247 Royal Oak Road, Cambridge

Tree Management Report

Prepared for:

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Project No. 2824 | June 2024

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

247 Royal Oak Road, Cambridge

Tree Management Report

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Report submitted on June 10, 2024

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1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was retained by Schiedel Construction Inc., to complete an Environmental Impact Study (EIS) for a proposed industrial development located southwest of the Royal Oak Road and Speedsville Road intersection in Cambridge, Ontario (Map 1). The Terms of Reference for this EIS included the completion of a Tree Management Plan (TMP) in order to identify trees within the subject property and adjacent areas that may be impacted by the proposed development. The subject property is bound by Royal Oak Road to the north, Speedsville Road to the east, Highway 401 to the south, and residential properties to the west. For the purpose of this report, the term "subject property" refers to the collective properties (229, 235, 239, and 247 Royal Oak Road, Cambridge, ON) owned by Schiedel (Map 1).

The property is currently designated as Low/Medium Density Residential (R1) and Natural Open Space System (OS1) in the City of Cambridge Official Plan (2018). An Official Plan and Zoning By-law amendment is required to facilitate the proposed industrial development, to rezone the property as Industrial (M1).

This TMP was completed in accordance with the City of Cambridge Private Tree Preservation By-law (124-18) which regulates the injuring and destruction of any tree with a DBH equal to or greater than 20cm within the City of Cambridge. This by-law states that if a private land owner wishes to destroy or injure a regulated tree then the owner shall submit a permit application, as per Section 4 of the By-law. This TMP also conforms to the requirements of the City of Cambridge Public Tree By-law (71-06), Tree Management Plan Basic Requirements (2023) and Guidelines for Completion of an Arborist Report (2021). A previous iteration of this TMP was submitted to the City of Cambridge in December 2022 and has since been revised to address comments provided by City of Cambridge staff on the previous development submission (May 2 2023). The following TMP has been updated to include detailed grading plans, provided by K. Smart Associates (June 2024).

Section 3.A.6.2 of the City of Cambridge Official Plan (OP) (2018) requires that a Tree Management Plan be completed where development is proposed. The OP states the following:

> *The City shall require as necessary the preparation and submission of a tree management plan prior to draft approval of a plan of subdivision or site plan approval. Tree management plans submitted to the City shall be prepared in a manner consistent with the "Tree Management Policies and Guidelines for New Developments"*

In compliance with the City's tree protection By-laws (124-18), the OP (2018) and Tree Management Guidelines (2023), this report summarizes the following:

- Findings of the tree inventory;
- Assessment of overall health and potential for structural failure of inventoried trees;
- Tree retention analysis based on details of the proposed development;
- Protection measures for trees to be retained; and
- Recommended mitigation and compensation measures.

Any damage or removal of trees, as well as any NRSI recommendations related to tree protection, must be approved by the City of Cambridge prior to implementation, and is subject to the approval of a City of Cambridge tree removal permit.

2.0 Tree Inventory Methods

A comprehensive inventory and assessment of trees ≥10cm in Diameter at Breast Height (DBH) within the development limit of the subject property, as well as those with the potential to be impacted by the proposed development was completed on October 26th 2022 and May 28th 2024 by NRSI staff. Inventoried trees were tagged with a pre-numbered aluminum forestry tag and assessed by Registered Professional Foresters or Certified Arborist. Trees located along the edge of the deciduous woodland within the central portion of the subject property were also inventoried and assessed where areas of proposed grading encroaches within the surveyed dripline. The location of trees inventoried was surveyed by staff using an SXBlue II GNSS GPS unit, capable of sub-meter accuracy. A complete list of the trees that were assessed and their overall health and potential for structural failure is included in Appendix I.

The following information was recorded for each tree:

- Species;
- Tag number (on-site trees) / alphabetic identifier (off-site, inaccessible, and woodland trees);
- DBH (centimetres);
- Crown radius (meters);
- General health (excellent, good, fair, poor, very poor, dead);
- Potential for structural failure (improbable, possible, probable, imminent);
- Tree location (on-site, boundary, off-site)**;** and,
- General comments (i.e. disease, aesthetic quality, development constraints, sensitivity to development).

The overall health of each tree was assessed based on the criteria outlined in Appendix II, and was compared to the criteria outlined in the Tree Management Policies and Guidelines for New Developments (referred to throughout this report as the 'City Guidelines') (City of Cambridge 2002). Both sets of criteria are very similar, with the exception that the criteria outlined in Appendix II assesses health using 6 rankings (i.e. excellent, good, fair, poor, very poor, dead), whereas the City Guidelines (2002) assess health using four ratings (i.e. good, fair, poor, dead), and are defined as follows:

- **Good:** dead branches less than 10%, signs of good compartmentalization on any wounds, no structural defects;

- **Fair:** 10-30% dead branches, size or occurrence of wounds presents some concerns, minor structural defects;
- **Poor:** more than 30% dead branches, weak compartmentalization, early leaf drop, presence of insects/disease, major structural defects; and
- **Dead:** tree shows no signs of life.

As such, any trees assessed in excellent or very poor health can be considered to be in good or poor health, respectively, according to the City Guidelines (2002).

The potential for structural failure and the overall health of each tree was assessed based on the criteria outlined in Appendix II. In carrying out these assessments, NRSI has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out these assessments. The assessments have been made using accepted arboricultural techniques including a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. None of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken. The conditions for this assessment, including restrictions, professional responsibility, and third-party liability can be found in Appendix III.

3.0 Summary of Tree Inventory and Assessment

In total, 367 trees were inventoried, comprising of 36 species. Of the inventoried trees, 274 (74%) are native and 93 (26%) are non-native. A complete list of inventoried trees is provided in Appendix I and tree locations are shown on Map 2.

Appendix IV provides a list of tree species inventoried within the subject property, whether they are native or non-native and their overall health. A summary of the overall health of inventoried trees, along with their potential for structural failure can also be found in Appendix IV. The majority of the trees inventoried are in fair health with an improbable potential for structural failure.

Three regionally rare species were recorded during the tree inventory, including 59 White Spruce (*Picea glauca*), five Black Walnut (*Juglans nigra),* and two Common Hackberry *(Celtis occidentalis)*. Each of these species have been identified by Richardson and Martin (1999) as being regionally rare if demonstrably indigenous, though most populations in the Waterloo Region are thought to be of non-indigenous origin. The Common Hackberry observed on site were immature and occur within a small Manitoba Maple (*Acer negundo*) thicket near Royal Oak Road. It is likely that these individuals have established through recent wildlife dispersal. The White Spruce inventoried within the subject property were row planted within the manicured lawn portion of the subject property, while the Black Walnut are suspected to have established within the subject property as a result of wildlife dispersing seed from the surrounding area.

4.0 Proposed Development Area Tree Removals

Tree removal and retention was based on the following considerations:

1. Trees identified as having probable potential for structural failure and/or are in poor to very poor health and/or are dead within the project limits may be identified for removal where they may pose a safety risk to the adjacent development.

2. Trees that require removal based on the proposed development plan. This was determined by comparing the trees and their potential root systems to the location of components of the draft plan of development and associated grading as shown on plans prepared by Schiedel Construction (2024) and K.Smart Associates (2024) (Map 2).

Minimum tree protection zones (TPZs) have been calculated based on the DBH of each tree. The prescribed tree removals and those to be retained have been identified on Map 2. Where a tree has been prescribed for retention but is in direct proximity to the limit of grading, the calculated TPZ has been shown (Map 2). In some cases, retention has been proposed for trees whose TPZ will be partially encroached upon by the grading limit, however this has been prescribed with the expectation that the tree will likely tolerate these impacts (i.e. "Retain/Impact"). This consideration has been made based on the general site conditions observed during the tree inventory, as well as the health, structure and species of each tree.

In total, 367 trees were inventoried within and adjacent to the subject property. Of the 367 inventoried trees, 303 are proposed for removal based on the extent of the proposed site grading that is required to facilitate the proposed development. Table 1 provides a summary of the retention/removal analysis and Appendix I includes a list of trees inventoried, their overall health and potential for structural failure, recommended action (retain, remove, etc.), and rationale for removal. The following categories were included in the analysis:

- Retain;
- Retain / Impact; and
- Remove.

Table 1. Retention and Removal Analysis

Proposed Action	Total
Remove	303
Total Trees to be Removed	**303**
Retain	61
Retain / Impact	3
Total Trees to be Retained	**64**
Overall Total	**367**

Of the 303 trees proposed for removal, 24 trees are considered boundary or off-property trees. An additional off property tree (#1066) has been marked as “Retain / Impact”. The removal or impact of any boundary or off-property trees will require the written permission of all owners involved. If the main stem of any tree is located on multiple properties, each owner must be consulted and consent must be provided before any tree removal occurs. NRSI is not aware of receipt of approval for these removals at this time, and our recommendation for removal should not be inferred to reflect any approval from any parties.

5.0 Tree Compensation and Restoration

Private Tree Compensation

Of the 303 trees assessed for removal within the proposed development area, 194 trees are ≥20 cm DBH and within private property, and are thereby regulated by the City of Cambridge Private Tree By-Law (124-18) (2018). The City of Cambridge Tree Management Plan Basic Requirements (2023), as provided by City staff (Grittani 2023) identify compensation planting ratios to guide tree removal replacement. These specify the number of replacement trees to be provided, based on the diameter class of a tree to be removed. A summary of the proposed tree removals, as well as their respective compensation requirements has been provided below.

Table 2. Private Tree Compensation Summary

Diameter Class/Condition	Trees to be Removed	Compensation Ratio	Replacement Trees Required
Dead	6	0.5	3
<20cm DBH	105	N/A	0
20-30cm DBH	73	1:1	73
31-40cm DBH	47	2:1	94
41-70cm DBH	53	3:1	159
>71cm DBH	15	4:1	60
Total	**299**	**N/A**	**389**

Based on the required tree removals and tree replacement ratios identified above, a total of 389 trees are required in compensation for the removal of 194 privately-owned trees ≥20cm DBH. The City's Tree Management Guidelines state that tree removals may be compensated for through a cash-in-lieu payment ($525/tree) for each replacement tree, though this must be provided for prior to the removal of trees and paid at the published replacement tree rate at the time of removals. Based on the removal of 194 trees ≥20cm DBH, the cash-in-lieu compensation fee would be $204,225 for 389 replacement trees.

Public Tree Compensation

An additional 4 trees have been prescribed for removal, each of which are within the existing right-of-way on City-owned lands. These trees are subject to the requirements of the City's Public Tree By-Law (71-06) and must be compensated for based on the 10th Edition if the Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers. Each tree has been assessed based on these guidelines and a summary of the assessment and associated compensation cost per tree has been provided in the table below.

Table 3. Public Tree Appraisal Summary

Species	Native/ Non-native	DBH	Potential for Structural Failure	Health Rating	Subject Cross-Sectional Area	Nursery Tree Cost	Nursery Caliper (cm)	Basic Cost	Condition	Total Depreciated Cost
Eastern White Cedar	Native	14.1	Improbable	Fair	156.1	$243.00	9	$536.87	0.719	$700.00
Trembling Aspen	Native	21.4	Improbable	Fair	359.5	$240.00	7	$2,218.11	0.656	$900.00
Trembling Aspen	Native	21.9	Improbable	Good	376.5	$240.00	7	$2,322.97	0.781	$900.00
Black Walnut	Native	41.8	Improbable	Fair	1372	$286.67	8	$7,914.04	0.656	$1,700.00

In order to determine the compensation values owed for the removal of “public” trees, the 10th Edition Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers was applied. Nursery tree costs were identified using 2023 rates for each of the species proposed for removal. In determining functional limitations, each of the trees was determined to be moderately limited (45%). This was due to characteristics of the site that are considered to limit future plant development, such as the road runoff, salt and pollutants typically encountered within a road right-of-way. The placement of the trees was also considered, in that they are directly roadside and limited in their available seed dispersal area. The external limitations for each tree were identified as moderate, though slightly greater than the functional limitations (40%). This is based on external factors likely to impact each tree, such as regular roadside vegetation removal that may result in mechanical injury to the trees and pruning requirements associated with existing powerlines over each of the tree canopies. As identified in the table above, compensation owed for the removal of public trees amounts to $4,200. Fulsome details of the appraisal for each of the right-of-way trees identified for removal has been provided in Appendix V.

