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URBAN FORESTRY & FOREST MANAGEMENT CONSULTING

January 31, 2024

Barron Meyerhoffer
Director, Development
Ottawa Community Housing
39 Auriga Drive
Ottawa, ON
K2E 7Y8

RE: TREE CONSERVATION REPORT FOR 231 & 251 PENFIELD DRIVE, OTTAWA

Dear Barron,

This report details a pre-construction tree conservation report (TCR) for the above-noted property in Ottawa. The need for this report is related to trees protected under the City of Ottawa's Tree Protection By-law (By-law No. 2020-340). The work proposed at this address includes the construction of eight single-storey townhouse dwelling units.

Tree conservation reports are required for all site plan control applications where trees of 10 centimetres in diameter or greater are present on the subject property. This includes trees on adjacent properties which have critical root zones (CRZ) extending onto the property slated for development. A "tree" is defined in the By-law as any species of woody perennial plant, including its root system, which has reached or can reach a minimum height of at least 450 cm at physiological maturity. The CRZ is calculated as DBH x 10 cm.

The approval of this TCR by the City of Ottawa and the issuing of a permit by them authorize the removal of approved trees. **Importantly, although this report may be used to support the application for a city tree removal permit, it does not by itself constitute permission to remove trees or begin site clearing activities. No such work should occur before a tree removal permit is issued authorizing the injury or destruction of a tree in accordance with the By-law. Further, the removal of any trees shared with or fully on neighbouring properties will require written permission of the adjacent landowner.**

The inventory in this report details the assessment of all individual trees on and adjacent to the subject property, including those on City of Ottawa lands. Field work for this report was completed in February 2021 and January 2024. At both times annual snow accumulation was enough to obscure the root collars and rooting areas of the trees. Consequently, any health issues related to these areas could not be identified.

TREE SPECIES, CONDITION, SIZE AND STATUS

Table 1 below details the species, condition, size (diameter), ownership and status of the individual trees on and adjacent to the subject property. Each of these trees is referenced by the numbers plotted on the tree conservation plan on page 5 of this report.

Table 1. Species, condition, size (diameter) and status of trees at 231 & 251 Penfield Drive.

Tree No.	Tree species	DBH[1] (cm)	Owner-ship	Tree condition, age class, condition notes, species origin & **preservation status** (to be removed or preserved and protected)
1	Crab apple *(Malus* spp.*)*	18 avg.	Neigh-bour	Very poor; mature; tri-stemmed from grade; broken branches from snow piling; basal sprouting; cultivar **to be preserved and protected**
2	Crab apple *(Malus* spp.*)*	13 avg.	Neigh-bour	Very poor; mature; six-stemmed from grade (one stem previously removed); broken branches from snow piling; basal sprouting; cultivar; **to be preserved and protected**
3	Amur maple *(Acer tataricum* subsp. *ginnala)*	17	Neigh-bour	Very poor; overmature; single stem remaining (at least one other stem previously removed); basal sprouting; introduced invasive species; **to be preserved and protected**
4	Amur maple *(Acer tataricum* subsp. *ginnala)*	12 avg.	Neigh-bour	Poor; overmature; six-stemmed from grade; seeded Mountain-ash *(Sorbus* spp.*)* sapling present; introduced invasive species; **to be preserved and protected**
5	Little-leaf linden *(Tilia cordata)*	46	Neigh-bour	Good; mature; typical 'tear drop' form of species; central stem with competing lateral at 1.5m from grade; introduced species; **to be preserved and protected**
6	Amur maple *(Acer tataricum* subsp. *ginnala)* / Serviceberry *(Amelanchier* spp.*)*	10 avg.	Neigh-bour	Poor; overmature; grouping of 2 maples and 1 serviceberry – all multi-stemmed from grade; seeded linden saplings present; maple is an introduced invasive species, serviceberry is a native species; **to be preserved and protected**
7	Austrian pine *(Pinus nigra)*	47	City	Good; mature; good crown density, growth increment and needle colour; lower crown held at 2m from grade; introduced species; **to be removed** (conflicts with new entranceway)
8	Austrian pine *(Pinus nigra)*	46	Private	Poor; mature; co-dominant leaders at 6m; spread by diplodia *(Diplodia sapinea)* has led to many dead branches in lower crown; introduced species; **to be preserved and protected**

