



Submitted to: ment & Design

Heirarchy Development & Design 1836 Maple Grove Road Ottawa, Ontario K2S 0M7

Tree Conservation Report 930 Smith Road

Ottawa, Ontario

May 15, 2024

Project: 100812.001 - V02

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) was retained by Heirarchy Development & Design, to carry out a Tree Conservation Report (TCR) for the property located at 930 Smith Road, in the City of Ottawa (Navan), Ontario, hereafter referred to as the "subject property". The site location is provided in Figure A.1 in Appendix A.

1.1 Purpose

The proponent is seeking to purchase an existing 5.44 ha property for potential future residential development. As part of the purchase due diligence, in preparation for future submission of a proposed plan of subdivision and Site Plan Approval, and in accordance with the City of Ottawa's Urban Tree Conservation By-Law (No. 2020-340), a Tree Conservation Report (TCR) is required to identify trees to be retained and protected under future development scenarios and, where feasible, identify opportunities to offset the loss of trees that cannot be retained or contribute to the City's forest cover targets.

The current conceptual residential development plan includes the creation of seven residential lots, ranging from 0.46 ha to 2.02 ha. Future development consists of a dwelling, septic, well, and driveway are proposed on each lot. The existing site layout and conceptual development plan is provided on Figure A.2 in Appendix A.

1.2 Definitions

Terms and abbreviations used throughout the remainder of this report are summarized below.

Diameter at Breast Height (DBH), is defined as the diameter of the tree trunk measured at a height of 1.2 metres above ground surface for trees of 10 centimeters in diameter and greater.

Critical Root Zone (CRZ), is defined as the ground area within a circumference around the tree trunk calculated as 10 centimetres from the trunk of the tree for every one centimetre of tree truck diameter at breast height.

Distinctive Tree, a distinctive tree within the City of Ottawa is defined as any tree with a DBH of 30 cm or greater within the inner urban area and with a DBH of 50 cm or greater within the suburban and rural areas. For the purposes of this report, a distinctive tree is considered to be a tree with a DBH of 50 cm or greater, as the subject property is located outside of the urban boundary.



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2.0 METHODOLOGY

2.1 Desktop Review

To complete the TCR, digital color air photos of the site available from GeoOttawa were reviewed from 1976 to 2019 to identify natural features, including historical trees, present on-site and in the vicinity of the site.

2.2 Field Investigations

In addition to the completion of a desktop review of historical air photos, one site visit was conducted on July 28, 2021, to document and identify all trees on-site with a DBH greater than 10 cm. The site investigation utilized transects bisecting the property to document the health of each tree greater than 10 cm in DBH, the trees location, the trees approximate height, and the tree species. To determine the presence or absence of species at risk on-site and adjacent to site, butternut were searched for during the transect surveys. Site conditions during the site investigation are summarized in Table 2.1 below.

Table 2.1 Summary of Filed Investigations

Date	Time	Weather	Purpose
July 28, 2021	10:00-17:00	18°C, clear (~0% cloud cover), Beaufort wind 1, no precipitation	Tree Inventory

Site photographs taken during the field investigations are provided in Appendix B.



3.0 RESULTS

3.1 Existing Conditions

The site is currently occupied by agricultural land, other existing features on the property include a gravel entryway providing access to Smith Road, existing tree cover is mainly present in to small areas of the southwest corner of the property and along the center of the southern property boundary. The rest of the tree cover is present in hedgerows along the north property line. The site does not have any existing development present on-site.

The site is entirely populated by active agricultural fields (ELC code OAG), at the time of the site investigation the field was planted with corn. Two small patches of mixed forest (ELC code FOM) occur in the southcentral portion of the property and along the west property line, along with a small cultural meadow (ELC code CUM) in the southwest portion of the property. However per the Southern Ontario Ecological Land Classification System (Lee et al., 2008) the forest and meadow communities are not large enough to be considered singular communities and are instead considered inclusions within the active agricultural community. Existing vegetation on the property are illustrated on Figure A.2 in Appendix A. Numerous trees are present on the property, a summary of all trees on-site is provided in Section 3.2 below.

The vicinity of the site is characterized by residential properties and agricultural land. The nearest significant feature is the Ottawa Green Belt and the Mer Bleue Bog, a provincially significant wetland, Earth Science Area of Natural and Scientific Interest (ANSI) and Life Science ANSI, both located approximately 2 km west of the property. There are no other natural environmental features in the vicinity (within 120 m) of the project, as summarized in Table 3.1 below.

Table 3.1 Summary of Natural Features Present On-site or Adjacent to Site

Natural Feature	Present On-site or Adjacent
Surface water or wetlands present	None
Steep slopes, valleys or escarpments	None
Urban Natural Features or Natural Environment Areas	None
Significant Woodlands	None
Greenspace Linkages	None
High Quality Specimen Trees	None
Rare plant communities or unique environmental features	None
Presence of Species at Risk	Adjacent

Based on a review of historical air photos the site, the site has undergone no significant alteration since 1965, when the lot had the same configuration as today. Since 1965, the lot has been vacant, consisting entirely of agricultural fields with trees located sparsely along the northern, eastern, and southern property boundaries.



Per the City of Ottawa's Significant Woodlands Guidelines, woodlands within the rural policy area are considered significant if they meet any of the criteria established in the Natural Heritage Reference Manual, including size, ecological function, uncommon characteristics, or economic and social value. As the site and surround land does not contain any woodland habitat, no significant woodlands have been identified on-site or on the adjacent sites.

Review of online data sources and the site investigation identified butternut, a plant species at risk in the area. One butternut tree was observed on a neighbouring lot, along the west property boundary.

3.2 Tree Inventory Summary

A tree inventory was conducted on July 28, 2021. Trees on-site were identified, enumerated and assessed for visual signs of distress and disease. Table C.1 in Appendix C provides a summary of all tree specimens on-site whose DBH was greater than 10 cm. CRZ values for trees with DBH greater than 10 cm are also present in Table C.1 in Appendix C. Critical Root Zones were not calculated for dead trees. For trees with multiple stems greater than 10 cm DBH, the largest DBH was used to calculate the CRZ. All trees with a DBH greater than 10 cm and their CRZ are illustrated on Figure A.3a through A.3h, in Appendix A. In general, the tree community assemblage can be described as containing a diverse range of healthy adult trees; consisting predominantly of deciduous species, with few coniferous species.

Per the City of Ottawa By-law No. 2020-340, the site is outside of the urban boundary area which means distinctive trees are defined as those with a DBH greater than 50 cm. No distinctive trees (DBH > 50 cm) were identified on-site. No wildlife trees were observed on-site.

During the site investigation, one butternut tree was identified adjacent to site. In Ontario, butternut are listed as endangered under the Endangered Species Act.



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4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on a review of the information summarized in Section 3.2, Table C.1 in Appendix C and the conceptual development plan illustrated on Figure A.2, the following conclusions are provided:

- Four trees (#8, #10, #11, and #109), none of them being City trees, were identified as non-retainable, under the conceptual development plan;
- Eight distinctive trees, meeting the City of Ottawa By-Law No. 2020-340 requirements, were identified on-site;
- Trees on-site are of a typical peri-urban and opportunistic or early successional species;
- 250 trees are in good/healthy condition, 14 trees are in moderate condition, 13 trees are dying or in poor condition, and 13 trees on-site are dead;
- One butternut tree (#207) was identified as Possible Conflict and was located on a neighbouring property adjacent to the site. No Butternut trees were identified on-site; and
- None of the 290 trees present on-site represent exceptional native tree specimens.

4.1 Tree Conservation Recommendations

Opportunities exist along the perimeter of the proposed development, primarily along the southern and eastern property boundaries fronting Smith Road, to retain a majority of the trees present onsite, under the current proposed development concept. In effort to offset the effect of vegetation removal where required, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as white cedar, white spruce, red maple and red oak.