Compensation Planting

Should the landowner wish to pursue replacement trees in compensation for the prescribed tree removals, it is understood that a Landscape Plan must be prepared an Ontario Landscape Architect. This plan will identify trees proposed to be installed as compensation plantings, along with the detailed summary of the species, quantities, locations, and planting stock to be used. As identified in the City’s Tree Management Guidelines, replacement trees must be a minimum of 50mm caliper for deciduous trees and 1.75m in height for coniferous trees and shall be installed in accordance with an approved landscape plan. Any compensation plantings should be site-appropriate native species whose selection is representative of the native species that

required removal. Should the landowner wish to pursue compensation plantings at a later date, they will also be required to provide a letter of credit to the City of Cambridge. Replacement trees provided in compensation for the tree removals prescribed within this report may not be utilized within simultaneously planned ecological restoration works or buffer plantings proposed as part of the development concept, as identified by the City of Cambridge response comments (2023).

6.0 Tree Protection Measures and Recommended Mitigation

During the construction process, efforts should be made to protect the health and root systems of neighbouring trees on the eastern border of the subject property in addition to trees outside of the development area on the subject property. The Client, or their designate (e.g. construction inspector or site manager), must ensure that all employees and contractors are informed of the meaning and importance of tree protection measures and the ways in which trees to be retained are identified.

6.1 Prior to Construction and Site Alteration

Temporary tree protection fencing (TPF) should be situated where trees are adjacent to proposed development as shown on Map 2. A combined sediment and erosion control (ESC) fence (i.e., geotextile woven silt fence) and TPF is recommended where trees are situated adjacent to the limit of disturbance. This TPF is to take the form of 2240mm iron T-bar stakes supporting 1200mm paige-wire fencing. A corresponding fencing diagram can be found on Map 2. The combined ESC/TPF should be installed prior to any construction activity, and be inspected by an Environmental Monitor, Certified Arborist/Registered Professional Forester or similarly qualified professional.

The ESC/TPF will be installed and maintained by the Client prior to any construction activities (rough grading, vegetation, and tree removal). Prior to works commencing on-site, fence installation and location is to be inspected by a Certified Arborist. Signage indicating the purpose of protection fencing will be attached to the TPF every 100-150m. Any maintenance required on trees designated for retention should be completed prior to construction.

6.1.1 Woodland Dripline and Buffer

As discussed within the EIS (NRSI 2024), minimal grading is proposed within the dripline and dripline buffer on the eastern and western side of the woodland (Map 2). NRSI staff inventoried and assessed the woodland edge trees that have potential to be impacted by the proposed grading. In order to accommodate the relocation of the gravel access road along ‘Building A’, grading has been proposed within a minor portion of the western woodland edge. A total of 4 woodland trees will require removal and 2 are anticipated to be impacted in order to accommodate the construction of the gravel road.

Due to required the traffic setbacks and minimum separation distance to the intersection at Royal Oak Road and Speedsville Road, the entrance into the eastern portion of the subject

property for ‘Building B’ encroaches into the identified 10m setback from the eastern woodland dripline. Additional grading associated with the construction of ‘Building B’ encroaches into the 10m buffer on this side of the woodland, however this will be limited to a temporary encroachment during construction, and will not encroach into the dripline itself. It is understood that, following the completion of grading and construction, the 10m buffer will be reinstated.

In order to match the existing grade on the eastern portion of the subject property, grading has been proposed within the woodland buffer and a portion of the northern dripline. ESC fencing shown on May 2 has been sited to match the limit of disturbance (grading). Tree “AR”, a Manitoba Maple (*Acer negundo)* in “Poor” condition, will require removal to accommodate the proposed grading in this area. Upon completion of the grading activity in this area, it is understood that soils will be stabilized with native groundcover seeding and TPF will be established at the 10m woodland buffer limit, which will remain in place throughout the remainder of the construction period. Once the existing grade as been matched, TPF along the woodland buffer (where applicable) will be erected for the remainder of the construction period.

The limit of construction along the woodland buffer will be demarcated through the use of combined ESC/TPF, as described above and shown on Map 2, in order to ensure grading impacts do not extend into this natural feature. Should minor damage or injury to additional trees occur, impacts should be discussed with the City of Cambridge, though it is recommended that any pruning trees is done by a Certified Arborist prior to the start of construction and be consistent with standard arboricultural practices. A Certified Arborist or Registered Professional Forester should be present on site to supervise all TPF fence installation and grading within the woodland buffer and dripline.

6.1.2 Migratory Birds Convention Act

The removal of trees within the subject property has the potential to disrupt nesting birds. The *Migratory Birds Convention Act* (MBCA, Government of Canada 1994) identifies a list of migratory bird species that are protected. It prohibits the destruction of nests, individuals and activities that would cause an adult bird to abandon a nest. Tree removal is to occur outside of the core nesting period for migratory birds as established by the Canadian Wildlife Service (CWS 2012), which extends from approximately April 1 through August 31. Every developer/consultant/contractor, etc. is legally obliged to carry out due diligence to protect migratory birds from harm during all construction projects.

6.1.3 Species at Risk Bat Habitat

NRSI biologists inspected all trees within and adjacent to the subject property, finding suitable cavity trees for bats within the West Creek corridor. No suitable trees were observed in the remainder of the property. Similarly, roosting and maternity colony habitat may be provided within the residential dwellings and other structures within the subject property. Additional details on the bat habitat within the subject property can be found within Section 5.4.3 of the EIS (NRSI 2023).

The destruction of Species at Risk (SAR) bats and their habitat is prohibited under the Endangered Species Act. Since tree removal has the potential to directly impact bat roosting habitat, as a precautionary measure it is recommended this activity occur outside of the active roosting season (April 1 – October 31), to avoid the destruction of habitat and associated contravention of the Act.

6.2 During Construction

Temporary TPF is to be maintained by the Developer and/or their representative during the entire construction period to ensure that trees being retained and their root systems are protected. Any minimal damage (i.e., damage to limbs or roots) to trees to be retained during construction must be pruned using proper arboricultural techniques. Should any of the trees intended to be retained be seriously damaged or die as a result of construction activities, the City will be consulted and presented with a proposed plan of action, such as treatment or replacement. Any replacement species are to be reviewed by a Certified Ontario Landscape Architect (OLA), Registered Professional Forester, or Certified Arborist.

To minimize disturbance to vegetation being retained, maintenance and refueling of machinery during construction is to occur at a designated location away from the tree protection zones and the off-site natural areas being protected. No storage of equipment, materials or fill is to occur within these areas.

6.3 Post Construction

It is recommended that the ESC/TPF be removed upon completion of construction activities and adjacent areas are stabilized with a suitable vegetative cover to the satisfaction of the Environmental Inspector or qualified biologist. A Certified Arborist/Registered Professional Forester and/or qualified other should inspect all retained trees and their rooting area, and recommend remediation work (if needed). A post-construction remediation plan may be

required if damage to retained trees is noted. Following remediation activities, if needed, a final assessment should be done to ensure all protocols were met, ensuring final project approval.

7.0 Summary

NRSI was retained by Schiedel Construction Inc. in 2022 to complete a TMP for a proposed industrial development located southwest of the Royal Oak Road and Speedsville Road intersection in Cambridge, Ontario.

NRSI Registered Professional Foresters conducted a detailed tree inventory and assessment of trees within and adjacent to the subject property with the potential to be impacted by the proposed development on October 26th 2022 and May 28th 2024. A total of 367 trees belonging to 36 species were inventoried and assessed for removal within the proposed development area. Compensation owed for the removal of private trees is valued at $204,225 or 389 replacement trees ($525/replacement tree), based on the removal of 194 private trees ≥20 cm DBH. Compensation owed for the removal of an additional 4 trees within the public right-of-way has been valued at an additional $4,200, based on the 10th Edition of the Guide for Plant Appraisal by the Council of Tree and Landscape Appraisers.

It is recommended that all proposed tree removals occur in consideration of general timing windows for migratory birds (April 1 through August 31) and active roosting season for SAR bats (April 1 – October 31). It is required that written permission from adjacent landowners be obtained in advance of any boundary tree removals. A combination ESC and TPF is to be installed along the western and southern edge of the disturbance area after the tree removals and prior to any construction in order to protect off-site trees and trees not within the development area from removal and/or damage. A Certified Arborist or Registered Professional Forester should be present on site to verify TPF fence installation and supervise grading activities within the woodland buffer and dripline, as per Map 2.

8.0 References

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Appendix I
Tree Inventory Data

