GEMTEC
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Tree Conservation Report
Proposed Development Application
788 March Road
Ottawa, Ontario

GEMTEC
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Submitted to:

SINA
3030 Boul. Le Carrefour, Suite 1200
Laval, Quebec
H7T 2P5

Tree Conservation Report
Proposed Development Application
788 March Road
Ottawa, Ontario

November 5, 2024
Project: 103027.001

experience • knowledge • integrity

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by SINA to carry out a Tree Conservation Report (TCR) for the property located at 788 March Road, in Ottawa, 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 development application for the property located at 788 March Road, in Ottawa, Ontario for future residential development. As a component of the development application, the City of Ottawa is requesting a TCR 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 1.21 hectares (ha). The proposed site development includes a mixed-use apartment building with road access via March Road and Klondike Road. The existing site layout and proposed development is 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 1965 to 2022 to identify natural features, including historical trees, present on-site and in the vicinity of the site.

Based on a review of historical air photos, the general surrounding area has seen an increase in residential and commercial development since 1991. Development was present on-site between 1965-1991 but became vacant until present day configuration in 2021. 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 September 22, 2023, from 12:15 to 16:15, 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 tree location, and the tree species.

An additional tree survey was completed in conjunction with topographic surveys by J.D. Barnes Ltd. on May 23, 2024. All stems greater than 10cm DBH within 5 m of the proposed bicycle path were surveyed and given a tree identifier. Many of these surveyed trees were previously identified by GEMTEC during the September 2023 tree inventory; however, some additional stems were added.

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 were as follows: 21°C, no cloud cover, Beaufort 2 and no precipitation.

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

3.0 RESULTS

3.1 Existing Conditions

Development on-site currently consists of a vacant development area. No development exists on site, but the area of previous disturbance occupies an approximate area of 0.35 ha.

Outside of the existing disturbed area, the subject site consists of the riparian areas of Shirley's Brook that flows along the eastern property boundary. Numerous trees are present on the property, primarily along Shirley's Brook and within the riparian area. A summary of all trees on-site is provided in Section 3.2 below.

The land use in the vicinity of the site is characterized by commercial and residential land uses. Natural environmental features in the vicinity of the project, as summarized in Table 3.1 below, include surface water features. Surface water features on-site include Shirley's Brook.

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, eastern whip-poor-will, least bittern, eastern small-foot myotis, little brown myotis, tri-colored bat, Blanding's turtle and black ash, 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 KNUEA EMP (DST, 2015; Novatech, 2016), and observation data from the McKinley EIS (2020), the subject site contains regulated Category 2 and Category 3 habitat for Blanding's turtle. Butternut trees were specifically targeted for presence/absence during the survey, however no butternut were observed on-site 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 On-site or Adjacent to Site

Natural Feature	Present On-site or Adjacent
Surface water or wetlands present	Present – Shirley's Brook
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	Present – Blanding's turtle, and SAR Bats
Significant Wildlife Habitat	Present – Habitat for Species of Special Concern and Rare wildlife

3.2 Tree Inventory Summary

A tree inventory was conducted on September 22, 2023. 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. 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.

Additional trees surveyed on May 23, 2024 by J.D. Barnes Ltd. were reviewed and compared to those inventoried by GEMTEC in 2023. Corresponding trees that were surveyed by both GEMTEC and J.D. Barnes were enumerated accordingly. Any trees that either party did not both identify, were added to Table C.1 in Appendix C.

Per the City of Ottawa's Tree Protection By-law (No. 2020-340), 11 trees on the subject site, were 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 On-Site or Adjacent

Tree #	Species	DBH (cm)	Condition
1	Red Maple	59	Healthy
8	Manitoba Maple	86	Healthy
11	Manitoba Maple	52	Good
15	Red Maple	71	Healthy
29	Manitoba Maple	66	Healthy
35	Manitoba Maple	69	Poor
45	Manitoba Maple	79	Good
46	Manitoba Maple	57	Poor
64	Manitoba Maple	58	Poor
91	Manitoba Maple	50	Healthy
106	Manitoba maple	73	Healthy

None of the trees identified on-site are listed under the provincial Endangered Species Act.

In general, the tree community assemblage can be described as containing mature and semi-mature trees. Dominant tree species on-site were represented by Manitoba maple (*Acer negundo*). Most of the observed ash species identified on-site were of poor health or dead, likely due to the presence of emerald ash borer. Many of the ash species 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 113 trees identified by GEMTEC on-site with a DBH greater or equal to 10 cm, 97 were identified as retainable and 16 trees were identified as conflict. The 16 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;
- 7 additional trees were identified by J.D. Barnes Limited on-site on May 23, 2024, with a DBH greater or equal to 10 cm, 3 were identified as retainable and 4 were identified as conflict. These additional trees are not included within the assessment of species, health or potential wildlife habitat. All additional trees are illustrated on Figures A.4a, A.4b and A.4c.
- 11 distinctive trees, meeting the City of Ottawa's Tree Protection (By-law No. 2020-340), requirements of DBH > 50 cm, were identified on-site, 3 of which were identified as conflict, and are likely not retainable under the current development plan;
- Trees on-site are of a typical upland or early successional species;
- 97 trees are in good/healthy condition and 16 trees are in poor or dead condition;
- 17 of the trees present on-site were observed to provide potential wildlife habitat (snag, active nest), 4 of which were identified as conflict and are considered not 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 100 of the total identified trees on the subject property are retainable and 20 of the