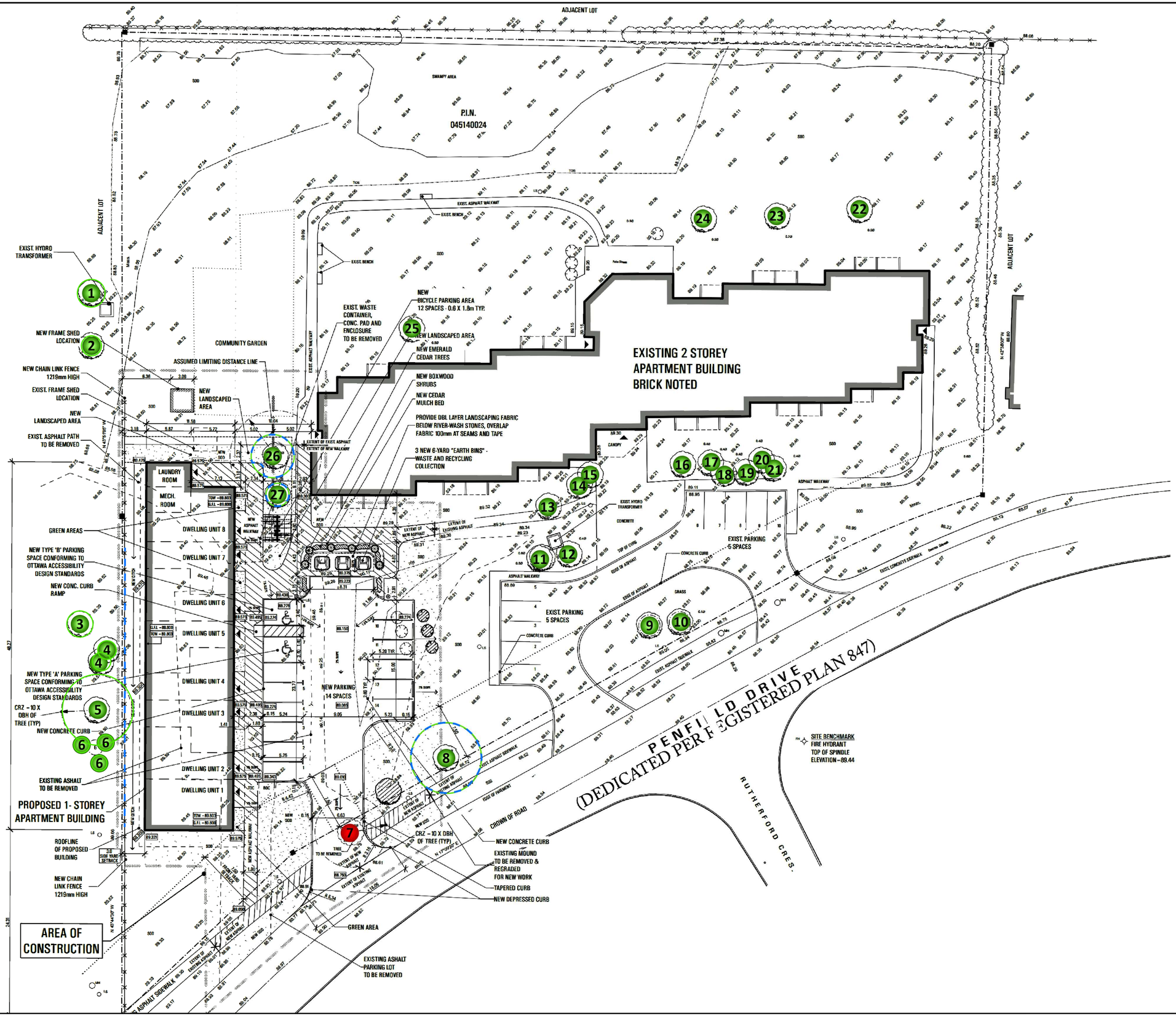
Table 1. Con't

Tree No.	Tree species	DBH[1] (cm)	Owner -ship	Tree condition, age class, condition notes, species origin & **preservation status** (to be removed or preserved and protected)
9	Japanese tree lilac *(Syringa reticulata)*	14	Private	Good; mature; dense crown with good growth increment; cultivar; **to be preserved and protected**
10	Japanese tree lilac *(Syringa reticulata)*	14	Private	Good; mature; dense crown with good growth increment; cultivar; **to be preserved and protected**
11	Austrian pine *(Pinus nigra)*	40	Private	Good; mature; central stem with suppressed lateral at 0.6m on northwest; good density, increment and colour; introduced species; **to be preserved and protected**
12	Austrian pine *(Pinus nigra)*	38	Private	Dead; **to be preserved and protected** (though recommend for removal)
13	Honey-locust *(Gleditsia triacanthos)*	44	Private	Good; mature; co-dominant stems at 2m; crown asymmetric towards southwest; good increment; introduced species to Eastern Ontario; **to be preserved and protected**
14	Austrian pine *(Pinus nigra)*	40	Private	Good; mature; upright form; co-dominant leaders at 6m-parallel; good density, increment and colour; introduced species; **to be preserved and protected**
15	Austrian pine *(Pinus nigra)*	32	Private	Fair; mature; slight divergent towards north; restricted rooting area; fair density, increment and colour; introduced species; **to be preserved and protected**
16	Honey-locust *(Gleditsia triacanthos)*	44	Private	Fair; mature; divergent towards south; lower lateral on north side removed for clearance purposes-major wound healing slowly; introduced species to Eastern Ontario; **to be preserved and protected**
17	Austrian pine *(Pinus nigra)*	38	Private	Good; mature; divergent towards north due to influence of tree #16; good density, increment and colour; introduced species; **to be preserved and protected**
18	Austrian pine *(Pinus nigra)*	34	Private	Good; mature; central stem upright but crown asymmetric towards southeast due to intercompetition for sunlight; good density, increment and colour; introduced species; **to be preserved and protected**

Table 1. Con't

Tree No.	Tree species	DBH[1] (cm)	Owner -ship	Tree condition, age class, condition notes, species origin & **preservation status** (to be removed or preserved and protected)
19	Austrian pine *(Pinus nigra)*	33	Private	Good; mature; upright stem form and crown generally symmetric; good density, increment and colour; introduced species; **to be preserved and protected**