Royal Oak Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
240	Balsam Poplar	*Populus balsamifera*	Native	1	35					5.0		Improbable	Fair	On Property	Remove	2:1	Branch dieback; previously failed branches; asymmetrical crown due adjacent tree.
241	Willow sp.	*Salix sp.*	Non-native	1	56					6.0		Improbable	Fair	On Property	Remove	3:1	Forked crown; branch dieback; previously failed branches.
242	Black Walnut	*Juglans nigra*	Native	1	20					3.0		Improbable	Poor	On Property	Remove	N/A	Cavity with black bark; branch dieback.
243	Black Walnut	*Juglans nigra*	Native	1	18					2.0		Improbable	Fair	On Property	Remove	N/A	Minor branch dieback; competition with adjacent buckthorn.
250	Manitoba Maple	*Acer negundo*	Native	1	17					3.0		Possible	Poor	On Property	Remove	N/A	Previously pruned; heavy lean.
251	Manitoba Maple	*Acer negundo*	Native	1	25					3.0		Improbable	Fair	On Property	Remove	1:1	Minor dieback; slight lean.
252	Manitoba Maple	*Acer negundo*	Native	1	23					3.0		Improbable	Fair	On Property	Remove	1:1	Minor dieback; previously failed branches.
253	Scots Pine	*Pinus sylvestris*	Non-native	1	29					3.0		Improbable	Fair	On Property	Remove	1:1	Vines throughout crown; natural pruning.
254	Scots Pine	*Pinus sylvestris*	Non-native	1	27					3.0		Improbable	Fair	On Property	Remove	1:1	Vines throughout crown; natural pruning.
255	Scots Pine	*Pinus sylvestris*	Non-native	1	24					2.0		Improbable	Fair	On Property	Remove	1:1	Vines throughout crown; natural pruning.
256	Scots Pine	*Pinus sylvestris*	Non-native	1	28					3.0		Improbable	Fair	On Property	Remove	1:1	Vines throughout crown; natural pruning.
257	Balsam Poplar	*Populus balsamifera*	Native	1	27					3.0		Improbable	Fair	On Property	Remove	1:1	Branch dieback; asymmetrical crown due adjacent tree.
259	Eastern Cottonwood	*Populus deltoides*	Native	2	38	18				3.0		Possible	Very Poor	On Property	Remove	3:1	Considerable branch dieback; vines throughout crown; multiple wounds in stem.
260	Eastern Cottonwood	*Populus deltoides*	Native	1	17					2.0		Possible	Very Poor	On Property	Remove	N/A	Bark peeling off trunk; rotted core; basal shoots; still has buds; large wound on trunk.
261	Balsam Poplar	*Populus balsamifera*	Native	2	28	26				4.0		Improbable	Fair	On Property	Remove	3:1	Good attachment of leader stems; one leader branch with wound; overall good crown structure.
262	White Spruce	*Picea glauca*	Native	1	32					3.0		Improbable	Poor	On Property	Remove	2:1	Multiple poorly pruned branches due to road ROW; grapevine throughout crown.
263	Manitoba Maple	*Acer negundo*	Native	3	58	47	46			5.0		Possible	Very Poor	On Property	Remove	4:1	Previously pruned; large fruiting body near base; epicormic growth.
264	Black Pine	*Pinus nigra*	Non-native	1	31					6.0		Improbable	Fair	On Property	Remove	1:1	Shrub like structure; topped; few dead branches.
265	Black Pine	*Pinus nigra*	Non-native	1	34					6.0		Improbable	Fair	On Property	Remove	2:1	Buckthorn growing under/within canopy; few dead branches.
266	Scots Pine	*Pinus sylvestris*	Non-native	1	37					4.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; some dieback; nail in stem.
267	Black Pine	*Pinus nigra*	Non-native	1	38					5.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; forked crown above BH.
268	Black Pine	*Pinus nigra*	Non-native	3	32	29	26			6.0		Improbable	Fair	On Property	Remove	4:1	Asymmetrical crown; multiple leaders; buckthorn growing under canopy.
269	Eastern White Cedar	*Thuja occidentalis*	Native	1	12					1.0		Improbable	Fair	On Property	Remove	N/A	Small wound on stem.
270	Eastern White Cedar	*Thuja occidentalis*	Native	1	21					2.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; multiple leaders.
271	Eastern White Cedar	*Thuja occidentalis*	Native	1	13					2.0		Improbable	Fair	On Property	Remove	N/A	Asymmetrical crown; lost leader but strong replacement.
272	Eastern White Cedar	*Thuja occidentalis*	Native	1	33					3.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; buckthorn growing under; minor dieback.
273	Black Pine	*Pinus nigra*	Non-native	1	48					6.0		Improbable	Fair	On Property	Remove	3:1	Double leader; self pruning; tight attachment of stems; buckthorn growing under canopy .
274	Black Pine	*Pinus nigra*	Non-native	1	32					4.0		Improbable	Fair	On Property	Remove	2:1	Minor dieback; previously pruned.
275	Eastern White Cedar	*Thuja occidentalis*	Native	1	27					4.0		Improbable	Good	On Property	Remove	1:1	Widespread crown.
276	Common Pear	*Pyrus communis*	Non-native	2	17	15				6.0		Improbable	Fair	On Property	Remove	2:1	Some branch dieback, small compartmentalized wound on stem.
277	Eastern White Cedar	*Thuja occidentalis*	Native	1	25					3.0		Improbable	Good	On Property	Remove	1:1	Pruning in lower branches.
278	Eastern White Cedar	*Thuja occidentalis*	Native	1	28					6.0		Improbable	Fair	On Property	Remove	1:1	Self pruning; buckthorn growing under canopy.
280	Eastern White Cedar	*Thuja occidentalis*	Native	2	19	15				4.0		Improbable	Fair	On Property	Remove	2:1	Multiple stems; buckthorn growing under canopy ; some self pruning.
281	Eastern White Cedar	*Thuja occidentalis*	Native	4	16	14	14	12		2.0		Improbable	Fair	On Property	Remove	3:1	Pruning in lower branches; small wound on stem.
282	Balsam Poplar	*Populus balsamifera*	Native	1	19					2.0		Improbable	Fair	On Property	Remove	N/A	Epicormic growth; few dead branches; evidence of branch failure .
283	Balsam Poplar	*Populus balsamifera*	Native	1	14					2.0		Possible	Poor	On Property	Remove	N/A	Epicormic growth; debarking; minor dieback.
284	Balsam Poplar	*Populus balsamifera*	Native	1	15					2.0		Possible	Poor	On Property	Remove	N/A	Epicormic growth; debarking; minor dieback.
285	Balsam Poplar	*Populus balsamifera*	Native	2	19	12				2.0		Improbable	Fair	On Property	Remove	1:1	Epicormic growth; few dead branches; evidence of branch failure.
286	Balsam Poplar	*Populus balsamifera*	Native	1	16					2.0		Possible	Poor	On Property	Remove	N/A	Epicormic growth; debarking; minor dieback.
287	Balsam Poplar	*Populus balsamifera*	Native	1	19					2.0		Improbable	Dead	On Property	Remove	N/A	Peeling bark; no buds/leaves.
288	Balsam Poplar	*Populus balsamifera*	Native	1	20					2.0		Possible	Very Poor	On Property	Remove	N/A	Epicormic growth; debarking; minor dieback.
289	Balsam Poplar	*Populus balsamifera*	Native	2	18	16				2.0		Possible	Very Poor	On Property	Remove	2:1	Epicormic growth; debarking; minor dieback.
290	Balsam Poplar	*Populus balsamifera*	Native	1	21					2.0		Improbable	Fair	On Property	Remove	1:1	Epicormic growth; numerous dead branches; evidence of branch failure .
291	Balsam Poplar	*Populus balsamifera*	Native	1	20					2.0		Possible	Very Poor	On Property	Remove	1:1	Epicormic growth; debarking; minor dieback.
292	Balsam Poplar	*Populus balsamifera*	Native	1	22					2.0		Possible	Very Poor	On Property	Remove	1:1	Epicormic growth; debarking; minor dieback.
293	Balsam Poplar	*Populus balsamifera*	Native	1	20					4.0		Improbable	Fair	On Property	Remove	1:1	Epicormic growth; numerous dead branches; evidence of branch failure; dead smaller stem.
294	Balsam Poplar	*Populus balsamifera*	Native	1	15					1.0		Possible	Very Poor	On Property	Remove	N/A	Epicormic growth; debarking; minor dieback.
295	Balsam Poplar	*Populus balsamifera*	Native	1	20					4.0		Improbable	Fair	On Property	Remove	N/A	Asymmetrical crown; evidence of branch failure; few dead branches.
296	Balsam Poplar	*Populus balsamifera*	Native	1	35					1.0		Possible	Very Poor	On Property	Remove	2:1	Epicormic growth; debarking; minor dieback.
297	Norway Spruce	*Picea abies*	Non-native	2	27	26				3.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; nail in stem.
298	Eastern White Cedar	*Thuja occidentalis*	Native	3	26	14	12			3.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; multiple smaller stems; small wound on stem.
299	Balsam Poplar	*Populus balsamifera*	Native	2	17	16				3.0		Improbable	Fair	On Property	Remove	2:1	Asymmetrical crown; evidence of branch failure; few dead branches.
300	Eastern White Cedar	*Thuja occidentalis*	Native	5	18	16	15	11	10	2.5		Improbable	Fair	On Property	Remove	3:1	Buckthorn growing under canopy ; good crown structure.
301	Eastern White Cedar	*Thuja occidentalis*	Native	3	27	15	15			3.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; multiple smaller stems; small wound on stem.
302	Eastern White Cedar	*Thuja occidentalis*	Native	2	27	15				3.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; multiple smaller stems; small wound on stem.
303	Norway Spruce	*Picea abies*	Non-native	1	46					5.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; natural pruning.
304	White Spruce	*Picea glauca*	Native	1	18					1.0		Improbable	Fair	On Property	Remove	N/A	Crowded, small canopy; self pruning.
305	White Mulberry	*Morus alba*	Non-native	5	42	39	37	35	32	6.0		Possible	Very Poor	On Property	Remove	4:1	Previously failed branches; seeping wound on stem with black bark; epicormic growth.

Royal Oak Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
306	White Mulberry	*Morus alba*	Non-native	1	44					5.0		Possible	Very Poor	On Property	Remove	3:1	Previously failed branches; decay at branch union; epicormic growth.
307	White Spruce	*Picea glauca*	Native	1	20					1.0		Improbable	Fair	On Property	Remove	N/A	Crowded canopy; assymetrical crown; self pruning; few dead branches.
308	White Spruce	*Picea glauca*	Native	1	36					1.0		Improbable	Fair	On Property	Remove	2:1	Crowded canopy; assymetrical crown; self pruning; few dead branches; buckthorn growing under canopy.
309	White Spruce	*Picea glauca*	Native	1	24					3.0		Improbable	Fair	On Property	Remove	1:1	Natural pruning.
310	White Spruce	*Picea glauca*	Native	2	33	25				5.0		Improbable	Fair	On Property	Remove	3:1	Smaller stems trunk broken off half way up; buckthorn growing under canopy; larger stem with good crown structure.
311	White Ash	*Fraxinus americana*	Native	1	35					4.0		Improbable	Dead	On Property	Remove	0.5	Extensive EAB; no buds; dead branches.
312	Eastern Cottonwood	*Populus deltoides*	Native	3	85	56	48			10.0		Improbable	Fair	On Property	Remove	4:1	Minor branch dieback; some decay at codominant union; no cavities.
313	Eastern White Pine	*Pinus strobus*	Native	1	37					4.0		Improbable	Fair	On Property	Remove	2:1	Asymmetrical crown due to adjacent tree; natural pruning.
314	White Spruce	*Picea glauca*	Native	1	31					4.0		Improbable	Fair	On Property	Remove	2:1	Asymmetrical crown due to adjacent tree; small wound on stem; natural pruning.
315	White Ash	*Fraxinus americana*	Native	1	46					5.0		Improbable	Dead	On Property	Remove	0.5	Extensive EAB; no buds; dead branches.
316	White Spruce	*Picea glauca*	Native	1	31					6.0		Improbable	Fair	On Property	Remove	1:1	Self pruning; few dead branches; good crown structure.
317	White Spruce	*Picea glauca*	Native	1	36					5.0		Improbable	Fair	On Property	Remove	2:1	Natural pruning; asymmetrical crown due to adjacent tree.
318	White Spruce	*Picea glauca*	Native	1	25					5.0		Improbable	Fair	On Property	Remove	1:1	Self pruning; asymmetrical crown; few dead branches.
319	White Spruce	*Picea glauca*	Native	1	28					3.0		Improbable	Fair	On Property	Remove	1:1	Asymmetrical crown due to adjacent tree; minor dieback.
320	Freeman's Maple	*Acer x freemanii*	Native	4	60	55	51	25		8.0		Improbable	Fair	On Property	Remove	4:1	Branch unions with included bark; minor dieback; previously failed branches; widespread crown.
321	Balsam Poplar	*Populus balsamifera*	Native	1	22					4.0		Improbable	Fair	On Property	Remove	1:1	Few dead branches; good crown structure.
322	White Ash	*Fraxinus americana*	Native	1	11					1.0		Possible	Poor	On Property	Remove	N/A	EAB exit holes; branch dieback.
323	White Spruce	*Picea glauca*	Native	1	25					3.0		Improbable	Fair	On Property	Remove	1:1	Self pruning; few dead branches.
324	Scots Pine	*Pinus sylvestris*	Non-native	1	16					1.0		Improbable	Fair	On Property	Remove	N/A	Minor dieback; natural pruning.
325	White Ash	*Fraxinus americana*	Native	1	20					4.0		Improbable	Very Poor	On Property	Remove	1:1	Majority of branches dead; basal shoots and large epicormic growth has leaves.
326	Eastern Red Cedar	*Juniperus virginiana*	Native	1	19					1.0		Improbable	Fair	On Property	Remove	N/A	Minor dieback; natural pruning.
327	White Ash	*Fraxinus americana*	Native	1	21					2.0		Improbable	Poor	On Property	Remove	1:1	EAB exit holes; branch dieback.
328	White Ash	*Fraxinus americana*	Native	1	15					2.0		Improbable	Poor	On Property	Remove	N/A	EAB exit holes; branch dieback.
329	Manitoba Maple	*Acer negundo*	Native	1	16					2.0		Improbable	Poor	On Property	Remove	N/A	Previously failed branches; epicormic growth.
330	White Ash	*Fraxinus americana*	Native	2	22	19				6.0		Improbable	Dead	On Property	Remove	0.5	No buds or leaves; dead epicormic growth.
331	White Ash	*Fraxinus americana*	Native	1	13					1.0		Possible	Very Poor	On Property	Remove	N/A	EAB exit holes; branch dieback.
332	Large-toothed Aspen	*Populus grandidentata*	Native	4	43	39	20	15		8.0		Possible	Poor	On Property	Remove	4:1	Covered in grape vines; stems split at base; one stem showing rot; multiple leaders; willow like growth.
333	Manitoba Maple	*Acer negundo*	Native	1	21					2.0		Improbable	Poor	On Property	Remove	1:1	Pistol butt; cavity at base; epicormic growth; branch dieback.
334	White Spruce	*Picea glauca*	Native	2	32	31				5.0		Improbable	Fair	On Property	Remove	3:1	Self pruning; few dead branches; V attachment of stems.
335	White Spruce	*Picea glauca*	Native	1	44					4.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; slight lean; minor dieback.
336	Manitoba Maple	*Acer negundo*	Native	1	18					1.0		Improbable	Fair	On Property	Remove	N/A	Previously pruned; slight lean.
337	Manitoba Maple	*Acer negundo*	Native	3	36	23	11			7.0		Improbable	Fair	On Property	Remove	3:1	Epicormic growth; angled growth.
338	White Spruce	*Picea glauca*	Native	1	42					5.0		Improbable	Fair	On Property	Remove	3:1	Self pruning; large wound on trunk showing rotted core; girdling roots.
339	Manitoba Maple	*Acer negundo*	Native	1	41					5.0	3.0	Possible	Poor	On Property	Retain	N/A	Forked crown above BH; decay at union; multiple previously failed branches.
340	White Spruce	*Picea glauca*	Native	1	35					5.0		Improbable	Fair	On Property	Remove	2:1	Self pruning; few dead branches; overall good crown structure.
341	White Spruce	*Picea glauca*	Native	1	43					5.0		Improbable	Fair	On Property	Remove	3:1	Self pruning; few dead branches; overall good crown structure.
342	Willow sp.	*Salix sp.*	Non-native	5	44	35	32	27	25	6.0		Possible	Poor	On Property	Remove	4:1	Butt rot; epicormic growth; branch dieback; wound on stem.
343	Manitoba Maple	*Acer negundo*	Native	3	37	26	25			4.0		Possible	Very Poor	On Property	Remove	4:1	Primarily failed; epicormic growth; decay at base.
344	Freeman's Maple	*Acer x freemanii*	Native	1	55					6.0		Improbable	Good	On Property	Remove	3:1	Minor dieback; widespread crown.
345	Balsam Poplar	*Populus balsamifera*	Native	1	14					1.0		Improbable	Fair	On Property	Remove	N/A	Minor dieback; wound on stem.
346	Silver Maple	*Acer saccharinum*	Native	1	52					7.0		Improbable	Fair	On Property	Remove	3:1	Poor branch attachment; some wounds; epicormic growth; burls.
347	Balsam Poplar	*Populus balsamifera*	Native	1	15					2.0		Improbable	Fair	On Property	Remove	N/A	Multiple smaller stems; curve at base.
348	Balsam Poplar	*Populus balsamifera*	Native	1	15					2.0		Probable	Very Poor	On Property	Remove	N/A	Splitting at base and likely to fail east; epicormic growth.
349	Scots Pine	*Pinus sylvestris*	Non-native	1	26					3.0		Improbable	Fair	On Property	Remove	1:1	Natural pruning; insect damage.
350	Balsam Fir	*Abies balsamea*	Native	1	21					3.0		Improbable	Fair	On Property	Remove	1:1	Woodpecker feeding holes; numerous dead branches.
351	Balsam Poplar	*Populus balsamifera*	Native	2	17	16				3.0		Improbable	Fair	On Property	Remove	2:1	Epicormic growth; minor dieback.
352	Black Pine	*Pinus nigra*	Non-native	1	37					7.0		Improbable	Fair	On Property	Remove	2:1	Asymmetrical crown; self pruning; numerous dead branches; evidence of feeding holes.
353	White Spruce	*Picea glauca*	Native	1	45					4.5		Improbable	Fair	On Property	Remove	3:1	Self pruning; mechanical pruning; asymmetrical crown; lost leader but strong U replacement.
354	White Mulberry	*Morus alba*	Non-native	3	39	26	26			7.0		Improbable	Fair	On Property	Remove	4:1	Staining on trunks of all stems; poor branch attachment; few dead branches.
355	White Spruce	*Picea glauca*	Native	1	36					5.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; widespread crown.
356	White Spruce	*Picea glauca*	Native	1	30					2.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; mechanical wound at base; minor dieback.
357	White Spruce	*Picea glauca*	Native	1	44					6.0		Improbable	Fair	On Property	Remove	3:1	Evidence of pruning; few dead branches; good crown structure.
358	Manitoba Maple	*Acer negundo*	Native	1	44					8.0		Improbable	Fair	On Property	Remove	3:1	Aggressive epicormic growth; growing at slant uphill; poor branch attachment.
359	White Spruce	*Picea glauca*	Native	1	56					7.0		Improbable	Fair	On Property	Remove	3:1	Girdling roots; damage to surface roots; self pruning; evidence of pruning.
360	Norway Spruce	*Picea abies*	Non-native	1	49					5.0		Improbable	Fair	On Property	Remove	3:1	Natural pruning; slight lean.

