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**Tree Conservation Report
Proposed Plan of Development
5923 Ottawa Street
Richmond, Ontario**



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Submitted to:

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6286 Prince of Wales Drive
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**Tree Conservation Report
Proposed Plan of Development
5923 Ottawa Street
Richmond, Ontario**

August 28, 2024
Project: 100300.007

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Stratford Foxrun (the Proponent) to carry out a Tree Conservation Report (TCR) for the property located at 5923 Ottawa Street, in Richmond, 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 a site plan approval for future development on the subject property. As a component of the development application pre-consultation feedback, the City of Ottawa requested that a TCR be completed for the collective property. In accordance with the City of Ottawa’s Tree Protection By-law (No. 2020-340) a 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 property has an approximate size of 2.27 hectares (ha). The proposed site development includes a two storey building with a parking lot and road access via Ottawa Street. The existing site layout and proposed development are provided in Figure A.2 and Figure A.3, respectively, 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 (m) above ground surface for trees of 10 centimeters (cm) in diameter and greater.

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

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 area and rural area. 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 within the suburban boundary.

2.0 METHODOLOGY

2.1 Desktop Review

To complete the TCR, digital colour air photos of the site available from GeoOttawa were reviewed from 1976 to 2022 to identify natural features, including historical trees that are present on-site and in the surrounding area.

Based on a review of historical air photos, the general surrounding area has seen an increase in residential and commercial development since 1991. The site has been in present day configuration since 1976 with only forest regrowth occurring on-site. No alterations to land use were noted during review.

2.2 Field Investigations

In addition to the completion of a desktop review of historical air photos, a site visit was conducted on August 7, 2024, from 11:30 to 19:30, to document and identify all trees within the proposed development footprint and within 25 m of the proposed site alteration, with a DBH greater than 10 cm. Site conditions during the site investigation were as follows: 22°C, no cloud cover, Beaufort 2 and no precipitation. The site investigation utilized transects bisecting the property to document the health of each tree greater than 10 cm in DBH and the tree species. Tree locations were recorded using Survey123 with a GPS range of ± 3m and assigned a unique identifying number and corresponding tree tag.

To determine the presence or absence of species at risk on-site and adjacent to site, butternut (*Juglans cinerea*, Endangered) and black ash (*Fraxinus nigra*, Endangered) were searched for during the tree inventory surveys.

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

3.0 RESULTS

3.1 Existing Conditions

Outside of the existing disturbed area on-site, for a previously dug monitoring well, the subject property consists of a cultural meadow, deciduous forest, and the 1:100 year floodplain associated with the Marlborough Creek. Numerous trees are present on the property, primarily along the eastern property boundary and within the deciduous forest on-site. For the purpose of this report, only trees within the building footprint for the proposed development area and within 25 m, were surveyed. A summary of all trees on-site is provided in Section 3.2 below.

The land use in the vicinity of the subject property is characterized by commercial, residential and agricultural land uses. Natural environmental features in the vicinity of the proposed project footprint include surface water features and natural environment areas (Table 3.1). Surface water features adjacent to the site include Marlborough Creek. The City of Ottawa has also identified a natural environment area off-site north of the railway.

Based on NHIC observation data, the following threatened and endangered Species at Risk (SAR) have been observed within 1 km of the subject property: bobolink, eastern meadowlark, least bittern, eastern small-foot myotis, little brown myotis, tri-colored bat, Blanding's turtle and butternut.

No SAR species were identified on-site or in the area immediately adjacent to the property during the site investigation. However, based conservatively on the NHIC observation data the subject site contains regulated Category 2 and Category 3 habitat for Blanding's turtle. Butternut and black ash trees were specifically targeted for presence/absence during the survey; however, no butternut or black ash were observed on the subject property or within the study area.

There are no other natural environmental features in the vicinity of the project, as summarized in Table 3.1 below.

Table 3.1 Summary of Natural Features Present Within or Adjacent to Subject Property

Natural Feature	Present Within or Adjacent
Surface water or wetlands present	Adjacent – Marlborough Creek
Steep slopes, valleys or escarpments	None
Urban Natural Features or Natural Environment Areas	Adjacent – Natural Environment Area
Significant Woodlands	None
Greenspace Linkages	None
High Quality Specimen Trees	None
Rare plant communities or unique environmental features	None

Presence of Species at Risk	Present – Blanding's turtle, and SAR Bats
Significant Wildlife Habitat	Present – Woodland Amphibian Breeding Habitat, Habitat for Species of Special Concern and Rare Wildlife

3.2 Tree Inventory Summary

Trees on-site were identified to species, enumerated with a unique tree tag identifier, and assessed for visual signs of distress and disease. Table C.1 in Appendix C provides a summary of all tree specimens on-site with a DBH greater than 10 cm. CRZ values for trees with DBH greater than 10 cm are also present in Table C.1 in Appendix C. CRZ was not calculated for dead trees. The square root of the sum of squares method was used to calculate the DBH of trees with multiple stems. All trees with a DBH greater than 10 cm and their CRZ are illustrated on Figure A.4, in Appendix A.

Per the City of Ottawa's Tree Protection By-law (No. 2020-340), 1 tree on the subject site, was identified as a distinctive tree (DBH > 50 cm). Table 3.2 below details the results. For this report, dead standing trees were not included in the distinctive tree list, even if the DBH was greater than 50 cm.

Table 3.2 Summary of Distinctive Trees Present Within or Adjacent to Subject Property

Tree #	Species	DBH (cm)	Condition
19	Willow sp.	51	Healthy

None of the trees identified on-site are listed under the provincial *Endangered Species Act* (ESA 2007).

In general, the tree community assemblage can be described as containing a few mature and semi-mature trees. Dominant tree species on-site were represented by trembling poplar (*Populus tremuloides*). Most of the observed ash trees identified on-site were of good or poor health, likely due to the presence of emerald ash borer. Few ash were observed to have epicormic shoots (young shoots growing from near the base of the tree) indicative of stress and poor health conditions. Most other tree species were observed to be in good or healthy conditions.

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 proposed development concept illustrated on Figure A.3, the following conclusions are provided:

- Out of 165 trees identified by GEMTEC on-site with a DBH greater or equal to 10 cm, 146 were identified as retainable and 19 trees were identified as conflict. The 19 trees identified

as conflict, illustrated on Figures A.4a, A.4b. and A.4c, are considered non-retainable as they are in direct conflict with the development plan or greater than 30% of the trees CRZ will be impacted by the grading from the building and/or the approximate location of the pathway;

- 1 distinctive tree, meeting the City of Ottawa's Tree Protection (By-law No. 2020-340), requirements of DBH > 50 cm, was identified on-site, which was identified as conflict, and likely not retainable under the current development plan;
- Trees on-site are of a typical upland or early successional species;
- 159 trees are in good/healthy condition and 9 trees are in poor or dead condition;
- 1 of the trees present on-site was observed to provide potential wildlife habitat (snag, active nest), which was identified as retainable under the current development plan;
- No Butternut [END] or Black Ash [END] trees were identified on-site or in the area immediately adjacent to site;
- None of the trees present on-site are protected under the Endangered Species Act, Ontario 2007;
- None of the trees on-site were identified to represent High Quality Specimen Tree; and
- All trees identified to be retained, including those within the limit of grading, will have their existing elevations around the critical root zone maintained.