As discussed above, the trees present on-site do not represent exceptional tree specimens. One butternut tree was observed on the adjacent property addressed as 911 Meteor Avenue. A minimum setback of 25 m around each identified butternut is required to minimize disturbance and protect trees from encroachment. Currently the conceptual development plan occurs outside of the 25 m radius, however, if the 25 m radius cannot be met, than a Butternut Health Assessment shall be completed by a certified Butternut Health Assessor and submitted to the Kemptville district MECP office prior to any construction activity or disturbance on-site.

4.2 Recommended Mitigation Measures

The following mitigation measures and best practice recommendations are provided by GEMTEC in order to minimize and eliminate negative impacts to trees identified in Appendix C as retainable. Construction contractors shall apply the following measures below to prevent damages to trees identified to be retained in the redevelopment plan for the site;

- All trees identified to be retained should be clearly marked and the CRZ delineated with fencing to prevent encroachment and damage during construction;
- Tree protection should follow the tree protection specification provided by the City of Ottawa (2019). The Specification is provided in Appendix D.



- If existing pavement surface around trees to be retained is going to be removed than temporary fencing should be installed to delineate the CRZ of each tree;
- If trees to be removed overlap with the CRZ of trees to be retained, cut roots at the edge
 of the retained CRZ and grind down stumps after tree removal, do not pull out stumps. If
 roots must be cut, roots 20 cm or larger should be cut at right angles with clean, sharp,
 horticultural tools, without tearing, crushing, or pulling;
- Do not place any material or equipment within the CRZ of any tree identified to be retained;
- Do not attach any signs, notices or posters to any tree identified to be retained;
- Do not damage the root system, trunk, or branches or any tree identified to be retained;
- Ensure that exhaust fumes from all equipment are directed away from tree canopy; and
- Vegetation removal should occur outside of March 15 to November 30 to avoid the key breeding bird period and bat summer active season. The timing windows provides protection of migratory birds, roosting bats and avoids contravention of the Migratory Bird Convention Act and Endangered Species Act. If vegetation clearing activities must take place during the aforementioned timing window than a nest survey and site sweep shall be conducted by a qualified professional to ensure no impacts to birds. If vegetation removal has the potential to impact SAR bats (i.e. vegetation removal within contiguous forested tracts) consultation with the MECP is required to determine whether the project will required an authorization.



5.0 CLOSURE

This letter and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) and was prepared for Heirarchy Development & Design, and is intended for the exclusive use of Heirarchy Development & Design. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Heirarchy Development & Design. Nothing in this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This letter has been prepared for the application notes and it is based in part, on visual observations made at the site, all as described in the report. Unless otherwise states, the findings contained in this report cannot be extrapolates or extended to previous or future site conditions or for portions of the site that were unavailable for direct investigation.

Should new information become available during future work, or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions present herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Sincerely,

Emily Pentz, B.Sc. Junior Biologist

EP/TW/DP

Taylor Warrington, B.Sc.

/Warring/on

Biologist

6.0 REFERENCES

Lee, H. T. 2008. Draft Southern Ontario Ecological Land Classification. Ministry of Natural Resources: London, Ontario.

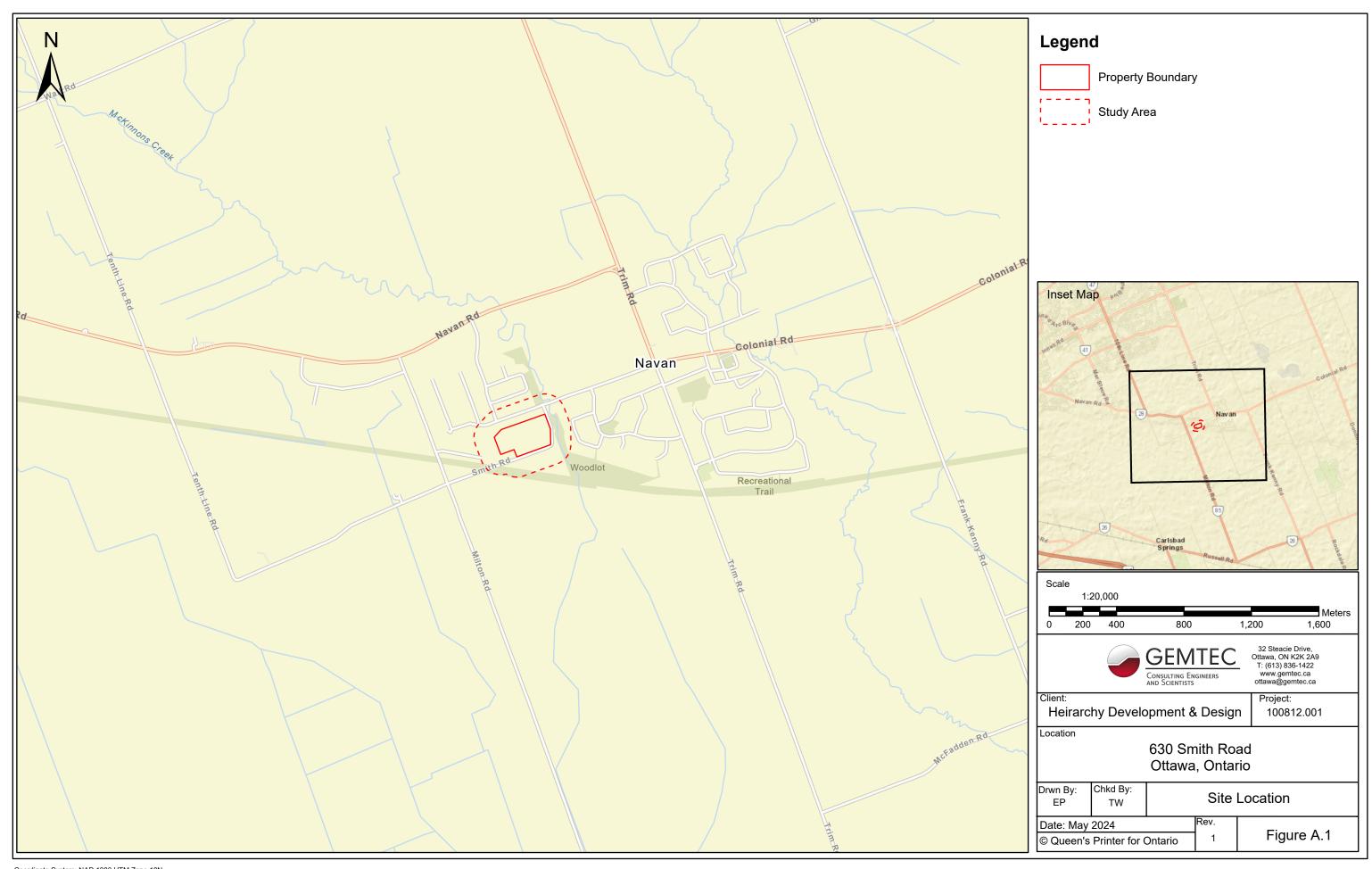
Ottawa, City of (Ottawa). 2003. City of Ottawa Official Plan. May

