Tree Inventory and Preservation Plan Report
1393 Grahams Lane
Burlington, Ontario

prepared for

NAK Design Strategies
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prepared by

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Introduction

Kuntz Forestry Consulting Inc. (KFCI) was retained by NAK Design Strategies to complete a Tree Inventory and Preservation Plan Report as part of a development application for the subject property located at 1393 Grahams Lane in the City of Burlington, Ontario. The subject property is located at the north side of Grahams Lane, south of Fairview Street, and west of the CN rail within a mixed-use area.

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 property and trees of all sizes within the 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.

The results of the evaluation are provided below.

Policy Framework

The City of Burlington By-law 68-2013 (Public Tree By-law) applies to trees of all sizes located on public property, including within the road right-of-way.

The City of Burlington By-law 40-2022 (Private Tree By-law) applies to trees located within the Urban Planning Boundary that are 20cm DBH and greater.

Methodology

Trees greater than 10cm DBH on and within six metres of the subject property and all trees of all sizes within the road right-of-way were included in the tree inventory. Trees were located using a topographic survey provided for the subject property, aerial imagery, and estimations made from known points in the field. Trees included in the inventory that could be tagged were identified as Trees 316-319. Trees that were not tagged were identified using the letters A-U.

Individual tree resources were visually assessed for condition 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 (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.

Existing Site Conditions

The subject property is currently occupied by a 2-storey building with a gravel driveway providing access to Grahams Lane. The remainder of the property is a gravel yard occupied by shipping

container units and a wood shed. Tree resources exist in the form of self-seeded volunteers. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The tree inventory was conducted on 15 February 2024. The inventory documented 25 trees on and adjacent to the subject property and within the road right-of-way. Refer to Table 1 for the results of the tree inventory and Figure 1 for the locations of the trees included in the tree inventory. Refer to Appendix A for photographs of the trees.

Tree resources were comprised of Siberian Elm (*Ulmus pumila*), Manitoba Maple (*Acer negundo*), Black Walnut (*Juglans nigra*), and Tree of Heaven (*Ailanthus altissima*).

Proposed Development

The proposed development involves the demolition of the existing building and removal of the shipping containers. The proposed development includes the construction of three high-rise residential buildings, underground parking, and a new driveway to provide access to Grahams Lane. The development will include an outdoor amenity area, landscaped areas and sidewalks. A crash wall is proposed to be constructed along the west property line of the subject property, in accordance with CN Rail requirements. Refer to Figure 1 for the proposed site plan.

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 ten (10) trees, identified as Trees 316, 319, G, and I-L, and N-T will be required to accommodate the proposed development. It is assumed that regrading and/or shoring will occur from the edge of the proposed underground parking to the property boundary. Encroachment into the minimum tree protection zones (mTPZs) of Trees 316, and I-L and N- T for regrading/shoring and building of the crash wall will be too significant, and we do not expect them to tolerate these injuries. The proposed new driveway directly conflicts with Tree 319. Additionally, Tree 319 is currently growing into the chain-link fence that will be removed for the proposed development.

The removal of one additional dead tree is recommended regardless of the proposed site plan. The dead tree was not inventoried but is noted on Figure 1.

Trees 319, L and N are greater than 20cm DBH and are protected under the City of Burlington By-law 40-2022 (Private Tree By-law). Tree 316 is located within the right-of-way, it is protected under the City of Burlington By-law 68-2013 (Public Tree By-law). Trees G, and J-L and N are located on private property, and owned by CN Rail. Permission from CN Rail must be obtained prior to their removal.

Tree Preservation

The preservation of the remaining 15 trees, including Trees 317, 318, A-F, H, M, and O-S will be possible with the use of appropriate tree protection measures as indicated on Figure 1.

The proposed development will require the removal of the chain link fence and construction of a crash wall along the west side of the property. Tree protection fencing will be required for Trees 317, 318, A-F, H, M, and O-S. 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 location of required tree preservation fencing, general Tree Protection Plan Notes, and tree preservation fence details.