4.1 Tree Conservation Recommendations

It is our opinion based on the results of the completed tree inventory that none of the trees on-site represent exceptional tree specimens, rare communities, nor do they provide any conservation value or great ecological benefit. Based on the proposed development plan it is assumed that 146 of the total identified trees on the subject property are retainable and 19 of the trees were identified as conflict, non-retainable. All of the trees (trees numbered 1-5, 7, 8, 10-20 and 160) were identified as directly in conflict with the development plan. The trunks of these trees occur within or on the boundary of the development plan. Conflict trees are illustrated on Figures A.4c – Appendix A. Future development plans should consider maintaining the distinctive trees identified in this report, in addition to other healthier, more mature trees.

Opportunities exist along the perimeter of the proposed development along the east and northern extents, to offset the loss of trees that are not retainable under the proposed development concept. Trees identified as possible conflict that are removed during construction should also be accounted for in the landscape plan for offsetting.

Future development that requires vegetation clearing should be offset through landscape planting. 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.

4.2 Recommended Mitigation Measures

The following mitigation measures and best practice recommendations are provided by GEMTEC to minimize and eliminate negative impacts to trees identified in Appendix C as retainable during potential future construction. Construction contractors shall apply the following measures outlined below to prevent damage and promote long-term survival of 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. General prohibitions of activities within the fencing include:
 - No placement of construction material (including fill and equipment);
 - No construction activities (i.e. grading, machine operation, etc.) to avoid soil compaction and direct injury to the tree or its root system; and
 - No refueling or disposal of liquids.
- Tree protection should follow the tree protection specification provided by the City of Ottawa (2021). The Specification is provided in Appendix D;
- As per the City of Ottawa's Tree Protection By-law (No. 2020-340), a tree compensation plan may be brought forth by the City of Ottawa, by means of offsetting overall tree and vegetation removal;
- 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;
- All tree service activities (i.e. removal, branch / root pruning, etc.) will be completed by or under the direction of an ISA certified arborist;
- 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
- For the protection of migratory birds and SAR bat species, tree removal shall occur outside of March 15 – November 30 of any given year, to avoid the key breeding bird period as identified by Environment Canada and the bat active season as identified by the Ministry of Environment, Conservation and Parks (MECP). Adhering to the timing window will also avoid contravention of the Migratory Bird Convention Act and the Endangered Species Act. If vegetation clearing activities must take place outside of the timing window than a nest and roost survey shall be conducted by a qualified professional.

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 Stratford Foxrun and is intended for the exclusive use of Stratford Foxrun. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Stratford Foxrun. 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 Young, B.Sc.
Junior Biologist



Zachary Anderson, B.Sc., CAN-CISEC
Biologist

6.0 REFERENCES

Ontario Ministry of Natural Resources and Forestry (OMNRF). 2019. Natural Heritage Information Centre. Make a Map: Natural Heritage Areas.

Ottawa, City of (Ottawa). 2022, City of Ottawa Official Plan.

Ottawa, City of (Ottawa), By-law No. 2020-340, Tree Protection (Updated: January, 2021).

APPENDIX A

Report Figures

Figure A.1 – Site Location

Figure A.2 – Site Layout

Figure A.3 – Development Plan

Figure A.4 – Tree Inventory



Legend

- Subject Property (Red solid line)
- Study Area (Red dashed line)

Inset Map



Scale

1:25,000
 0 200 400 800 1,200 1,600
 Meters



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Project:
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Location

5923 Ottawa Street,
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Drwn By:

EP

Chkd By:

