Tree Inventory and Preservation Plan
524 York Road (Phase 2)
Niagara-on-the-Lake, Ontario

prepared for

Niagara York Road Inc.
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prepared by

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KUNTZ FORESTRY CONSULTING INC. Project P4333

Introduction

Kuntz Forestry Consulting Inc. was retained by Niagara York Road Inc. to complete a Tree Inventory and Preservation Plan for the proposed Phase 2 development of the property located at 524 York Road in Niagara-on-the-Lake, Ontario. The subject property is located on the north corner of the intersection between York Road and Counsell Street, within a commercial area. The subject area is limited to the Phase 2 development area located within the southeast-most portion of the subject property.

The work plan for this tree preservation study included the following:

- Prepare an inventory of the tree resources measuring 10cm diameter at breast height (DBH) and greater on and within six metres of the subject area and trees of all sizes within the road right-of-way adjacent to the subject area;
- Evaluate potential tree saving opportunities based on proposed development plans, and;
- Document the findings in a Tree Inventory and Preservation Plan.

The results of the evaluation are provided below.

Methodology

The tree inventory was conducted on 17 January 2025. Trees measuring 10cm DBH and greater on and within six metres of the subject area and trees of all sizes within the road right-of-way adjacent to the subject area were included in the inventory. Trees were located using a backpack GPS unit (Trimble R2 GNSS receiver) accurate to +/- one metre. Individual trees included in the inventory were identified as Trees 1426 – 1444 and A – C. Where appropriate, trees were tagged with their identification number. Trees that were not tagged were identified using the alphabetic sequence.

Individual tree resources were visually assessed for condition utilizing the following parameters:

Tree # – Identifier assigned to trees that corresponds to Figure 1.
Species – Common and botanical names provided in the inventory table.
DBH – Diameter (cm) at breast height, measured at 1.4m above the ground.
Condition – Condition of tree considering trunk integrity (TI), crown structure (CS) and crown vigor (CV). Condition ratings include poor (P), fair (F), and good (G).
Crown Dieback – Percentage of dead branches within the crown.
Dripline – Crown radius (m).
Comments – Any other relevant tree condition information.

Where trees occurred in groups, they were inventoried as polygons using a 100% tally analysis by species, size class, and quality. One polygon was included in the inventory and was identified as Polygon P-1.

Trees within the polygon were assessed utilizing the following parameters:

Species: Common and botanical names provided in the inventory table.
Size Class (DBH): 10cm – 12cm, 12.5cm – 24.5cm, 25cm – 34.5cm, 35cm – 44.5cm, 45cm – 54.5cm, 55cm – 64.5cm, 65cm – 74.5cm, and 75cm and above.
Quality Class: Acceptable Growing Stock (AGS), Unacceptable Growing Stock (UGS).

Trees classified as AGS are trees with no major defects in the bole and a relatively good crown structure and vigour. Trees classified as UGS are trees with a major defect in the bole and / or those exhibiting a relatively poor crown structure or vigour.

Refer to Figure 1 for the tree and polygon locations and Table 1 and Table 2 for the results of the tree inventory. Refer to Appendix A for photographs of the trees.

Existing Site Conditions

The subject area is occupied by a surface parking area and vacant land. A small wooded area exists west of the subject area. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The inventory documented a total of 22 trees and one polygon on and within six metres of the subject area and within the road right-of-way adjacent to the subject area.

Tree resources were comprised of Green Ash (*Fraxinus pennsylvanica*), Japanese Flowering Lilac (*Syringa reticulata*), Red Oak (*Quercus rubra*), Serviceberry species (*Amelanchier sp.*), Shagbark Hickory (*Carya ovata*), Sugar Maple (*Acer saccharum*), Thornless Honey Locust (*Gleditsia triacanthos var. inermis*), and White Elm (*Ulmus americana*).

Refer to Table 1 and Table 2 for the full tree inventory, Figure 1 for the locations of trees and polygon reported in the tree inventory, and Appendix A for photographs of the trees.

Proposed Development

The proposed development includes the construction of a seven-storey hotel, a restaurant building, a surface parking area, and several new walkways and sidewalks. Vehicular access is proposed from the existing private road which extends east of Glendale Avenue to west of Counsell Street. A portion of the existing wooded area is to be retained throughout the proposed works.

Refer to Figure 1 for the proposed development.