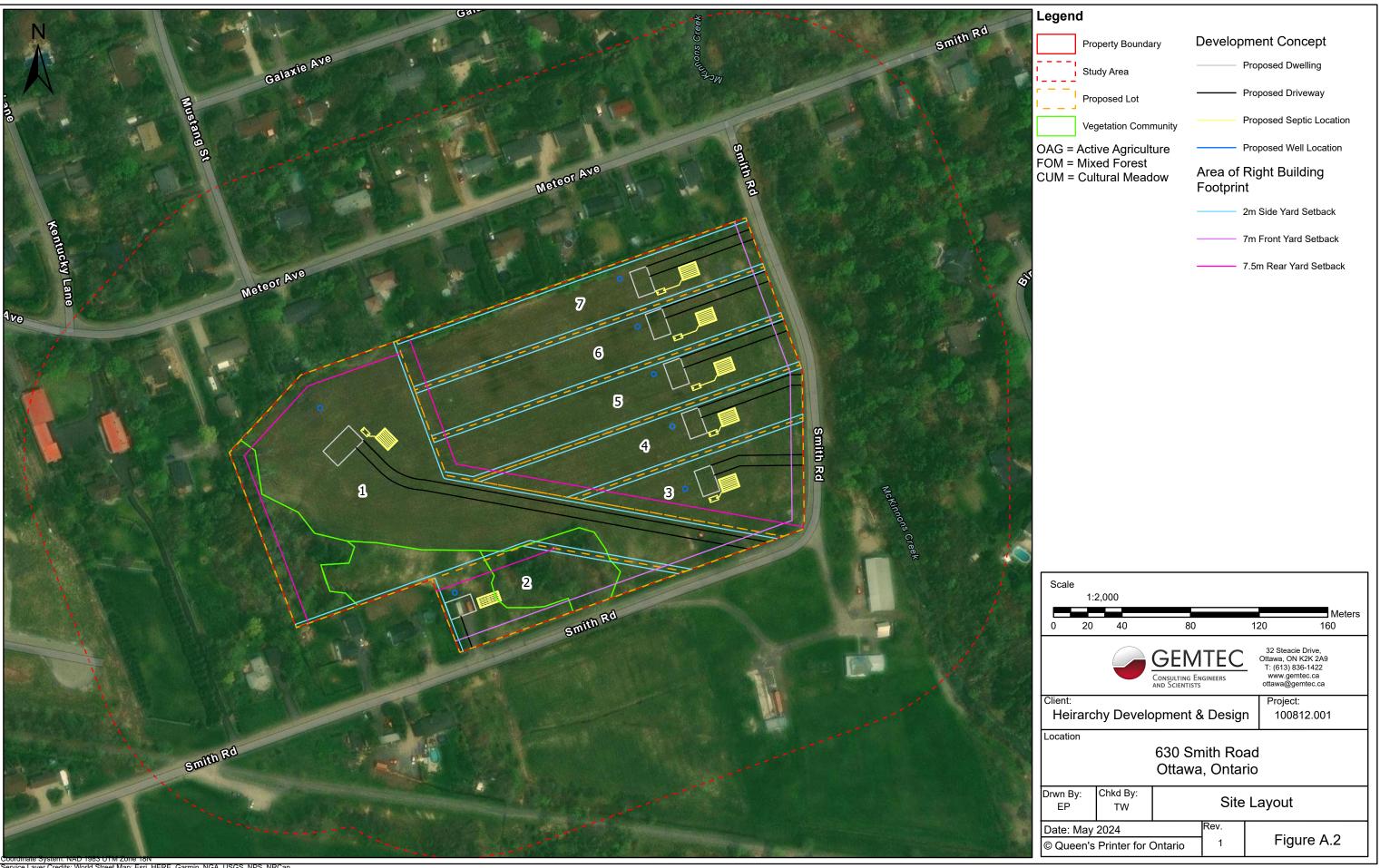
Ottawa, City of (Ottawa), By-law No. 2020-340, Tree Protection.



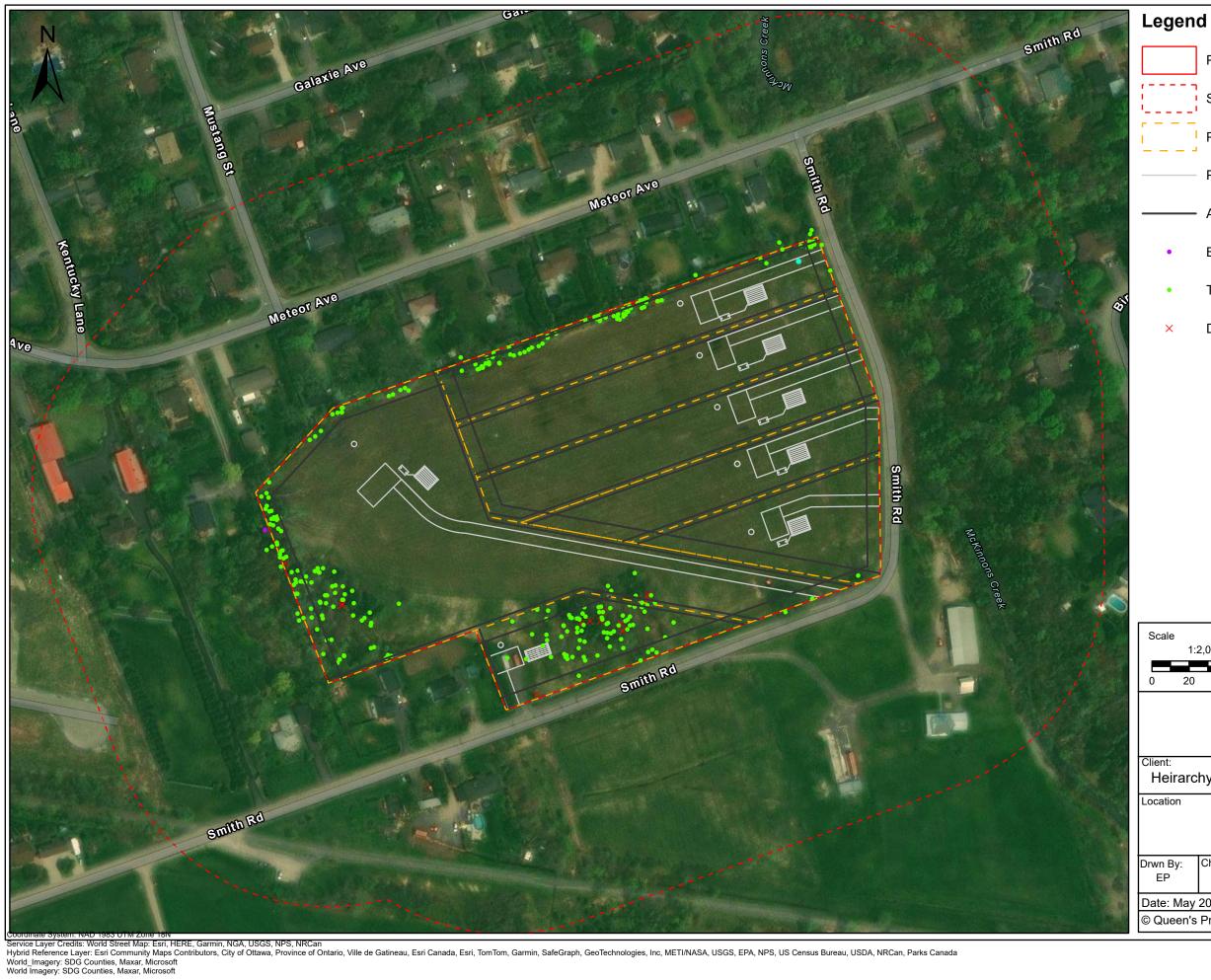
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Service Layer Credits: World Street Map: Esri, HERE, Garmin, NGA, USGS, NPS, NRCan
Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Ville de Gatineau, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada World_Imagery: SDG Counties, Maxar, Microsoft
World Imagery: SDG Counties, Maxar, Microsoft