trees were identified as conflict, non-retainable. Of the 20 conflict trees six were identified as having greater than 30% of their CRZ impacted (trees numbered 9, 8, 30, 35, 64 and T18). These trees occur within the grading area with greater than 30% of their root structures overlapping the development plan. 14 trees (trees numbered 32, 34, 37, 36, 38, 39, 40, 42, 54, 55, 81, T20, T38 and T40) 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 or proposed bicycle path. Conflict trees are illustrated on Figures A.4a, A.4b and A.4c. Figure A.5 illustrates the distinction between the trees that are impacted by the building development (T18) and the trees that are impacted by the proposed bicycle path (T1,T2, T5, T7, T13, T14, T15, T16, T17, T20, T30, T36, T37, T38, T40, and GEMTEC tree 81). The trees impacted by the building footprint and the bicycle path are also detailed and identified in Table C.1 of Appendix C. It has been identified by the City of Ottawa that separate tree removal permits will be required for the development footprint and the bicycle path. The proposed bicycle path will be field fit in Spring 2026 and should consider maintaining the distinctive trees identified in this report, in addition to other healthier, more mature trees.

Based on the current development plan, most of the existing treed vegetation on-site will be conserved through the implementation of the 30 m top of bank setback. The proposed building will be situated within the vacant section of the site with exclusion fencing both protecting and limiting access to the conserved vegetation on-site. The grading plan, as designed by McIntosh Perry (2023), will tie into the downward slope, already present on-site, towards Shirley's Brook. Pre- and post-drainage patterns are expected to remain the same with water being directed to roadside ditches away from the conserved vegetation and Shirley's Brook. 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, including those within the limit of grading, 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;
    - As shown in the Landscape Plan, as designed by GJA INC. (2024), approximately 42 trees and 20 shrubs have been proposed to be planted as well as the creation of a naturalization bed and areas with native seed mix.
- 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 SINA and is intended for the exclusive use of SINA This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and SINA 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.

Once the location of the multiuse pathway has been determined in Spring 2026, GEMTEC will provide an addendum for the proposed impacted trees.

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,

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

6.0 REFERENCES

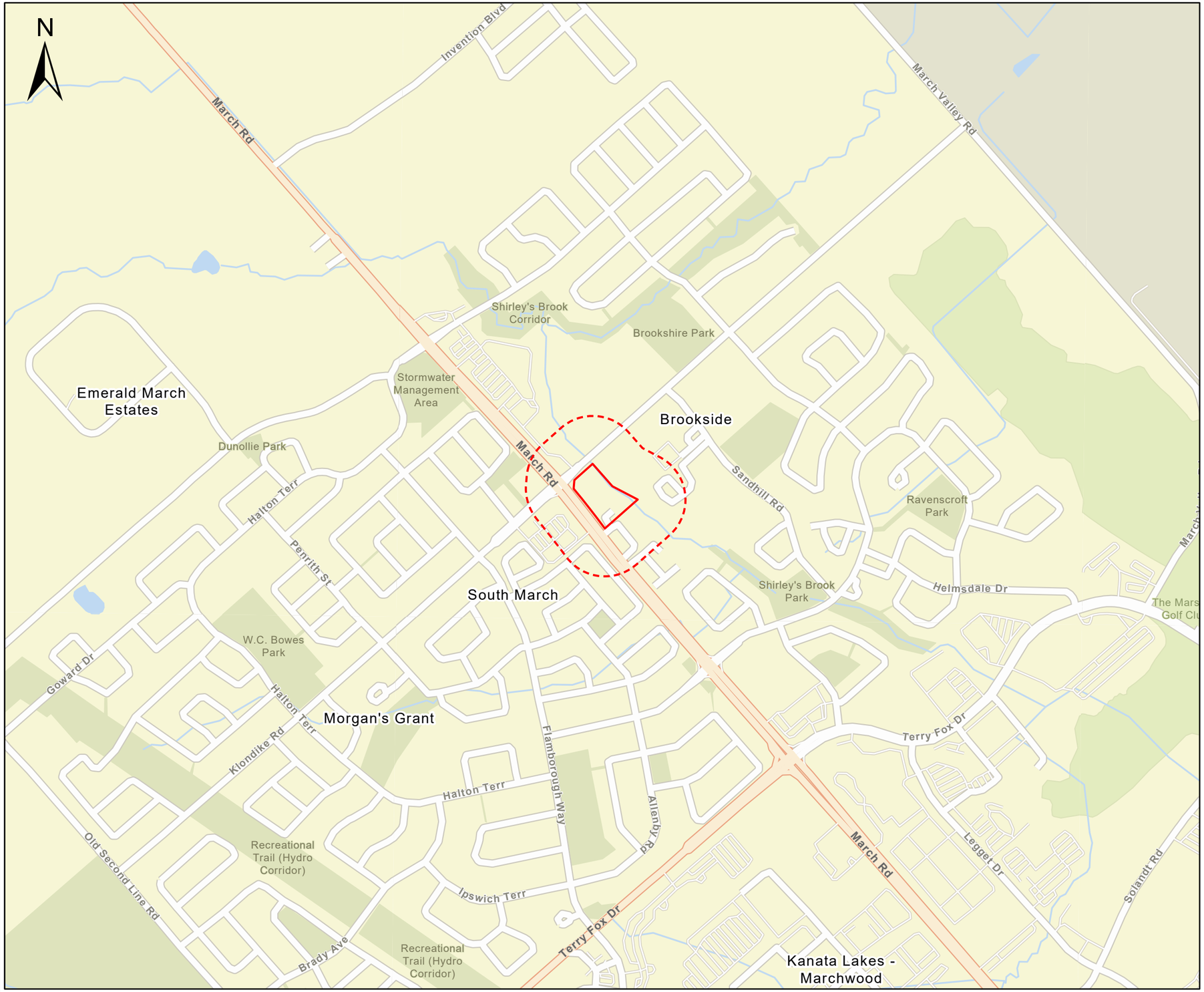
Ontario Ministry of Natural Resources and Forestry (OMNRF). 2019. Natural Heritage Information Centre. Make a Map: Natural Heritage Areas.