Royal Oak Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
361	Norway Spruce	*Picea abies*	Non-native	1	33					4.0		Improbable	Fair	On Property	Remove	2:1	Natural pruning; slight lean.
362	White Spruce	*Picea glauca*	Native	1	38					6.0		Improbable	Fair	On Property	Remove	2:1	Damage to surface roots; large healed wound; self pruning.
363	Norway Spruce	*Picea abies*	Non-native	1	44					5.0		Improbable	Fair	On Property	Remove	3:1	Natural pruning; slight lean.
364	Norway Spruce	*Picea abies*	Non-native	2	40	39				5.0		Improbable	Poor	On Property	Remove	4:1	Natural pruning; thin crown and minor dieback; slight lean.
365	Manitoba Maple	*Acer negundo*	Native	1	19					2.0		Possible	Very Poor	On Property	Remove	N/A	Heavy lean; epicormic growth; branch dieback.
366	Scots Pine	*Pinus sylvestris*	Non-native	1	17					2.0		Improbable	Fair	On Property	Remove	N/A	Natural pruning; slight lean.
367	Scots Pine	*Pinus sylvestris*	Non-native	1	15					1.0		Improbable	Poor	On Property	Remove	N/A	Natural pruning; thin crown; slight lean.
368	European Mountain-Ash	*Sorbus aucuparia*	Non-native	1	27					2.0		Improbable	Fair	On Property	Remove	1:1	Minor insect damage; minor dieback.
369	Scots Pine	*Pinus sylvestris*	Non-native	1	12					1.0		Improbable	Poor	On Property	Remove	N/A	Natural pruning; thin crown; slight lean.
370	Scots Pine	*Pinus sylvestris*	Non-native	1	18					1.0		Improbable	Poor	On Property	Remove	N/A	Natural pruning; thin crown; slight lean.
371	Scots Pine	*Pinus sylvestris*	Non-native	1	22					2.0		Improbable	Fair	On Property	Remove	1:1	Adjacent tree slightly rubbing stem; minor lean.
372	Manitoba Maple	*Acer negundo*	Native	1	16					2.0		Improbable	Poor	On Property	Remove	N/A	Epicormic growth; branch dieback.
373	Scots Pine	*Pinus sylvestris*	Non-native	1	22					2.0		Improbable	Fair	On Property	Remove	1:1	Natural pruning; slight lean.
374	Common Hackberry	*Celtis occidentalis*	Native	1	17					3.0		Improbable	Fair	On Property	Remove	N/A	Good crown structure; good branch attachment.
375	Manitoba Maple	*Acer negundo*	Native	3	26	26	16			9.0		Improbable	Fair	On Property	Remove	3:1	Growing on slant uphill; numerous dead branches; epicormic growth.
376	Manitoba Maple	*Acer negundo*	Native	2	27	25				7.0		Improbable	Fair	On Property	Remove	3:1	On slope; epicormic growth; numerous dead branches.
377	Manitoba Maple	*Acer negundo*	Native	1	18					2.0		Improbable	Fair	On Property	Remove	N/A	Slight lean; minor dieback; epicormic growth.
378	White Mulberry	*Morus alba*	Non-native	2	36	19				4.0		Improbable	Fair	On Property	Remove	3:1	Black bark at branch union; minor branch dieback; epicormic growth.
379	White Mulberry	*Morus alba*	Non-native	1	13					6.0		Improbable	Fair	On Property	Remove	N/A	Crown/trunk growing at slant towards hwy; full canopy.
380	Common Hackberry	*Celtis occidentalis*	Native	1	11					7.0		Possible	Poor	On Property	Remove	N/A	Growing on angle due to mulberry; aggressive lean toward hwy; epicormic growth; numerous dead branches.
381	Scots Pine	*Pinus sylvestris*	Non-native	1	22					3.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; slight lean.
382	Scots Pine	*Pinus sylvestris*	Non-native	1	21					3.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; slight lean.
383	Scots Pine	*Pinus sylvestris*	Non-native	1	21					2.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; scar in midstem; slight lean.
384	Scots Pine	*Pinus sylvestris*	Non-native	1	33					3.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; widespread imbalanced crown.
385	White Mulberry	*Morus alba*	Non-native	3	31	23	21			7.0		Improbable	Fair	On Property	Remove	4:1	Staining on trunks; grape within canopy.
386	White Spruce	*Picea glauca*	Native	1	43					5.0		Improbable	Poor	On Property	Remove	3:1	Previously pruned; decay at base; widespread crown.
387	White Mulberry	*Morus alba*	Non-native	1	34					3.0		Possible	Poor	On Property	Remove	2:1	Previously pruned; black bark; included bark; decay at base.
388	White Mulberry	*Morus alba*	Non-native	1	26					7.0		Possible	Fair	On Property	Remove	1:1	Second leader broken and hanging off; crowded by buckthorn.
389	White Ash	*Fraxinus americana*	Native	1	30					4.0		Improbable	Very Poor	On Property	Remove	1:1	Evidence of EAB; peeling bark; epicormic growth; seeds on branches.
390	White Spruce	*Picea glauca*	Native	1	38					4.5		Improbable	Fair	On Property	Remove	2:1	Few dead branches; self pruning; thin canopy.
391	White Spruce	*Picea glauca*	Native	1	43					5.0		Improbable	Fair	On Property	Remove	3:1	Evidence of pruning; self pruning; grape vine up trunk; pile of rubble at tree base.
392	White Mulberry	*Morus alba*	Non-native	2	23	16				7.0		Improbable	Fair	On Property	Remove	2:1	Staining on trunk; basal shoots; few dead branches.
393	White Spruce	*Picea glauca*	Native	1	49					5.0		Improbable	Fair	On Property	Remove	3:1	Self pruning; garden debris against base; evidence of pruning.
394	Manitoba Maple	*Acer negundo*	Native	1	26					5.0		Improbable	Fair	On Property	Remove	1:1	Leaning down hill; epicormic growth.
395	White Spruce	*Picea glauca*	Native	1	43					7.0		Improbable	Fair	On Property	Remove	3:1	Thin canopy; self pruning; evidence of pruning; large wound showing rot on trunk.
396	White Spruce	*Picea glauca*	Native	1	43					5.0		Improbable	Fair	On Property	Remove	3:1	Thin canopy; self pruning; numerous dead branches; evidence of pruning.
397	Manitoba Maple	*Acer negundo*	Native	1	20					3.0		Improbable	Fair	On Property	Remove	N/A	Growing on slope; straight trunk; amongst buckthorn thicket.
398	Manitoba Maple	*Acer negundo*	Native	1	17					1.0		Possible	Fair	On Property	Remove	N/A	Leaning downslope; minor dieback.
399	White Spruce	*Picea glauca*	Native	1	34					5.0		Improbable	Poor	On Property	Remove	2:1	Self pruning; woodbine up trunk; very thin canopy; numerous dead branches.
400	Manitoba Maple	*Acer negundo*	Native	1	22					2.0		Improbable	Poor	On Property	Remove	1:1	Considerable branch dieback; epicormic growth; previously pruned.
401	Manitoba Maple	*Acer negundo*	Native	1	21					2.0		Improbable	Fair	On Property	Remove	1:1	Minor dieback; branches piled at base.
402	Manitoba Maple	*Acer negundo*	Native	1	22					5.0		Improbable	Fair	On Property	Remove	1:1	Epicormic growth; staining; dead smaller secondary stem.
403	Manitoba Maple	*Acer negundo*	Native	1	19					1.0		Improbable	Fair	On Property	Remove	N/A	Minor dieback.
404	Manitoba Maple	*Acer negundo*	Native	1	12					1.0		Improbable	Fair	On Property	Remove	N/A	Minor dieback.
405	Manitoba Maple	*Acer negundo*	Native	1	32					7.0		Improbable	Fair	On Property	Remove	2:1	Large snag leaning against trunk; yard waste against base; growing on slope.
406	Manitoba Maple	*Acer negundo*	Native	1	21					2.0		Improbable	Poor	On Property	Remove	1:1	Minor dieback; previously pruned; epicormic growth.
407	Manitoba Maple	*Acer negundo*	Native	1	22					8.0		Improbable	Fair	On Property	Remove	1:1	Asymmetrical crown growing toward highway; epicormic growth; few wounds on trunk; few dead branches.
408	Norway Spruce	*Picea abies*	Non-native	1	52					6.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; slight lean towards house; minor branch dieback.
409	Manitoba Maple	*Acer negundo*	Native	1	33					3.0		Improbable	Poor	On Property	Remove	2:1	Minor branch dieback; epicormic growth.
410	Manitoba Maple	*Acer negundo*	Native	1	17					2.0		Improbable	Poor	On Property	Remove	N/A	Minor branch dieback; epicormic growth.
411	Common Pear	*Pyrus communis*	Non-native	1	27					8.0		Improbable	Fair	On Property	Remove	1:1	Numerous dead branches; crown growing on angle; grape vine within canopy.
412	Manitoba Maple	*Acer negundo*	Native	1	20					6.0		Improbable	Fair	On Property	Remove	N/A	Epicormic growth; leaning S; yard waste at trunk base.
413	Manitoba Maple	*Acer negundo*	Native	1	18					8.0		Improbable	Fair	On Property	Remove	N/A	Epicormic growth; leaning S.
415	Manitoba Maple	*Acer negundo*	Native	1	28					5.0	1.8	Improbable	Fair	Off Property	Retain	N/A	Some epicormic growth; minor branch dieback.
416	Manitoba Maple	*Acer negundo*	Native	2	32	31				5.0	4.2	Possible	Poor	Off Property	Retain	N/A	Leaning heavily upslope; cavity forming at base; epicormic growth; branch dieback.
417	White Spruce	*Picea glauca*	Native	1	24					4.0		Improbable	Poor	Off Property	Remove	1:1	Thinning crown; tire around stem; minor branch dieback.
418	White Spruce	*Picea glauca*	Native	1	32					3.5		Improbable	Poor	On Property	Remove	2:1	Large mechanical wound on stem from road ROW clearing; imbalanced crown.
419	White Mulberry	*Morus alba*	Non-native	2	22	18				3.0		Improbable	Poor	Boundary	Remove	2:1	Included bark; decay at base and branch union; second stem partially girdled; epicormic growth.