20	Austrian pine *(Pinus nigra)*	38	Private	Good; mature; upright stem form and crown generally symmetric; suppressed laterals at 7m on south and 9m on northeast; good density, increment and colour; introduced species; **to be preserved and protected**
21	Austrian pine *(Pinus nigra)*	34	Private	Good; mature; upright stem form; crown asymmetric towards north/northeast; good density, increment and colour; introduced species; **to be preserved and protected**
22	Silver maple *(Acer saccharinum)*	103 (at 1m)	Private	Fair; mature; tri-stemmed at 1.5m; broad crown; multiple dead, hanging branches; native species; **to be preserved and protected**
23	Norway maple *(Acer platanoides)*	52	Private	Fair; mature; four stemmed at 2m; primary union weak with fractures & included bark; crown spread limited by adjacent maples; introduced invasive species; **to be preserved and protected**
24	Silver maple *(Acer saccharinum)*	81 (at 1m)	Private	Good; mature; tri-stemmed at 1.5m; central stem with dominant laterals on northeast & southwest; native species; **to be preserved and protected**
25	White spruce *(Picea glauca)*	38	Private	Good; mature; good density & increment, fair colour; native species; **to be preserved and protected**
26	Crab apple *(Malus* spp.*)*	28 avg.	Private	Good; mature; double stemmed at 0.6m; crown mildly asymmetric due to clearance from building; native species; **to be preserved and protected**
27	Crab apple *(Malus* spp.*)*	15 avg.	Private	Fair; mature; five stemmed at 0.4m; crown very asymmetric due to influence of tree #26; cultivar; t**o be preserved and protected**

[1] diameter at breast height, or 1.4m from grade (unless otherwise indicated); average diameters indicate multi-stemmed trees



GENERAL NOTES

PLANS COMPLETED BY ATELIER 252 ACHITECT INC. (19/12/23)

LEGEND

- TREE TO REMAIN
- CRITICAL ROOT ZONE
- PROTECTIVE FENCING
- TREE TO BE REMOVED

Meters
0 2.5 5 10

DRAWING: Tree Conservation Plan

PROJECT: 251 PENFIELD DRIVE CITY OF OTTAWA

IFS ASSOCIATES
613-838-5717
Andrew K. Boyd, R.P.F

SCALE:	1:225
DATE:	2024-01-30
DRAWN BY:	SS
SHEET NO.	1
DRAWING NO.	PENF

FEDERAL AND PROVINCIAL REGULATIONS

Federal and provincial regulations can be applicable to trees on private and public property. In particular, the following regulations has been considered for this property:

1) The Endangered Species Act (2007): No butternuts *(Juglans cinerea)* were identified on the subject or adjacent properties. This species of tree is listed as threatened under the Province of Ontario's Endangered Species Act (2007) and so is protected from harm.