ZA

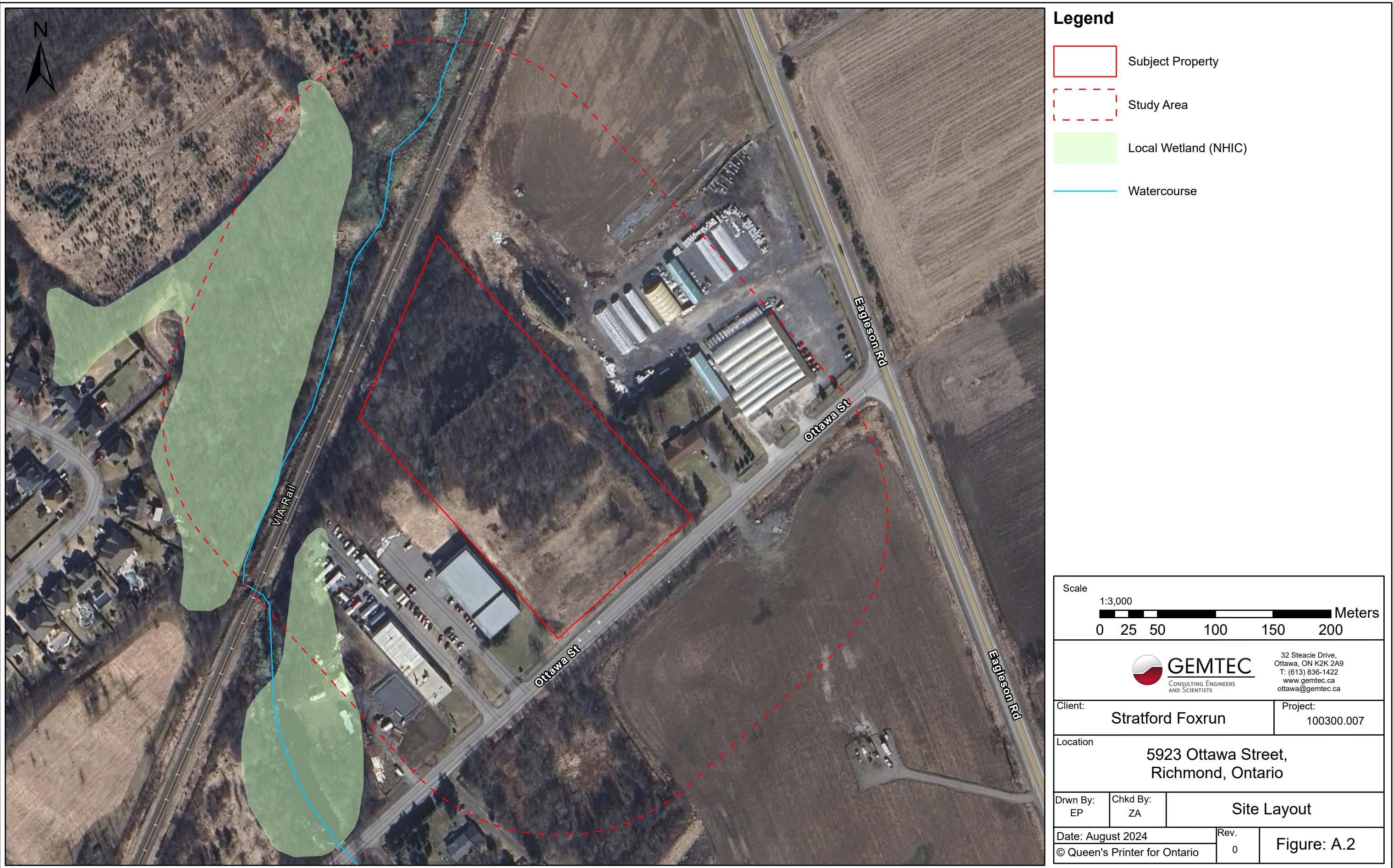
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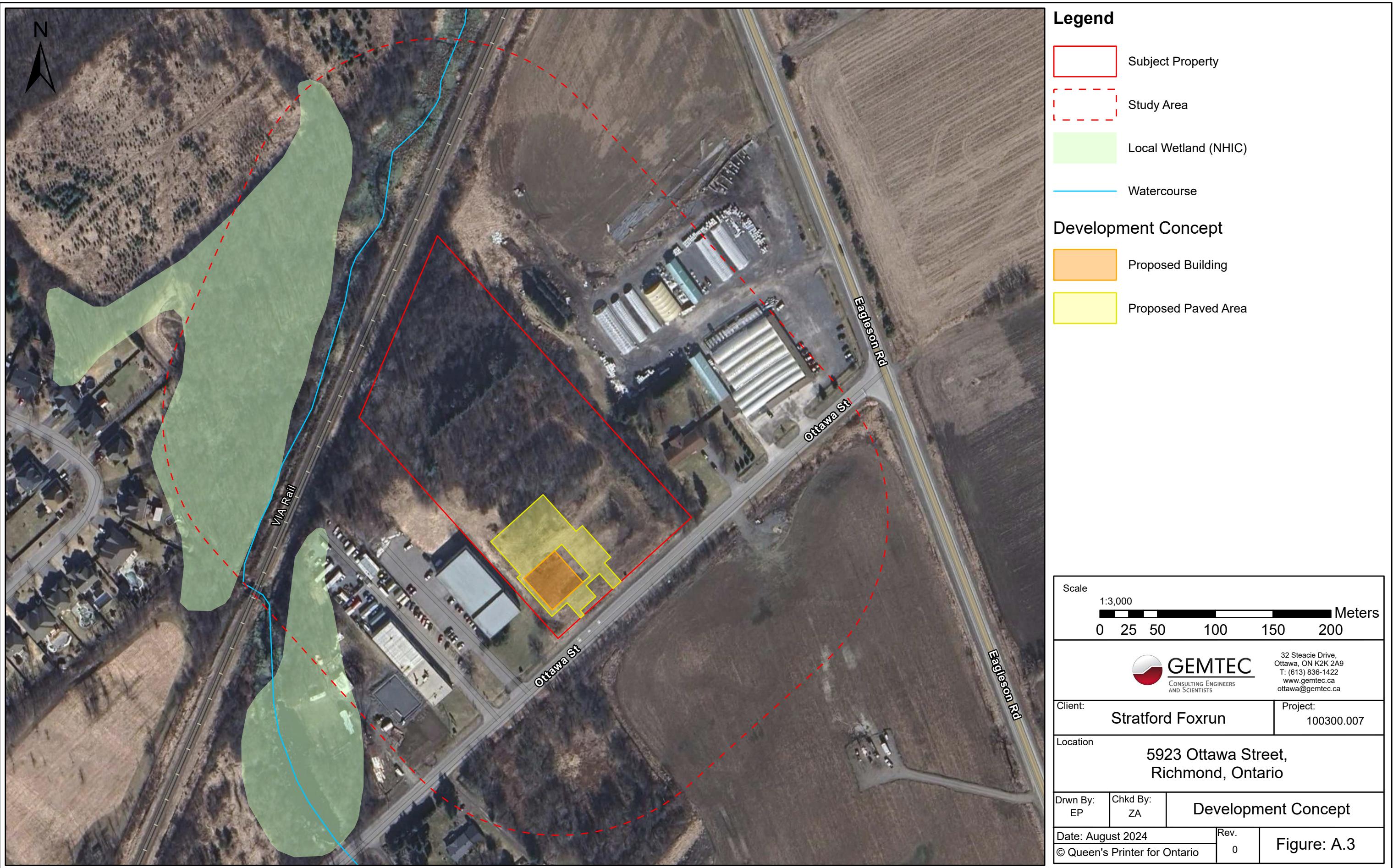