Discussion

The following sections provide a discussion and analysis of tree impacts and tree preservation relative to the proposed development and existing conditions.

Development Impacts / Tree Removal

The removal of eight trees and one polygon, identified as Trees 1426 – 1430 and A – C, and Polygon P-1, will be required to accommodate the proposed development. These trees and polygon either conflict directly with the proposed development or the level of

encroachment into their minimum tree protection zones (mTPZs) resulting from the proposed work would be at an intolerable level such that they would not be expected to overcome the injury.

Polygon P-1 is located within the boundaries of the subject property and within this polygon, a total of 42 trees measure 12.5cm DBH or greater. Permits will be required prior to the removal of these trees.

Trees A – C are located within the road right-of-way adjacent to the subject area and as such, are considered Town-owned trees. Permission from the Town of Niagara-on-the-Lake will be required prior to the removal of these trees.

Refer to Figure 1 for the locations of the trees and polygon identified for removal.

Tree Preservation

The preservation of the remaining 14 trees, identified as Trees 1431 – 1444, will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures must be implemented prior to the commencement of the proposed works to ensure tree resources designated for preservation are not impacted. Refer to Figure 1 for the locations of the required tree preservation fencing and the Tree Protection Plan Notes.

Where the minimum tree protection zone (mTPZ) of a tree cannot be fully respected, including for Trees 1433, 1434, and 1437, special mitigation measures have been prescribed and outlined, as follows.

<u>Trees 1433, 1434, and 1437</u>

Encroachment into the mTPZs of Trees 1433, 1434, and 1437 will be required to accommodate the construction of a proposed retaining wall or associated regrading works. Tree preservation fencing has been prescribed at the anticipated limit of encroachment within the mTPZs of these trees. If the following mitigation measures are employed, long-term adverse impacts are not anticipated for these trees.

1. Prior to the commencement of the proposed works, tree preservation fencing should be installed as indicated on Figure 1 and maintained throughout the duration of the proposed development.
2. Where excavation for the proposed retaining wall or regrading works is required within the mTPZ of a tree, it should occur under the direct supervision of a Certified Arborist.
3. Any roots encountered within the excavated mTPZ areas that require pruning are to be pruned by a Certified Arborist in accordance with Good Arboricultural Standards.
4. Any branches that require pruning should be pruned by a Certified Arborist or other tree professional in accordance with Good Arboricultural Standards.

Replacement Plantings

The Town of Niagara-on-the-Lake requires replacement plantings to compensate for the removal of privately-owned trees measuring 12.5cm DBH and greater. The ratio of required compensation plantings per tree is noted in the table below:

DBH of Tree Identified for Removal	Number of Replacement Trees Required
12.5cm – 24.5cm	2
25cm – 34.5cm	3
35cm – 44.5cm	4
45cm – 54.5cm	5
55cm – 64.5cm	6
65cm – 74.5cm	7
75cm – 84.5cm	8
85cm – 94.5cm	9
95cm – 104.5cm	10
105cm – 114.5cm	11
115cm+	12

To compensate for the removal of trees located within the subject property, a total of 139 replacement plantings will be required within the boundaries of the subject property. Additional replacement plantings may be required within the road right-of-way to compensate for the removal of Town-owned trees, at the discretion of the Town of Niagara-on-the-Lake.

Refer to Table 1 for the number of replacement plantings required to compensate for each tree and polygon identified for removal.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Niagara York Road Inc. to complete a Tree Inventory and Preservation Plan as part of a development application for the proposed Phase 2 development of the property located at 524 York Road in Niagara-on-the-Lake, Ontario. A tree inventory was conducted and reviewed in the context of the proposed site plan.

The findings of the study indicate a total of 22 trees and one polygon on and within six metres of the subject area and within the road right-of-way adjacent to the subject area. The removal of eight trees and one polygon will be required to accommodate the proposed development. The remaining 14 trees can be saved provided appropriate tree protection measures are installed prior to the commencement of the proposed works.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for the locations of the required tree preservation fencing and the general Tree Protection Plan Notes.

- Tree protection barriers and fencing should be erected at locations as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out in the tree preservation plan notes and the tree preservation fencing detail.

- No construction activity including surface treatments, excavations of any kind, storage of materials or vehicles, unless specifically outlined above, is permitted within the area

identified on Figure 1 as a tree protection zone (TPZ) at any time during or after construction.