Trees M, and O-Q
Encroachment into the minimum tree protection zones (mTPZ's) and/or critical root zones (CRZ's) of Trees M and O – Q will be required for the regrading and/or shoring and addition of the crash wall. The following mitigation measures must be implemented to ensure the trees respond well to the development:

- Tree protection fencing must be implemented prior to the commencement of the proposed development as indicated on Figure 1.
- Prior the regrading and/or shoring within the mTPZ's and/or CRZ's of these trees, a trench must be excavated either by hand or using AirSpade technology under the supervision of a Certified Arborist. Refer to Figure 1 for the limit of hand digging/AirSpading.
- Exposed roots should be pruned in accordance with Good Arboriculture Standards.
- The trench is to be back filled with clean topsoil.
- During the construction of the crash wall, encroachment required into the mTPZs and/or CRZs of these trees should be completed carefully by hand or by small machinery (ie. Skidsteer).

Tree 317
Encroachment into the minimum tree protection zone (mTPZ) and critical root zone (CRZ) of Tree 317 will be required for the proposed excavation and construction of the landscaped maintenance buffer. The following mitigation measures must be implemented to ensure the tree responds well to the development:

- Tree protection fencing must be implemented prior to the commencement of the proposed development as indicated on Figure 1.
- Prior the excavation and construction of the landscaped maintenance buffer in the mTPZ and CRZ of Tree 317, a trench must be excavated either by hand or using AirSpade technology under the supervision of a Certified Arborist. Refer to Figure 1 for the limit of hand digging/AirSpading.
- Exposed roots should be pruned in accordance with Good Arboriculture Standards.
- The trench is to be back filled with clean topsoil.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by NAK Design Strategies to complete a Tree Inventory and Preservation Plan Report as part of a development application for the subject property located at 1393 Grahams Lane in the City of Burlington, 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 25 trees on and adjacent to the subject property. The removal of 10 trees will be required to accommodate the proposed development. The removal of one additional dead tree, as noted on Figure 1, is recommended regardless of the proposed site plan. The remaining 15 trees can be saved with the use of appropriate tree protection measures, as outlined in Figure 1.

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

- 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 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 (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: 1393 Grahams Lane, Burlington Date: 15 February 2024 Surveyor: IB

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	S/H Rating	CDB	DL	mTPZ	Encr. mTPZ (%)	CRZ	Encr. mTPZ (%)	Comments	Owner	Action
316	Siberian Elm	*Ulmus pumila*	16	G	G/F	G/F	0.8		3.0	2.4	-	4.0	-	Bowed (L), asymmetrical crown (L), pruning wounds (L)	City	Remove
317	Siberian Elm	*Ulmus pumila*	7,6	F	G/F	G/F	0.6		3.0	1.8	22	1.8	22	Codominant at base, asymmetrical crown (M)	City	Preserve (Injure)
318	Manitoba Maple	*Acer negundo*	14,10,10	F/P	F	F	0.25	20	4.0	2.4	0	4.0	0	Codominant at 0.5m, poor form (M)	City	Preserve
319	Siberian Elm	*Ulmus pumila*	~22	F	F/P	P	0.2		1.0	2.4	-	4.0	-	Topped (H), epicormic branching (H), poor form (H), ingrown fence	Private	Remove
A	Manitoba Maple	*Acer negundo*	45,36	F	F	F	0.55		7.0	3.0	0	5.0	0	Codominant at 0.6m, poor form (M), ~6m from fence	CN Rail	Preserve
B	Manitoba Maple	*Acer negundo*	35	F/P	F/P	F	0.25		7.0	2.4	0	4.0	0	Leaning (H), epicormic branching (H), poor form (H), ~4m from fence	CN Rail	Preserve
C	Black Walnut	*Juglans nigra*	23.5	G	G/F	G/F	0.7		5.0	2.4	0	4.0	0	Asymmetrical crown (L), ~6m from fence	CN Rail	Preserve
D	Black Walnut	*Juglans nigra*	13.5,12	F	G/F	G/F	0.6		5.0	2.4	0	4.0	0	Codominant at 1m, lost leader (L), deadwood (L), ~6m from fence	CN Rail	Preserve
E	Black Walnut	*Juglans nigra*	31.5,29,28	G/F	G/F	G/F	0.7		6.0	2.4	0	4.0	0	Codominant at base, ~6m from fence	CN Rail	Preserve
F	Tree of Heaven	*Ailanthus altissima*	19.5,15,10	G/F	G/F	G	0.7		4.0	2.4	0	4.0	0	Codominant at 0.5m, ~3.5m from fence	CN Rail	Preserve
G	Tree of Heaven	*Ailanthus altissima*	19	G/F	F	G	0.55		3.0	2.4	-	4.0	-	Pruning wounds (M), asymmetrical crown (L),	CN Rail	Remove

