

**Tree Inventory & Preservation Plan Report
6th Line, North of Dundas Street
Oakville, Ontario**

prepared for

**Argo (West Morrison Creek) Limited
2173 Turnberry Rd.
Burlington, ON
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prepared by



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KUNTZ FORESTRY CONSULTING Inc. Project P1806

Introduction

Kuntz Forestry Consulting Inc. was retained by Argo (West Morrison Creek) Limited to complete a Tree Inventory and Preservation Plan in support of a development application for a property located on 6th Line in the Town of Oakville, Ontario. The subject property is located on the west side of 6th line, approximately 1 km north of Dundas Street.

The work plan for this study included the following:

- Prepare field mapping (overlay topo survey/site plan/airphoto);
- Prepare inventory of tree resources 15 cm in diameter and larger occurring on the subject property, in the road allowance and neighboring trees within 6 m of the subject site;
- Evaluate potential tree saving opportunities based on the proposed site plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

Field assessments were conducted on the 17th of April 2018. Trees included in the inventory were 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.

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).

mTPZ – Minimum Tree Preservation Zonel

Comments - additional relevant detail.

Trees included in the inventory were located using a tablet computer with a GPS chip and identified with numbers 1-56. Where numerous trees are situated in close proximity to each other they were inventoried as a “tree polygon”. Tree polygons are identified with the letter “P” prefix prior to the tree number (i.e. P57).

Trees inventoried in tree polygons are classified by DBH and assessed as AGS (acceptable growth stock) and UGS (unacceptable growth stock). Trees identified as UGS generally exhibit a major defect to the bowl of the tree or poor vigor, while trees identified as AGS are generally in good condition.

Existing Site Conditions

The subject property is comprised of active agricultural fields separated by treed hedgerows. The property is bound by active agriculture fields to the north and west, 6th Line to the east, and an active agriculture field and thicket to the south

The Tree Inventory documented a total of 56 Trees and 1 Tree Polygon located on subject property and on neighboring property within vicinity of the proposed development. There are no trees located in the 6th Line road allowance. Refer to Figure 1 for tree locations and Table 1 for the complete inventory.

The tree inventory is dominated by Bur Oak (*Quercus macrocarpa*) with lesser occurrences of Green Ash (*Fraxinus pennsylvanica*), Pear species (*Pyrus sp.*), Apple species (*Malus sp.*), White Elm (*Ulmus americana*), Willow species (*Salix sp.*) and Sugar Maple (*Acer saccharum*).

Proposed Development

The proposed development is comprised of a multi-block subdivision, including a condominium block, residential housing blocks, a storm water management block and a Natural Heritage System block.

Discussion

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

Development Impacts

The proposed development will have impacts to trees where construction machinery conflicts directly with existing tree roots. Where encroachment within the prescribed minimum Tree Preservation Zone (mTPZ) is required to accommodate construction tree removal may be required.

Tree Removal

The removal of Trees 1-26, 28-30, 34-38, 40-54 and P57 will be required to accommodate the proposed development.

Permission from the respective property owner is required prior to the removal of any trees situated partially or fully on neighbouring property.

Tree Preservation

Preservation of Trees 27, 31-33, 39, 55 and 56 will be possible with appropriate tree protection measures. Tree protection measures will have to be implemented prior to the earth works phase to ensure the trees identified for preservation are not impacted by the proposed development.

Trees 27, 31, 32, 33 and 39 will likely require removal to accommodate development on neighbouring properties but will not be impacted by the proposed development. If these trees are still standing at the commencement of earthworks they must be protected with tree protection fence/silt fence as per Figure 1.

Tree protection fence must be installed at the limit of the mTPZ distance (Table 1). Refer to Figure 1 for the location of tree preservation fencing and further tree preservation plan notes. If any roots are exposed during construction they must be pruned by a Certified Arborist in accordance with good arboricultural practice.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Argo (West Morrison Creek) Limited to complete a Tree Inventory and Preservation Plan in support of a development application for a property located on 6th Line in the Town of Oakville, Ontario. A tree inventory was conducted and reviewed in the context of the proposed development plan.

The findings of the study indicate a total of 56 Trees and 1 Tree Polygon located on subject property and on neighbouring property within 6 m. The removal of 49 Trees and 1 Tree Polygon is required to accommodate the proposed development. Including the trees in P57, a total of 78 Trees larger than 15 cm in DBH require removal.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for the location of required tree protection fencing and additional tree preservation notes.