2) The Migratory Bird Convention Act (1994): In the period between April and August of each year nest surveys are required to be performed by a suitably trained person no more than five (5) days before trees or other similar nesting habitat are to be removed.

TREE PRESERVATION MEASURES

Excavation for the new foundation will be within the CRZ of trees #5, 26 and 27. To help reduce the potential for root loss due to excavation the following measures will be taken in relation to these trees:

1. Hydro excavation along the edge of excavation to carefully expose roots. Any roots will be cleanly cut and sealed before being reburied. Excavation can then resume using traditional mechanical means. Sealing the cleanly cut root ends with a beeswax product will help prevent the loss of moisture and facilitate healing.

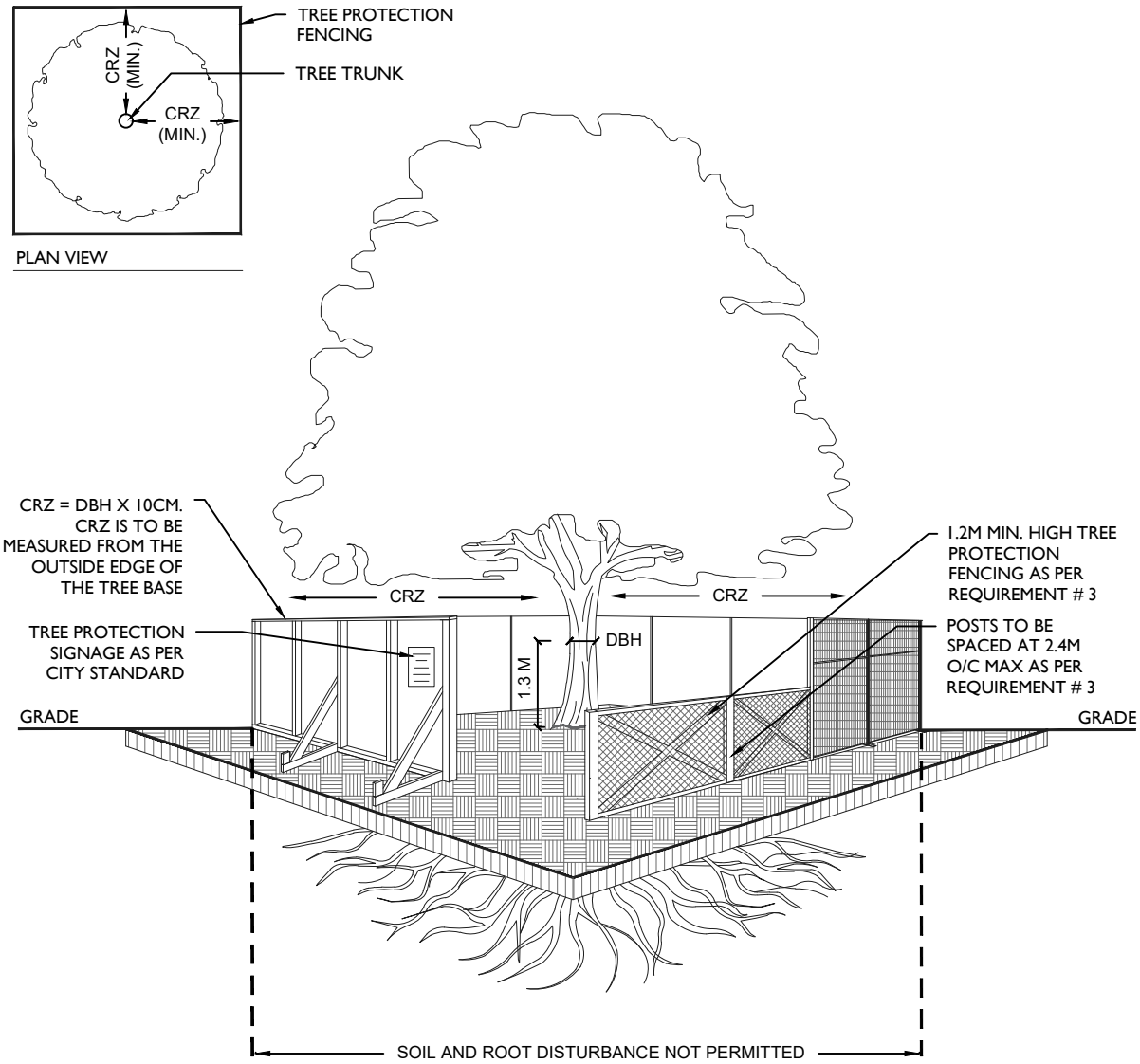
2. If the excavation is to be left open for any time a covering of at least three layers of moistened burlap is to be draped over the exposed face of excavation closest to the trees. This will help reduce the loss of soil moisture.