														leaning (L), ~1m from fence		
H	Black Walnut	*Juglans nigra*	~25,12	G	G/F	G/F	0.75		5.0	2.4	0	4.0	0	Codominant at base, grapevine competition, ~ 5m from fence	CN Rail	Preserve
I	Manitoba Maple	*Acer negundo*	12	F	F/P	F	0.25	20	4.0	2.4	-	4.0	-	Crook (H), growing against fence	Private	Remove
J	Manitoba Maple	*Acer negundo*	20	F	F	F	0.55	20	5.0	2.4	-	4.0	-	Leaning (M), asymmetrical crown (L), deadwood (L), ~2.3m from fence	CN Rail	Remove
K	Manitoba Maple	*Acer negundo*	~15	G/F	F/P	F	0.25		4.0	2.4	-	4.0	-	Asymmetrical crown (M), poor form (M), bowed (M), grapevine competition, growing against fence	Private	Remove
L	Siberian Elm	*Ulmus pumila*	~45,47	F	G/F	G/F	0.6	30	9.0	3.0	-	5.0	-	Codominant at base, broken branches (M), pruning wounds (L)	CN Rail	Remove
M	Manitoba Maple	*Acer negundo*	~22,17,16	P	F/P	F	0.2		7.0	2.4	35	4.0	55	Codominant at base, epicormic branching (H), lost leader (M), poor form (H), ~2.5m from fence	CN Rail	Preserve (Injure)
N	Manitoba Maple	*Acer negundo*	~55	G/F	P	F/P	0.2		7.0	3.6	-	6.0	-	Epicormic branching (H), codominant at 1.7m, deadwood (M), ~1m from fence	CN Rail	Remove
O	Black Walnut	*Juglans nigra*	~23	F/P	F/P	G	0.25		5.0	2.4	0	4.0	5	Exposed roots (H), codominant at 2m, poor form (M), ~3.5m from fence	CN Rail	Preserve (Injure)
P	Black Walnut	*Juglans nigra*	~22	G	F/P	G	0.25	60	5.0	2.4	16	4.0	45	Bowed (M), poor form (M), ~2m from fence	CN Rail	Preserve (Injure)

Q	Manitoba Maple	*Acer negundo*	~38,27	P	P	F	0.15		7.0	2.4	0	4.0	22	Codominant at base, leaning (H), poor form (H), epicormic branching (H), ~3m from fence	CN Rail	Preserve (Injure)
R	Manitoba Maple	*Acer negundo*	~10	P	P	P	0.15		3.0	1.8	0	1.8	0	Leaning (H), epicormic branching (H), deadwood (H), ~2m from fence	CN Rail	Preserve
S	Manitoba Maple	*Acer negundo*	~25	P	F/P	F	0.2		6.0	2.4	0	4.0	0	Leaning towards property (H), ~7m from corner of fence	CN Rail	Preserve
T	Siberian Elm	*Ulmus pumila*	~7,7	P	P	F	0.15		1.5	1.8	-	1.8	-	Codominant at base, coppice growth from stump, growing against fence	Private	Remove
U	Manitoba Maple	*Acer negundo*	~6,5,5,5	P	P	F	0.15		1.5	1.8	-	1.8	-	Codominant at base, pruning wounds (H), growing against fence	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)
CDB	Crown Dieback	(%)
S/H Rating	Structural / Health Rating	(%)
mTPZ	Minimum Tree Protection Zone, as measured from edge of tree	(m)
Encr. mTPZ	Amount of Encroachment into the Minimum Tree Protection Zone	(%)
CRZ	Critical Root Zone	(m)
Encr. CRZ	Amount of Encroachment into the Critical Root Zone	(%)
Owner	Ownership of Tree	City, Subject Property, Neighbouring Property
P = poor, F = fair, G = good, ~ = estimate, (VL) = very light, (L) = light, (M) = moderate, (H) = heavy		

Appendix A: Site Photographs



Image 1. Trees 316- 318 (Right to left)



Image 2. Tree 319



Image 3. Trees A and B (Left to right)



Image 4. Trees C and D (Left to right)



Image 5. Tree E



Image 6. Trees F and G (Left to right)



Image 7. Tree H



Image 8. Trees I-L (Left to right)



Image 9. Trees M to O (Left to right)



Image 10. Trees P-R (Left to right)



Image 11. Tree S



Image 12. Trees T and U (Left to right)