

**Tree Inventory and Preservation Plan Report
435 Big Bay Point Road
Barrie, Ontario**

prepared for

**Innovative Planning Solutions
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prepared by



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KUNTZ FORESTRY CONSULTING INC Project P1507

Introduction

Kuntz Forestry Consulting Inc. was retained by Innovative Planning Solutions to complete a Tree Inventory and Preservation Plan Report in support of a development application for a property located at 435 Big Bay Point Road in Barrie, Ontario. The subject property is located on the south side of Big Bay Point Road and the east side of Huronia Road.

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

- Prepare inventory of the tree resources over 10cm on and within six metres of the proposed development and trees of all sizes within the road right-of-way;
- Screen the area within 50m of the proposed development for Butternut;
- Evaluate potential tree saving opportunities based on the proposed development plans; and
- Document the findings in a Tree Inventory and Preservation Plan Report.

Tree resources were assessed utilizing the following parameters:

Tree # - number assigned to tree that corresponds to Figure 1.

Species - common and botanical names provided in the inventory table.

DBH - diameter (centimetres) at breast height, measured at 1.4 m above the ground.

Condition - condition of tree considering trunk integrity, crown structure, and crown vigour. Condition ratings include poor (P), fair (F) and good (G).

Comments - additional relevant detail.

The results of the evaluation are provided below.

Methodology

Trees measuring over 10cm DBH on and within six metres of the proposed development were identified to be included in the tree inventory. Trees were located using a handheld GPS unit (Trimble GeoExplorer® 6000 series) accurate to ± 1 m. Trees located on the subject property were tagged using numbers 774-480. Trees on the neighbouring properties were identified with letters A-M. One Butternut tree was identified with the prefix BN. Refer to Table 1 for the results of the tree inventory and Figure 1 for the location of the trees.

Existing Site Conditions

The subject property is currently occupied by a detached dwelling and a paved driveway. Tree resources exist in the form of landscape trees and natural feature trees. A woodlot exists on the east side of the subject property. Refer to Figure 1 for the existing site conditions.

Tree Resources

The tree inventory was conducted on 3 May 2017. The inventory documented 120 trees on and within six metres of the proposed development. Refer to Table 1 for the full tree inventory and Figure 1 for the location of trees reported in the tree inventory.

Tree resources included in the inventory are comprised of Balsam Fir (*Abies balsamea*), Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Red Maple (*Acer rubrum*), Silver Maple (*Acer saccharinum*), Sugar Maple (*Acer saccharum*), White Birch (*Betula papyrifera*), Green Ash (*Fraxinus pennsylvanica*), Butternut (*Juglans cinerea*), Apple Species (*Malus spp.*), White Spruce (*Picea glauca*), Colorado Blue Spruce (*Picea pungens*), White Pine (*Pinus strobus*), Scots Pine (*Pinus sylvestris*), Black Cherry (*Prunus serotina*), Chokecherry (*Prunus virginiana*), Bur Oak (*Quercus macrocarpa*), Red Oak (*Quercus rubra*), Mountain Ash Species (*Sorbus spp.*), Eastern White Cedar (*Thuja occidentalis*), White Elm (*Ulmus americana*).

Proposed Development

The proposed development includes the demolition of the existing dwelling and the construction of townhouses with associated parking and a parkette in the southeast corner of the property. The existing woodlot on the east side of the subject property will be retained and conveyed to public ownership. Refer to Figure 1 for the proposed development.

Discussion

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

Development Impacts/Tree Removals

The removal of Trees 374-378, 380-450, C, and E-J (83 trees) is required to accommodate the proposed development. In addition, the removal of Trees 379 and 457 is recommended regardless of the site plan due to the condition of the tree and its hazard potential. Refer to Figure 1 for the locations of tree removals.

Trees C and E-J are located within neighbouring properties; written permission from these property owners is required prior to their removal.

Tree Preservation

Preservation of Trees 451-456, 458-480, A, B, D, and K-M (35 trees) will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures will have to be implemented prior to the proposed works to ensure tree resources designated for retention are not impacted by the development. Refer to Figure 1 for the location of required tree preservation fencing, general Tree Protection Plan Notes, and the tree preservation fence detail.

Minor encroachment into the dripline of Trees 452 and 458 will be required to accommodate the proposed development. Given that encroachment is limited to a very small area, long-term adverse effects are not anticipated to those trees.