- Special mitigation measures have been prescribed for select trees, as outlined in the *Tree Preservation* section of this report.

- Branches and roots that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional. All pruning of tree roots and branches must be in accordance with Good Arboricultural Standards.

- Site visits pre, during, and post construction are recommended by either a certified consulting arborist (I.S.A.) or registered professional forester (R.P.F.) to ensure proper utilization of tree protection barriers. Trees should also be inspected for damage incurred during construction to ensure appropriate pruning or other measures are implemented.

Respectfully Submitted,

Kuntz Forestry Consulting Inc.

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Limitations of Assessment

Only the tree(s) identified in this report were included in the inventory. The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These may include a visual examination taken from the ground of all the above-ground parts of the tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, discoloured foliage, the condition of any visible root structures, the degree of lean (if any), the general condition of the trees and the identification of potentially hazardous trees or recommendations for removal (if applicable). Where trees could not be directly accessed (i.e. due to obstructions, and/or on neighbouring properties), trees were assessed as accurately as possible from nearby vantage points.

Locations of trees provided in the report are determined as accurately as possible based on the best information available. If official survey information is not provided, tree location in the report may not be exact. In this case, if trees occur on or near property boundaries, an official site survey may be required to determine ownership utilizing specialized survey protocol to gain precise location.

Furthermore, recommendations made in this report are based on the site plans that have been provided at the time of reporting. These recommendations may no longer be applicable should changes be made to the site plan and/or grading, servicing, or landscaping plans following report submission.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigor constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions. Any tree will fail if the forces applied to the tree exceed the strength of the tree or its parts.

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

Table 1. Tree Inventory

Location: 524 York Road (Phase 2), Niagara-on-the-Lake Date: 17 January 2025 Surveyors: KNH

Tree #	Common Name	Scientific Name	DBH	Multistem DBH	TI	CS	CV	CDB	DL	mTPZ	Comments	Owner	Action	Rep.
1426	Thornless Honey Locust	*Gleditsia triacanthos var. inermis*	9	-	P	PF	P	60	2.0	1.2	Stem wounds (H), top dead, decay (H) in trunk	Subject	Remove	0
1427	Thornless Honey Locust	*Gleditsia triacanthos var. inermis*	8.5	-	FG	G	FG		2.0	1.2	Stem wounds (L)	Subject	Remove	0
1428	Japanese Flowering Lilac	*Syringa reticulata*	8.5	-	F	G	F		1.0	1.2	Stem wounds (M)	Subject	Remove	0
1429	Japanese Flowering Lilac	*Syringa reticulata*	9	-	F	G	F		1.0	1.2	Stem wounds (M)	Subject	Remove	0
1430	Japanese Flowering Lilac	*Syringa reticulata*	8.5	-	F	G	FG		1.0	1.2	Bulge at base	Subject	Remove	0
1431	White Elm	*Ulmus americana*	12.5, 12	17.5	F	F	F		3.0	1.8	V-union at 0.1m with included bark, one large stem cut at 0.1m, epicormic branching (L)	Subject	Preserve	-
1432	Shagbark Hickory	*Carya ovata*	14.5, 9.5	17.5	F	FG	FG		4.0	1.8	Previously tagged: #517, v-union at base with included bark	Subject	Preserve	-
1433	Red Oak	*Quercus rubra*	30, 29.5, 29	51.1	F	F	F	10	10.0	3.6	Union at 0.1m, lean (L), asymmetrical crown (M), broken branches (L)	Subject	Preserve (Injure)	-
1434	Red Oak	*Quercus rubra*	33, 32	46	F	PF	PF	10	6.0	3.0	Previously tagged: #519, v-union at 0.3m with included bark and one stem dead, epicormic branching (M), broken branches (L)	Subject	Preserve (Injure)	-
1435	Red Oak	*Quercus rubra*	26	-	FG	F	F	10	4.0	1.8	Crook (L), epicormic branching (M)	Subject	Preserve	-
1436	Red Oak	*Quercus rubra*	32	-	F	PF	PF	20	3.0	2.4	Lean (L), epicormic branching (M), one stem lost at base	Subject	Preserve	-
1437	Red Oak	*Quercus rubra*	37	-	P	PF	PF	20	5.0	2.4	Lean (L), broken branches (M), epicormic branching (M), cavities (H) at base, decay (M) in trunk	Subject	Preserve (Injure)	-
1438	Red Oak	*Quercus rubra*	33	-	F	PF	PF	20	6.0	2.4	Broken branches (M), lean (L), bulge at base, epicormic branching (M)	Subject	Preserve	-
1439	Red Oak	*Quercus rubra*	29.5	-	F	PF	PF	30	6.0	1.8	Cavities (L) at base, growth deficit (M), epicormic branching (L), broken branches (M)	Subject	Preserve	-
1440	Red Oak	*Quercus rubra*	27	-	FG	PF	PF	30	6.0	1.8	Bow (L), epicormic branching (H)	Subject	Preserve	-
1441	Sugar Maple	*Acer saccharum*	39	-	F	PF	PF	30	8.0	2.4	Growth deficit (M), broken branches (M), epicormic branching (L)	Subject	Preserve	-
1442	Red Oak	*Quercus rubra*	44	-	FG	PF	PF	30	8.0	3.0	Broken branches (M), epicormic branching (L), lean (L)	Subject	Preserve	-
1443	Sugar Maple	*Acer saccharum*	25	-	P	P	PF	60	4.0	1.8	Cavities (H), top lost, broken branches (H)	Subject	Preserve	-
1444	Green Ash	*Fraxinus pennsylvanica*	14	-	F	G	F		2.0	1.8	Lean (L), Emerald Ash Borer damage (L)	Subject	Preserve	-

