Tree Inventory and Preservation Plan Report
129 Collier Street
City of Barrie, Ontario

prepared for

Pinemount Developments
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prepared by

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KUNTZ FORESTRY CONSULTING Inc. Project P2362

Introduction

Kuntz Forestry Consulting Inc. was retained by Pinemount Developments to complete a Tree Inventory and Preservation Plan Report in support of a development application for the property located at 129 Collier Street in Barrie, Ontario. The property is located on the south side of Collier Street, west of Berczy Street, within a residential and commercial area.

The work plan for this study included the following:

- Prepare field mapping;
- Prepare inventory of all tree resources 10 cm in diameter and larger occurring on subject property and on neighbouring property adjacent to the subject property, and trees of all sizes within the road right-of-ways;
- Evaluate potential tree saving opportunities based on proposed site plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

Methodology

Field assessments were conducted on 31 March 2020. Trees were located using the topographic survey and estimations made in-field. Trees located on the subject property were tagged using numbers 1101-1132, with polygons (groups of trees) being identified with the prefix "P". Polygons were identified by 100% tally, identifying trees by species, size category, and condition [AGS (Acceptable Growing Stock) and UGS (Unacceptable Growing Stock)]. Neighbouring trees and those within the road right-of-way were not tagged and were identified with the letters A-M. All tree resources included in the inventory were visually assessed for condition utilizing the following parameters:

Tree # - numbers assigned to trees that corresponds to Figure 1.
Species - common and botanical names provided in the inventory table (Table 1).
DBH - diameter (centimeters) at breast height, measured at 1.4 m above the ground.
Condition - condition of tree considering trunk integrity, crown structure and crown vigor. Condition ratings include poor (P), fair (F) and good (G).
Dripline – size of crown radius, as measured from the stem to the outermost reaches of the branches
Crown Dieback – the percentage of dead branches located in the crown.
Comments - additional relevant detail.

Existing Site Conditions

The subject site is currently occupied by vacant lands. Tree resources exist in the form of landscape and self-seeded trees.

The tree inventory documented a total of 39 individual trees and six tree polygons located on and within six metres of the subject property. Refer to Figure 1 for tree locations and Table 1 for the complete tree inventory.

Tree resources included in the inventory are comprised of Siberian Elm (*Ulmus pumila*), Manitoba Maple (*Acer negundo*), Black Locust (*Robinia pseudoacacia*), Norway Maple (*Acer platanoides*), Black Walnut (*Juglans nigra*), and Shademaster Honey Locust (*Gleditsia triacanthos 'inermis'*).

Proposed Development

The construction of two new 10-storey condominium towers is proposed for the subject property. Vehicular access will be provided from Collier Street. Refer to Figure 1 for the existing conditions and proposed site plan.

Discussion

The following sections provide a discussion and analysis of development impacts, tree removals and tree preservation relative to both concept plans.

Development Impacts/Tree Removals

The removal of Trees 1101-1132, A, and D-K will be required to accommodate the proposed development. Tree A is located within the Collier Street right-of-way. Trees D-K and the majority of P1110 are located on the neighbouring property to the east. Permission from this property owner will be required prior to their removal. All other trees identified for removal are located on the subject property. Refer to Figure 1 for the location of tree removals.

Tree Preservation

The preservation of Trees B, C, L, and M will be possible with appropriate tree protection measures as indicated on Figure 1. Tree protection measures will have to be implemented prior to the commencement of construction to ensure that trees identified for preservation are not impacted by the proposed development. While driplines of trees identified for preservation cannot be hoarded in their entirety, the minimum tree protection zones required by the City of Barrie can be fully hoarded for trees identified for preservation. Where possible, tree protection fencing has been prescribed beyond the mTPZ. All grading and other disturbance should be kept outside of the TPZ's shown on Figure 1.

Any crown pruning required should occur by a certified Arborist according to Good Arboricultural Standards.