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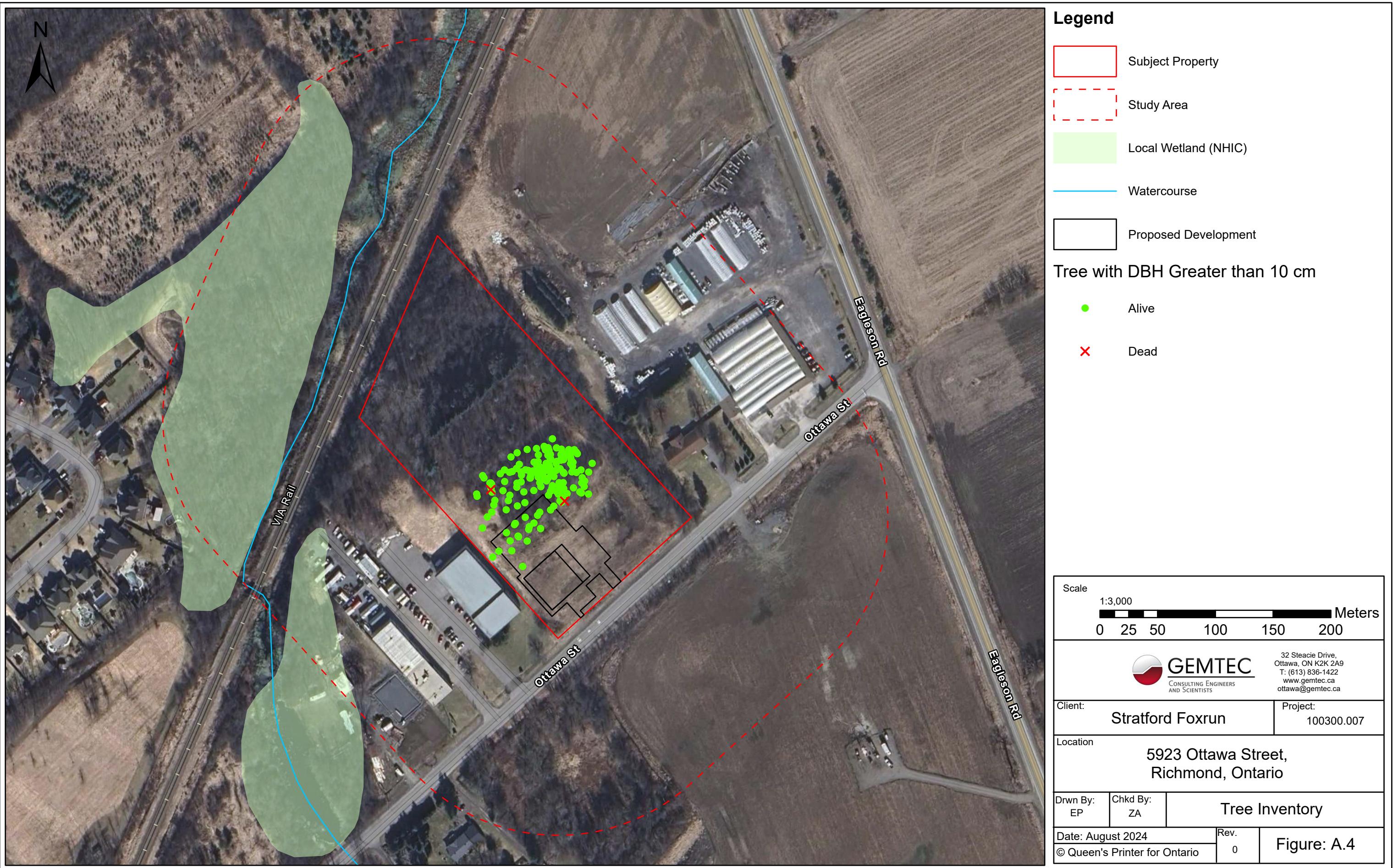
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