Royal Oak Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
420	White Ash	*Fraxinus americana*	Native	1	20					5.0		Improbable	Fair	Boundary	Remove	1:1	Epicormic growth; evidence of EAB; few dead branches.
421	White Ash	*Fraxinus americana*	Native	1	28					5.0		Improbable	Poor	On Property	Remove	1:1	Epicormic growth; double leader; poor branch attachment; evidence of EAB.
422	White Spruce	*Picea glauca*	Native	1	24					4.0		Improbable	Fair	On Property	Remove	1:1	Evidence of pruning; thin canopy.
423	White Spruce	*Picea glauca*	Native	1	19					2.0		Improbable	Poor	On Property	Remove	N/A	Evidence of pruning; self pruning; large wound showing rotted core.
424	White Spruce	*Picea glauca*	Native	1	51					5.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; minor branch dieback.
425	Norway Maple	*Acer platanoides*	Non-native	1	38					4.0		Improbable	Poor	On Property	Remove	2:1	Large knot below DBH; evidence of branch failure; evidence of pruning; epicormic growth.
426	White Spruce	*Picea glauca*	Native	1	17					2.0		Possible	Poor	On Property	Remove	N/A	Supposed; asymmetrical crown due to adjacent tree; thin crown.
427	White Spruce	*Picea glauca*	Native	1	20					2.0	1.8	Improbable	Fair	On Property	Retain	N/A	Small canopy due to crowding; numerous dead branches; self pruning.
428	White Spruce	*Picea glauca*	Native	1	37					4.0		Improbable	Fair	On Property	Remove	2:1	Self pruning; thin canopy.
429	Scots Pine	*Pinus sylvestris*	Non-native	1	21					3.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; slight lean.
430	White Spruce	*Picea glauca*	Native	1	27					3.0		Improbable	Fair	On Property	Remove	1:1	Evidence of pruning; thin canopy.
431	White Spruce	*Picea glauca*	Native	1	26					3.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; minor branch dieback.
432	White Spruce	*Picea glauca*	Native	1	34					3.0		Possible	Poor	On Property	Remove	2:1	Large wound up entire side of trunk; rotted core; self pruning.
433	Common Apple	*Malus pumila*	Non-native	1	13					2.0		Possible	Poor	On Property	Remove	N/A	Previously pruned; decay at base; base becoming girdled.
434	Common Apple	*Malus pumila*	Non-native	3	28	19	16			5.0		Improbable	Fair	On Property	Remove	3:1	Evidence of pruning; few dead branches.
435	White Mulberry	*Morus alba*	Non-native	2	25	19				3.0		Improbable	Fair	On Property	Remove	3:1	Seeping wound on stem with black bark; previously pruned; epicormic growth.
436	Common Apple	*Malus pumila*	Non-native	4	35	27	18	14		7.0		Improbable	Fair	On Property	Remove	4:1	Good stem attachment; epicormic growth ; evidence of pruning.
437	Silver Maple	*Acer saccharinum*	Native	3	28	25	24			6.0		Improbable	Fair	On Property	Remove	4:1	Some epicormic growth; minor twig dieback; decay at base.
438	Common Apple	*Malus pumila*	Non-native	2	18	14				3.0		Improbable	Poor	On Property	Remove	2:1	Hallow at stem attachment; epicormic growth ; evidence of pruning.
439	Sweet Cherry	*Prunus avium*	Non-native	1	27					3.0		Possible	Very Poor	On Property	Remove	1:1	Main stem previously pruned; decay at base; insect damage; epicormic growth.
440	Northern Catalpa	*Catalpa speciosa*	Non-native	2	16	15				4.0		Improbable	Fair	On Property	Remove	2:1	Good crown structure.
441	Norway Spruce	*Picea abies*	Non-native	1	49					5.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; slight lean towards house.
442	Norway Maple	*Acer platanoides*	Non-native	2	32	30				7.0		Improbable	Poor	On Property	Remove	3:1	Heavy pruning; epicormic growth; numerous dead branches; staining; wounds at stem attachment .
443	Willow sp.	*Salix sp.*	Non-native	1	59					6.0		Possible	Very Poor	On Property	Remove	3:1	Previously pruned; fruiting bodies throughout; cavity in midstem; epicormic growth.
444	White Spruce	*Picea glauca*	Native	1	39					5.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; epicormic growth.
445	White Spruce	*Picea glauca*	Native	1	24					4.0		Improbable	Fair	On Property	Remove	1:1	Thin canopy; numerous dead branches; self pruning.
446	White Spruce	*Picea glauca*	Native	1	44					5.0		Improbable	Fair	On Property	Remove	3:1	Previously pruned; asymmetrical crown due to adjacent tree.
447	White Spruce	*Picea glauca*	Native	1	28					3.0		Improbable	Fair	On Property	Remove	1:1	Previously pruned; minor branch dieback.
448	White Spruce	*Picea glauca*	Native	1	27					3.0		Improbable	Fair	On Property	Remove	1:1	Evidence of pruning; thin canopy .
449	White Spruce	*Picea glauca*	Native	1	39					4.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; minor branch dieback; some epicormic growth.
450	White Spruce	*Picea glauca*	Native	1	37					3.0		Improbable	Fair	On Property	Remove	2:1	Previously pruned; mechanical wound on stem from road ROW.
451	White Spruce	*Picea glauca*	Native	1	44					5.0		Improbable	Fair	Boundary	Remove	3:1	Double leader; good branch attachment; some pruning.
452	Manitoba Maple	*Acer negundo*	Native	2	31	17				4.0		Improbable	Fair	Boundary	Remove	3:1	Heavy pruning; aggressive basal shoots; poor branch attachment.
453	Eastern White Cedar	*Thuja occidentalis*	Native	4	24	21	21	18		3.0		Improbable	Fair	Boundary	Remove	4:1	Previously pruned; mechanical wound on stem from road ROW; epicormic growth.
454	Eastern White Cedar	*Thuja occidentalis*	Native	1	14					2.0		Improbable	Fair	ROW	Remove	APPRAISAL	Numerous smaller stems; good crown structure.
455	Trembling Aspen	*Populus tremuloides*	Native	1	15					4.0		Improbable	Fair	On Property	Remove	N/A	Epicormic growth ; overall good crown structure .
457	White Mulberry	*Morus alba*	Non-native	3	20	20	16			3.0		Possible	Poor	On Property	Remove	3:1	large mechanical wound on stem from road ROW; epicormic growth; poor crown structure.
458	Black Walnut	*Juglans nigra*	Native	1	42					7.0		Improbable	Fair	ROW	Remove	APPRAISAL	Evidence of pruning; grape vine within canopy.
459	Black Walnut	*Juglans nigra*	Native	1	31					5.0		Improbable	Fair	Boundary	Remove	2:1	Widespread crown; asymmetrical crown due to adjacent tree; minor branch dieback.
462	White Ash	*Fraxinus americana*	Native	2	24	13				3.0		Improbable	Very Poor	On Property	Remove	2:1	Large wounds; grape vine within canopy; smaller stems have seeds,
463	Trembling Aspen	*Populus tremuloides*	Native	1	21					2.0		Improbable	Fair	ROW	Remove	APPRAISAL	Small wound with decay at base.
464	Trembling Aspen	*Populus tremuloides*	Native	1	21					2.0		Improbable	Fair	Boundary	Remove	1:1	Small wound with decay at base.
465	Trembling Aspen	*Populus tremuloides*	Native	1	14					3.0		Improbable	Fair	On Property	Remove	N/A	Grape vine within canopy; dead branches; overall good crown structure.
466	Trembling Aspen	*Populus tremuloides*	Native	1	22					2.0		Improbable	Good	ROW	Remove	APPRAISAL	Vines throughout crown.
467	Trembling Aspen	*Populus tremuloides*	Native	1	28					3.0		Possible	Very Poor	Boundary	Remove	1:1	Multiple wounds at dbh showing rotted core; rot at trunk base; numerous dead branches.
468	Trembling Aspen	*Populus tremuloides*	Native	1	20					2.0		Improbable	Good	Boundary	Remove	N/A	Vines throughout crown.
469	Trembling Aspen	*Populus tremuloides*	Native	1	17					2.0		Improbable	Good	Boundary	Remove	N/A	Vines throughout crown.
470	Trembling Aspen	*Populus tremuloides*	Native	1	20					4.0		Improbable	Fair	Boundary	Remove	1:1	Good crown structure; few dead branches.
471	Trembling Aspen	*Populus tremuloides*	Native	1	22					3.0		Possible	Poor	On Property	Remove	1:1	Black bark; canker in lower branches.
472	Trembling Aspen	*Populus tremuloides*	Native	1	13					1.0		Possible	Poor	Boundary	Remove	N/A	Black bark; canker in lower branches.
473	Trembling Aspen	*Populus tremuloides*	Native	2	17	15				4.0		Probable	Very Poor	On Property	Remove	2:1	Both stems have signs of rot; numerous wildlife feeding holes; trunk rotted.
474	Trembling Aspen	*Populus tremuloides*	Native	1	22					4.0		Improbable	Fair	Boundary	Remove	1:1	Grape vine within canopy ; few dead branche.
475	Trembling Aspen	*Populus tremuloides*	Native	1	16					1.0		Possible	Poor	On Property	Remove	N/A	Canker in lower stem.
476	Trembling Aspen	*Populus tremuloides*	Native	1	26					2.0		Improbable	Fair	On Property	Remove	1:1	Vines throughout; minor branch dieback.
477	Trembling Aspen	*Populus tremuloides*	Native	1	21					4.0		Improbable	Fair	Boundary	Remove	1:1	Grape vine within canopy ; few dead branche.
478	Trembling Aspen	*Populus tremuloides*	Native	1	15					1.0		Possible	Poor	Boundary	Remove	N/A	Black bark; canker in lower branches.
479	Trembling Aspen	*Populus tremuloides*	Native	1	15					4.0		Possible	Fair	Boundary	Remove	N/A	Twist at trunk base ; few dead branche.
480	Trembling Aspen	*Populus tremuloides*	Native	1	27					5.0		Improbable	Fair	Boundary	Remove	1:1	Good crown structure; few dead branche.