Butternut

Tree BN480 is Butternut and is protected under the federal government's Endangered Species Act (MNR, 2007). This tree is listed as an endangered species as per the COSEWIC list and until permission has been granted, the tree must be protected 25m

from its base. The proposed development is within this limit. As such, a formal assessment will be completed and reported to the OMNR. The tree will be assessed as retainable, non-retainable, or archivable. If an audit is not requested by the OMNR within 30 days, work is permitted within its vicinity if it is identified as non-retainable. If identified as a retainable or archivable tree, additional compensation measures may be required. Refer to Table 1 for the inventory information of Tree BN480.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Innovative Planning Solutions to complete a Tree Inventory and Preservation Plan in support of a development application for the property located at 435 Big Bay Point Road in Barrie, Ontario. A tree inventory was conducted and reviewed in the context of the proposed work.

The findings of the study indicate a total of 120 trees on and within six metres of the subject property. The removal of 83 trees will be required to accommodate the proposed development. The removal of two trees is recommended due to their condition. The remaining 35 trees can be saved provided appropriate tree protection measures are followed throughout construction.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for general 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.
- 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.
- 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 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.

Kaho Hayashi

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Associate Forest Ecologist

ISA Certified Arborist #ON-2153A

Table 1. Tree Inventory

Location: 435 Big Bay Point Road, Barrie

Date: 3 May 2017 Surveyors: KH

Tag #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	Comments	Remove
374	Eastern White Cedar	<i>Thuja occidentalis</i>	12-25 (ave 18)	F/G	G	G		4	Union at base (4 stems)	X
375	Scots Pine	<i>Pinus sylvestris</i>	34	F/G	F	P/F	20	3	Crook (L), sparse crown (H), grape vine competition (M)	X
376	Eastern White Cedar	<i>Thuja occidentalis</i>	~15	F/G	G	G		2	Co-dominance at 2m with included bark (M)	X
377	Silver Maple	<i>Acer saccharinum</i>	~75, 70	F	F/G	F/G		12	Union at 0.5m with included bark (L), bow (M), broken branches (L), epicormic branches (M)	X
378	Scots Pine	<i>Pinus sylvestris</i>	42	F/G	P/F	P/F	25	8	Crook (L), asymmetrical crown (H), dead branches (L)	X
379	Scots Pine	<i>Pinus sylvestris</i>	46	G	P/F	P/F	30	5	Crook (L), sparse crown (M), broken branches (L), dead branches (L)	X (recommended)
380	White Birch	<i>Betula papyrifera</i>	~30, 30	P	F	F		6	Union at 0.5m with included bark (L), stem wounds (H), lost leader at 2m and 6m	X
381	Scots Pine	<i>Pinus sylvestris</i>	34.5	F/G	F/G	F/G		4	Asymmetrical crown (M), crook (L)	X
382	Scots Pine	<i>Pinus sylvestris</i>	44	F/G	G	G		4	Lean (L) to east, asymmetrical crown (L)	X
383	Eastern White Cedar	<i>Thuja occidentalis</i>	12-22 (ave 16)	F/G	G	G		3	Union at base (5 stems)	X