Refer to Figure 1 for the location of prescribed tree protection fence locations, the tree protection fence detail and further tree preservation plan notes.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Pinemount Developments to complete a Tree Inventory and Preservation Plan Report in support of a development application for a property situated at 129 Collier Street in Barrie, Ontario. A tree inventory was conducted and reviewed in the context of the proposed site plan.

The findings of the study indicate a total 39 trees and six tree polygons situated on and adjacent to the subject property. The removal of 45 trees and tree polygons will be required to accommodate the proposed development.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for the location of tree preservation fence, further tree protection plan notes and the tree preservation fence detail.

- 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 on Figure 1.

- Tree protection measures are to be implemented prior to the construction phase to ensure the trees identified for preservation are not impacted by the development.

- Branches and roots that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional as approved by the City of Barrie. All pruning of tree roots and branches must be in accordance with good arboricultural standards.

- Site visits, pre, during and post construction is 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 (ie. 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: 129 Collier Street, Barrie Date: 31 March 2020 Surveyors: KD

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	RZE	CDB	DL	mTPZ	Comments	Action
1101	Siberian Elm	*Ulmus pumila*	29, 23, 20, 17, 13	F	F	F	F		4.5	2.0	Multi-stem at base, included bark (L), broken branches (M), epicormic branching (H)	Remove
1102	Siberian Elm	*Ulmus pumila*	17, 13	F-G	F	F-G	P		3.5	1.5	Co-dominant stems at base, impervious surface in 100% of root zone, included bark (L) epicormic branching (L)	Remove
1103	Manitoba Maple	*Acer negundo*	12, 10	F-G	F	G	P		2	1.5	Co-dominant stems at base, lean (L) impervious surface in 100% of root zone	Remove
1104	Siberian Elm	*Ulmus pumila*	10.5	G	G	F-G	F-G		2	1.5		Remove
1105	Black Locust	*Robinia pseudoacacia*	10, 7, 4	F	F	F-G	F		1.5	1.0	Multi-stem at base, vine competition (H)	Remove
1106	Manitoba Maple	*Acer negundo*	13, 11	F-G	F	F-G	F		1.5	1.5	Vine competition (H), co-dominant stems at base	Remove
1107	Black Locust	*Robinia pseudoacacia*	~40, ~40, ~40	P	P	F	F		10	2.0	Lean (M), multi-stem at base, broken branches (M), decay present, on slope	Remove
1108	Black Locust	*Robinia pseudoacacia*	18	F	F	P-F	P	50	4	1.5	Lean (L), deadwood (H), asymmetrical crown (M), impervious surface in 100% of root zone	Remove
1109	Black Locust	*Robinia pseudoacacia*	20	F	F	P-F	F	40	3	1.5	Deadwood (H)	Remove
P1110	Refer to Table 2									2.5		Retain
1111	Siberian Elm	*Ulmus pumila*	24, 22, 17	F-G	F	F-G	F		4.5	1.5	Broken branches (L), co-dominant stems at 0.25 metres and 0.5 metres, epicormic branching (M), pruning wounds (L)	Remove
P1112	Refer to Table 2									2.5		Remove
1113	Manitoba Maple	*Acer negundo*	36, 32, 24	P	P	P-F	F		8	2.0	Multi-stem at base, coppice growth (H), epicormic branching (H), cavity (H) from pruning wounds, deadwood (L)	Remove
1114	Black Locust	*Robinia pseudoacacia*	~45, 13, 10	F	P-F	F	P-F	20	7	2.5	Multi-stem at base, included bark (M), broken branches (L), deadwood (M)	Remove
P1115	Refer to Table 2									2.5		Remove
1116	Siberian Elm	*Ulmus pumila*	~45	P-F	P	P-F	F		9	2.5	Crook (H) where previous co-dominant stem was removed, epicormic branching (H), pruning wounds (M), lean (H), on slope	Remove

