

**Tree Inventory and Preservation Plan Report
175 Portage Road
Niagara Falls, Ontario**

prepared for

**Rudanco Inc.
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prepared by



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KUNTZ FORESTRY CONSULTING Inc. Project P3132

Introduction

Kuntz Forestry Consulting Inc. was retained by Rudanco Inc. to complete a Tree Inventory and Preservation Plan for the proposed development at 175 Portage Road in the City of Niagara Falls, Ontario. The subject property is located east of the intersection at Stanley Avenue and Marineland Parkway, just south of McLeod Road, within a commercial area.

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

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

Methodology

Trees greater than 10cm DBH on and within six metres of the subject property and trees of all sizes within the City road right-of-way were included in the inventory. Trees were located using KFCI's Trimble Geo7X handheld GPS unit, accurate to ± 50 cm. Trees located on the subject property were tagged and identified as Trees 290 – 300, and 980 – 991. Trees located on the City road right-of-way were identified as Trees A – C. Tree locations are shown on Figure 1. See Table 1 for the results of the inventory. See Appendix A for photographs of the trees.

Tree resources were assessed utilizing the following parameters:

Tree # – Number assigned to trees that corresponds to Figure 1.

Species – Common and botanical names provided in the inventory table.

DBH – Diameter (centimeters) at breast height, measured at 1.4 m above the ground.

Dripline – Crown radius (metres).

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).

Comments – Any other relevant tree condition information. Defects are rated as light (L), moderate (M), or heavy (H).

The results of the evaluation are provided below.

Existing Site Conditions

The subject property is currently occupied primarily by an asphalt parking lot. The foundation of an old silo exists in the northern corner of the site, and a communications tower inside a small, fenced compound is situated at the northeast corner. At the time of data collection, a number of truck trailers were clustered near the center of the property. Tree resources exist around the perimeter of the property. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The tree inventory was conducted on 1 February 2022. The inventory documented a total of 26 trees on and within six metres of the subject property. During data collection, Trees A, B, and C were believed to be on City-owned property and were therefore given alphabetical identifiers rather than numeric. Subsequent review of the data revealed that they reside on the subject property and are privately-owned. Refer to Table 1 and for the full tree inventory, Figure 1 for the location of trees reported in the tree inventory, and Appendix A for photographs of the trees.

Tree resources were comprised of Black Walnut (*Juglans nigra*), White Ash (*Fraxinus americana*), Basswood (*Tilia americana*), Eastern Cottonwood (*Populus deltoides*), and Shagbark Hickory (*Carya ovata*).

Proposed Development

The proposed development includes the construction of two residential tower units, Tower A and Tower B, measuring 35 and 25 storeys, respectively. The towers will sit on a large, contoured podium, and the site will feature outdoor amenity areas and extensive landscaping. Two levels of underground parking are proposed, the extents of which comprise nearly the entirety of the subject site. 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 determination of tree removal requirements for this site was driven primarily by the extent of excavation works required to construct the underground parking; two levels of underground parking are to occupy nearly the entirety of the subject site, precluding the preservation of most existing trees. Additionally, the boulevard along Portage Road will be completely redesigned, the plans for which also precluded the preservation of existing trees.

The removal of 25 trees is required to accommodate the proposed development and associated landscaping works. The required tree removals include Trees 290 – 300, 980 – 990, and Trees A – C. With one exception, all trees identified for removal are located on the subject property. Tree 298 is located on the neighbouring property to the north, and as such, will require written consent from the landowner prior to its removal. Refer to Figure 1 for the location of required tree removals.

Tree Preservation

The preservation of Tree 991 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 proposed development to ensure tree resources designated for retention are not impacted. Refer to Figure 1 for the location of required tree preservation fencing and general Tree Protection Plan Notes.

According to City of Niagara Fall standards, tree protection fencing is to be installed at the dripline. Although this level of protection cannot be fully respected for Tree 991, it is nonetheless afforded a minimum tree protection zone (mTPZs) that is consistent with standards utilized by surrounding municipalities.

Minimum tree protection zones (mTPZs) are based on the trunk diameter of the tree as follows:

Diameter at Breast Height (cm)	Minimum Tree Protection Zone (m) (from edge of stem)
<10	1.2
10 – 29	1.8
30 – 40	2.4
41 – 50	3.0
51 – 60	3.6
61 – 70	4.2
71 – 80	4.8
81 – 90	5.4
91 – 100	6.0
101 – 110	6.6
111 – 120	7.2
121 – 130	7.8
131 – 140	8.4

Tree 991 is afforded more than 3m of protection from its base, which is more than sufficient for a tree of its diameter (28.5cm DBH). This level of protection is expected to successfully protect Tree 991 during construction. Nevertheless, where excavation is required within its dripline, special mitigation measures (as discussed below) are recommended.

Tree 991

Minor encroachment into the dripline of Tree 991 is required to facilitate the excavation required for the construction of a proposed underground parking. The tree protection fencing must be installed prior to the commencement of earthworks. If the following mitigation measures are followed, long-term adverse effects are not anticipated for this tree.