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



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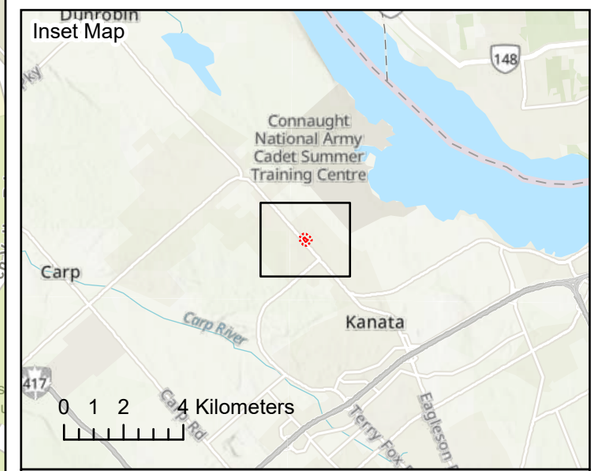
- Study Area



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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Client:	Project:
SINA	103027.001

Location
788 March Road
Ottawa, Ontario

Drwn By:	Chkd By:	
E.P.	T.W.	Site Location

Date: June 2024	Rev.	
© King's Printer for Ontario	3	Figure: A.1

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Topographic Map: City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, NRCan, Parks Canada
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Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse

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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Client: SINA

Project: 103027.001

Location: 788 March Road
Ottawa, Ontario

Drwn By: E.P.

Chkd By: T.W.