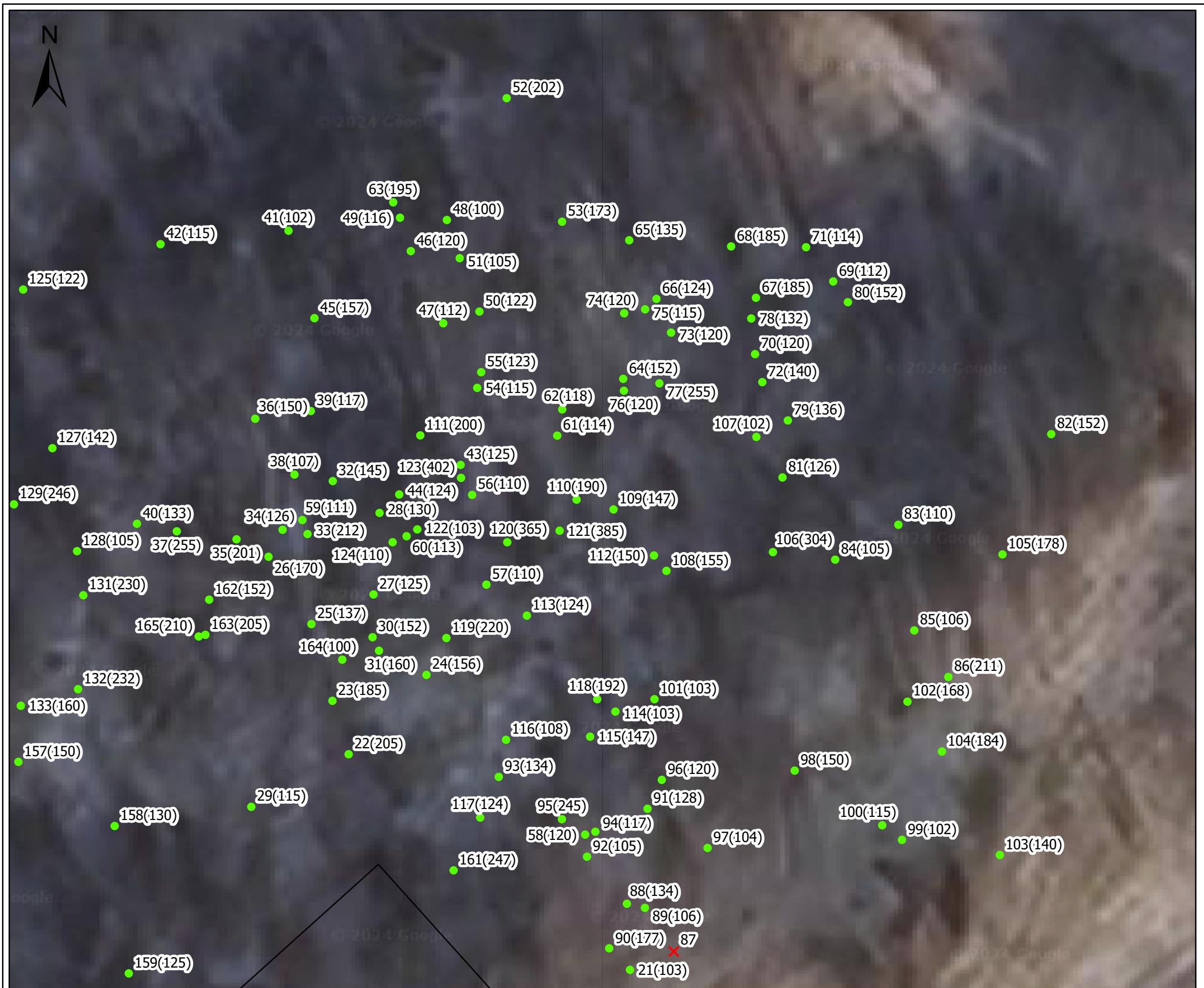
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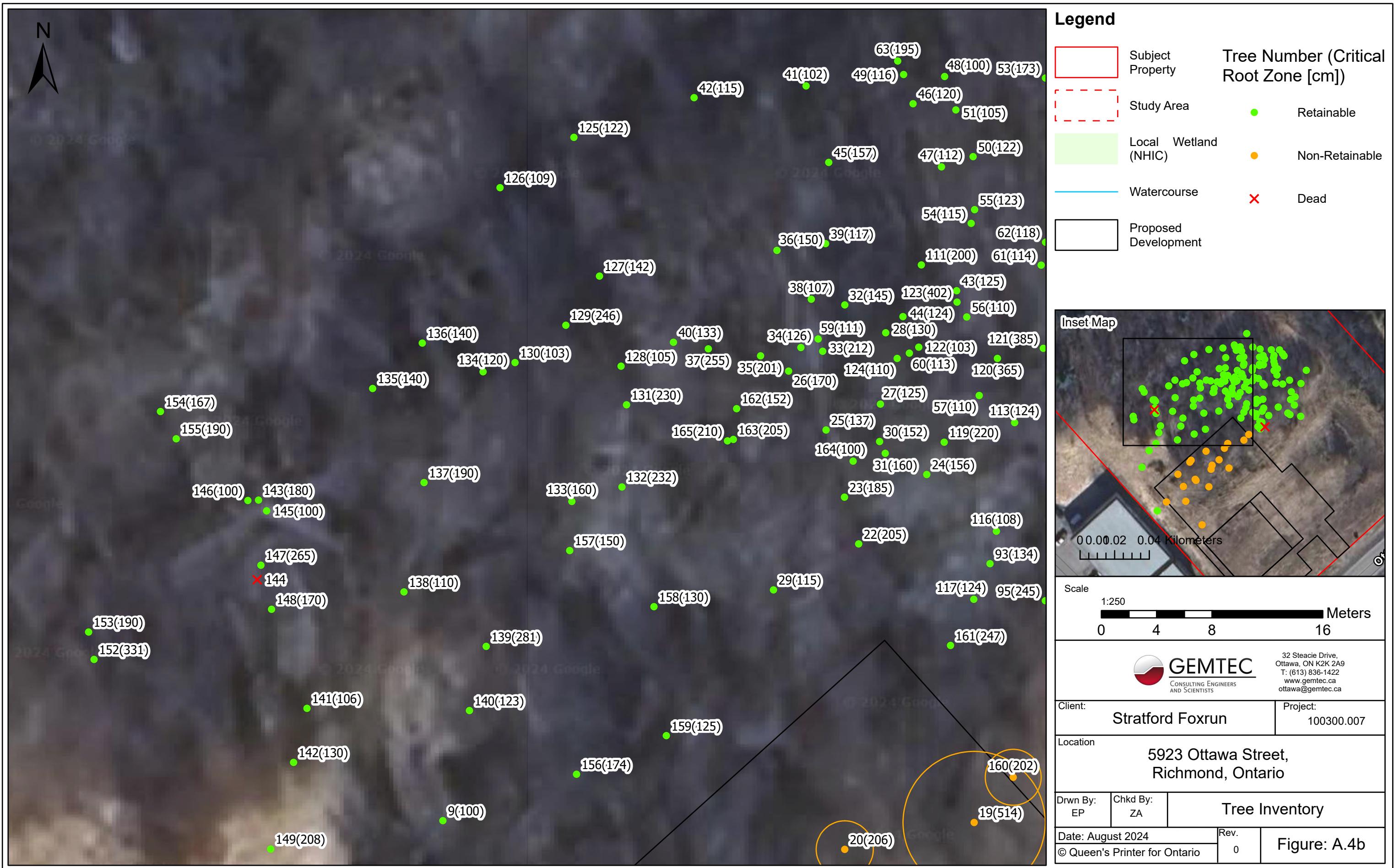
Figure: A.1