Property Boundary

Study Area

Proposed Lot

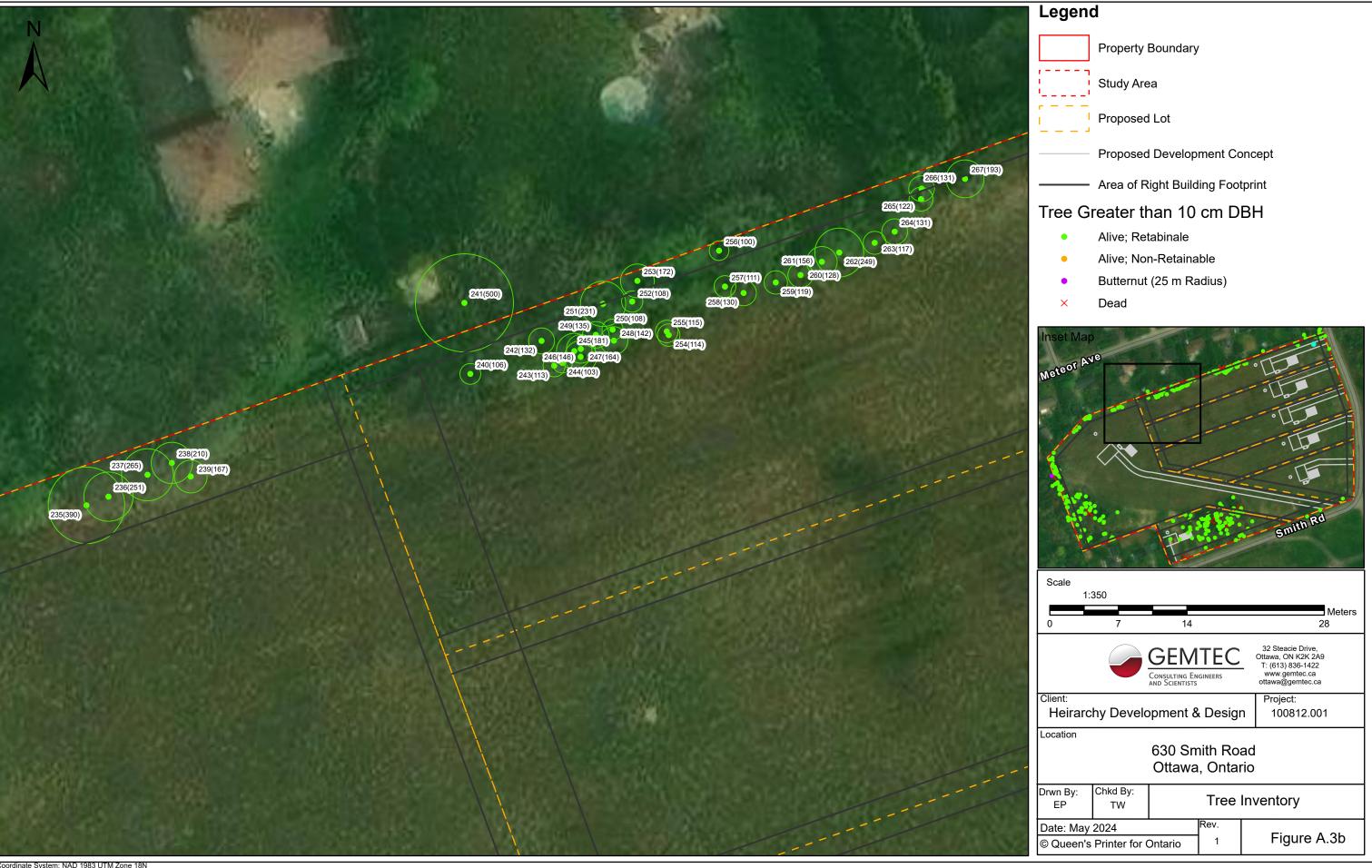
Proposed Development Concept

Area of Right Building Footprint

- Butternut (25m Radius)
- Trees Greater than 10 cm DBH
- Dead Tree

1:2,000 20 160 32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca CONSULTING ENGINEERS AND SCIENTISTS Project: Heirarchy Development & Design 100812.001 630 Smith Road Ottawa, Ontario Chkd By: Tree Inventory Date: May 2024 Figure A.3 © Queen's Printer for Ontario