- Tree protection barriers and fencing should be installed at distances as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out by the Town of Oakville Forestry Department and detailed in the preservation plan notes on Figure 1.
- Tree protection measures are to be implemented prior to the earth works phase to ensure the trees identified for preservation are not impacted by the development.
- Branches that extend past prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional as approved by the Town of Oakville Forestry Department. 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.

Jeremy Jackson

Jeremy Jackson H.B.Sc.
Associate ISA Certified Arborist #ON-1089A
GIS Analyst

Table 1. Tree Inventory

Location: 6th Line, Oakville

Date: 17 April 2018

Surveyors: JJJ

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	DL	CDB	Comments	Action
1	Bur Oak	<i>Quercus macrocarpa</i>	56	G	G	G	6			Remove
2	Bur Oak	<i>Quercus macrocarpa</i>	27, 21, 19	FG	FG	FG	4		Unions at ground and 0.5 m	Remove
3	Bur Oak	<i>Quercus macrocarpa</i>	~18	G	G	G	3			Remove
4	Bur Oak	<i>Quercus macrocarpa</i>	27	G	G	G	4			Remove
5	Bur Oak	<i>Quercus macrocarpa</i>	31	G	G	G	4			Remove
6	Bur Oak	<i>Quercus macrocarpa</i>	~35	G	G	G	4			Remove
7	Bur Oak	<i>Quercus macrocarpa</i>	38	G	G	G	5			Remove
8	Bur Oak	<i>Quercus macrocarpa</i>	43, 36	G	G	G	4		Union at ground	Remove
9	Bur Oak	<i>Quercus macrocarpa</i>	~20	G	G	G	3		Bowed (L) north, understory	Remove
10	Bur Oak	<i>Quercus macrocarpa</i>	33, 29, 20	FG	FG	G	4		Union at ground, epicormic branching (L)	Remove
11	Bur Oak	<i>Quercus macrocarpa</i>	33, 21, 22, 23	FG	G	G	4		Union at ground, fruiting body (L)	Remove
12	Bur Oak	<i>Quercus macrocarpa</i>	30, 27	FG	G	G	4		Union at ground	Remove
13	Bur Oak	<i>Quercus macrocarpa</i>	32, 16	G	G	G	4		Epicormic branching (L)	Remove
14	Bur Oak	<i>Quercus macrocarpa</i>	~20	G	G	G	3			Remove
15	Green Ash	<i>Fraxinus pennsylvanica</i>	26	F	PF	PF	3		Broken branches (M), Emerald Ash Borer infestation	Remove
16	Pear species	<i>Pyrus sp.</i>	~25, 20, 18, 15	FG	G	G	3		Union at ground	Remove
17	Bur Oak	<i>Quercus macrocarpa</i>	~22	G	FG	FG	2		Understory	Remove
18	Bur Oak	<i>Quercus macrocarpa</i>	~18	G	FG	FG	0		Bowed (M) southwest, understory	Remove
19	Bur Oak	<i>Quercus macrocarpa</i>	58	G	G	G	4		Epicormic branching (L)	Remove
20	Bur Oak	<i>Quercus macrocarpa</i>	~38	G	G	G	5			Remove
21	Bur Oak	<i>Quercus macrocarpa</i>	45	G	G	G	5			Remove
22	Bur Oak	<i>Quercus macrocarpa</i>	~32	G	G	G	4			Remove
23	Bur Oak	<i>Quercus macrocarpa</i>	40	G	G	G	5			Remove
24	Bur Oak	<i>Quercus macrocarpa</i>	41	G	G	G	5			Remove
25	Pear species	<i>Pyrus sp.</i>	~17, 15, 18	FG	FG	G	3		Epicormic branching (L)	Remove
26	Pear species	<i>Pyrus sp.</i>	~28, 20, 18, 18, 20	FG	G	G	4		Union at ground and 1 m	Remove
27	Bur Oak	<i>Quercus macrocarpa</i>	32	G	G	G	4			Preserve
28	Bur Oak	<i>Quercus macrocarpa</i>	59	G	G	G	6		Epicormic branching (L)	Remove
29	Pear species	<i>Pyrus sp.</i>	~26, 15, 17, 16	FG	FG	FG	4	10	Union at ground	Remove
30	Apple species	<i>Malus sp.</i>	36, 18, 20, 17, 15	FG	G	G	0		Union at ground, epicormic branching (L)	Remove
31	Bur Oak	<i>Quercus macrocarpa</i>	29	G	FG	FG	3	10		Preserve
32	Bur Oak	<i>Quercus macrocarpa</i>	62	G	G	G	8			Preserve
33	Bur Oak	<i>Quercus macrocarpa</i>	~28	G	FG	FG	4		Understory, epicormic branching (M)	Preserve
34	Bur Oak	<i>Quercus macrocarpa</i>	62	G	G	G	6			Remove
35	Pear species	<i>Pyrus sp.</i>	~35, 30	FG	G	G	4		Union at ground	Remove
36	Pear species	<i>Pyrus sp.</i>	38, 33	G	G	G	4		Union at ground	Remove
37	Pear species	<i>Pyrus sp.</i>	36	G	G	G	3		Lean (L), epicormic branching (L)	Remove
38	Pear species	<i>Pyrus sp.</i>	38	G	FG	G	4		Lean (L), bowed (L) south, union at 1.6 m	Remove
39	Bur Oak	<i>Quercus macrocarpa</i>	32	G	G	G	4			Preserve
40	Bur Oak	<i>Quercus macrocarpa</i>	~19	F	PF	PF	2	50	Epicormic branching (M)	Remove
41	White Elm	<i>Ulmus americana</i>	~17	G	G	G	3			Remove

