</i>	White Ash	1	11	11.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H20	Fraxame	<i>Fraxinus americana</i>	White Ash	1	12	12.0	P	P	P	1	3.6	Remove	EAB evidence, dieback

**Table 2: Hazard Tree Assessment Charts**

Project: Rouge Park Trail		Field Work Completed By: Carlene Perkin		Date of Fieldwork: June 5, 2019		Weather: 15C, cloudy, precipitation							
Tree Assessment Criteria:				Tree Condition									
TI - Trunk Integrity: assessment of the trunk for any defects or weaknesses.				Good: tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
CS - Canopy Structure: assessment of scaffold branches, unions and canopy				Fair: tree displays 15-40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown				Poor: tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)									
Conditions:				Legend:									
G=Good, F=Fair, P=Poor, D=Dead				Tree Grouping									
				Minimum TPZ reduction / No Injury									
				Minimum TPZ reduction / Injury									
				Hazard Tree to be Removed									
				Trees to be Preserved / Retained									
				Trees to be Removed									
Tree #	Code	Botanical Name	Common Name	No.	DBH (cm)	Effective DBH	Tree Condition			Dripline Radius (m)	Tree Protection Zone (m)	Recommendation	Remarks
							TI	CS	CV				
H21	Fraxame	<i>Fraxinus americana</i>	White Ash	1	4	4.0	P	P	P	1	1.2	Remove	EAB evidence, dieback
H22	Fraxame	<i>Fraxinus americana</i>	White Ash	1	20	20.0	P	P	P	2	3.6	Remove	EAB evidence, dieback
H23	Fraxame	<i>Fraxinus americana</i>	White Ash	1	7	7.0	P	P	P	1	1.2	Remove	EAB evidence, dieback
H24	Fraxame	<i>Fraxinus americana</i>	White Ash	1	12	12.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H25	Fraxame	<i>Fraxinus americana</i>	White Ash	1	10	10.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H26	Fraxame	<i>Fraxinus americana</i>	White Ash	1	6	6.0	P	P	P	1	1.2	Remove	EAB evidence, dieback
H27	Fraxame	<i>Fraxinus americana</i>	White Ash	1	12	12.0	P	P	P	1	3.6	Remove	EAB evidence, dieback
H28	Fraxame	<i>Fraxinus americana</i>	White Ash	1	50	50.0	P	P	P	4.5	6	Retain	EAB evidence, dieback
H29	Acerneg	<i>Acer negundo</i>	Manitoba Maple	1	45	45.0	P	P	P	2	6	Remove	Canopy dieback
H30	Fraxame	<i>Fraxinus americana</i>	White Ash	1	30	DEAD	-	-	-	-	-	Remove	EAB evidence
H31	Fraxame	<i>Fraxinus americana</i>	White Ash	1	60	60.0	P	P	P	4	7.2	Remove	EAB evidence, dieback
H32	Fraxame	<i>Fraxinus americana</i>	White Ash	1	27	27.0	P	P	P	3	3.6	Retain	EAB evidence, dieback
H33	Juglnig	<i>Juglans nigra</i>	Black Walnut	1	34	34.0	F	F	F	3	4.8	*Not immediate Hazard	Broken branches, wounds
H34	Juglnig	<i>Juglans nigra</i>	Black Walnut	1	30	30.0	F	F	F	3	4.8	*Not immediate Hazard	Broken branches, wounds
H35	Fraxame	<i>Fraxinus americana</i>	White Ash	1	40	40.0	P	P	P	3.5	4.8	Remove	EAB evidence, dieback
H36	Sali_sp	<i>Salix sp.</i>	Willow sp.	1	60,50	78.1	P	P	P	6	9.6	Remove	Major crack in trunk with decay and hollowed out
H37	Juglnig	<i>Juglans nigra</i>	Black Walnut	1	140	140.0	P	P	P	5	8.4	Retain - Prune lower branches to ISA standards. Cut to 10m Height	Major crack in trunk (lightning damage?) with decay and hollowed out
H38	Acersas	<i>Acer saccharum</i>	Sugar Maple	1	80	80.0	P	F	F	6	9.6	*Not immediate Hazard	Trunk wounds with decay, canopy dieback
H39	Acersas	<i>Acer saccharum</i>	Sugar Maple	1	74	74.0	P	F	F	5	9.6	*Not immediate Hazard	Trunk wounds with decay, canopy dieback
H40	Acersas	<i>Acer saccharum</i>	Sugar Maple	1	52	52.0	P	F	F	4	7.2	*Not immediate Hazard	Trunk wounds with decay, canopy dieback