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Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
481	White Mulberry	*Morus alba*	Non-native	1	15					2.0		Improbable	Fair	On Property	Remove	N/A	Minor branch dieback; vines in crown.
482	Trembling Aspen	*Populus tremuloides*	Native	1	11					1.0		Improbable	Poor	Off Property	Remove	N/A	Minor branch dieback; canker in lower stem; vines in crown.
483	Black Walnut	*Juglans nigra*	Native	1	67					7.0		Improbable	Fair	On Property	Remove	3:1	Minor branch dieback; widespread crown; previously failed branches.
484	White Ash	*Fraxinus americana*	Native	1	20					3.0	1.8	Improbable	Fair	On Property	Retain	N/A	Grape vine within canopy; few dead branches.
485	Manitoba Maple	*Acer negundo*	Native	4	31	18	15	14		5.0	4.2	Improbable	Fair	On Property	Retain	N/A	Grape vine within canopy; multiple dead branches; evidence of branch failure. .
486	White Mulberry	*Morus alba*	Non-native	3	19	19	12			5.0	3.6	Improbable	Fair	On Property	Retain	N/A	Grape vine within canopy; multiple dead branches; evidence of branch failure.
487	Trembling Aspen	*Populus tremuloides*	Native	1	24					4.0		Improbable	Fair	Boundary	Remove	1:1	Good crown structure; few dead branches.
488	White Mulberry	*Morus alba*	Non-native	2	13					5.0	1.8	Improbable	Fair	On Property	Retain	N/A	Grape vine within canopy; multiple dead branches; evidence of branch failure; crown leaning east.
489	White Ash	*Fraxinus americana*	Native	1	18					1.0	1.8	Possible	Poor	On Property	Retain	N/A	Dead main stem; branch dieback; small canker in midstem.
490	White Spruce	*Picea glauca*	Native	1	33					5.0	2.4	Improbable	Fair	On Property	Retain	N/A	Good crown structure; few dead branches.
491	White Spruce	*Picea glauca*	Native	1	33					4.0	2.4	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to adjacent tree; wound on scaffold branch.
492	White Spruce	*Picea glauca*	Native	1	57					5.0	3.6	Improbable	Fair	On Property	Retain	N/A	Self pruning; double stem above dbh; poor branch attachment.
493	Manitoba Maple	*Acer negundo*	Native	3	32	29	28			6.0	5.4	Possible	Fair	On Property	Retain	N/A	Epicormic growth; widespread canopy; previously failed branches.
494	White Spruce	*Picea glauca*	Native	1	43					4.0	3.0	Improbable	Fair	On Property	Retain	N/A	Minor branch dieback; previously pruned.
495	Manitoba Maple	*Acer negundo*	Native	3	21	15	12			5.0	3.0	Improbable	Fair	On Property	Retain	N/A	Strong lean toward hwy, other smaller stems going N with heavy lean; few dead branches;
496	Manitoba Maple	*Acer negundo*	Native	3	33	31	24			5.0	5.4	Possible	Poor	On Property	Retain	N/A	Multiple previously failed branches; decay throughout; branch dieback; epicormic growth.
497	Manitoba Maple	*Acer negundo*	Native	3	18	16	12			8.0	3.0	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown, trunks leaning N; multiple dead branches.
498	Eastern Cottonwood	*Populus deltoides*	Native	1	17					3.0	1.8	Improbable	Fair	On Property	Retain	N/A	Rocks and garbage placed against trunk; evidence of pruning; epicormic growth .
499	Eastern Cottonwood	*Populus deltoides*	Native	1	14					2.0	1.8	Improbable	Fair	On Property	Retain	N/A	Rocks place against trunk; evidence of pruning.
500	White Spruce	*Picea glauca*	Native	1	39					3.0	2.4	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to adjacent tree; thin crown; minor dieback.
1001	White Spruce	*Picea glauca*	Native	1	29					3.0	1.8	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to adjacent tree; thin crown; minor dieback.
1002	White Spruce	*Picea glauca*	Native	1	32					3.0	2.4	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to crowding; numerous dead branches; small canopy.
1003	White Spruce	*Picea glauca*	Native	1	35					3.0	2.4	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to adjacent tree; thin crown; minor dieback.
1004	White Spruce	*Picea glauca*	Native	1	27					1.0	1.8	Improbable	Fair	On Property	Retain	N/A	Asymmetrical crown due to adjacent tree; thin crown; minor dieback.
1005	Manitoba Maple	*Acer negundo*	Native	1	49					9.0	3.0	Improbable	Fair	On Property	Retain	N/A	Epicormic growth; twist at base; evidence of branch failure; numerous dead branches.
1006	Manitoba Maple	*Acer negundo*	Native	1	42					3.0	3.0	Possible	Poor	On Property	Retain	N/A	Cavity forming at base; decay at branch union; epicormic growth; large previously failed branch.
1007	Manitoba Maple	*Acer negundo*	Native	1	18					7.0	1.8	Possible	Fair	On Property	Retain	N/A	Strong lean N; rot at base; numerous dead branches.
1008	White Mulberry	*Morus alba*	Non-native	2	16	16				3.0	2.4	Possible	Poor	On Property	Retain	N/A	Decay at crotch; branch dieback; snag hung up in stem.
1010	Willow sp.	*Salix sp.*	Non-native	2	30	14				3.0		Improbable	Fair	On Property	Remove	3:1	Pruning of branches by driveway, some dead lower branches.
1011	Sweet Crabapple	*Malus coronaria*	Native	1	16	14	10			3.5		Possible	Very Poor	On Property	Remove	2:1	Included bark at stem unions; multiple stem wounds with root; aphid presence in wounds; epicormic shoots.
1012	White Ash	*Fraxinus americana*	Native	1	11					0.5		Probable	Very Poor	On Property	Remove	N/A	Dead at top, few small branches with growth along lower stem; abundant stem wounds; some compartmentalization.
1013	Scots Pine	*Pinus sylvestris*	Non-native	1	11					1.0		Improbable	Fair	On Property	Remove	N/A	Light pruning.
1014	Scots Pine	*Pinus sylvestris*	Non-native	1	15					1.5		Improbable	Good	On Property	Remove	N/A	Good form; minor light pruning; resin.
1015	Scots Pine	*Pinus sylvestris*	Non-native	1	33					3.5		Improbable	Fair	On Property	Remove	2:1	Multiple leaders; light pruning; grapevine in upper crown.
1016	White Spruce	*Picea glauca*	Native	1	12					1.5		Improbable	Good	On Property	Remove	N/A	Asymmetrical crown to NW.
1017	American Basswood	*Tilia americana*	Native	1	19					2.0		Possible	Fair	On Property	Remove	N/A	Stem and branch rub; bark staining; vertical seam in lower stem; twisting small second stem.
1018	Balsam Poplar	*Populus balsamifera*	Native	1	13					2.0		Possible	Fair	On Property	Remove	N/A	Stem lean to south; twisting lower stem form; bark staining at lower dead branch union.
1019	White Ash	*Fraxinus americana*	Native	1	29					1.5		Probable	Very Poor	On Property	Remove	1:1	Upper stem and branches dead; numerous epicormic shoots and loving lower branches; stem wounds.
1020	White Ash	*Fraxinus americana*	Native	1	15					2.0		Improbable	Fair	On Property	Remove	N/A	Slight stem lean N; grapevine in upper crown.
1021	Scots Pine	*Pinus sylvestris*	Non-native	1	28					1.5		Possible	Very Poor	On Property	Remove	1:1	Many dead branches, live branches with green needles only on upper third of stem; grapevine throughout crown.
1022	Eastern Cottonwood	*Populus deltoides*	Native	1	16	15	13			1.0		Possible	Fair	On Property	Remove	3:1	Included bark at stem union; asymmetrical crown N; leaf discolouration, suspected disease.
1023	Willow sp.	*Salix sp.*	Non-native	1	250+					9.0		Possible	Poor	On Property	Remove	4:1	Massive tree with multiple leaders joined around breast height; spreading crown; multiple dead branches and dieback; grapevine and buckthorn surrounding base; bark staining.
1024	Manitoba Maple	*Acer negundo*	Native	1	11					1.0		Possible	Poor	On Property	Remove	N/A	Heavily leaning to S due to Tree1023 spreading crown and resulting competition.
1025	Scots Pine	*Pinus sylvestris*	Non-native	1	16					1.0		Improbable	Fair	On Property	Remove	N/A	Slightly asymmetrical crown to south.
1026	White Ash	*Fraxinus americana*	Native	1	27					3.0		Improbable	Good	On Property	Remove	1:1	Relatively good form and structure; some stem wounds/cankers along mid-stem.
1027	Eastern Cottonwood	*Populus deltoides*	Native	1	16					1.5		Improbable	Fair	On Property	Remove	N/A	Asymmetrical crown to S; leaf discolouration, suspected disease.

Royal Oak Tree Protection Plan
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Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
1028	Scots Pine	*Pinus sylvestris*	Non-native	1	16					1.0		Improbable	Fair	On Property	Remove	N/A	Straight stem; grapevine in crown.
1029	Black Walnut	*Juglans nigra*	Native	1	15					2.0		Improbable	Good	On Property	Remove	N/A	Stem and branch rub.
1030	Eastern Cottonwood	*Populus deltoides*	Native	2	39	29				3.0		Possible	Poor	On Property	Remove	3:1	Stem cavity with staining; dead lower branches; included bark and compartmentalization at base of tree.
1031	Unknown Conifer	*	Native	1	49					5.0		Possible	Dead	On Property	Remove	0.5	No bark; no live branches.
1032	White Ash	*Fraxinus americana*	Native	1	19					3.0		Possible	Poor	On Property	Remove	N/A	Bark starting to peel; evidence of EAB; defoliates branches.
1033	White Ash	*Fraxinus americana*	Native	1	18					3.0		Improbable	Fair	On Property	Remove	N/A	Signs of EAB; few dead branches; peeling bark.
1034	American Elm	*Ulmus americana*	Native	1	20					3.0		Possible	Dead	On Property	Remove	0.5	No live branches; peeled off bark.
1035	Eastern Red Cedar	*Juniperus virginiana*	Native	1	12					1.5		Improbable	Good	On Property	Remove	N/A	Good form.
1036	White Ash	*Fraxinus americana*	Native	1	17					5.0		Improbable	Poor	On Property	Remove	N/A	Peeling bark; numerous wounds; poor branch attachment of secondary leaders; main leader dead.
1037	Eastern White Cedar	*Thuja occidentalis*	Native	1	12					2.0		Improbable	Fair	On Property	Remove	N/A	Numerous smaller stems; epicormic growth.
1038	White Ash	*Fraxinus americana*	Native	1	29					3.0		Improbable	Very Poor	On Property	Remove	1:1	Completely dead except for aggressive epicormic growth.
1039	White Ash	*Fraxinus americana*	Native	1	16					1.5		Possible	Dead	On Property	Remove	N/A	No live crown; peeling bark.
1040	Manitoba Maple	*Acer negundo*	Native	2	16	14				4.0		Improbable	Fair	On Property	Remove	1:1	Epicormkc shoots; growing on lean up slope.
1041	Balsam Poplar	*Populus balsamifera*	Native	1	12					2.5		Improbable	Good	On Property	Remove	N/A	Some dead lower branches; slight twist; overall good form.
1042	Balsam Poplar	*Populus balsamifera*	Native	1	34					5.0		Improbable	Fair	On Property	Remove	2:1	Main leader failed but solid replacement; some epicormic growth.
1043	Balsam Poplar	*Populus balsamifera*	Native	2	23	11				2.5		Possible	Very Poor	On Property	Remove	2:1	Main stem dead; stem jutting out from side has live epicormic growth.
1044	Eastern Red Cedar	*Juniperus virginiana*	Native	1	11					1.0		Improbable	Fair	On Property	Remove	N/A	Self priming; fair form.
1045	Scots Pine	*Pinus sylvestris*	Non-native	1	11					1.5		Improbable	Fair	On Property	Remove	N/A	Fair form.
1046	Black Walnut	*Juglans nigra*	Native	1	19					5.0		Improbable	Fair	On Property	Remove	N/A	Lost leader but solid replacement; numerous dead lower branches.
1047	Manitoba Maple	*Acer negundo*	Native	1	12					3.0		Improbable	Fair	On Property	Remove	N/A	Slight lean; fair form.
1048	Manitoba Maple	*Acer negundo*	Native	1	17					2.0		Improbable	Fair	On Property	Remove	N/A	Slight lean; fair form.
1049	Manitoba Maple	*Acer negundo*	Native	1	12					2.0	1.8	Improbable	Fair	On Property	Retain	N/A	Slight lean; fair form.
1050	Manitoba Maple	*Acer negundo*	Native	1	14					2.0		Improbable	Good	On Property	Remove	N/A	Good form.
1051	Scots Pine	*Pinus sylvestris*	Non-native	1	16					3.0		Improbable	Good	On Property	Remove	N/A	Good form.
1052	White Mulberry	*Morus alba*	Non-native	3	32	15	13			4.0		Improbable	Fair	On Property	Remove	3:1	Fair form.
1053	Scots Pine	*Pinus sylvestris*	Non-native	1	12					1.0		Improbable	Dead	On Property	Remove	N/A	No live branches.
1054	Scots Pine	*Pinus sylvestris*	Non-native	1	13					1.5		Improbable	Fair	On Property	Remove	N/A	Small crown; numerous dead branches.
1055	Scots Pine	*Pinus sylvestris*	Non-native	1	13					2.0		Improbable	Fair	On Property	Remove	N/A	Small crown; numerous dead branches.
1056	Scots Pine	*Pinus sylvestris*	Non-native	1	17					2.5		Improbable	Fair	On Property	Remove	N/A	Small crown; numerous dead branches.
1057	Scots Pine	*Pinus sylvestris*	Non-native	1	14					2.0		Improbable	Fair	On Property	Remove	N/A	Small crown; numerous dead branches.
1058	Scots Pine	*Pinus sylvestris*	Non-native	1	14					2.0		Improbable	Fair	On Property	Remove	N/A	Twisted trunk; dead lower branches.
1059	Scots Pine	*Pinus sylvestris*	Non-native	1	11					1.0		Improbable	Fair	On Property	Remove	N/A	Twisted trunk; dead lower branches.
1060	Scots Pine	*Pinus sylvestris*	Non-native	1	12					2.0		Improbable	Fair	On Property	Remove	N/A	Twisted trunk; dead lower branches.
1061	Eastern Cottonwood	*Populus deltoides*	Native	1	18					2.5		Improbable	Fair	On Property	Remove	N/A	Vines up canopy; fair form.
1062	Eastern Cottonwood	*Populus deltoides*	Native	1	22					4.0		Improbable	Good	On Property	Remove	1:1	Good form.
1063	Scots Pine	*Pinus sylvestris*	Non-native	1	17					3.5		Improbable	Fair	On Property	Remove	N/A	Grape in crown; numerous dead branches.
1064	Scots Pine	*Pinus sylvestris*	Non-native	1	19					3.5		Improbable	Fair	On Property	Remove	N/A	Grape in crown; numerous dead branches.
1065	Sweet Crabapple	*Malus coronaria*	Native	2	16	15				3.0		Improbable	Fair	On Property	Remove	2:1	Fair form; tent caterpillars.
1066	Sweet Crabapple	*Malus coronaria*	Native	4	24	16	15	16		7.0	3.6	Improbable	Fair	Off Property	Retain-Impact	N/A	Fair form; some lean.
1067	Scots Pine	*Pinus sylvestris*	Non-native	1	19					3.0		Improbable	Fair	On Property	Remove	N/A	Dead lower branches; grape in crown.
1068	Scots Pine	*Pinus sylvestris*	Non-native	1	18					3.0		Improbable	Fair	On Property	Remove	N/A	Dead lower branches; grape in crown.
1069	Scots Pine	*Pinus sylvestris*	Non-native	1	22					3.0		Improbable	Fair	On Property	Remove	1:1	Dead lower branches; grape in crown.
1070	Scots Pine	*Pinus sylvestris*	Non-native	1	16					1.0		Probable	Very Poor	On Property	Remove	N/A	Crown obscured by buckthorn, grapevine and fallen tree.
1071	Scots Pine	*Pinus sylvestris*	Non-native	1	19					1.0		Possible	Fair	On Property	Remove	N/A	Light pruning; grapevine and buckthorn in canopy.
1072	Scots Pine	*Pinus sylvestris*	Non-native	1	13					1.0		Possible	Poor	On Property	Remove	N/A	Compartmentalized stem wounds.
1073	Scots Pine	*Pinus sylvestris*	Non-native	1	12					2.0		Improbable	Dead	On Property	Remove	N/A	No live crown.
A	Freeman's Maple	*Acer x freemanii*	Native	3	26	22	18			4.0		Improbable	Fair	On Property	Remove	3:1	downslope; minor dieback; vines throughout.
AA	White Spruce	*Picea glauca*	Native	1	26					1.5	1.8	Probable	Very Poor	Woodland	Retain	N/A	Almost dead; few branch still with retained needles at top of tree; asymmetrical crown to S.
AB	Eastern Cottonwood	*Populus deltoides*	Native	2	41	40				5.0	5.4	Improbable	Good	Woodland	Retain	N/A	Good form.
AC	Sugar Maple	*Acer saccharum*	Native	1	18					5.0	1.8	Improbable	Good	Woodland	Retain	N/A	Good form; slightly asymmetrical crown.
AD	American Basswood	*Tilia americana*	Native	2	27	16				5.0	3.0	Improbable	Good	Woodland	Retain-Impact	N/A	
AE	Eastern Cottonwood	*Populus deltoides*	Native	1	63					7.0	4.2	Improbable	Good	Woodland	Remove	3:1	Good form.
AF	Eastern Cottonwood	*Populus deltoides*	Native	1	14					5.0	1.8	Improbable	Fair	Woodland	Retain	N/A	Crown leaning west; poorly attached smaller stem.
AG	Eastern Cottonwood	*Populus deltoides*	Native	2	39	33				5.0	4.8	Improbable	Dead	Woodland	Retain-Impact	N/A	No live canopy.
AH	Northern Red Oak	*Quercus rubra*	Native	1	87					8.0	5.4	Improbable	Good	Woodland	Retain	N/A	Good form.
AI	White Oak	*Quercus alba*	Native	1	41					6.0	3.0	Improbable	Good	Woodland	Retain	N/A	Branch dieoff in lower branches; some small epicormic growth.
AJ	Manitoba Maple	*Acer negundo*	Native	1	15					5.0	1.8	Improbable	Fair	Woodland	Retain	N/A	On lean; epicormic growth.
AK	Manitoba Maple	*Acer negundo*	Native	1	13	10	10			4.0	2.4	Improbable	Fair	Woodland	Retain	N/A	Stems all growing different directions; some dead branches.
AL	Manitoba Maple	*Acer negundo*	Native	1	10					3.0	1.8	Improbable	Fair	Woodland	Retain	N/A	Odd attachment at base; growing on lean toward road.
AM	Manitoba Maple	*Acer negundo*	Native	1	12					3.0	1.8	Improbable	Fair	Woodland	Retain	N/A	Leaning toward road.
AN	American Beech	*Fagus grandifolia*	Native	2	34	30				7.0	4.2	Improbable	Fair	Woodland	Retain	N/A	Large broken off branches; heeling wounds; slight twist in trunk.
AO	Bitternut Hickory	*Carya cordiformis*	Native	1	53					6.0	3.6	Improbable	Good	Woodland	Retain	N/A	Good cavity on main trunk; double leader.
AP	American Basswood	*Tilia americana*	Native	2	74	29				6.0	6.18	Improbable	Fair	Woodland	Retain	N/A	Two stems morphed together; one stem jutting out toward road; few large dead branches; huge cavity up one stem; healing wounds.
AQ	Northern Red Oak	*Quercus rubra*	Native	1	74					8.0	4.8	Improbable	Good	Woodland	Retain	N/A	Good form; some larger dead branches;, pruning.
AR	Manitoba Maple	*Acer negundo*	Native	2	33	16				4.0	3.0	Improbable	Poor	Woodland	Remove	3:1	Heavy lean; live epicormic growth; dead main branches; smaller stem peeling and no branches.
AS	White Spruce	*Picea glauca*	Native	1	32					3.5	2.4	Possible	Dead	Woodland	Retain	N/A	
AT	Manitoba Maple	*Acer negundo*	Native	4	48	33	37	34		9.0	7.08	Improbable	Fair	Woodland	Retain	N/A	All limbs growing different directions; some branch failures..