384	Eastern White Cedar	<i>Thuja occidentalis</i>	15-25 (ave 20)	F/G	G	G		3	Union at base (4 stems)	X
385	Eastern White Cedar	<i>Thuja occidentalis</i>	15-22 (ave 18)	F/G	G	G		3	Union at 0.8m (4 stems)	X
386	Mountain Ash Species	<i>Sorbus spp.</i>	22	F	F/G	F/G		3	Lean (L), crook (L), seam (L)	X
387	Eastern White Cedar	<i>Thuja occidentalis</i>	7-20 (ave 15)	F/G	G	G		3	Union at base (3 stems)	X
388	Balsam Fir	<i>Abies balsamea</i>	38.5	F/G	G	F	10	3	Co-dominance at 2m, dead leaders	X
389	Balsam Fir	<i>Abies balsamea</i>	30	P/F	P/F	P/F	15	3	Lost leader	X
390	Eastern White Cedar	<i>Thuja occidentalis</i>	10-20 (ave 15)	F/G	G	G		3	Union at base (3 stems)	X
391	Eastern White Cedar	<i>Thuja occidentalis</i>	5-25 (ave 22)	F/G	G	G		4	Union at base (7 stems)	X
392	Manitoba Maple	<i>Acer negundo</i>	16.5, 12	F	F/G	G		5	Union at 0.8m with included bark (M), bow (L), asymmetrical crown (M)	X
393	Chokecherry	<i>Prunus virginiana</i>	11.5	F/G	F/G	G		3	Asymmetrical crown (M), lean (L)	X
394	Chokecherry	<i>Prunus virginiana</i>	11	F/G	F/G	G		3	Sweep (L), asymmetrical crown (M)	X
395	Manitoba Maple	<i>Acer negundo</i>	10	F	G	G		4	Lean (L), crook (L), asymmetrical crown (L)	X
396	Manitoba Maple	<i>Acer negundo</i>	5-20 (ave 15)	F	G	G		5	Union at base (4 stems), crook (M), asymmetrical crown (L)	X
397	White Elm	<i>Ulmus americana</i>	52	G	G	F/G		8		X
398	Scots Pine	<i>Pinus sylvestris</i>	42	G	G	G		6		X
399	Scots Pine	<i>Pinus sylvestris</i>	41	F/G	G	F/G		5	Crook (L)	X
400	Scots Pine	<i>Pinus sylvestris</i>	38	G	F/G	G		4	Asymmetrical crown (M)	X
401	Scots Pine	<i>Pinus sylvestris</i>	36	G	F/G	G		5	Asymmetrical crown (M)	X
402	Scots Pine	<i>Pinus sylvestris</i>	33.5	G	F/G	G		5	Asymmetrical crown (M)	X
403	Scots Pine	<i>Pinus sylvestris</i>	42	F/G	G	G		6	Crook (M)	X
404	Scots Pine	<i>Pinus sylvestris</i>	47	F/G	G	G		6	Co-dominance at 2m with included bark (M)	X
405	Scots Pine	<i>Pinus sylvestris</i>	34	G	F/G	G		6	Asymmetrical crown (M)	X
406	Scots Pine	<i>Pinus sylvestris</i>	33.5	F/G	G	G		4	Crook (L), sweep (L)	X
407	Scots Pine	<i>Pinus sylvestris</i>	43	F/G	F/G	G		6	Lean (L), crook (L), asymmetrical crown (M)	X
408	Scots Pine	<i>Pinus sylvestris</i>	35.5	G	G	G		6		X
409	Scots Pine	<i>Pinus sylvestris</i>	41	F/G	G	G		6	Co-dominance at 4m, crook (L), asymmetrical crown (L)	X
410	Scots Pine	<i>Pinus sylvestris</i>	46	F/G	F	F/G		6	Bow (L), asymmetrical crown (H), crook (L)	X
411	Scots Pine	<i>Pinus sylvestris</i>	50, 15.5	F/G	F/G	G		5	Union at base, crook (L), asymmetrical crown (M)	X
412	Scots Pine	<i>Pinus sylvestris</i>	42.5	F	F	P/F	30	5	Lean (L), union at 3m with included bark (L), smaller stem almost dead	X
413	Scots Pine	<i>Pinus sylvestris</i>	25	F	F	F/G		5	Cook (H), asymmetrical crown (H), union at 1.7m but smaller stem lost	X
414	Scots Pine	<i>Pinus sylvestris</i>	50.5	F/G	G	G		6	Co-dominance in crown	X
415	Scots Pine	<i>Pinus sylvestris</i>	35	F/G	F/G	G		4	Asymmetrical crown (M), sweep (L), crook (L)	X
416	Scots Pine	<i>Pinus sylvestris</i>	46, 36	F/G	G	G		6	Union at base	X
417	Scots Pine	<i>Pinus sylvestris</i>	41	G	G	G		5		X
418	Scots Pine	<i>Pinus sylvestris</i>	37.5	G	F/G	F/G		5	Asymmetrical crown (M)	X
419	Scots Pine	<i>Pinus sylvestris</i>	44.5	G	F/G	G		6	Asymmetrical crown (H)	X