Subject Property	141(106)	140(123)	159(125)	90(177)
Study Area	142(130)	156(174)	21(103)	160(202)
Local Wetland (NHIC)	149(208)	9(100)	19(514)	
Watercourse	150(110)	15(314)	20(206)	
Proposed Development	151(213)	8(110)	18(105)	
	5(125)	7(130)	17(212)	
	10(100)	13(153)	16(162)	
	11(102)	12(100)		
	1(110)	14(101)		
	3(203)			
	2(105)			
	6(145)			
	4(105)			



APPENDIX B

Site Photographs



Site Photograph 1 – Cultural Meadow (CUM)



Site Photograph 2 – Cultural Meadow (CUM)



Site Photograph 3 – Deciduous Forest (FOD)



Site Photograph 4 – Deciduous Forest (FOD)



APPENDIX C

Tree Inventory Summary Table

TABLE C.1
TREE INVENTORY

Tree Number GEMTEC	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree	Ownership	Notes	Y Coordinate (Latitude)	X Coordinate (Longitude)
1	White Birch	<i>Betula papyrifera</i>	11	110	Healthy	Conflict	No	No	Private		45.19154035	-75.81867968
2	Green Ash	<i>Fraxinus pennsylvanica</i>	11	105	Poor	Conflict	No	No	Private		45.19148375	-75.8187677
3	Willow sp.	<i>Salix</i> sp.	20	203	Healthy	Conflict	No	No	Private	Multistem 13, 12, 10	45.19148619	-75.81866709
4	Green Ash	<i>Fraxinus pennsylvanica</i>	11	105	Poor	Conflict	No	No	Private		45.19140001	-75.81858265
5	White Birch	<i>Betula papyrifera</i>	13	125	Healthy	Conflict	No	No	Private		45.19158499	-75.81870812
6	Willow sp.	<i>Salix</i> sp.	15	145	Healthy	Retainable	No	No	Private		45.19145118	-75.81881499
7	Trembling Poplar	<i>Populus tremuloides</i>	13	130	Healthy	Conflict	No	No	Private		45.19162931	-75.81864614
8	Green Ash	<i>Fraxinus pennsylvanica</i>	11	110	Good	Conflict	No	No	Private		45.19163607	-75.81863952
9	Trembling Poplar	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No	Private		45.19171073	-75.81871026
10	Willow sp.	<i>Salix</i> sp.	10	100	Healthy	Conflict	No	No	Private		45.19156656	-75.8186184
11	Green Ash	<i>Fraxinus pennsylvanica</i>	10	102	Good	Conflict	No	No	Private		45.19156263	-75.81861395
12	Green Ash	<i>Fraxinus pennsylvanica</i>	10	100	Poor	Conflict	No	No	Private		45.19160319	-75.81853582
13	Green Ash	<i>Fraxinus pennsylvanica</i>	15	153	Good	Conflict	No	No	Private		45.19161802	-75.81853055
14	Trembling Poplar	<i>Populus tremuloides</i>	10	101	Healthy	Conflict	No	No	Private		45.19153926	-75.8185472
15	Trembling Poplar	<i>Populus tremuloides</i>	31	314	Healthy	Conflict	No	No	Private		45.19166936	-75.81856206
16	Green Ash	<i>Fraxinus pennsylvanica</i>	16	162	Good	Conflict	No	No	Private		45.19160769	-75.81844283
17	Willow sp.	<i>Salix</i> sp.	21	212	Healthy	Conflict	No	No	Private	Multistem 14.5, 11.8, 10	45.19163802	-75.81849441
18	Green Ash	<i>Fraxinus pennsylvanica</i>	11	105	Good	Conflict	No	No	Private		45.19168015	-75.81846649
19	Willow sp.	<i>Salix</i> sp.	51	514	Healthy	Conflict	Yes	No	Private	Multistem 22.3, 22, 21.5, 18, 17.5, 17, 12.2, 11.6	45.19170988	-75.81836548
20	White Birch	<i>Betula papyrifera</i>	21	206	Healthy	Conflict	No	No	Private		45.19169759	-75.81844946
21	Green Ash	<i>Fraxinus pennsylvanica</i>	10	103	Good	Retainable	No	No	Private		45.19175104	-75.8182807
22	Trembling Poplar	<i>Populus tremuloides</i>	21	205	Healthy	Retainable	No	No	Private		45.19183729	-75.81844042
23	Trembling Poplar	<i>Populus tremuloides</i>	19	185	Healthy	Retainable	No	No	Private		45.19185867	-75.81844963
24	Trembling Poplar	<i>Populus tremuloides</i>	16	156	Healthy	Retainable	No	No	Private		45.19186904	-75.81839625
25	Trembling Poplar	<i>Populus tremuloides</i>	14	137	Healthy	Retainable	No	No	Private		45.19188939	-75.81846159
26	Trembling Poplar	<i>Populus tremuloides</i>	17	170	Healthy	Retainable	No	No	Private		45.19191632	-75.8184859
27	Trembling Poplar	<i>Populus tremuloides</i>	13	125	Healthy	Retainable	No	No	Private		45.19190123	-75.81842632
28	Trembling Poplar	<i>Populus tremuloides</i>	13	130	Healthy	Retainable	No	No	Private		45.19193386	-75.81842287
29	Trembling Poplar	<i>Populus tremuloides</i>	12	115	Healthy	Retainable	No	No	Private		45.19181626	-75.8184957
30	Trembling Poplar	<i>Populus tremuloides</i>	15	152	Healthy	Retainable	No	No	Private		45.19188412	-75.81842684
31	Trembling Poplar	<i>Populus tremuloides</i>	16	160	Healthy	Retainable	No	No	Private		45.19187872	-75.81842318
32	Trembling Poplar	<i>Populus tremuloides</i>	15	145	Healthy	Retainable	No	No	Private		45.19194659	-75.81844943
33	Trembling Poplar	<i>Populus tremuloides</i>	21	212	Healthy	Retainable	No	No	Private		45.1919254	-75.81846377
34	Trembling Poplar	<i>Populus tremuloides</i>	13	126	Healthy	Retainable	No	No	Private		45.19192711	-75.81847794
35	Trembling Poplar	<i>Populus tremuloides</i>	20	201	Healthy	Retainable	No	No	Private		45.19192331	-75.81850408
36	Trembling Poplar	<i>Populus tremuloides</i>	15	150	Healthy	Retainable	No	No	Private		45.19197154	-75.81849346
37	Trembling Poplar	<i>Populus tremuloides</i>	26	255	Healthy	Retainable	No	No	Private		45.1919265	-75.81853799
38	Trembling Poplar	<i>Populus tremuloides</i>	11	107	Healthy	Retainable	No	No	Private		45.19194921	-75.81847118
39	Trembling Poplar	<i>Populus tremuloides</i>	12	117	Healthy	Retainable	No	No	Private		45.19197462	-75.8184619
40	Trembling Poplar	<i>Populus tremuloides</i>	13	133	Healthy	Retainable	No	No	Private		45.19192952	-75.81856063
41	Trembling Poplar	<i>Populus tremuloides</i>	10	102	Healthy	Retainable	No	No	Private		45.19204676	-75.81847456
42	Trembling Poplar	<i>Populus tremuloides</i>	12	115	Healthy	Retainable	No	No	Private		45.19204138	-75.81854723
43	Trembling Poplar	<i>Populus tremuloides</i>	13	125	Healthy	Retainable	No	No	Private		45.19195308	-75.81837685
44	Trembling Poplar	<i>Populus tremuloides</i>	12	124	Healthy	Retainable	No	No	Private		45.19194124	-75.8184117
45	Trembling Poplar	<i>Populus tremuloides</i>	16	157	Healthy	Retainable	No	No	Private		45.19201177	-75.81845985
46	Trembling Poplar	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No	Private		45.19203861	-75.81840513
47	Trembling Poplar	<i>Populus tremuloides</i>	11	112	Healthy	Retainable	No	No	Private		45.19200974	-75.81838668
48	Trembling Poplar	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No	Private		45.19205106	-75.81838464
49	Green Ash	<i>Fraxinus pennsylvanica</i>	12	116	Good	Retainable	No	No	Private		45.19205196	-75.81841126
50	Trembling Poplar	<i>Populus tremuloides</i>	12	122	Healthy	Retainable	No	No	Private		45.19204441	-75.81836616
51	Trembling Poplar	<i>Populus tremuloides</i>	11	105	Healthy	Retainable	No	No	Private		45.19203578	-75.81837735
52	White Birch	<i>Betula papyrifera</i>	20	202	Healthy	Retainable	No	No	Private		45.1920998	-75.81835067
53	White Birch	<i>Betula papyrifera</i>	17	173	Healthy	Retainable	No	No	Private	Multistem 12.4, 12	45.19205037	-75.81831923
54	Trembling Poplar	<i>Populus tremuloides</i>	12	115	Healthy	Retainable	No	No	Private		45.1919839	-75.81836741
55	Trembling Poplar	<i>Populus tremuloides</i>	12	123	Healthy	Retainable	No	No	Private		45.19199016	-75.81836518
56	Trembling Poplar	<i>Populus tremuloides</i>	11	110	Healthy	Retainable	No	No	Private		45.19194107	-75.81837029
57	Trembling Poplar	<i>Populus tremuloides</i>	11	110	Healthy	Retainable	No	No	Private		45.19190517	-75.81836219
58	Trembling Poplar	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No	Private		45.19180514	-75.81830612
59	Trembling Poplar	<i>Populus tremuloides</i>	11	111	Healthy	Retainable	No	No	Private		45.19193101	-75.81846671
60	Trembling Poplar	<i>Populus tremuloides</i>	11	113	Healthy	Retainable	No	No	Private		45.19192454	-75.81840752
61	Trembling Poplar	<i>Populus tremuloides</i>	11	114	Healthy	Retainable	No	No	Private		45.19196478	-75.81832199
62	Trembling Poplar	<i>Populus tremuloides</i>	12	118	Healthy	Retainable	No	No	Private		45.19197527	-75.81831916
63	Trembling Poplar	<i>Populus tremuloides</i>	19	195	Healthy	Retainable	No	No	Private	Multistem 14.5, 13	45.19205813	-75.8184151
64	Trembling Poplar	<i>Populus tremuloides</i>	15	152	Healthy	Retainable	No	No	Private		45.19198751	-75.81828452
65	Trembling Poplar	<i>Populus tremuloides</i>	14	135	Healthy	Retainable	No	No	Private		45.19204296	-75.81828109