TREE PRESERVATION AND PROTECTION MEASURES

Preservation and protection measures intended to mitigate damage during construction will be applied for the trees to be retained adjacent to the subject properties. The following measures are the minimum required by the City of Ottawa to ensure tree survival during and following construction:

1. As per the City of Ottawa's tree protection barrier specification, erect a fence as close as possible to the CRZ of the tree(s) – see specification detail on page 7).
2. Do not place any material or equipment within the CRZ of the tree(s).
3. Do not attach any signs, notices or posters to any tree.
4. Do not raise or lower the existing grade within the CRZ without approval.
5. Tunnel or bore instead of trenching within the CRZ of any tree.
6. Do not damage the root system, trunk or branches of any tree.
7. Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.

[1] critical root zone (CRZ) is established as being 10 centimetres from the trunk of a tree for every centimetre of DBH. The CRZ is calculated as DBH x 10 cm.



TREE PROTECTION REQUIREMENTS:

1. PRIOR TO ANY WORK ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ = 10 X DIAMETER) OF A TREE, TREE PROTECTION FENCING MUST BE INSTALLED SURROUNDING THE CRITICAL ROOT ZONE, AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. UNLESS PLANS ARE APPROVED BY CITY FORESTRY STAFF, FOR WORK WITHIN THE CRZ:
   - DO NOT PLACE ANY MATERIAL OR EQUIPMENT - INCLUDING OUTHOUSES;
   - DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
   - DO NOT RAISE OR LOWER THE EXISTING GRADE;
   - TUNNEL OR BORE WHEN DIGGING;
   - DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE;
   - ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARD ANY TREE CANOPY.
   - DO NOT EXTEND HARD SURFACE OR SIGNIFICANTLY CHANGE LANDSCAPING
3. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"X4" WOOD FRAME) WITH POSTS 2.4M APART, SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ, AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
4. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY AN ARBORIST AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE (E.G. TREE CONSERVATION REPORT, TREE INFORMATION REPORT, ETC). THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY CITY FORESTRY STAFF PRIOR TO THE COMMENCEMENT OF WORK.
5. IF THE FENCED TREE PROTECTION AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION, MITIGATION MEASURES MUST BE PRESCRIBED BY AN ARBORIST AND APPROVED BY CITY FORESTRY STAFF. THESE MAY INCLUDE THE PLACEMENT OF PLYWOOD, WOOD CHIPS, OR STEEL PLATING OVER THE ROOTS FOR PROTECTION OR THE PROPER PRUNING AND CARE OF ROOTS WHERE ENCOUNTERED.

THE CITY'S TREE PROTECTION BY-LAW, 2020-340 PROTECTS BOTH CITY-OWNED TREES, CITY-WIDE, AND PRIVATELY-OWNED TREES WITHIN THE URBAN AREA. PLEASE REFER TO WWW.OTTAWA.CA/TREEBYLAW FOR MORE INFORMATION ON HOW THE TREE BY-LAW APPLIES.

ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST

Ottawa

TREE PROTECTION SPECIFICATION

TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE:	NTS
DATE:	MARCH 2021
DRAWING NO.:	1 of 1

Pictures 1 to 8 on pages 9 through 14 of this report show selected trees on and adjacent to the subject property.

This report is subject to the attached Limitations of Tree Assessments to which the reader's attention is directed.

Please do not hesitate to contact the undersigned with any questions concerning this report.

Yours,

Andrew K. Boyd, B.Sc.F, R.P.F. (#1828)
Certified Arborist #ON-0496A and TRAQualified
Consulting Urban Forester

Picture 1. Trees #1 and 2 (left to right) to be preserved adjacent to subject property.

Picture 2. Trees #5 and 6 (right to left) to be preserved adjacent to subject property.

Picture 3, Tree #7, pine to be removed from city property

Picture 4. Trees #9 and 10 (left to right) to be preserved on the subject property

Picture 5. Trees #11 and 12 (foreground) and 13-15 (background) to be preserved on the subject property.

Picture 6. Trees #16 – 21 (left to right) to be preserved on the subject property.

Picture 7. Trees #22 - 24 (background to foreground) to be preserved on the subject property.