Site Layout

Date: June 2024

Rev. 3

Figure: A.2

Coordinate System: NAD 1983 UTM Zone 18N
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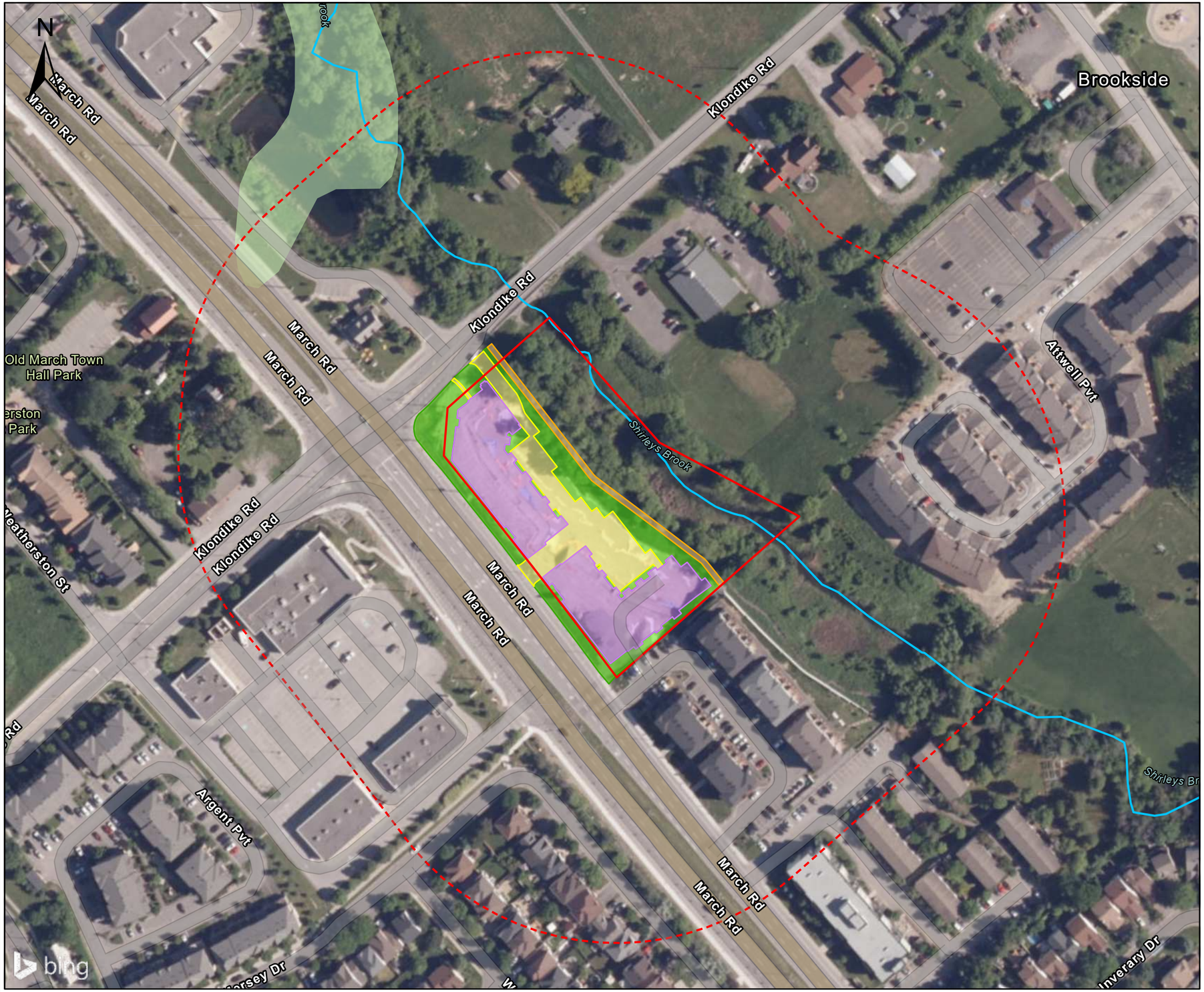

Legend

- Property Boundary
- Study Area
- Local Wetland
- Watercourse
- Proposed Paved Area
- Proposed Building Footprint
- Proposed Soft Landscape Area
- Proposed Conceptual Bicycle Path

* Pathway is conceptual and will be 'field fit' Spring 2026

Scale 1:1,800

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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

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SINA	103027.001

Location: 788 March Road, Ottawa, Ontario

Drwn By:	Chkd By:	
E.P.	T.W.	Development Plan

Date: June 2024	Rev.	
	3	Figure: A.3

Coordinate System: NAD 1983 UTM Zone 18N
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City of Ottawa 2022 Imagery:

Legend

- Property Boundary
- Study Area
- Watercourse
- 30 m Setback

Tree Location

- Healthy
- Good
- Poor
- Dead

- Tree Protection Fencing
- Proposed Building Footprint
- Proposed Paved Area
- Conceptual Proposed Bicycle Path
- Proposed Soft Landscape Area

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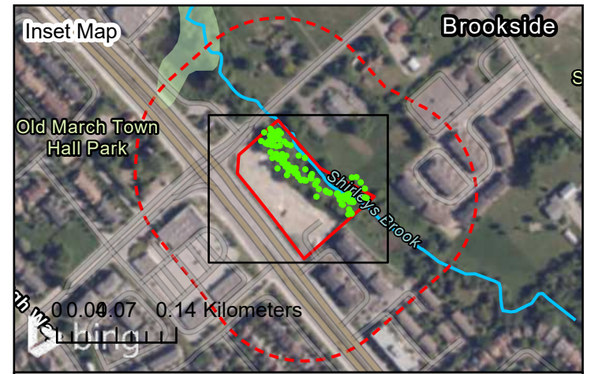

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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

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SINA	103027.001

Location

788 March Road
Ottawa, Ontario

Drwn By:	Chkd By:	Tree Inventory
E.P.	T.W.	