TABLE C.1
TREE INVENTORY

Tree Number GEMTEC	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree	Ownership	Notes	Y Coordinate (Latitude)	X Coordinate (Longitude)
72	Trembling Poplar	<i>Populus tremuloides</i>	14	140	Healthy	Retainable	No	No	Private		45.19198619	-75.81820555
73	Trembling Poplar	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No	Private		45.192006	-75.81825734
74	Trembling Poplar	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No	Private		45.19201373	-75.81828398
75	Trembling Poplar	<i>Populus tremuloides</i>	12	115	Healthy	Retainable	No	No	Private		45.19201532	-75.81827209
76	Trembling Poplar	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No	Private		45.19198274	-75.81828411
77	Trembling Poplar	<i>Populus tremuloides</i>	26	255	Healthy	Retainable	No	No	Private	Multistem 19, 17	45.1919857	-75.81826398
78	Trembling Poplar	<i>Populus tremuloides</i>	13	132	Healthy	Retainable	No	No	Private		45.19201165	-75.81821182
79	Trembling Poplar	<i>Populus tremuloides</i>	14	136	Healthy	Retainable	No	No	Private		45.19197086	-75.81819103
80	Trembling Poplar	<i>Populus tremuloides</i>	15	152	Healthy	Retainable	No	No	Private		45.19201817	-75.81815693
81	White Birch	<i>Betula papyrifera</i>	13	126	Healthy	Retainable	No	No	Private		45.19194804	-75.81819408
82	White Birch	<i>Betula papyrifera</i>	15	152	Healthy	Retainable	No	No	Private		45.19196538	-75.81804149
83	White Birch	<i>Betula papyrifera</i>	11	110	Healthy	Retainable	No	No	Private		45.19192912	-75.81812829
84	White Birch	<i>Betula papyrifera</i>	11	105	Healthy	Retainable	No	No	Private		45.19191516	-75.81816416
85	White Birch	<i>Betula papyrifera</i>	11	106	Healthy	Retainable	No	No	Private		45.19188684	-75.81811926
86	Trembling Poplar	<i>Populus tremuloides</i>	21	211	Healthy	Retainable	No	No	Private	Multistem 18, 11	45.19186822	-75.81809989
87	Balsam Poplar	<i>Populus balsamifera</i>	10		Dead	Retainable	No	No	Private		45.19175839	-75.81825579
88	Balsam Poplar	<i>Populus balsamifera</i>	13	134	Healthy	Retainable	No	No	Private		45.19177748	-75.81828242
89	Balsam Poplar	<i>Populus balsamifera</i>	11	106	Healthy	Retainable	No	No	Private		45.19177585	-75.81827219
90	Balsam Poplar	<i>Populus balsamifera</i>	18	177	Healthy	Retainable	No	No	Private	Multistem 13, 12	45.19175965	-75.81829248
91	Trembling Poplar	<i>Populus tremuloides</i>	13	128	Healthy	Retainable	No	No	Private		45.1918155	-75.81827072
92	Balsam Poplar	<i>Populus balsamifera</i>	11	105	Healthy	Retainable	No	No	Private		45.19179631	-75.81830507
93	Trembling Poplar	<i>Populus tremuloides</i>	13	134	Healthy	Retainable	No	No	Private		45.19182825	-75.81835518
94	Common Buckthorn	<i>Rhamnus cathartica</i>	12	117	Healthy	Retainable	No	No	Private		45.19180631	-75.81830033
95	Trembling Poplar	<i>Populus tremuloides</i>	25	245	Healthy	Retainable	No	No	Private		45.19181132	-75.81831931
96	Balsam Poplar	<i>Populus balsamifera</i>	12	120	Healthy	Retainable	No	No	Private		45.19182706	-75.81826262
97	Balsam Poplar	<i>Populus balsamifera</i>	10	104	Good	Retainable	No	No	Private		45.19179981	-75.8182366
98	Balsam Poplar	<i>Populus balsamifera</i>	15	150	Healthy	Retainable	No	No	Private		45.19183076	-75.81818717
99	Balsam Poplar	<i>Populus balsamifera</i>	10	102	Good	Retainable	No	No	Private		45.19180306	-75.81812623
100	Balsam Poplar	<i>Populus balsamifera</i>	12	115	Healthy	Retainable	No	No	Private		45.19180889	-75.81813745
101	Balsam Poplar	<i>Populus balsamifera</i>	10	103	Healthy	Retainable	No	No	Private		45.19185932	-75.81826677
102	Balsam Poplar	<i>Populus balsamifera</i>	17	168	Healthy	Retainable	No	No	Private		45.19185835	-75.81812312
103	Balsam Poplar	<i>Populus balsamifera</i>	14	140	Healthy	Retainable	No	No	Private		45.19179699	-75.81807068
104	Balsam Poplar	<i>Populus balsamifera</i>	18	184	Healthy	Retainable	No	No	Private		45.19183839	-75.81810353
105	White Birch	<i>Betula papyrifera</i>	18	178	Healthy	Retainable	No	No	Private	Multistem 13.4, 11.7	45.19191726	-75.81806918
106	Balsam Poplar	<i>Populus balsamifera</i>	30	304	Healthy	Retainable	No	No	Private		45.19191818	-75.81819951
107	Manitoba Maple	<i>Acer negundo</i>	10	102	Healthy	Retainable	No	No	Private		45.19196427	-75.81820892
108	White Birch	<i>Betula papyrifera</i>	16	155	Healthy	Retainable	No	No	Private		45.19191068	-75.81825997
109	Trembling Poplar	<i>Populus tremuloides</i>	15	147	Healthy	Retainable	No	No	Private		45.19193525	-75.81829002
110	Trembling Poplar	<i>Populus tremuloides</i>	19	190	Healthy	Retainable	No	No	Private		45.19193916	-75.81831098
111	Trembling Poplar	<i>Populus tremuloides</i>	20	200	Healthy	Retainable	No	No	Private		45.19196489	-75.81839974
112	Trembling Poplar	<i>Populus tremuloides</i>	15	150	Healthy	Retainable	No	No	Private		45.19191684	-75.81826705
113	Trembling Poplar	<i>Populus tremuloides</i>	12	124	Healthy	Retainable	No	No	Private		45.19189276	-75.81833921
114	Trembling Poplar	<i>Populus tremuloides</i>	10	103	Healthy	Retainable	No	No	Private		45.19185436	-75.81828893
115	Trembling Poplar	<i>Populus tremuloides</i>	15	147	Healthy	Retainable	No	No	Private		45.19184433	-75.8183033
116	Green Ash	<i>Fraxinus pennsylvanica</i>	11	108	Poor	Retainable	No	No	Private		45.19184309	-75.81835105
117	Trembling Poplar	<i>Populus tremuloides</i>	12	124	Healthy	Retainable	No	No	Private		45.19181196	-75.81836572
118	Trembling Poplar	<i>Populus tremuloides</i>	19	192	Healthy	Retainable	No	No	Private		45.1918593	-75.81829928
119	Scots Pine	<i>Pinus sylvestris</i>	22	220	Healthy	Retainable	No	No	Private		45.1918838	-75.81838492
120	Trembling Poplar	<i>Populus tremuloides</i>	37	365	Healthy	Retainable	No	No	Private		45.19192213	-75.81835037
121	Trembling Poplar	<i>Populus tremuloides</i>	39	385	Healthy	Retainable	No	No	Private		45.19192675	-75.81832062
122	Trembling Poplar	<i>Populus tremuloides</i>	10	103	Healthy	Retainable	No	No	Private		45.19192727	-75.81840143
123	Trembling Poplar	<i>Populus tremuloides</i>	40	402	Healthy	Retainable	No	No	Private		45.19194788	-75.81837659
124	Trembling Poplar	<i>Populus tremuloides</i>	11	110	Healthy	Retainable	No	No	Private		45.19192212	-75.81841544
125	White Birch	<i>Betula papyrifera</i>	12	122	Healthy	Retainable	No	No	Private		45.19202323	-75.81862522
126	Trembling Poplar	<i>Populus tremuloides</i>	11	109	Healthy	Retainable	No	No	Private		45.19200022	-75.81867318
127	Chokecherry	<i>Prunus</i> sp.	14	142	Healthy	Retainable	No	No	Private		45.19195977	-75.81860863
128	Trembling Poplar	<i>Populus tremuloides</i>	11	105	Healthy	Retainable	No	No	Private		45.19191858	-75.81859463
129	Trembling Poplar	<i>Populus tremuloides</i>	25	246	Healthy	Retainable	No	No	Private		45.19193729	-75.81863047
130	Balsam Poplar	<i>Populus balsamifera</i>	10	103	Healthy	Retainable	No	No	Private		45.19192024	-75.81866343
131	Trembling Poplar	<i>Populus tremuloides</i>	23	230	Healthy	Retainable	No	No	Private		45.19190091	-75.81859106
132	Trembling Poplar	<i>Populus tremuloides</i>	23	232	Healthy	Retainable	No	No	Private		45.19186334	-75.81859406
133	Trembling Poplar	<i>Populus tremuloides</i>	16	160	Healthy	Retainable	No	No	Private		45.19185671	-75.81862656
134	White Ash	<i>Fraxinus americana</i>	12	120	Good	Retainable	No	No	Private		45.19191602	-75.81868417
135	Trembling Poplar	<i>Populus tremuloides</i>	14	140	Healthy	Retainable	No	No	Private		45.19190837	-75.81875585
136	Trembling Poplar	<i>Populus tremuloides</i>	14	140	Healthy	Retainable	No	No</td				