1. The protection fencing as shown on Figure 1 should be installed and maintained throughout construction.
2. Where the proposed excavation encroaches into the driplines of Trees 300, 980, and 991, air-spading technology should be used to perform the excavation under the supervision of a Certified Arborist.
3. Any significant roots encountered are to be pruned by a Certified Arborist in accordance with Good Arboricultural Standards.
4. Branches that extend into the proposed development and require pruning must be pruned by a Certified Arborist or other tree professional in accordance with Good Arboricultural Standards.

Preservation planning may be subject to change, pending detailed design including grading and landscaping.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Rudanco Inc. to complete a Tree Inventory and Preservation Plan in support of a development application for the property at 175 Portage Road in the City of Niagara Falls, 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 26 trees on and within six metres of the subject property and within the City road right-of-way. The removal of 25 trees is required to accommodate the proposed development. The remaining tree can be saved provided appropriate tree protection measures are installed prior to the development.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for the location of required tree preservation fencing and 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: 175 Portage Road, Niagara Falls

Date: 01 February 2022

Surveyors: KB

Tree #	Common Name	Scientific Name	DBH	DL	TI	CS	CV	TPZ	Comments	Owner	Action
290	Black Walnut	<i>Juglans nigra</i>	13	3	G	G	G	1.8	Growing against chain link fence	Private	Remove
291	White Ash	<i>Fraxinus americana</i>	16.5, 11	3	P	P	P	1.8	Dying from Emerald ash borer	Private	Remove
292	White Ash	<i>Fraxinus americana</i>	15	3	P	F	P	1.8	Dying from Emerald ash borer	Private	Remove
293	White Ash	<i>Fraxinus americana</i>	12	2	F	G	F	1.8	Dying from Emerald ash borer	Private	Remove
294	White Ash	<i>Fraxinus americana</i>	11	1	P	F	P	1.8	Dying from Emerald ash borer	Private	Remove
295	White Ash	<i>Fraxinus americana</i>	10	4	F	F	F	1.8	Stem wound (L), Sweep (M)	Private	Remove
296	Shagbark Hickory	<i>Carya ovata</i>	49	6	G	G	G	3	Large branch union @ ~1.5m and ~6m, Deadwood (L)	Private	Remove
297	Shagbark Hickory	<i>Carya ovata</i>	41.5	6	F-G	F	F-G	3	Sweep (L), Union @ ~6.0m, Deadwood (M)	Private	Remove
298	Basswood	<i>Tilia americana</i>	18	3	G	G	G	1.8		Neighbour (Northern)	Remove
299	Eastern Cottonwood	<i>Populus deltoides</i>	37.5	5	G	G	G	2.4		Private	Remove
300	Basswood	<i>Tilia americana</i>	15.5	3	G	F	G	1.8	Union @ ~0.5m and ~1.5m	Private	Remove
980	Basswood	<i>Tilia americana</i>	16, 9	4	G	G	G	1.8	Union @ ground	Private	Remove
981	White Ash	<i>Fraxinus americana</i>	12.5	3	P	F-G	F	1.8	Stem wound (H)	Private	Remove
982	Black Walnut	<i>Juglans nigra</i>	29	4	P	P	P	1.8	Moribund tree, Massive stem wound, Severe dieback	Private	Remove
983	White Ash	<i>Fraxinus americana</i>	18.5	4	F	FP	F	1.8	Union @ ~2.0m, Epicormic branches (M)	Private	Remove
984	White Ash	<i>Fraxinus americana</i>	13	2	F	F	F	1.8		Private	Remove
985	Black Walnut	<i>Juglans nigra</i>	36	5	P	P	P	2.4	Moribund tree, Stem wound (H), Crown dieback (H)	Private	Remove
986	White Ash	<i>Fraxinus americana</i>	13, 8	3	P	P	P	1.8	Union @ ground, Dying from Emerald ash borer	Private	Remove
987	Eastern Cottonwood	<i>Populus deltoides</i>	11.5	2	F	F	G	1.8	Lean (M)	Private	Remove
988	Eastern Cottonwood	<i>Populus deltoides</i>	32.5	5	G	F-G	G	2.4	Union @ ~10.0m	Private	Remove
989	Black Walnut	<i>Juglans nigra</i>	17	4	F-G	F-G	G	1.8	Included fence (M)	Private	Remove
990	Black Walnut	<i>Juglans nigra</i>	11.5	3	G	G	G	1.8		Private	Remove

991	Black Walnut	<i>Juglans nigra</i>	28.5	5	G	F	F	1.8	Vine competition (H)	Private	Preserve
A	Black Walnut	<i>Juglans nigra</i>	4	1	G	G	G	1.2		Private	Remove
B	Black Walnut	<i>Juglans nigra</i>	4.5	2	G	G	G	1.2		Private	Remove
C	Black Walnut	<i>Juglans nigra</i>	5.5	2	G	G	G	1.2		Private	Remove

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)
DL	Dripline Radius	(m)
TPZ	Minimum required tree protection zone	(m)
~ = estimate; (L) = light; (M) = moderate; (H) = heavy		

Appendix A. Site Photographs



Trees 290 – 292 (left to right)



Trees 293 – 295 (right to left)



Tree 296



Tree 297



Tree 299



Trees A- C (left to right)



Trees 980 and 300 (left to right)



Tree 298



Trees 981 -982 (right to left)



Trees 983 – 984 (right to left)



Tree 985



Tree 991



Trees 986 – 988 (left to right)



Tree 989



Tree 990