1117	Norway Maple	*Acer platanoides*	35	P	G	F-G	F		8	2.0	Exposed roots (H), stem wound (H) where there was a previous stem failure at base	Remove
P1118	Refer to Table 2									2.5		Remove
P1119	Refer to Table 2									2.5		Remove
1120	Black Locust	*Robinia pseudoacacia*	31, 19	F	P-F	F	F		9	2.0	Co-dominant stems at base, lean (L), deadwood (M), broken branches (L)	Remove
1121	Black Locust	*Robinia pseudoacacia*	14, 8	F	F	P-F	F-G	50	1.5	1.5	Co-dominant stems at base	Remove
1122	Black Locust	*Robinia pseudoacacia*	20, 17	F	F	F	F-G		4	1.5	Co-dominant stems at 0.5 metres, included bark (L), lean (L)	Remove
1123	Black Locust	*Robinia pseudoacacia*	19, 19	F	F	F	F-G		4	1.5	Co-dominant stems at base, lean (L), frost crack (L), cavity (L) at base, deadwood (M)	Remove
1124	Black Locust	*Robinia pseudoacacia*	19	G	F-G	F-G	F-G		3.5	1.5	Bow (L)	Remove
P1125	Refer to Table 2									2.5		Remove
1126	Manitoba Maple	*Acer negundo*	20, 18	F-G	F	F	P-F		5.5	1.5	Co-dominant stems at base, lean (L), epicormic branching (H)	Remove
1127	Black Walnut	*Juglans nigra*	13	G	G	G	F		1.5	1.5		Remove
1128	Black Walnut	*Juglans nigra*	15	G	G	G	F		1.5	1.5		Remove
1129	Manitoba Maple	*Acer negundo*	~28, ~12	F-G	F	G	F		3.5	2.0	Fused stems, included bark (H), co-dominant stems at base	Remove
1130	Manitoba Maple	*Acer negundo*	16, 9	F-G	P-F	F	F		3	1.5	Coppice growth (M), co-dominant stems at base	Remove
1131	Manitoba Maple	*Acer negundo*	13, 12, 9, 9	F-G	F	F-G	F-G		3.5	1.5	Multi-stem at base, included bark (M), epicormic branching (M)	Remove
1132	Manitoba Maple	*Acer negundo*	12, 7	F-G	F-G	G	F-G		3	1.5	Co-dominant stems at base	Remove
A	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	37	F-G	F-G	F	F		5	2.0	Broken branches (M), pruning wounds (m), epicormic branching (L), frost crack from base to 2 metres (L), asymmetrical crown (M)	Remove
B	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	40	G	P-F	P-F	F		7	2.0	Pruning wounds (M), co-dominant stems at 2.5 metres, epicormic branching (H), pruned for utility wires	Retain
C	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	36	G	P-F	P-F	F		6.5	2.0	Co-dominant stems at 3 metres, pruning wounds (L), epicormic branching (H), pruned for utility wires	Retain
D	Black Locust	*Robinia pseudoacacia*	34	P	P-F	F	F-G		8	2.0	Lean (H) north, epicormic branching (M)	Remove

E	Black Locust	*Robinia pseudoacacia*	~50, ~50	P-F	P-F	P-F	F		10	2.5	Co-dominant stems at base, lean (M), cavity (H), deadwood (M)	Remove
F	Manitoba Maple	*Acer negundo*	~20	G	F	F	F		2.5	1.5	Coppice growth (M), epicormic branching (L)	Remove
G	Black Locust	*Robinia pseudoacacia*	~45	P-F	F	F	F		8	2.5	Cavity (M) at 3 metres, epicormic branching (M)	Remove
H	Manitoba Maple	*Acer negundo*	~25	P	P	P-F	F		12	1.5	Fused at base with Tree G, lean (H) almost horizontal, coppice growth (H)	Remove
I	Manitoba Maple	*Acer negundo*	~20	F	F-G	F	F		6	1.5	Lean (M)	Remove
J	Manitoba Maple	*Acer negundo*	~50	P-F	P	F-G	F		10	2.5	Lean (H), epicormic branching (M), coppice growth (H)	Remove
K	Black Locust	*Robinia pseudoacacia*	~22	F	F	P-F	F	75	4.5	1.5	Deadwood (H), pruning wounds (H)	Remove
L	Norway Maple	*Acer platanoides*	~45	F-G	P-F	F	P		6	2.5	Pruning wounds (H), broken branches (M), vine competition (M)	Retain
M	Norway Maple	*Acer platanoides*	~45	F-G	F-G	F-G	P-F		6	2.5	Pruning wounds (M), epicormic branching (M)	Retain