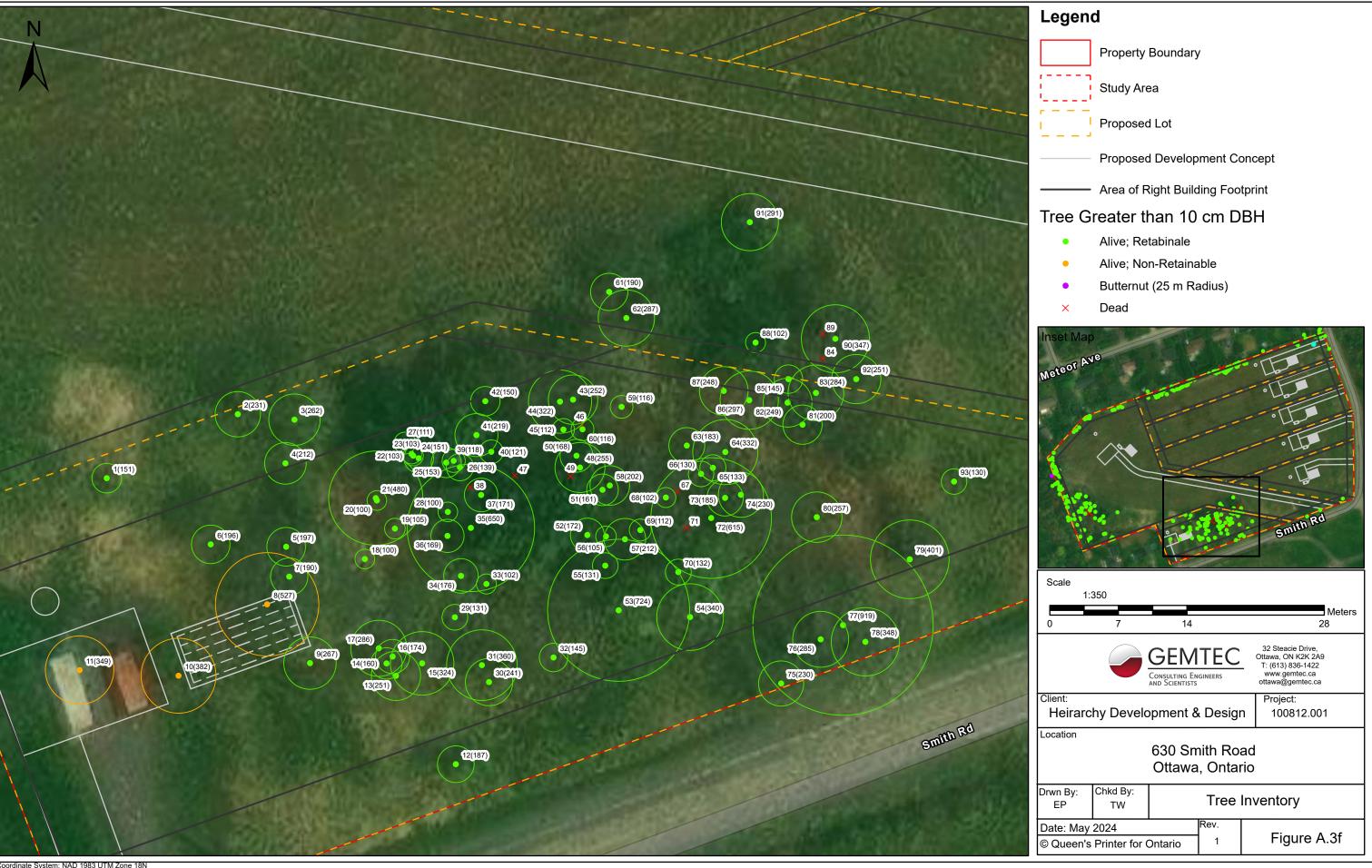




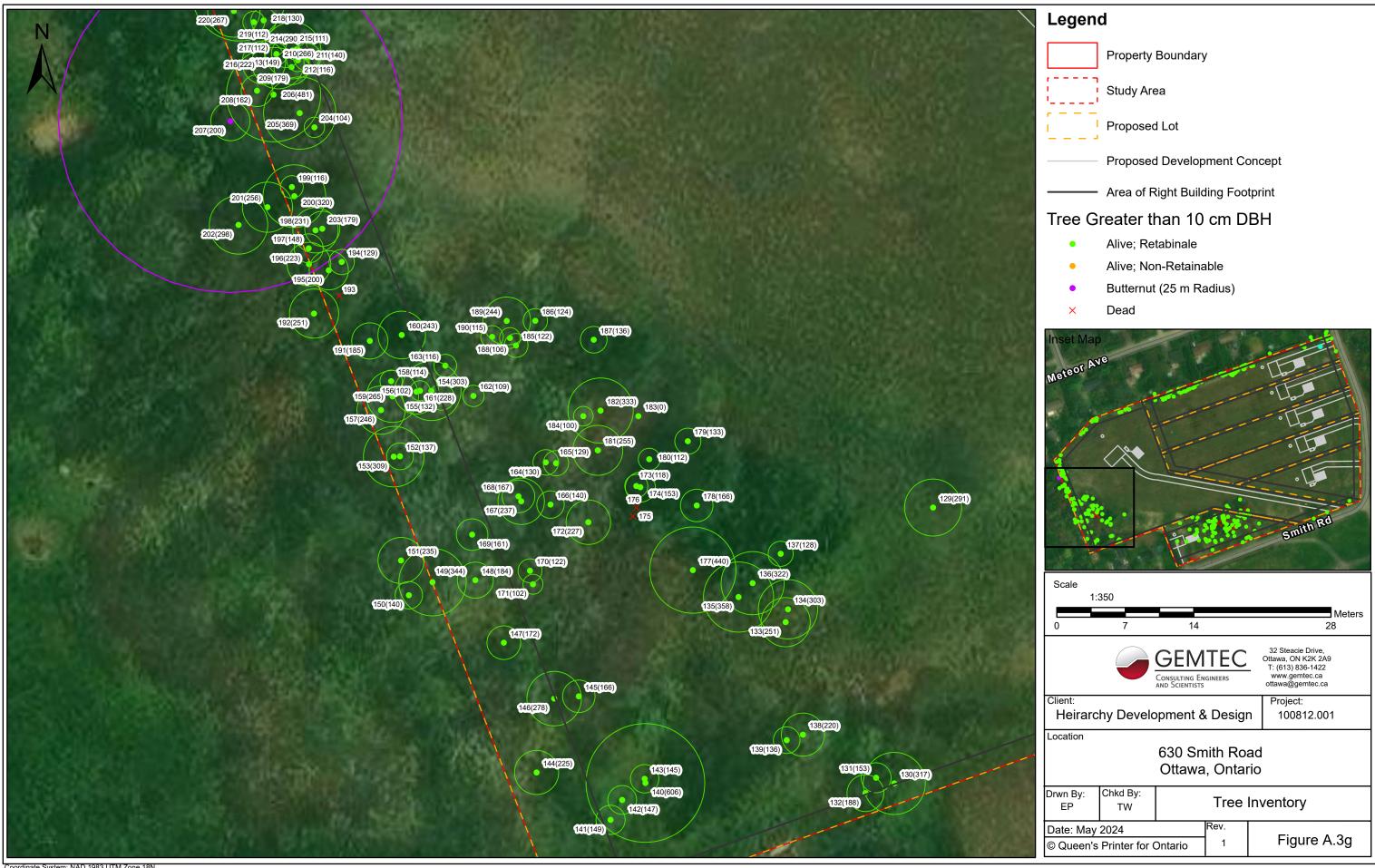


Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Ville de Gatineau, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada World_Imagery: SDG Counties, Maxar, Microsoft
World Imagery: SDG Counties, Maxar, Microsoft

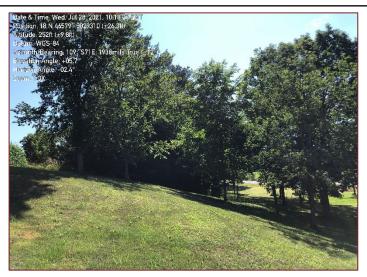




Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Ville de Gatineau, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada World_Imagery: SDG Counties, Maxar, Microsoft
World Imagery: SDG Counties, Maxar, Microsoft







Site Photograph 1 – Section of trees along southern property boundary.



Site Photograph 3 – Along the southeastern property boundary.



Site Photograph 2 – Section of trees along southern property boundary.



Site Photograph 4 – Along northern property boundary.



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APPENDIX B

File No.

100812.001

Site Photographs



Site Photograph 5 – Large section of trees in the southwestern corner of the property.



Site Photograph 7 – Butternut tree found in study area.



Site Photograph 6 – Current shrubs and trees along western property boundary.



Site Photograph 8 – Butternut tree found in study area.



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Tree Conservation Report 930 Smith Road Ottawa, Ontario

APPENDIX B

File No.

100812.001

Site Photographs



Canimary of Troo involvery Researce										
Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree		
1	Bur Oak	Quercus macrocarpa	15.1	151	Good	Retainable	No	No		
2	American Elm	Ulmus americana	23.1	231	Good	Retainable	No	No		
3	American Elm	Ulmus americana	26.2	262	Good	Retainable	No	No		
4	American Elm	Ulmus americana	21.2	212	Good	Retainable	No	No		
5	Sugar Maple	Acer saccharum	19.7	197	Good	Retainable	No	No		
6	Black Cherry	Prunus serotina	19.6	196	Good	Retainable	No	No		
7	Sugar Maple	Acer saccharum	19.0	190	Good	Retainable	No	No		
8	Bur Oak	Quercus macrocarpa	52.7	527	Good	Non- Retainable	Yes	No		
9	Slippery Elm	Ulmus rubra	26.7	267	Good	Retainable	No	No		
10	Slippery Elm	Ulmus rubra	38.2	382	Good	Non- Retainable	No	No		
11	Slippery Elm	Ulmus rubra	34.9	349	Good	Non- Retainable	No	No		
12	Slippery Elm	Ulmus rubra	18.7	187	Good	Retainable	No	No		
13	Bur Oak	Quercus macrocarpa	25.1	251	Good	Retainable	No	No		
14	Bur Oak	Quercus macrocarpa	16	160	Good	Retainable	No	No		
15	Bur Oak	Quercus macrocarpa	32.4	324	Good	Retainable	No	No		
16	Bur Oak	Quercus macrocarpa	17.4	174	Good	Retainable	No	No		
17	Bur Oak	Quercus macrocarpa	28.6	286	Good	Retainable	No	No		
18	Sugar Maple	Acer saccharum	10	100	Good	Retainable	No	No		
19	Bur Oak	Quercus macrocarpa	10.5	105	Moderate	Retainable	No	No		
20	American Elm	Ulmus americana	10	100	Good	Retainable	No	No		
21	White Pine	Pinus strobus	48.0	480	Good	Retainable	No	No		
22	Black Cherry	Prunus serotina	10.3	103	Good	Retainable	No	No		
23	Slippery Elm	Ulmus rubra	10.3	103	Good	Retainable	No	No		
24	Slippery Elm	Ulmus rubra	15.1	151	Good	Retainable	No	No		
25	Black Cherry	Prunus serotina	15.3	153	Good	Retainable	No	No		
26	Slippery Elm	Ulmus rubra	13.9	139	Good	Retainable	No	No		
27	American Elm	Ulmus americana	11.1	111	Good	Retainable	No	No		
28	Sugar Maple	Acer saccharum	10	100	Good	Retainable	No	No		
29	Sugar Maple	Acer saccharum	13.1	131	Good	Retainable	No	No		
30	Bur Oak	Quercus macrocarpa	24.1	241	Moderate	Retainable	No	No		
31	Slippery Elm	Ulmus rubra	36	360	Good	Retainable	No	No		
32	Bur Oak	Quercus macrocarpa	14.5	145	Good	Retainable	No	No		
33	Sugar Maple	Acer saccharum	10.2	102	Good	Retainable	No	No		
34	Slippery Elm	Ulmus rubra	17.6	176	Poor	Retainable	No	No		
35	White Pine	Pinus strobus	65	650	Good	Retainable	Yes	No		
36	White Pine		16.9	169	Good		No	No		
37	Sugar Maple	Pinus strobus Acer saccharum	17.7, 17.1	177	Good	Retainable Retainable	No	No		
38			11.1			Retainable	No	No		
39	Elm spp. Slippery Elm	Ulmus spp. Ulmus rubra	11.1	 118	Dead Moderate	Retainable	No	No		
40	Sugar Maple	Acer saccharum	12.1	121	Good	Retainable	No	No		
41	- ·		21.9	219	Good			No		
42	Slippery Elm Wild Crab Apple	Ulmus rubra Malus coronaria	14, 14.6, 15,	150	Moderate	Retainable Retainable	No No	No		
	• •		12, 14							
43	Bur Oak	Quercus macrocarpa	25.2	252	Good	Retainable	No	No		
44	Bur Oak	Quercus macrocarpa	32.2	322	Good	Retainable	No	No		
45	Slippery Elm	Ulmus rubra	11.2	112	Moderate	Retainable	No	No		
46 47	Elm spp. Elm spp.	Ulmus spp. Ulmus spp.	12.8, 14.6 12.6		Dead Dead	Retainable Retainable	No No	No No		



Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree
48	White Pine	Pinus strobus	25.5	255	Good	Retainable	No	No
49	White Pine	Pinus strobus	33.8		Dead	Retainable	No	No
50	Bur Oak	Quercus macrocarpa	16.8	168	Good	Retainable	No	No
51	Bur Oak	Quercus macrocarpa	16.1	161	Good	Retainable	No	No
52	Bur Oak	Quercus macrocarpa	17.2	172	Good	Retainable	No	No
53	Sugar Maple	Acer saccharum	72.4	724	Moderate	Retainable	Yes	Yes
54	Bur Oak	Quercus macrocarpa	34	340	Good	Retainable	No	No
55	Bur Oak	Quercus macrocarpa	13.1	131	Good	Retainable	No	No
56	Bur Oak	Quercus macrocarpa	10.5	105	Good	Retainable	No	No
57	Bur Oak	Quercus macrocarpa	21.2	212	Good	Retainable	No	No
58	Manitoba Maple	Acer negundo	17.5, 20.2	202	Good	Retainable	No	No
59	Sugar Maple	Acer saccharum	11.6	116	Good	Retainable	No	No
60	Sugar Maple	Acer saccharum	11.6	116	Good	Retainable	No	No
61	Manitoba Maple	Acer negundo	19	190	Good	Retainable	No	No
62	Bur Oak	Quercus macrocarpa	22.8, 28.7	287	Good	Retainable	No	No
63	Basswood	Tilia americana	18.3	183	Good	Retainable	No	No
64	Bur Oak	Quercus macrocarpa	33.2	332	Good	Retainable	No	No
65	Sugar Maple	Acer saccharum	13.3	133	Good	Retainable	No	No
66	Sugar Maple	Acer saccharum	13	130	Good	Retainable	No	No
67	Elm spp.	Ulmus spp.	14.3		Dead	Retainable	No	No
68	Sugar Maple	Acer saccharum	10.2	102	Good	Retainable	No	No
69	Sugar Maple	Acer saccharum	11.2	112	Good	Retainable	No	No
70	American Elm	Ulmus americana	13.2	132	Good	Retainable	No	No
71	Elm spp.	Ulmus spp.	23.6		Dead	Retainable	No	No
72	Sugar Maple	Acer saccharum	61.5	615	Good	Retainable	Yes	No
73	Black Cherry	Prunus serotina	18.5, 17.3	185	Good	Retainable	No	No
74	Black Cherry	Prunus serotina	23	230	Good	Retainable	No	No
75	Bur Oak	Quercus macrocarpa	23, 20.9, 20.5, 18.5	230	Good	Retainable	No	No
76	Bur Oak	Quercus macrocarpa	23, 24.5, 28.5	285	Good	Retainable	No	No
77	Bur Oak	Quercus macrocarpa	91.9	919	Good	Retainable	Yes	No
78	Bur Oak	Quercus macrocarpa	32.4, 34.8, 23.9	348	Good	Retainable	No	No
79	Bur Oak	Quercus macrocarpa	40.1	401	Good	Retainable	No	No
80	Bur Oak	Quercus macrocarpa	25.7	257	Good	Retainable	No	No
81	Black Cherry	Prunus serotina	20	200	Good	Retainable	No	No
82	Bur Oak	Quercus macrocarpa	24.9	249	Good	Retainable	No	No
83	Bur Oak	Quercus macrocarpa	28.4	284	Good	Retainable	No	No
84	Elm spp.	Ulmus spp.	13.3		Dead	Retainable	No	No
85	Green Ash	Fraxinus pennsylvanica	14.5	145	Very poor	Retainable	No	No
86	Elm spp.	Ulmus spp.	29.7	297	Very poor	Retainable	No	No
87	White Pine	Pinus strobus	24.8	248	Good	Retainable	No	No
88	Sugar Maple	Acer saccharum	10.2	102	Good	Retainable	No	No
89	Elm spp.	Ulmus spp.	15.5		Dead	Retainable	No	No
90	Manitoba Maple	Acer negundo	27.8, 13.6, 22.6, 34.7	347	Good	Retainable	No	Yes
91	Manitoba Maple	Acer negundo	20, 18.3, 29.1	291	Moderate	Retainable	No	No
92	Bur Oak	Quercus macrocarpa	25.1	251	Good	Retainable	No	No



Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree
93	Sugar Maple	Acer saccharum	13	130	Good	Retainable	No	No
94	American Elm	Ulmus americana	94.8	948	Good	Retainable	Yes	No
95	Bur Oak	Quercus macrocarpa	31.3	313	Good	Retainable	No	No
96	American Elm	Ulmus americana	62.8	628	Good	Retainable	Yes	No
97	Slippery Elm	Ulmus rubra	15.5, 19.8	198	Good	Retainable	No	No
98	Trembling Aspen	Populus tremuloides	12.7	127	Good	Retainable	No	No
99	Trembling Aspen	Populus tremuloides	12.3	123	Good	Retainable	No	No
100	Slippery Elm	Ulmus rubra	10.8	108	Good	Retainable	No	No
101	Slippery Elm	Ulmus rubra	16.5	165	Good	Retainable	No	No
102	Trembling Aspen	Populus tremuloides	16.3	163	Good	Retainable	No	No
103	Wild Crab Apple	Malus coronaria	12.3, 14	140	Good	Retainable	No	No
104	White Spruce	Picea glauca	34.4	344	Good	Retainable	No	No
105	Basswood	Tilia americana	10.1	101	Good	Retainable	No	No
106	Trembling Aspen	Populus tremuloides	19.3	193	Good	Retainable	No	No
107	Trembling Aspen	Populus tremuloides	19	190	Good	Retainable	No	No
108	Trembling Aspen	Populus tremuloides	18.3, 14.7	183	Good	Retainable	No	No
109	Trembling Aspen	Populus tremuloides	13.3	133	Good	Non- Retainable	No	No
110	Trembling Aspen	Populus tremuloides	10.4	104	Good	Retainable	No	No
111	Manitoba Maple	Acer negundo	14.2	142	Good	Retainable	No	No
112	Manitoba Maple	Acer negundo	15.5	155	Good	Retainable	No	No
113	Bur Oak	Quercus macrocarpa	35.7	357	Good	Retainable	No	No
114	Manitoba Maple	Acer negundo	25.8	258	Good	Retainable	No	No
115	White Spruce	Picea glauca	10.2	102	Good	Retainable	No	No
116	Elm spp.	Ulmus spp.	12.1		Dead	Retainable	No	No
117	Trembling Aspen	Populus tremuloides	10	100	Good	Retainable	No	No
118	Trembling Aspen	Populus tremuloides	10.8	108	Good	Retainable	No	No
119	Manitoba Maple	Acer negundo	32.9	329	Good	Retainable	No	No
120	Manitoba Maple	Acer negundo	11.7	117	Good	Retainable	No	No
121	Trembling apsen	Populus tremuloides	16.4	164	Good	Retainable	No	
122	Eastern White Cedar	Thuja occidentalis	11.8	118	Good	Retainable	No	No
123	Trembling Aspen	Populus tremuloides	21.7	217	Good	Retainable	No	No
124	White Spruce	Picea glauca	48.1	481	Poor	Retainable	No	No
125	White Spruce	Picea glauca	39.4	394	Poor	Retainable	No	No
126	Trembling Aspen	Populus tremuloides	21.5	215	Good	Retainable	No	No
127	Trembling Aspen	Populus tremuloides	28.3	283	Good	Retainable	No	No
128	Jack Pine	Pinus banksiana	25	250	Good	Retainable	No	No
129	Bur Oak	Quercus macrocarpa	29.1	291	Good	Retainable	No	No