420	Scots Pine	<i>Pinus sylvestris</i>	11	G	G	G		2		X
421	Scots Pine	<i>Pinus sylvestris</i>	12.5	F/G	G	G		2	Union at 2m	X
422	White Elm	<i>Ulmus americana</i>	26.5	F/G	G	G		4	Co-dominance in crown	X
423	Scots Pine	<i>Pinus sylvestris</i>	10.5	G	G	F	5	2		X
424	Scots Pine	<i>Pinus sylvestris</i>	15.5	G	G	G		2		X
425	Scots Pine	<i>Pinus sylvestris</i>	13.5	F/G	G	G		2	Bow (L)	X
426	Scots Pine	<i>Pinus sylvestris</i>	13	F/G	G	G		2	Lean (VL)	X
427	Scots Pine	<i>Pinus sylvestris</i>	15	G	G	G		2		X
428	Scots Pine	<i>Pinus sylvestris</i>	15.5	G	G	G		3		X
429	Scots Pine	<i>Pinus sylvestris</i>	11	F/G	G	G		2	Lean (L)	X
430	Scots Pine	<i>Pinus sylvestris</i>	11	G	G	G		2		X
431	Scots Pine	<i>Pinus sylvestris</i>	11.5	G	G	G		2		X
432	Scots Pine	<i>Pinus sylvestris</i>	13-Jan	G	G	G		2		X
433	Scots Pine	<i>Pinus sylvestris</i>	14.5	G	G	G		2		X
434	Scots Pine	<i>Pinus sylvestris</i>	16	F/G	F/G	F/G		3	Lean (L), asymmetrical crown (M)	X
435	Scots Pine	<i>Pinus sylvestris</i>	10	G	G	G		2		X
436	Scots Pine	<i>Pinus sylvestris</i>	12.5, 12, 11	F/G	G	G		2	Union at base (3 stems)	X
437	Scots Pine	<i>Pinus sylvestris</i>	12.5	G	G	F/G		2	Sparse crown (L)	X
438	Scots Pine	<i>Pinus sylvestris</i>	13	F/G	G	G		2	Crook (L)	X
439	Scots Pine	<i>Pinus sylvestris</i>	12	F/G	G	F/G		3	Lean (L), sparse crown (L)	X
440	Red Oak	<i>Quercus rubra</i>	20.5	G	G	G		5		X
441	White Spruce	<i>Picea glauca</i>	13	G	G	G		3		X
442	White Spruce	<i>Picea glauca</i>	~18	G	G	G		3		X
443	White Spruce	<i>Picea glauca</i>	11	G	G	G		2		X
444	Bur Oak	<i>Quercus macrocarpa</i>	17	G	G	G		4		X
445	White Spruce	<i>Picea glauca</i>	14.5, 5	F/G	G	G		3	Union at base	X
446	Red Maple	<i>Acer rubrum</i>	17.5, 11	F/G	G	G		4	Union at base	X
447	Scots Pine	<i>Pinus sylvestris</i>	20	F/G	G	G		3	Crook (L)	X
448	Scots Pine	<i>Pinus sylvestris</i>	~15	G	G	G		3	Grape vine competition (M)	X
449	Scots Pine	<i>Pinus sylvestris</i>	~18	F/G	G	F/G		3	Co-dominance at 1.8m, sparse crown (L)	X
450	Scots Pine	<i>Pinus sylvestris</i>	~20, 20	F	G	G		4	Co-dominance at 1.2m, crook (M)	X
451	Black Cherry	<i>Prunus serotina</i>	23.5	F/G	G	F/G		4	Crook (L), broken branches (L), grape vine competition (M)	
452	White Elm	<i>Ulmus americana</i>	30.5	F/G	G	F/G		5	Crook (L), union at 2m, grape vine competition (M)	
453	Sugar Maple	<i>Acer saccharum</i>	17	G	G	G		5		
454	Sugar Maple	<i>Acer saccharum</i>	13	F/G	F/G	F/G		5	Co-dominance at 2m, asymmetrical crown (M)	
455	Sugar Maple	<i>Acer saccharum</i>	15	G	F/G	G		5	Asymmetrical crown (M)	
456	Sugar Maple	<i>Acer saccharum</i>	40	F/G	G	G		6	Co-dominance at 4m with included bark (M)	
457	Sugar Maple	<i>Acer saccharum</i>	43	P	G	F/G		5	Stem wounds (H) at base, hollow stem ==> possible hazard	X (recommended)
458	Sugar Maple	<i>Acer saccharum</i>	47.5	G	F/G	G		6	Asymmetrical crown (M)	
459	Sugar Maple	<i>Acer saccharum</i>	36	G	G	G		6		
460	Sugar Maple	<i>Acer saccharum</i>	39.5	G	G	G		6		
461	Sugar Maple	<i>Acer saccharum</i>	33	G	F/G	G		6	Asymmetrical crown (M)	
462	Sugar Maple	<i>Acer saccharum</i>	27.5	G	G	G		4		
463	Sugar Maple	<i>Acer saccharum</i>	28.5	F/G	F/G	G		6	Co-dominance at 1.7m with included bark (M), grape vine competition (M)	
464	Sugar Maple	<i>Acer saccharum</i>	13	G	F/G	G		4	Asymmetrical crown (M)	
465	Sugar Maple	<i>Acer saccharum</i>	14	P/F	F	F		6	Union at 1m but 1 stem dead, bow (L) to west, grape vine competition (M)	
466	Sugar Maple	<i>Acer saccharum</i>	33, 24	F/G	G	G		6	Union at base and 3m with included bark (L)	
467	Black Cherry	<i>Prunus serotina</i>	36	F	F/G	F		8	Bow (M) to west, broken branches (M), grape vine competition (H)	
468	Sugar Maple	<i>Acer saccharum</i>	28.5	F/G	F/G	G		6	Co-dominance in crown, asymmetrical crown (M)	
469	Sugar Maple	<i>Acer saccharum</i>	~40, 20	F/G	G	G		6	Union at base	
470	Sugar Maple	<i>Acer saccharum</i>	~25, 16	P/F	F	F		4	Union at base but smaller stem dead, stem wounds (M), asymmetrical crown (M)	
471	Black Cherry	<i>Prunus serotina</i>	45.5	F/G	F/G	F/G		8	Bow (L) to north, dead branches (L)	
472	Sugar Maple	<i>Acer saccharum</i>	16	G	G	G		5	Asymmetrical crown (L), understory tree	
473	Sugar Maple	<i>Acer saccharum</i>	12	G	F/G	G		5	Asymmetrical crown (M)	
474	Sugar Maple	<i>Acer saccharum</i>	18	G	F/G	G		5	Asymmetrical crown (M)	
475	Sugar Maple	<i>Acer saccharum</i>	20.5	G	G	G		4	Asymmetrical crown (L)	
476	Green Ash	<i>Fraxinus pennsylvanica</i>	12	F	F/G	F/G		4	Bow (M) to west, crook (L), asymmetrical crown (M)	
477	Sugar Maple	<i>Acer saccharum</i>	~30, 20	F/G	F/G	G		8	Union at base, asymmetrical crown (M)	
NT478	Sugar Maple	<i>Acer saccharum</i>	~35	G	F/G	G		8	Asymmetrical crown (M)	
NT479	Sugar Maple	<i>Acer saccharum</i>	~30, 20	F	F/G	G		6	Union at base, broken branches (L), asymmetrical crown (M)	
BN480	Butternut	<i>Juglans cinerea</i>	~30	P	F/G	P/F		4	Cankers (M), lower branches dead, grape vine competition (H)	