A	Serviceberry species	*Amelanchier sp.*	~4	-	P	P	P	80	1.0	1.2	Main stem dead, only shoots at base alive, decay (H) in trunk, growing through fence	Town	Remove	-
B	Serviceberry species	*Amelanchier sp.*	~5	-	P	P	P	70	1.0	1.2	Top-down dieback, shoots at base, decay (H) in trunk, growing through fence	Town	Remove	-
C	Serviceberry species	*Amelanchier sp.*	~1-2	-	F	F	F		1.0	1.2	Multistem at base, stem wounds (M), growing through fence	Town	Remove	-
P-1	See Table 2											Subject	Remove	139

Codes		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
CDB	Crown Dieback	(%)
DL	Dripline (Radius)	(m)
mTPZ	Minimum Tree Protection Zone	(m)
Owner	Ownership of Tree	(Subject, Town, Neighbour)
Rep.	Replacement Requirements	(# of trees)
P = poor, F = fair, G = good, ~ = estimate (L) = light, (M) = moderate, (H) = heavy		

Table 2. Tally Analysis of Polygon P-1

P-1

Tree Size Class →	**10cm - 12cm**		**12.5cm - 24.5cm**		**25cm - 34.5cm**		**35cm - 44.5cm**		**45cm - 54.5cm**		**55cm - 64.5cm**		**65cm - 74.5cm**		**75cm +**		**Total All Sizes**	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Red Oak (*Quercus rubra*)	0	0	1	4	1	3	7	4	2	1	0	0	0	0	0	0	***11***	***12***
Shagbark Hickory (*Carya ovata*)	0	0	6	0	5	0	0	0	0	0	0	0	0	0	0	0	***11***	***0***
Cherry species (*Prunus sp.*)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	***1***	***0***
Bur Oak (*Quercus macrocarpa*)	0	0	1	0	0	1	0	0	3	0	0	0	1	0	0	0	***5***	***1***
White Oak (*Quercus alba*)	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	***0***	***2***
Total Number of Trees	***1***	***0***	***8***	***6***	***6***	***4***	***7***	***4***	***5***	***1***	***0***	***0***	***1***	***0***	***0***	***0***	***28***	***15***
Replacement Planting Requirements	**0**		**28**		**30**		**44**		**30**		**0**		**7**		**0**		**139**	

Appendix A. Site Photographs


Image 1. Tree 1426


Image 2. Tree 1427


Image 3. Tree 1428


Image 4. Tree 1429


Image 5. Tree 1430


Image 6. Tree 1431


Image 7. Tree 1432 (right) and 1433 (left)


Image 8. Tree 1434


Image 9. Trees 1435 (right) and 1436 (left)


Image 10. Tree 1437


Image 11. Tree 1438


Image 12. Tree 1439 (right) and 1440 (left)


Image 13. Tree 1441


Image 14. Tree 1442


Image 15. Tree 1443


Image 16. Tree 1444


Image 17. Tree A


Image 17. Tree B

Image 18. Tree C