Dispersion of Original Circuition									
Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree	
130	Cottonwood	Populus deltoides	31.7	317	Good	Retainable	No	No	
131	Manitoba Maple	Acer negundo	15.3	153	Good	Retainable	No	No	
132	Manitoba Maple	Acer negundo	18.8	188	Good	Retainable	No	No	
133	White Pine	Pinus strobus	25.1	251	Good	Retainable	No	No	
134	White Pine	Pinus strobus	30.3, 22.2	303	Good	Retainable	No	No	
135	White Pine	Pinus strobus	35.8	358	Good	Retainable	No	No	
136	White Pine	Pinus strobus	32.2	322	Good	Retainable	No	No	
137	White Pine	Pinus strobus	12.8	128	Good	Retainable	No	No	
138	Manitoba Maple	Acer negundo	22	220	Good	Retainable	No	No	
139	Red Maple	Acer rubrum	13.6	136	Good	Retainable	No	No	
140	Manitoba Maple	Acer negundo	60.6, 56.2	606	Good	Retainable	Yes	No	
141	Manitoba Maple	Acer negundo	14.9	149	Good	Retainable	No	No	
142	Manitoba Maple	Acer negundo	14.7	147	Good	Retainable	No	No	
143	Manitoba Maple	Acer negundo	14.5	145	Good	Retainable	No	No	
144	River Birch	Betula nigra	22.5	225	Moderate	Retainable	No	No	
145	River Birch	Betula nigra	16.6	166	Good	Retainable	No	No	
146	Red Maple	Acer rubrum	12.8, 11.4, 14.6, 27.8, 11.9	278	Good	Retainable	No	No	
147	Green Ash	Fraxinus pennsylvanica	17.2, 11	172	Moderate	Retainable	No	No	
148	Manitoba Maple	Acer negundo	18.4, 16.3, 14.1	184	Good	Retainable	No	No	
149	River Birch	Betula nigra	34.4	344	Good	Retainable	No	No	
150	Green Ash	Fraxinus pennsylvanica	12.5, 14	140	Good	Retainable	No	No	
151	River Birch	Betula nigra	23.5	235	Good	Retainable	No	No	
152	Red Maple	Acer rubrum	10.8, 13.7	137	Good	Retainable	No	No	
153	River Birch	Betula nigra	30.9	309	Good	Retainable	No	No	
154	River Birch	Betula nigra	30.3, 24.8	303	Good	Retainable	No	No	
155	Sugar Maple	Acer saccharum	13.2	132	Good	Retainable	No	No	
156	Red Maple	Acer rubrum	10.2	102	Good	Retainable	No	No	
157	River Birch	Betula nigra	24.6	246	Good	Retainable	No	No	
158	American Elm	Ulmus americana	11.4	114	Moderate	Retainable	No	No	
159	River Birch	Betula nigra	26.5	265	Good	Retainable	No	No	
160	White Pine	Pinus strobus	24.3	243	Good	Retainable	No	No	
161	White Pine	Pinus strobus	22.8	228	Good	Retainable	No	No	
162	Slippery Elm	Ulmus rubra	10.9	109	Good	Retainable	No	No	
163	Red Maple	Acer rubrum	11.6	116	Good	Retainable	No	No	
164	Manitoba Maple	Acer negundo	13	130	Good	Retainable	No	No	
165	Red Maple	Acer rubrum	12.9	129	Good	Retainable	No	No	
166	Red Maple	Acer rubrum	14	140	Good	Retainable	No	No	
167	River Birch	Betula nigra	23.7	237	Good	Retainable	No	No	
168	River Birch	Betula nigra	16.7	167	Good	Retainable	No	No	
169	River Birch	Betula nigra	16.1	161	Good	Retainable	No	No	
170	Green Ash	Fraxinus pennsylvanica	12.2	122	Good	Retainable	No	No	
171	Manitoba Maple	Acer negundo	10.2	102	Good	Retainable	No	No	
172	Red Maple	Acer rubrum	13.2, 22.7	227	Good	Retainable	No	No	
173	Red Maple	Acer rubrum	11.8	118	Good	Retainable	No	No	
174	Jack Pine	Pinus banksiana	15.3	153	Poor	Retainable	No	No	



Tues			Diameter at	Critical		Datainable	Significant	VA/: L-U:-G
Tree Number	Common Name	Scientific Name	Breast Height (cm)	Root Zone (cm)	Condition	Retainable or Conflict	Tree (> 50 cm)	Wildlife Tree
175	Elm spp.	Ulmus spp.	19.9		Dead	Retainable	No	No
176	Elm spp.	Ulmus spp.	37.8		Dead	Retainable	No	No
177	White Pine	Pinus strobus	44	440	Good	Retainable	No	No
178	Red Maple	Acer rubrum	16.6	166	Good	Retainable	No	No
179	Manitoba Maple	Acer negundo	13.3	133	Good	Retainable	No	No
180	Red Maple	Acer rubrum	11.2	112	Good	Retainable	No	No
181	Slippery Elm	Ulmus rubra	25.5	255	Good	Retainable	No	No
182	White Pine	Pinus strobus	33.3	333	Good	Retainable	No	No
183	Green Ash	Fraxinus pennsylvanica	10	100	Good	Retainable	No	No
184	Jack Pine	Pinus banksiana	12.2	122	Poor	Retainable	No	No
185	Red Maple	Acer rubrum	11	110	Good	Retainable	No	No
186	Manitoba Maple	Acer negundo	12.4	124	Good	Retainable	No	No
187	Red Maple	Acer rubrum	13.6	136	Good	Retainable	No	No
188	Manitoba Maple	Acer negundo	10.5, 10.6	106	Good	Retainable	No	No
189	Manitoba Maple	Acer negundo	24.4	244	Good	Retainable	No	No
190	Red Maple	Acer rubrum	11.5	115	Good	Retainable	No	No
191	Manitoba Maple	Acer negundo	18.5	185	Good	Retainable	No	No
192	Jack Pine	Pinus banksiana	25.1	251	Moderate	Retainable	No	No
193	Unknown spp.		10.7		Dead	Retainable	No	No
194	River Birch	Betula nigra	12.9	129	Good	Retainable	No	No
195	River Birch	Betula nigra	20	200	Good	Retainable	No	No
196	Jack Pine	Pinus banksiana	22.3	223	Good	Retainable	No	No
197	Black Cherry	Prunus serotina	14.8	148	Good	Retainable	No	No
198	Jack Pine	Pinus banksiana	23.1	231	Poor	Retainable	No	No
199	Jack Pine	Pinus banksiana	11.6	116	Good	Retainable	No	No
200	Jack Pine	Pinus banksiana	32	320	Good	Retainable	No	No
201	Jack Pine	Pinus banksiana	25.6	256	Good	Retainable	No	No
202	Jack Pine	Pinus banksiana	29.8	298	Good	Retainable	No	No
203	River Birch	Betula nigra	15.6, 17.9	179	Good	Retainable	No	No
204	Red Maple	Acer rubrum	10.4	104	Good	Retainable	No	No
205	Trembling Aspen	Populus tremuloides	36.9	369	Good	Retainable	No	No
206	Trembling Aspen	Populus tremuloides	48.1	481	Good	Retainable	No	No
207	Butternut	Juglans cinerea			Moderate	Possible Conflict	No	
208	White Pine	Pinus strobus	16.2	162	Good	Retainable	No	No
209	White Pine	Pinus strobus	17.9	179	Good	Retainable	No	No
210	White Pine	Pinus strobus	26.6	266	Good	Retainable	No	No
211	White Pine	Pinus strobus	14	140	Good	Retainable	No	No
212	Red Maple	Acer rubrum	11.6	116	Good	Retainable	No	No
213	White Pine	Pinus strobus	14.9	149	Good	Retainable	No	No
214	Trembling Aspen	Populus tremuloides	29	290	Good	Retainable	No	No
215	White Pine	Pinus strobus	11.1	111	Good	Retainable	No	No
216	White Pine	Pinus strobus	22.2	222	Good	Retainable	No	No
217	White Pine	Pinus strobus	11.2	112	Good	Retainable	No	No
218	Red Maple	Acer rubrum	13	130	Good	Retainable	No	No
219	Red Maple	Acer rubrum	11.2	112	Good	Retainable	No	No
220	Red Maple	Acer rubrum	22.4, 26.7	267	Good	Retainable	No	No