Date: September 2024	Rev.	Figure: A.4
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Coordinate System: NAD 1983 UTM Zone 18N
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T20
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T19
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T21
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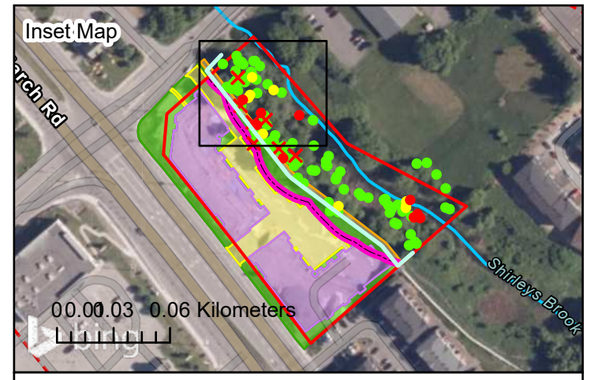
Legend

- Property Boundary
- Study Area
- Watercourse
- Approximate Limits Of Grading
- 30 m Setback
- Tree Protection Fencing
- Proposed Building Footprint
- Proposed Paved Area
- Proposed Soft Landscape Area
- Conceptual Proposed Bicycle Path

Tree Number (Critical Root Zone [cm])

- Retainable
- Conflict
- Dead

*JD Barnes Tree Number → T#
*Pathway is conceptual and will be 'field fit' Spring 2026



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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
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Location
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Drwn By:	Chkd By:	
E.P.	T.W.	Tree Inventory

Date: September 2024	Rev.	Figure: A.4a
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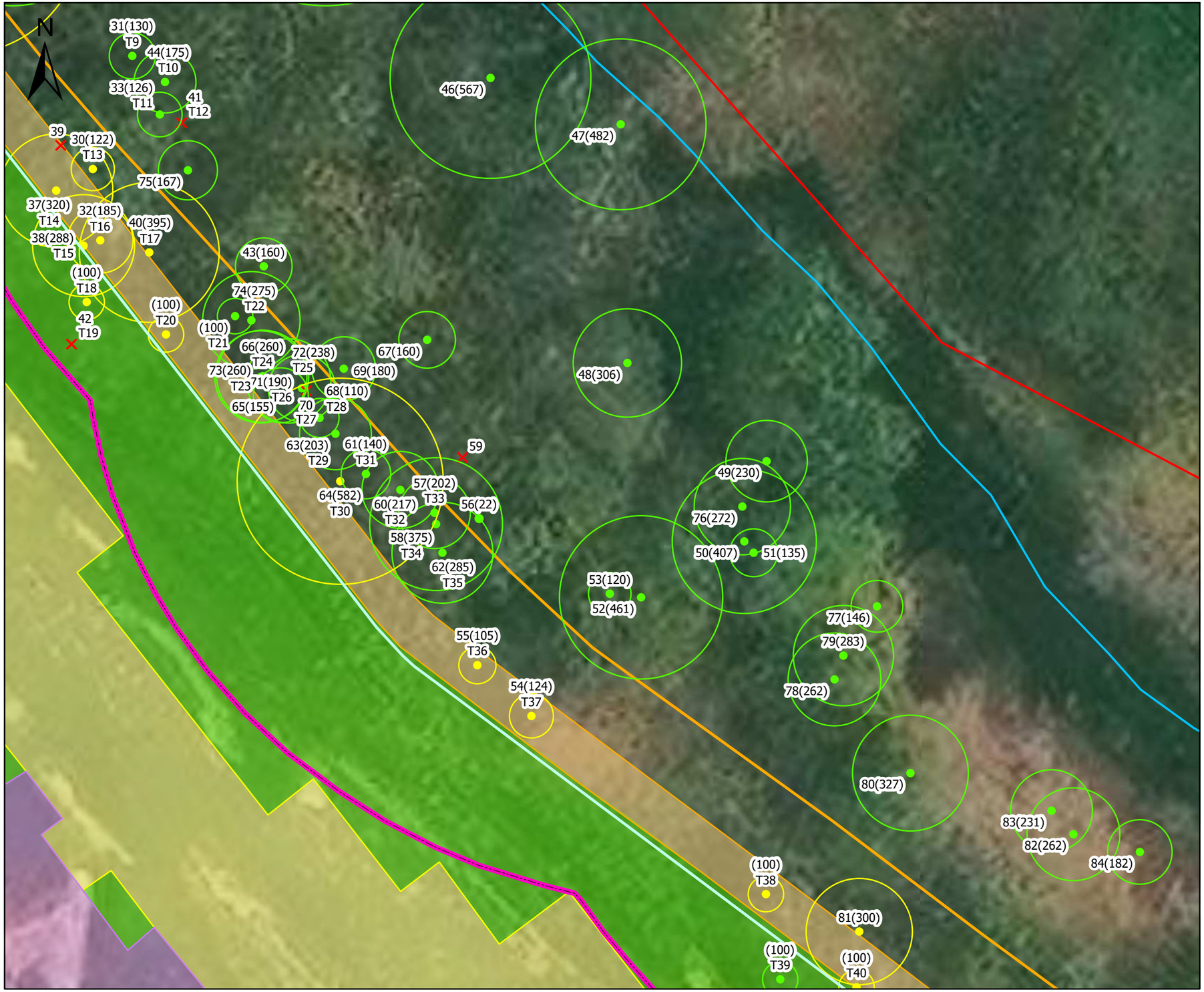