42	White Elm	<i>Ulmus americana</i>	~15	G	G	G	3			Remove
43	White Elm	<i>Ulmus americana</i>	~15	F	G	G	2		Union at 1.4 m and splitting	Remove
44	White Elm	<i>Ulmus americana</i>	~17, 16	G	G	G	3		Union at 1 m	Remove
45	White Elm	<i>Ulmus americana</i>	~18	G	G	G	3			Remove
46	White Elm	<i>Ulmus americana</i>	~18	G	G	G	3			Remove
47	Willow species	<i>Salix sp.</i>	~15, 13, 14, 13, 13	FG	G	G	3			Remove
48	Willow species	<i>Salix sp.</i>	~15, 12, 13, 12	FG	G	G	2		Union at ground	Remove
49	Willow species	<i>Salix sp.</i>	~28	G	G	G	3			Remove
50	Corkscrew Willow	<i>Salix matsudana</i>	~20	G	G	G	2			Remove
51	Corkscrew Willow	<i>Salix matsudana</i>	~19	G	G	G	3			Remove
52	Willow species	<i>Salix sp.</i>	~15	G	G	G	3			Remove
53	Willow species	<i>Salix sp.</i>	~15	G	G	G	2			Remove
54	Sugar Maple	<i>Acer saccharum</i>	37	PF	F	F	3		Included metal strap, pruning wounds (H)	Remove
55	White Elm	<i>Ulmus americana</i>	35	G	G	G	4			Preserve
56	Bur Oak	<i>Quercus macrocarpa</i>	46	G	G	G	5			Preserve
P57	Refer to Appendix A for the tally sheet									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)
CDB	Crown Die Back	(%)
DL	Dripline	(m)
~ = estimate		

Appendix A: Tree Polygon Tally Sheet

Location: 6th Line,
 Oakville
Date: 17-Apr-18
Surveyor: JJJ
Compartment Number: P57
Stations Tallied: 100% Tally trees \geq 15 cm DBH

Tree Diameter >>>>	15-20 cm		21-30 cm		31-40 cm		41-50 cm	
<i>Species</i>	AGS	UGS	AGS	UGS	AGS	UGS	AGS	UGS
Shagbark Hickory (<i>Carya ovata</i>)	1							
Red Oak (<i>Quercus rubra</i>)	1		1		2			
Bur Oak (<i>Quercus macrocarpa</i>)	4	1	8	1	4		1	
Green Ash (<i>Fraxinus pennsylvanica</i>)		3		1				
White Elm (<i>Ulmus americana</i>)		1						
Total Number of Trees	6	5	9	2	6	0	1	0



TREE PROTECTION PLAN NOTES

Prior to site disturbance the owner must confirm that no migratory birds are making use of the site for nesting. The owner must ensure that the works are in conformance with the Migratory Bird Convention Act and that no migratory bird nests will be impacted by the proposed work. It is the applicants' responsibility to discuss potential tree injury of trees on shared property lines with their neighbours. Should such trees be injured to the point of instability or death the applicant may be held responsible for removal and such issues would be dealt with in civil court or through negotiation. The applicant would be required to replace such trees to the satisfaction of the Town of Oakville.