A	Norway Maple	<i>Acer platanoides</i>	~30	G	G	F/G		6		
B	Colorado Blue Spruce	<i>Picea pungens</i>	~30	F/G	G	G		3	Union at 2m	
C	Balsam Fir	<i>Abies balsamea</i>	~18	G	G	G		3		X
D	Balsam Fir	<i>Abies balsamea</i>	~20	F/G	F/G	G		4	Lean (VL), asymmetrical crown (M)	
E	Balsam Fir	<i>Abies balsamea</i>	20	G	G	G		3		X
F	Scots Pine	<i>Pinus sylvestris</i>	15	F/G	G	F		2	Crook (L), sparse crown (M)	X
G	Scots Pine	<i>Pinus sylvestris</i>	18	F/G	F/G	F/G		3	Crook (M), asymmetrical crown (M)	X
H	Scots Pine	<i>Pinus sylvestris</i>	20	F/G	F/G	F/G		3	Crook (L), asymmetrical crown (M)	X
I	White Pine	<i>Pinus strobus</i>	~25	G	G	F/G		6	Chlorosis (L)	X
J	Manitoba maple	<i>Acer negundo</i>	60	F	G	F/G		8	Union at 2m with included bark (L), pruning wounds (M), epicormic branches (H)	X
K	Norway Maple	<i>Acer platanoides</i>	~14	G	G	G		3		
L	Apple Species	<i>Malus spp.</i>	~15	F	G	G		3	Lean (M)	
M	Scots Pine	<i>Pinus sylvestris</i>	~10	G	G	G		2		

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	(m)
~ = Estimate, (VL) = very light, (L) = light, (M) = moderate, (H) = heavy		