Legend

- Property Boundary
- Study Area
- Watercourse
- 30 m Setback
- Approximate Limits Of Grading
- Tree Protection Fencing
- Proposed Building Footprint
- Proposed Paved Area
- Proposed Soft Landscape Area
- Conceptual Proposed Bicycle Path

Tree Number (Critical Root Zone [cm])

- Retainable
- Conflict
- Dead

*JD Barnes Tree Number ⟶ T#

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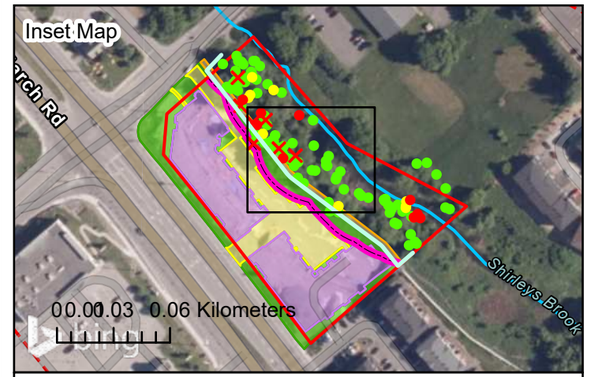

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32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
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SINA	103027.001

Location: 788 March Road, Ottawa, Ontario

Drwn By:	Chkd By:	
E.P.	T.W.	Tree Inventory

Date: September 2024

Rev. 3

Figure: A.4b

Coordinate System: NAD 1983 UTM Zone 18N
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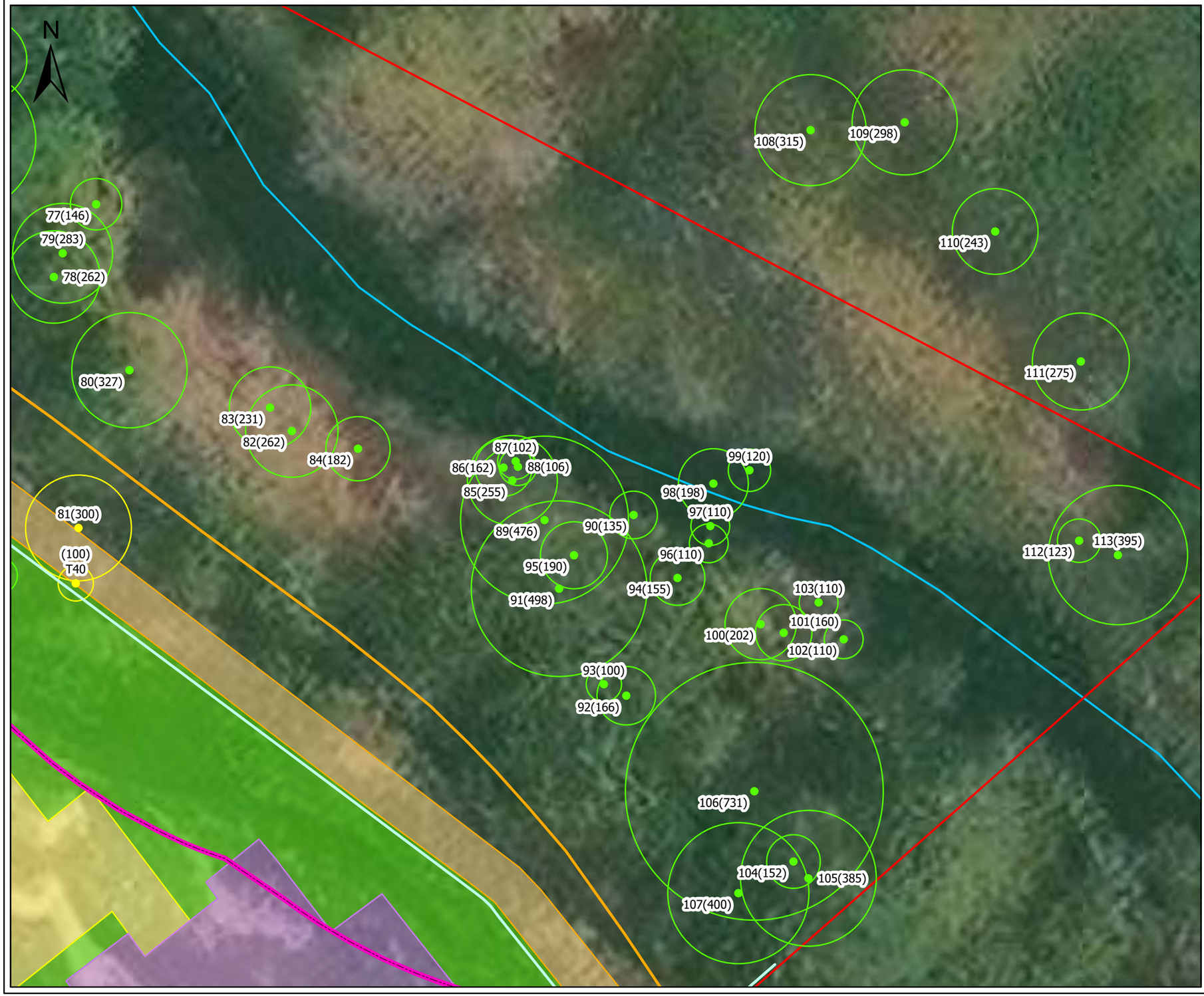