TREE PROTECTION ZONE: No construction activity including grade changes, surface treatments or excavations of any kind is permitted within the area identified on the Tree Protection Plan or Site Plan as a Tree Protection Zone (TPZ). No root cutting is permitted. No storage of materials or fill is permitted within the TPZ. No movement or storage of vehicles or equipment is permitted within the TPZ. Grade changes are not permitted within established TPZ. The area(s) identified as a TPZ must remain undisturbed at all times.

TREE PROTECTION BARRIERS:

For Town-owned Trees:
Tree protection barriers for trees situated on the Town road allowance where visibility must be maintained, can be 1.2m (4ft.) high and consist of chain link, or orange plastic web snow fencing on a 2" x 4" wood frame. All supports and bracing used to secure the barrier should be located outside the TPZ. All supports and bracing should minimize damage to roots outside the TPZ. Where some fill or excavate has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the TPZ. If the TPZ needs to be reduced to facilitate construction access, the tree protection barrier must be maintained at a lesser distance and the exposed TPZ protected with plywood and wood chips. This must first be approved by the Town of Oakville.

For trees on private property situated on or adjacent to construction sites:
Tree protection barriers must be installed around trees to be protected using plywood clad hoarding or an equivalent approved by the Town of Oakville. All supports and bracing to safely secure the barrier should be outside the TPZ. All such supports and bracing should minimize damage to roots outside the TPZ.

General Note:
Prior to the commencement of any site activity the tree protection barriers specified on this plan must be installed and written notice provided to the Town of Oakville. Established tree protection zones must not be used as construction access, storage or staging areas. The tree protection barriers must remain in effective condition until all site activities including landscaping are complete. Written notice must be provided to the Town of Oakville prior to the removal of the tree protection barriers.

ARBORICULTURAL WORK:
Any roots or branches which extend beyond the TPZ indicated on this plan which require pruning, must be pruned by a qualified Arborist or other tree professional as approved by the Town of Oakville. All pruning of tree roots and branches must be in accordance with good arboricultural standards. Roots located outside the TPZ that have received approval from the Town of Oakville to be pruned must first be exposed by hand digging or by using a low pressure hydro vac method. This will allow a proper pruning cut and minimize tearing of the roots. The Arborist/tree professional retained to carry out crown or root pruning must contact the Town of Oakville no less than 48 hours prior to conducting any specified work.

LEGEND

- Property Boundary
- Minimum Tree Preservation Zone (for planning purposes only)
- Tree Protection Fence Location
- Tree Identified for preservation
- Tree Identified for removal
- Tree preservation zone symbol
- Tree location

Tree Inventory
Refer to Table 1 of report dated 18 April 2018 for the complete tree inventory. All trees measuring 15 cm in diameter and larger situated on subject property and on neighbouring property within 6 m were included in the inventory. There are no trees situated in the road allowance adjacent to the subject property.

Tree Removal
The removal of Trees 1-26, 28-30, 34-38, 40-54 and P57 will be required to accommodate the proposed development.

Permission from the respective property owner is required prior to the removal of any trees situated partially or fully on neighbouring property.

Tree Preservation
Preservation of Trees 27, 31-33, 39, 55 and 56 will be possible with appropriate tree protection measures. Tree protection measures will have to be implemented prior to the earth works phase to ensure the trees identified for preservation are not impacted by the proposed development.

**SCHEDULE 1
TREE PROTECTION BARRIER**

OAKVILLE

Tree Protection Barriers

- 1 Tree protection barriers must be 1.2m (4ft.) high, waferboard hoarding or an equivalent approved by Urban Forestry Services.
- 2 Tree protection barriers for trees situated on the Town road allowance where visibility must be maintained can be 1.2m (4ft.) high and consist of plastic web snow fencing on a wood frame made of 2"x 4"s.
- 3 Where some excavate or fill has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the Tree Protection Zone.
- 4 All supports and bracing should be outside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.
- 5 No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

No.	Issue/Revisions	Date	By
1	Tree Inventory Submission	April 2018	JJJ

Base Data: J.D. Barnes Ltd., Gerrard Design Associates Inc.

KUNTZ FORESTRY CONSULTING Inc.

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Property:
**6th Line - North of Dundas
Oakville, ON**

Tree Inventory and Preservation Plan

Project	P1806	Figure	1
Date	18 Apr. 2018		
Scale	1:1,000		