Picture 8. Trees #26 and 27 (right to left) to be preserved on the subject property.

LIMITATIONS OF TREE ASSESSMENTS & LIABILITY

GENERAL

It is the policy of *IFS Associates Inc.* to attach the following clause regarding limitations. We do this to ensure that our clients are clearly aware of what is technically and professionally realistic in assessing trees for retention.

This report was prepared by *IFS Associates Inc.* at the request of the client. The information, interpretation and analysis expressed in this report are for the sole benefit and exclusive use of the client. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the client to whom it is addressed. Unless otherwise required by law, neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through public relations, news or other media, without the prior expressly written consent of the author, and especially as to value conclusions, identity of the author, or any reference to any professional society or institute or to any initialed designation conferred upon the author as stated in his qualifications.

This report and any values expressed herein represent the opinion of the author; his fee is in no way contingent upon the reporting of a specified value, a stipulated result, nor upon any finding to be reported.

Details obtained from photographs, sketches, *etc.*, are intended as visual aids and are not to scale. They should not be construed as engineering reports or surveys. Although every effort has been made to ensure that this assessment is reasonably accurate, the tree(s) should be reassessed at least annually. The assessment presented in this report is valid at the time of the inspection only. The loss or alteration of any part of this report invalidates the entire report.

LIMITATIONS

The information contained in this report covers only the tree(s) in question and no others. It reflects the condition of the assessed tree(s) at the time of inspection and was limited to a visual examination of the accessible portions only. *IFS Associates Inc.* has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the forestry and arboricultural professions, subject to the time limits and physical constraints applicable to this report. The assessment of the tree(s) presented in this report has been made using accepted arboricultural techniques. These include a visual examination of the above-ground portions of each tree for structural defects, scars, cracks, cavities, external indications of decay such as fungal fruiting bodies, evidence of insect infestations, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the proximity of people and property. Except where specifically noted in the report, the tree(s) examined were not dissected, cored, probed or climbed to gain further evidence of their structural condition. Also, unless otherwise noted, no detailed root collar examinations involving excavation were undertaken.

While reasonable efforts have been made to ensure that the tree(s) proposed for retention are healthy, no warranty or guarantee, expressed or implied, are offered that these trees, or any parts of them, will remain standing. This includes other trees on or off the property not examined as part of this assignment. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or groups of trees or their

component parts in all circumstances, especially when within construction zones. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of root loss due to excavation and other construction-related impacts. This risk can only be eliminated through full tree removal (which is recommended in this case).
Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site conditions, or seasonal variations in the weather. It is a condition of this report that *IFS Associates Inc.* be notified of any changes in tree condition and be provided an opportunity to review or revise the recommendations within this report. Recognition of changes to a tree's condition requires expertise and extensive experience. It is recommended that *IFS Associates Inc.* be employed to re-inspect the tree(s) with sufficient frequency to detect if conditions have changed significantly.

ASSUMPTIONS

Statements made to *IFS Associates Inc.* in regards to the condition, history and location of the tree(s) are assumed to be correct. Unless indicated otherwise, all trees under investigation in this report are assumed to be on the client's property. A recent survey prepared by a Licensed Ontario Land Surveyor showing all relevant trees, both on and adjacent to the subject property, will be provided prior to the start of field work. The final version of the grading plan for the project will be provided prior to completion of the report. Any further changes to this plan invalidate the report on which it is based. *IFS Associates Inc.* must be provided the opportunity to revise the report in relation to any significant changes to the grading plan. The procurement of said survey and grading plan, and the costs associated with them both, are the responsibility of the client, not *IFS Associates Inc.*

LIABILITY

Without limiting the foregoing, no liability is assumed by *IFS Associates Inc.* for:
1) any legal description provided with respect to the property;
2) issues of title and/or ownership with respect to the property;
3) the accuracy of the property line locations or boundaries with respect to the property;
4) the accuracy of any other information provided by the client of third parties;
5) any consequential loss, injury or damages suffered by the client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and,
6) the unauthorized distribution of the report.

Further, under no circumstances may any claims be initiated or commenced by the client against *IFS Associates Inc.* or any of its directors, officers, employees, contractors, agents or assessors, in contract or in tort, more than 12 months after the date of this report.

ONGOING SERVICES

IFS Associates Inc. accepts no responsibility for the implementation of any or all parts of the report, unless specifically requested to supervise the implementation or examine the results of activities recommended herein. In the event that examination or supervision is requested, that request shall be made in writing and the details, including fees, agreed to in advance.