Legend

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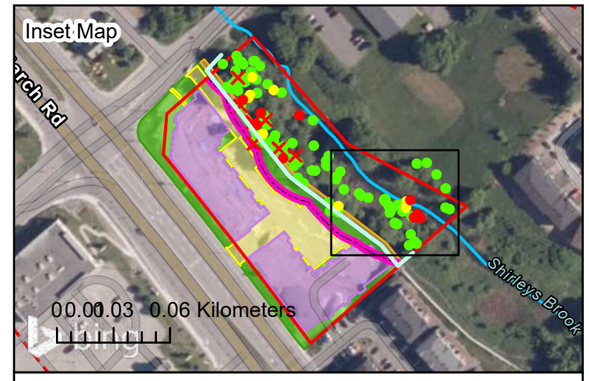

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GEMTEC
Consulting Engineers and Scientists
32 Steacie Drive,
Ottawa, ON K2K 2A9
T: (613) 836-1422
www.gemtec.ca
ottawa@gemtec.ca

Client:	Project:
SINA	103027.001

Location
788 March Road
Ottawa, Ontario

Drwn By:	Chkd By:	
E.P.	T.W.	Tree Inventory

Date: September 2024	Rev.	Figure: A.4c
	3	

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

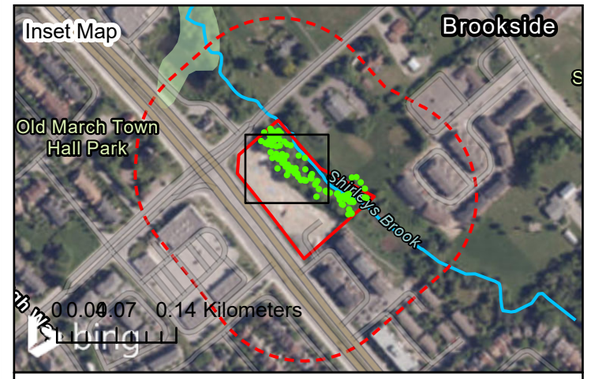
Legend

- Property Boundary
- Study Area
- Watercourse
- 30 m Setback
- Tree Protection Fencing
- Proposed Building Footprint
- Proposed Paved Area
- Conceptual Proposed Bicycle Path
- Proposed Soft Landscape Area

Conflict Trees

- Conflict - Build
- Conflict - Pathway

* Pathway is conceptual and will be 'field fit' Spring 2026



Scale 1:325

0 5 10 20 Meters

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T: (613) 836-1422
www.gemtec.ca
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Client:	Project:
SINA	103027.001

Location: 788 March Road, Ottawa, Ontario

Drwn By:	Chkd By:	
E.P.	T.W.	Conflict Trees

Date: October 2024	Rev.	
© King's Printer for Ontario	3	Figure: A.5

Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: Hybrid Reference Layer: Esri Community Maps Contributors, City of Ottawa, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada
City of Ottawa 2022 Imagery:

APPENDIX B

Site Photographs

Site Photograph 1 – Wooded Area

Site Photograph 2 – Wooded Area

Site Photograph 3 – Disturbed Area and Wooded Area

Site Photograph 4 – Shirley's Brook and Riparian Area

GEMTEC Consulting Engineers and Scientists	Project Tree Conservation Report 788 March Road Ottawa, Ontario	**APPENDIX B** File No. 103027.001	**Site Photographs**