Royal Oak Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH 1 (cm)	DBH 2 (cm)	DBH 3 (cm)	DBH 4 (cm)	DBH 5 (cm)	Crown Radius (m)	Tree Protection Zone (m)	Potential for Structural Failure Rating	Overall Condition	Location	Proposed Action	Compensation Required	Comments
B	White Mulberry	*Morus alba*	Non-native	1	22					4.0		Improbable	Fair	On Property	Remove	1:1	Epicormic growth; inaccessible due to fencing; widespread crown.
C	White Mulberry	*Morus alba*	Non-native	1	17					3.0		Possible	Poor	On Property	Remove	N/A	Previously pruned; black bark; included bark; decay at base.
D	Manitoba Maple	*Acer negundo*	Native	1	24					2.0		Improbable	Poor	On Property	Remove	1:1	Considerable branch dieback; epicormic growth; previously pruned.
E	Eastern Cottonwood	*Populus deltoides*	Native	1	45					6.0	3.0	Improbable	Fair	Off Property	Retain	N/A	Minor branch dieback; widespread crown.
F	Manitoba Maple	*Acer negundo*	Native	1	16					2.0	1.8	Improbable	Fair	Off Property	Retain	N/A	Minor branch dieback.
G	Manitoba Maple	*Acer negundo*	Native	1	16					2.0	1.8	Improbable	Poor	Off Property	Retain	N/A	Minor branch dieback; cavity forming at base.
H	Large-toothed Aspen	*Populus grandidentata*	Native	1	14					2.0		Improbable	Fair	On Property	Remove	N/A	Minor branch dieback; vines in crown.
I	Eastern Cottonwood	*Populus deltoides*	Native	2	16	15				0.5		Probable	Dead	On Property	Remove	0.5	
J	White Ash	*Fraxinus americana*	Native	1	N/A					0.5		Probable	Dead	On Property	Remove	N/A	EAB exit holes; branch dieback.
K	American Elm	*Ulmus americana*	Native	1	N/A					0.5		Possible	Dead	On Property	Remove	N/A	
L	Bitternut Hickory	*Carya cordiformis*	Native	1	34					5.0	2.4	Improbable	Good	Woodland	Retain	N/A	Asymmetrical crown to W; minor lower branch dieback.
M	American Basswood	*Tilia americana*	Native	1	11					2.0	1.8	Improbable	Fair	Woodland	Retain	N/A	Asymmetrical crown to W; basal stem wound with staining.
N	Sugar Maple	*Acer saccharum*	Native	1	19					4.0	1.8	Improbable	Good	Woodland	Retain	N/A	Asymmetrical crown to W, towards edge of woodland.
O	American Basswood	*Tilia americana*	Native	1	19					2.5	1.8	Improbable	Fair	Woodland	Retain	N/A	Slight stem lean and asymmetrical crown to W; minor compartmentalized stem wound.
P	American Basswood	*Tilia americana*	Native	2	49	41				6.0	5.4	Probable	Poor	Woodland	Retain	N/A	Multiple leaders on larger stem with significant split at union; likely for one or both leaders to fall; bark staining.
Q	Manitoba Maple	*Acer negundo*	Native	1	12					2.0	1.8	Possible	Poor	Woodland	Retain	N/A	Branch and stem rub; stem lean W; branch dieback.
R	Manitoba Maple	*Acer negundo*	Native	1	12					1.0	1.8	Possible	Very Poor	Woodland	Retain	N/A	Main leader previously cut; stem lean W; grapevine throughout crown; dead and broken lower branches.
S	Manitoba Maple	*Acer negundo*	Native	1	14					1.5	1.8	Possible	Fair	Woodland	Remove	N/A	Grapevine throughout crown; stem lean W.
T	Manitoba Maple	*Acer negundo*	Native	1	11					1.5	1.8	Possible	Poor	Woodland	Remove	N/A	Heavy stem lean to W; epicormic growth.
U	Eastern Hop-hornbeam	*Ostrya virginiana*	Native	1	35					6.0	2.4	Improbable	Good	Woodland	Retain	N/A	Stem lean W; multiple leaders; one dead lower branch.
V	Manitoba Maple	*Acer negundo*	Native	1	11					1.5	1.8	Improbable	Fair	Woodland	Retain	N/A	Asymmetrical crown W.
W	Manitoba Maple	*Acer negundo*	Native	2	45	29				6.5	4.8	Improbable	Fair	Woodland	Retain	N/A	Compartmentalized stem wounds; epicormic shoots; branch rub; one stem leaning to W, other to E.
X	American Basswood	*Tilia americana*	Native	2	40	17				2.0	3.6	Probable	Very Poor	Woodland	Retain	N/A	Large stem dead with multiple stem wounds, cakers, root, and fungal fruiting bodies .
Y	Black Walnut	*Juglans nigra*	Native	1	58					6.0	3.6	Improbable	Good	Woodland	Retain	N/A	Minor branch dieback.
Z	White Spruce	*Picea glauca*	Native	1	22					0.5	1.8	Probable	Dead	Woodland	Retain	N/A	Insect exit holes; dead.

Appendix II
Tree Health & Potential for Structural Failure Criteria

Tree Health Assessment Criteria

Assessment Criteria	Definition[1]
Excellent	Represents a tree in near perfect form, health, and vigour. This tree would exhibit no deadwood, no decline, and no visible defects.
Good	Represents a tree ranging from a generally healthy tree to a near perfect tree in terms of health, vigour and structure. This tree exhibits a complete, balanced crown structure with little to no deadwood and minimal defects as well as a properly formed root flare.
Fair	Represents a tree with minor health, balance or structural issues with minimal to moderate deadwood. Branching structure shows signs of included bark or minor rot within the branch connections or trunk wood. The root flare shows minimal signs of mechanical injury, decay, poor callusing, or girdling roots. Trees in the category require minor remedial actions to improve the vigour and structure of the tree.
Poor	Represents a tree that exhibits a poor vigour, reduced crown size (<30% of crown typical of species caused by overcrowding or decline), extreme crown imbalance, or extensive rot in the branching and trunk wood. Fungus could be seen from these rotting areas, suggesting further decay. These trees have extensive crown die back with a large amount of deadwood, and possibly dead sections. These weakened areas can lead to a potential failure of tree sections. Rooting zones show signs of extensive root decay or damage (fruiting bodies or mechanical damage) or girdling roots. Trees in this category require more extensive actions to prevent failure. A tree identified as poor would be a candidate for removal in the near future.
Very Poor	Represents a tree that exhibits major health and structural defects. Quite often the defects or diseases affecting this tree will be fatal. Large quantities of fungus, large dead sections with possible cavities and bark falling off all are signs that a tree is in a major state of decline and would be identified as very poor. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.
Dead	Represents a tree that exhibits no sign of new growth, including buds, foliage, or shoot growth. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.

[1]Dunster 2009

Potential for Structural Failure Criteria

Assessment Criteria*	Definition[1]
Improbable	The tree or branch is not likely to fail during normal weather conditions and may not fail in many severe weather conditions within the specified time frame.
Possible	Failure could occur, but it is unlikely during normal weather conditions within the specified time frame.
Probable	Failure may be expected under normal weather conditions within the specified time frame.
Imminent	Failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load. This is a rare occurrence for a risk assessor to encounter, and it may require immediate action to protect people from harm.
*A specified time frame of 1 year will be used when assessing potential for structural failure.	