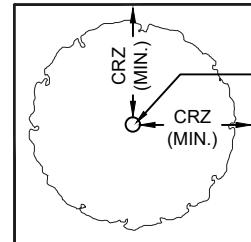
TABLE C.1
TREE INVENTORY

Tree Number GEMTEC	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree	Ownership	Notes	Y Coordinate (Latitude)	X Coordinate (Longitude)
143	Trembling Poplar	<i>Populus tremuloides</i>	18	180	Healthy	Retainable	No	No	Private		45.19185733	-75.8188299
144	Trembling Poplar	<i>Populus tremuloides</i>	21		Dead	Retainable	No	Yes	Private		45.19182092	-75.81883077
145	Trembling Poplar	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No	Private		45.19185241	-75.81882466
146	White Birch	<i>Betula papyrifera</i>	10	100	Healthy	Retainable	No	No	Private		45.19185715	-75.81883681
147	White Birch	<i>Betula papyrifera</i>	27	265	Healthy	Retainable	No	No	Private	Multistem 22.5, 14	45.19182755	-75.81882836
148	Chokecherry	<i>Prunus</i> sp.	17	170	Healthy	Retainable	No	No	Private		45.19180739	-75.81882145
149	Willow sp.	<i>Salix</i> sp.	21	208	Good	Retainable	No	No	Private	Multistem 12, 12, 12	45.19169772	-75.81882199
150	White Birch	<i>Betula papyrifera</i>	11	110	Healthy	Retainable	No	No	Private		45.19167122	-75.81885741
151	Willow sp.	<i>Salix</i> sp.	21	213	Good	Retainable	No	No	Private	Multistem 11, 11, 10.6, 10	45.19161057	-75.81889492
152	White Birch	<i>Betula papyrifera</i>	33	331	Healthy	Retainable	No	No	Private	Multistem 18.5, 16.5, 15.5, 15.5	45.19178446	-75.81893664
153	Trembling Poplar	<i>Populus tremuloides</i>	19	190	Healthy	Retainable	No	No	Private		45.19179699	-75.81894018
154	Green Ash	<i>Fraxinus pennsylvanica</i>	17	167	Poor	Retainable	No	No	Private	Multistem 13, 10.5	45.19189784	-75.81889354
155	Trembling Poplar	<i>Populus tremuloides</i>	19	190	Healthy	Retainable	No	No	Private		45.19188537	-75.81888331
156	Willow sp.	<i>Salix</i> sp.	17	174	Healthy	Retainable	No	No	Private	Multistem 13, 11.5	45.19173195	-75.81862352
157	White Birch	<i>Betula papyrifera</i>	15	150	Healthy	Retainable	No	No	Private		45.19183425	-75.81862794
158	Green Ash	<i>Fraxinus pennsylvanica</i>	13	130	Good	Retainable	No	No	Private		45.19180859	-75.81857327
159	White Birch	<i>Betula papyrifera</i>	13	125	Healthy	Retainable	No	No	Private		45.19174961	-75.81856525
160	Willow sp.	<i>Salix</i> sp.	20	202	Healthy	Conflict	No	No	Private	Multistem 13, 11.4, 10.4	45.19173056	-75.81834013
161	White Birch	<i>Betula papyrifera</i>	25	247	Healthy	Retainable	No	No	Private	Multistem 21.5, 12.1	45.19179085	-75.81838082
162	Trembling Poplar	<i>Populus tremuloides</i>	15	152	Healthy	Retainable	No	No	Private		45.19189915	-75.81851962
163	Trembling Poplar	<i>Populus tremuloides</i>	21	205	Healthy	Retainable	No	No	Private		45.19188508	-75.81852177
164	Trembling Poplar	<i>Populus tremuloides</i>	10	100	Good	Retainable	No	No	Private		45.19187515	-75.81844403
165	Trembling Poplar	<i>Populus tremuloides</i>	21	210	Healthy	Retainable	No	No	Private		45.19188442	-75.81852557



APPENDIX D

City of Ottawa Tree Protection

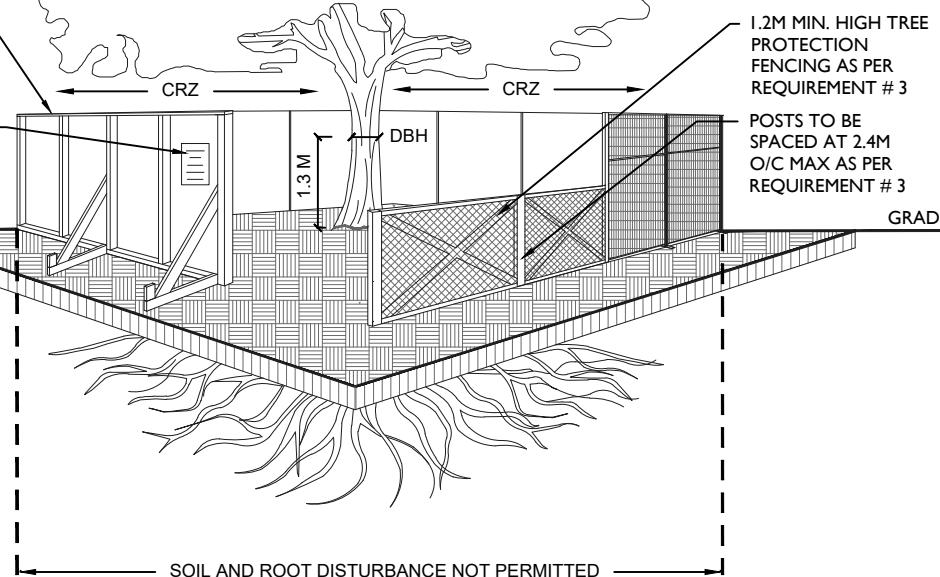


PLAN VIEW

CRZ = DBH x 10CM.
CRZ IS TO BE
MEASURED FROM THE
OUTSIDE EDGE OF
THE TREE BASE

TREE PROTECTION
SIGNAGE AS PER
CITY STANDARD

GRADE



ACCESSIBLE FORMATS AND COMMUNICATION
SUPPORTS ARE AVAILABLE, UPON REQUEST

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.
- 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
- 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)
- 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.
- 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.



TREE PROTECTION SPECIFICATION

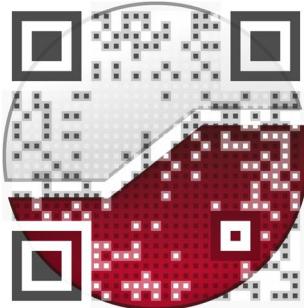
TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE: NTS

DATE: MARCH 2021

DRAWING NO.: 1 of 1

experience • knowledge • integrity



civil	civil
geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

expérience • connaissance • intégrité