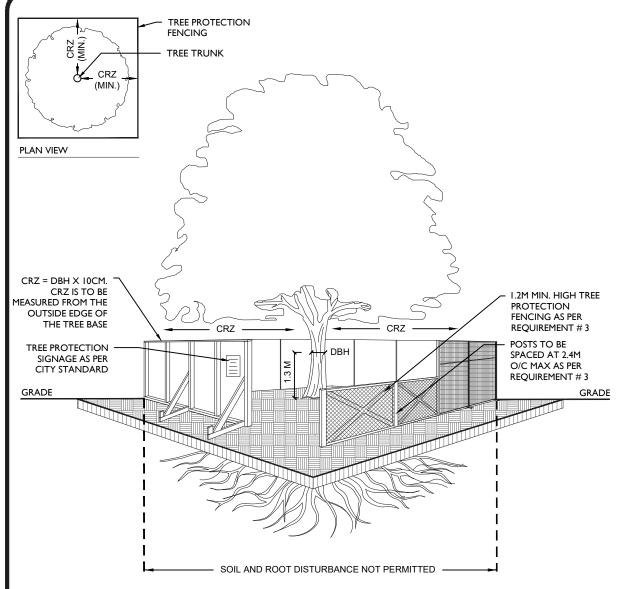
Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree		
221	Trembling Aspen	Populus tremuloides	48.2	482	Good	Retainable	No	No		
222	Trembling Aspen	Populus tremuloides	35.7	357	Good	Retainable	No	No		
223	Trembling Aspen	Populus tremuloides	47.3	473	Good	Retainable	No	No		
224	Bur Oak	Quercus macrocarpa	13.3	133	Good	Retainable	No	No		
225	Manitoba Maple	Acer negundo	48.3, 29.4	483	Good	Retainable	No	No		
226	Bur Oak	Quercus macrocarpa	18.7	187	Good	Retainable	No	No		
227	Basswood	Tilia americana	25.3, 19.6, 26.3	263	Good	Retainable	No	No		
228	Manitoba Maple	Acer negundo	20, 16.5, 17.5	200	Good	Retainable	No	No		
229	Red Maple	Acer rubrum	25	250	Good	Retainable	No	No		
230	Red Maple	Acer rubrum	20	200	Good	Retainable	No	No		
231	White Pine	Pinus strobus	17, 21.5	215	Good	Retainable	No	No		
232	Red Maple	Acer rubrum	23.5, 16.5	235	Good	Retainable	No	No		
233	Red Maple	Acer rubrum	16, 11.5	160	Good	Retainable	No	No		
234	Red Maple	Acer rubrum	39, 33.2	390	Good	Retainable	No	No		
235	Red Maple	Acer rubrum	19.1, 24.1, 25.1	251	Good	Retainable	No	No		
236	Red Maple	Acer rubrum	26.5, 12	265	Good	Retainable	No	No		
237	Red Maple	Acer rubrum	21	210	Good	Retainable	No	No		
238	Red Maple	Acer rubrum	14.2, 16.7	167	Moderate	Retainable	No	No		
239	Trembling Aspen	Populus tremuloides	10.6	106	Good	Retainable	No	No		
240	Silver Maple	Acer saccharinum	50	500	Good	Retainable	No	No		
241	Trembling Aspen	Populus tremuloides	13.2	132	Good	Retainable	No	No		
242	Trembling Aspen	Populus tremuloides	11.3	113	Good	Retainable	No	No		
243	Trembling Aspen	Populus tremuloides	10.3	103	Good	Retainable	No	No		
244	Silver Maple	Acer saccharinum	18.1	181	Good	Retainable	No	No		
245	Trembling Aspen	Populus tremuloides	14.6	146	Good	Retainable	No	No		
246	Trembling Aspen	Populus tremuloides	16.4	164	Good	Retainable	No	No		
247	Red Maple	Acer rubrum	14.2	142	Good	Retainable	No	No		
248	Red Maple	Acer rubrum	13.5	135	Good	Retainable	No	No		
249	White Pine	Pinus strobus	10.8	108	Good	Retainable	No	No		
250	Trembling Aspen	Populus tremuloides	23.1	231	Good	Retainable	No	No		
251	Red Maple	Acer rubrum	10.8	108	Good	Retainable	No	No		
252	Trembling Aspen	Populus tremuloides	17.2	172	Good	Retainable	No	No		
253	Bur Oak	Quercus macrocarpa	11.4	114	Good	Retainable	No	No		
254	Trembling Aspen	Populus tremuloides	11.5	115	Good	Retainable	No	No		
255	Red Maple	Acer rubrum	10	100	Good	Retainable	No	No		
256	Red Maple	Acer rubrum	11.1	111	Good	Retainable	No	No		
257	Jack Pine	Pinus banksiana	13	130	Good	Retainable	No	No		
258	Manitoba Maple	Acer negundo	11.9	119	Good	Retainable	No	No		



Tree Number	Common Name	Scientific Name	Diameter at Breast Height (cm)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree
259	Trembling Aspen	Populus tremuloides	12.8	128	Good	Retainable	No	No
260	Slippery Elm	Ulmus rubra	15.6	156	Good	Retainable	No	No
261	Trembling Aspen	Populus tremuloides	22.6, 24.9	249	Good	Retainable	No	No
262	Trembling Aspen	Populus tremuloides	11.7	117	Good	Retainable	No	No
263	Jack Pine	Pinus banksiana	13.1	131	Good	Retainable	No	No
264	Slippery Elm	Ulmus rubra	12.2	122	Good	Retainable	No	No
265	Trembling Aspen	Populus tremuloides	13.1	131	Good	Retainable	No	No
266	Red Maple	Acer rubrum	19.3	193	Good	Retainable	No	No
267	Green Ash	Fraxinus pennsylvanica	12.5	125	Poor	Retainable	No	No
268	Trembling Aspen	Populus tremuloides	12	120	Good	Retainable	No	No
269	Manitoba Maple	Acer negundo	30	300	Good	Retainable	No	No
270	Green Ash	Fraxinus pennsylvanica	13	130	Poor	Retainable	No	No
271	Manitoba Maple	Acer negundo	25	250	Good	Retainable	No	No
272	Trembling Aspen	Populus tremuloides	12	120	Good	Retainable	No	No
273	Trembling Aspen	Populus tremuloides	13.2	132	Good	Retainable	No	No
274	Trembling Aspen	Populus tremuloides	14.2	142	Good	Retainable	No	No
275	Green Ash	Fraxinus pennsylvanica	12.3	123	Poor	Retainable	No	No
276	Trembling Aspen	Populus tremuloides	14.8	148	Good	Retainable	No	No
277	Trembling Aspen	Populus tremuloides	25.7	257	Good	Retainable	No	No
278	White Spruce	Picea glauca			Dead	Retainable	No	No
279	Trembling Aspen	Populus tremuloides	11.1	111	Good	Retainable	No	No
280	Trembling Aspen	Populus tremuloides	17.8	178	Good	Retainable	No	No
281	Trembling Aspen	Populus tremuloides	10	100	Good	Retainable	No	No
282	Trembling Aspen	Populus tremuloides	22	220	Good	Retainable	No	No
283	Trembling Aspen	Populus tremuloides	18.2	182	Good	Retainable	No	No
284	White Spruce	Picea glauca	45	450	Moderate	Retainable	No	No
285	Trembling Aspen	Populus tremuloides	14.4	144	Good	Retainable	No	No
286	Trembling Aspen	Populus tremuloides	17.1	171	Good	Retainable	No	No
287	Trembling Aspen	Populus tremuloides	10.4	104	Good	Retainable	No	No
288	Trembling Aspen	Populus tremuloides	26	260	Good	Retainable	No	No
289	White Spruce	Picea glauca	~45	450	Poor	Retainable	No	No
290	White Spruce	Picea glauca	25	250	Poor	Retainable	No	No







TREE PROTECTION REQUIREMENTS:

- 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



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



civil nical

geotechnical

environmental

field services

materials testing

civil

géotechnique

environnementale

surveillance de chantier

service de laboratoire des matériaux