[1]Dunster et al. 2013

Appendix III
Conditions of Assessment

Conditions of Tree Assessment

Limitations

This tree inventory and assessment is based on the circumstances and observations by Natural Resource Solutions Inc. (NRSI) as they existed at the time of the site inspection(s) of the Client's Property as described in this report (the "Subject Lands") and the trees situated thereon, and upon information provided by the Client to NRSI. The opinions in this assessment are given based on observations made and using generally accepted professional judgment, however, because trees are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this assessment are valid only at the date any such observations and analysis took place. No guarantee, warranty, representation or opinion is offered or made by NRSI as to the length of the validity of the results, observations, recommendations and analysis contained within this assessment. As a result, the Client shall not rely upon this assessment, save and except for representing the circumstances and observations at the date of site inspection(s), and the analysis and recommendations made in relation to the proposed undertaking. It is recommended that the inventoried trees discussed in this assessment should be re-assessed periodically, where required.

Further Services

Neither NRSI, nor any assessor employed or retained by NRSI (the "Assessor") for the purpose of preparing or assisting in the preparation of this assessment shall be required to provide any further consultation or services to the Client including, without limitation, acting as an expert witness or witness in any court in any jurisdiction unless the Client has first made specific arrangements with respect to such further services, including providing payment of the Assessor's regular hourly billing fees.

NRSI accepts no responsibility for the implementation of all or any part of this report, unless specifically requested to examine the implementation of such activities recommended herein. Any request for the inspection or supervision of all or part of the implementation shall be made in writing and the details agreed to in writing by both parties.

Assumptions

The Client is hereby notified that where any of the information set out and referenced in this assessment are based on assumptions, facts or information provided to NRSI, NRSI will in no way be responsible for the veracity or accuracy of any such information. Further, the Client acknowledges and agrees that NRSI has, for the purposes of preparing their assessment, assumed that the Property is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. NRSI explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, by-laws, guidelines and laws as it may pertain to or affect the Property.

Restriction of Assessment

The assessment carried out was restricted to the areas as described in this report. NRSI is not legally liable for any other trees except those expressly discussed herein. The conclusions of this assessment do not apply to any areas, trees, or any other property not covered or referenced in this assessment.

Professional Responsibility

In carrying out this assessment, NRSI and any Assessor appointed for and on behalf of NRSI to perform and carry out the assessment has exercised a reasonable standard of care, skill and diligence. The assessment has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discolored foliage (during the leaf-on period), the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the assessment, none of the trees examined on the property were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

No guarantees are offered, or implied, that trees recommended for retention, or all parts of them, will remain standing. It is professionally impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most

trees have the potential to fall, lean, or otherwise pose a danger to property and persons in the event of extreme weather conditions, and this risk can only be eliminated if the tree is removed.

Without limiting the foregoing, no liability is assumed by NRSI or its directors, officers, employers, contractors, agents or Assessors for:

a) any legal description provided with respect to the Property;
b) issues of title and/or ownership with respect to the Property;
c) the accuracy of the Property line locations or boundaries with respect to the Property; and
d) the accuracy of any other information provided to NRSI by the Client or third parties;
e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
f) the unauthorized distribution of the assessment.

Third Party Liability

This assessment was prepared by NRSI for the Client. The data collected reflect NRSI's best assessment of the inventoried trees situated on the Property with the information available at the time of observation. Data analysis and the assessment of potential impacts to inventoried trees is specific to the proposed undertaking as described in this report. NRSI accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use of this assessment for purposes unrelated to the proposed undertaking.

General

Any plans and/or illustrations in this assessment are included only to help the Client visualize the issues in this assessment and shall not be relied upon for any other purpose.

This report shall be considered as a whole, no sections are severable, and the assessment shall be considered incomplete if any pages are missing.

Appendix IV
Tree Data Summary Tables

Summary of Inventoried Trees

Common Name	Scientific Name	Good	Fair	Poor	Very Poor	Dead	Grand Total
Native Species							
American Basswood	*Tilia americana*	1	4	1	1		7
American Beech	*Fagus grandifolia*		1				1
American Elm	*Ulmus americana*					2	2
Balsam Fir	*Abies balsamea*		1				1
Balsam Poplar	*Populus balsamifera*	1	15	3	8	1	28
Butternut Hickory	*Carya cordiformis*	2					2
Black Walnut	*Juglans nigra*	2	5	1			8
Common Hackberry	*Celtis occidentalis*		1	1			2
Eastern Cottonwood	*Populus deltoides*	3	8	1	2	2	16
Eastern Hop-hornbeam	*Ostrya virginiana*	1					1
Eastern Red Cedar	*Juniperus virginiana*	1	2				3
Eastern White Cedar	*Thuja occidentalis*	2	14				16
Eastern White Pine	*Pinus strobus*		1				1
Freeman's Maple	*Acer x freemanii*	1	2				3
Large-toothed Aspen	*Populus grandidentata*		1	1			2
Manitoba Maple	*Acer negundo*	1	40	18	4		63
Northern Red Oak	*Quercus rubra*	2					2
Silver Maple	*Acer saccharinum*		2				2
Sugar Maple	*Acer saccharum*	2					2
Sweet Crabapple	*Malus coronaria*		2		1		3
Trembling Aspen	*Populus tremuloides*	3	11	5	2		21
Unknown Conifer	**					1	1
White Ash	*Fraxinus americana*	1	4	7	7	5	24
White Oak	*Quercus alba*	1					1
White Spruce	*Picea glauca*	1	50	8	1	2	62
Total		**25**	**164**	**46**	**26**	**13**	**274**
Non-native							
Black Pine	*Pinus nigra*		7				7
Common Apple	*Malus pumila*		2	2			4
Common Pear	*Pyrus communis*		2				2
European Mountain-Ash	*Sorbus aucuparia*		1				1
Northern Catalpa	*Catalpa speciosa*		1				1

Norway Maple	*Acer platanoides*			2			2
Norway Spruce	*Picea abies*		7	1			8
Scots Pine	*Pinus sylvestris*	2	33	4	2	2	43
Sweet Cherry	*Prunus avium*				1		1
White Mulberry	*Morus alba*		12	5	2		19
Willow sp.	*Salix sp.*		2	2	1		5
Total		**2**	**67**	**16**	**6**	**2**	**93**
Grand Total		**27**	**231**	**62**	**32**	**15**	**367**

Overall Condition of Trees Inventoried

Potential for Structural Failure Rating	Overall Condition						Total
	Excellent	Good	Fair	Poor	Very Poor	Dead	
Improbable	0	27	221	30	4	7	289
Possible	0	0	10	31	21	5	67
Probable	0	0	0	1	7	3	11
Imminent	0	0	0	0	0	0	0
Total	**0**	**27**	**231**	**62**	**32**	**15**	**367**

Appendix V
Public Tree Appraisal Calculations

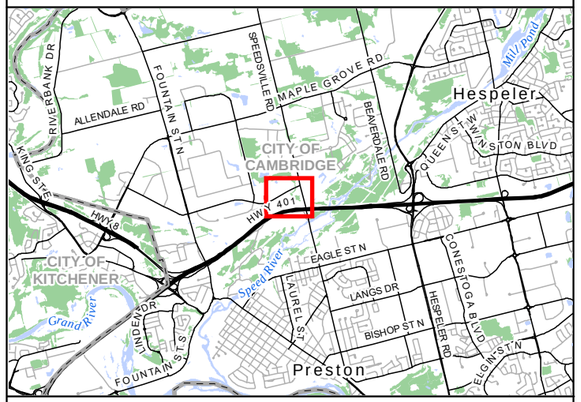
Tree Tag	Common Name	Scientific Name	Native/ Non-native	Stems	DBH	CROWN_RA	Potential for Structural Failure	Health Rating	Root Structure	Root Health	Trunk Structure	Trunk Health	Scaffold Branch Structure	Scaffold Branch Health	Small Branch and Twig Health	Foliage and/or Bud Health	Subject Cross-Sectional Area	Nursery Tree Cost	Nursery Caliper (cm)	Nursery Cross-Sectional Area	Unit Cost (per square cm)	Basic Cost	Condition	Functional Limitations	External Limitations	Installation Costs	Total Depreciated Cost
454	Eastern White Cedar	*Thuja occidentalis*	Native	1	14.1	2	Improbable	Fair	3	3	2	2	4	3	3	3	156.06585	$243.00	9	63.59	3.44	$ 536.87	72%	45%	40%	$607.50	$ 700.00
463	Trembling Aspen	*Populus tremuloides*	Native	1	21.4	2	Improbable	Fair	3	3	2	2	3	3	2	3	359.4986	$240.00	7	38.47	6.17	$2,218.11	66%	45%	40%	$600.00	$ 900.00
466	Trembling Aspen	*Populus tremuloides*	Native	1	21.9	2	Improbable	Good	3	3	4	3	3	3	3	3	376.49385	$240.00	7	38.47	6.17	$2,322.97	78%	45%	40%	$600.00	$ 900.00
458	Black Walnut	*Juglans nigra*	Native	1	41.8	7	Improbable	Fair	3	3	3	3	2	2	3	2	1371.5834	$286.67	8	50.24	5.77	$7,914.04	66%	45%	40%	$716.68	$ 1,700.00
																									Total	**$2,524.18**	**$4,200.00**

Maps

Map 1

247 Royal Oak Road EIS

Study Area



552000 552200 552400 552600

4807400 4807200 4807000

West Creek Wetland Complex

West Creek Wetland Complex

107060322 107060320 107060477 107060321

ROYAL OAK RD

SPEEDSVILLE RD

HWY 401

ROGERS DR

124046951 107060424 124047143 124047149

107060425

Speed River Wetland Complex

Speed River Wetland Complex

Legend

- Study Area (120m)
- Subject Property
- Utility Line
- Highway
- Primary Road
- Secondary Road
- Permanent Watercourse
- Water Body
- Provincially Significant Wetland (PSW)
- Other Wetland (Non-PSW)
- Unevaluated Wetland
- Wooded Area

Aquatic Resource Area

- ARA Point

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2824
Date: March 30, 2022

NAD83 - UTM Zone 17
Size: 11x17"
1:2,500

0 40 80 120 160 Metres

N

Path: X:\2824_247RoyalOakRd_EIS\NRSI_2824_BackgroundReview_Extents_2022_03_30_JX.mxd

Migratory Birds Convention Act

1. The destruction of migratory birds and their nests is prohibited under the federal *Migratory Birds Convention Act (MBCA)*, 1994, which is regulated by the Canadian Wildlife Service (CWS).
2. Vegetation clearing has the potential to directly impact bird breeding activity through damage and destruction of nests, eggs and young, or avoidance of the area by breeding adults.
3. Vegetation clearing is recommended to occur outside the bird nesting season (April 1 – August 31) so as to limit disturbances to nesting activities of birds within the proposed work zone.
4. Specific to simple habitats*, if vegetation clearing cannot be avoided during the bird nesting season, a qualified biologist will be retained to carry out a nest search ahead of clearing activities within the work zone.
5. Nest areas will be identified in the field. There shall be no construction activity in identified nesting areas until sign-off is obtained from the biologist.
6. Areas identified as having no bird nesting activity can be cleared; however, clearing must occur within 48 hours of nest searching. If vegetation clearing is not performed within 48 hours, additional nest searches must be conducted.

*Simple habitats are characterized by the CWS as habitats consisting of urban parks with isolated trees, vacant lots with few possible nest sites, a previously cleared area, or a structure such as a bridge, tower, or building, and specifically excludes meadows. More information is available at (https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds/reduce-risk-migratory-birds.html).

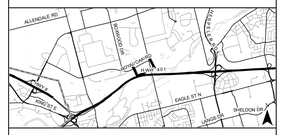
Species at Risk Bat Habitat

1. The destruction of Species at Risk (SAR) bats and their habitat is prohibited under the *Endangered Species Act (ESA)*, 2007.
2. Vegetation clearing has the potential to directly impact bat roosting habitat.
3. Tree removal should occur outside of the active roosting season (April 1 to September 30) to avoid destruction of potential bat habitat, and therefore contravention of the *ESA*.
4. Any vegetation removal that has the potential to impact SAR bat habitat requires prior correspondence with the Ministry of the Environment, Conservation and Parks (MECP).

Map 2

247 Royal Oak Road

Tree Management Plan



Legend

- Subject Property
- Tree to be Retained (Crown to Scale)
- Tree to be Retained - Impacted (Crown to Scale)
- Tree to be Removed (Crown to Scale)
- Tree Protection Zone (TPZ)
- Tree Protective Fencing (TPF)
- Proposed Site Plan
- Proposed Asphalt
- Proposed Gravel
- Proposed Grading
- Proposed Services
- Proposed Silt Fence
- Permanent Watercourse
- Dripline (NRSI - June 27, 2022)
- Dripline Buffer (10m) - Region of Waterloo OP 2015
- Woodland

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2824 Date: June 10, 2024	NAD83 - UTM Zone 17 Size: 24x36" 1:600

0 10 20 30 40 Meters

ESC fencing will be erected to accomodate initial grade matching. Once grading has been completed, TPF will be placed (as shown) in order to re-establish the woodland buffer.

Building "A"

Building "B"

Storm Pond

Mud Creek