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 Die Back	*(%)*
RZE	Root Zone Environment	*(G, F, P)*
DL	Dripline	*(metres)*
mTPZ	Minimum tree protection zone	*(metres, from edge of stem)*
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy		

Table 2. 100% Tally of Tree Polygons

P1110 - Stand Analysis
Drip Line = 8 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Black Locust (*Robinia pseudoacacia*)	0	0	0	0	0	0	0	1	***0***	***1***
Manitoba Maple (*Acer negundo*)	4	4	1	1	0	1	0	0	***5***	***6***
Norway Maple (*Acer platanoides*)	3	0	1	0	0	0	0	0	***4***	***0***
Total Number of Trees	7	4	2	1	0	0	0	0	***9***	***5***

P1112 - Stand Analysis
Drip Line = 9 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Black Locust (*Robinia pseudoacacia*)	0	0	0	0	0	0	0	1	***0***	***1***
Manitoba Maple (*Acer negundo*)	4	3	1	0	1	1	0	1	***6***	***5***
Total Number of Trees	4	3	1	0	1	1	0	2	***6***	***6***

P1115 - Stand Analysis
Drip Line = 8 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Manitoba Maple (*Acer negundo*)	1	0	2	0	1	0	0	0	***4***	***0***
Total Number of Trees	1	0	2	0	1	0	0	0	***4***	***0***

P1118 - Stand Analysis
Drip Line = 10 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Siberian Elm (*Ulmus pumila*)	5	1	1	0	0	0	1	1	***7***	***2***
Manitoba Maple (*Acer negundo*)	3	4	0	1	2	0	1	0	***6***	***5***
Black Locust (*Robinia pseudoacacia*)	3	1	2	2	0	2	1	2	***6***	***7***
Norway Maple (*Acer platanoides*)	1	0	0	0	0	0	0	0	***1***	***0***
White Elm (*Ulmus americana*)	0	0	0	0	0	0	1	1	***1***	***1***
Total Number of Trees	12	6	3	3	2	2	4	4	***21***	***15***

P1119 - Stand Analysis
Drip Line = 10 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Manitoba Maple (*Acer negundo*)	3	7	2	2	0	1	0	2	***5***	***12***
Black Locust (*Robinia pseudoacacia*)	2	0	2	2	1	0	1	0	***6***	***2***
Norway Maple (*Acer platanoides*)	7	2	0	2	0	0	0	0	***7***	***4***
White Elm (*Ulmus americana*)	1	0	0	0	0	0	0	0	***1***	***0***
Total Number of Trees	13	9	4	6	1	1	1	2	***19***	***18***

P1125 - Stand Analysis
Drip Line = 7 metres

Tree Size Class >	Polewood (10 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm DBH)		Large (+50 cm DBH)		Total All Sizes	
Species	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***	***AGS***	***UGS***
Manitoba Maple (*Acer negundo*)	1	0	1	1	1	0	0	0	***3***	***1***
Norway Maple (*Acer platanoides*)	2	0	0	0	0	0	0	0	***2***	***0***
Total Number of Trees	3	0	1	1	1	0	0	0	***5***	***1***