APPENDIX C

Tree Inventory Summary Table

TABLE C.1
TREE INVENTORY

Tree Number GEMTEC	Tree Number JD Barnes	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Signficant Tree (> 50 cm)	Wildlife Tree
1	--	Red Maple	*Acer rubrum*	59	593	Healthy	Retainable	Yes	Yes
2	--	Sugar Maple	*Acer saccharum*	11	107	Healthy	Retainable	No	No
3	--	Manitoba Maple	*Acer negundo*	20	200	Healthy	Retainable	No	Yes
4	--	Manitoba Maple	*Acer negundo*	27	272	Healthy	Retainable	No	No
5	--	Manitoba Maple	*Acer negundo*	19	190	Healthy	Retainable	No	No
6	--	Manitoba Maple	*Acer negundo*	25	245	Healthy	Retainable	No	No
7	--	Manitoba Maple	*Acer negundo*	16	--	Dead	Retainable	No	No
8	T2	Manitoba Maple	*Acer negundo*	86	861	Healthy	Conflict (Pathway)	Yes	Yes
9	T1	American Elm	*Ulmus americana*	15	150	Healthy	Conflict (Pathway)	No	No
10	T3	American Elm	*Ulmus americana*	20	202	Healthy	Retainable	No	No
11	T6	Manitoba Maple	*Acer negundo*	52	522	Good	Retainable	Yes	Yes
12	--	American Elm	*Ulmus americana*	19	185	Healthy	Retainable	No	No
13	--	Manitoba Maple	*Acer negundo*	35	350	Good	Retainable	No	Yes
14	--	Manitoba Maple	*Acer negundo*	30	300	Healthy	Retainable	No	No
15	--	Red Maple	*Acer rubrum*	71	714	Healthy	Retainable	Yes	Yes
16	--	Manitoba Maple	*Acer negundo*	21	210	Healthy	Retainable	No	No
17	--	Red Maple	*Acer rubrum*	18	177	Healthy	Retainable	No	No
18	--	Red Maple	*Acer rubrum*	11	110	Healthy	Retainable	No	No
19	--	Sugar Maple	*Acer saccharum*	10	101	Healthy	Retainable	No	No
20	--	Manitoba Maple	*Acer negundo*	18	183	Good	Retainable	No	Yes
21	--	Sugar Maple	*Acer saccharum*	18	176	Healthy	Retainable	No	No
22	--	Sugar Maple	*Acer saccharum*	23	231	Healthy	Retainable	No	No
23	--	Sugar Maple	*Acer saccharum*	20	195	Healthy	Retainable	No	No
24	--	American Elm	*Ulmus americana*	11	110	Healthy	Retainable	No	No
25	--	Manitoba Maple	*Acer negundo*	18	182	Healthy	Retainable	No	No
26	--	Manitoba Maple	*Acer negundo*	34	335	Healthy	Retainable	No	No
27	--	Bur Oak	*Quercus macrocarpa*	20	195	Healthy	Retainable	No	No
28	--	Manitoba Maple	*Acer negundo*	19	185	Good	Retainable	No	Yes
29	--	Manitoba Maple	*Acer negundo*	66	658	Healthy	Retainable	Yes	Yes
30	T13	Green Ash	*Fraxinus pennsylvanica*	12	122	Poor	Conflict (Pathway)	No	No
31	T9	Green Ash	*Fraxinus pennsylvanica*	13	130	Poor	Retainable	No	No
32	T16	Manitoba Maple	*Acer negundo*	19	185	Healthy	Conflict (Pathway)	No	No
33	T11	Manitoba Maple	*Acer negundo*	13	126	Healthy	Retainable	No	No
34	T8	Manitoba Maple	*Acer negundo*	16	--	Dead	Conflict	No	No
35	T5	Manitoba Maple	*Acer negundo*	69	689	Poor	Conflict (Pathway)	Yes	Yes
36	T7	Bur Oak	*Quercus macrocarpa*	16	157	Healthy	Conflict (Pathway)	No	No
37	T14	Manitoba Maple	*Acer negundo*	32	320	Healthy	Conflict (Pathway)	No	No
38	T15	Manitoba Maple	*Acer negundo*	29	288	Healthy	Conflict (Pathway)	No	No
39	--	Green Ash	*Fraxinus pennsylvanica*	20	--	Dead	Conflict	No	Yes
40	T17	Manitoba Maple	*Acer negundo*	40	395	Good	Conflict (Pathway)	No	No
41	T12	Green Ash	*Fraxinus pennsylvanica*	13	--	Dead	Retainable	No	No
42	T19	Manitoba Maple	*Acer negundo*	25	--	Dead	Conflict	No	No
43	--	Manitoba Maple	*Acer negundo*	16	160	Healthy	Retainable	No	No
44	T10	Manitoba Maple	*Acer negundo*	18	175	Healthy	Retainable	No	No
45	--	Manitoba Maple	*Acer negundo*	79	795	Healthy	Retainable	Yes	Yes
46	--	Manitoba Maple	*Acer negundo*	57	567	Poor	Retainable	Yes	Yes
47	--	Manitoba Maple	*Acer negundo*	48	482	Healthy	Retainable	No	No
48	--	Manitoba Maple	*Acer negundo*	31	306	Healthy	Retainable	No	No
49	--	Manitoba Maple	*Acer negundo*	23	230	Healthy	Retainable	No	No
50	--	Manitoba Maple	*Acer negundo*	41	407	Healthy	Retainable	No	No
51	--	Manitoba Maple	*Acer negundo*	14	135	Healthy	Retainable	No	No
52	--	Manitoba Maple	*Acer negundo*	46	461	Healthy	Retainable	No	No

TABLE C.1
TREE INVENTORY

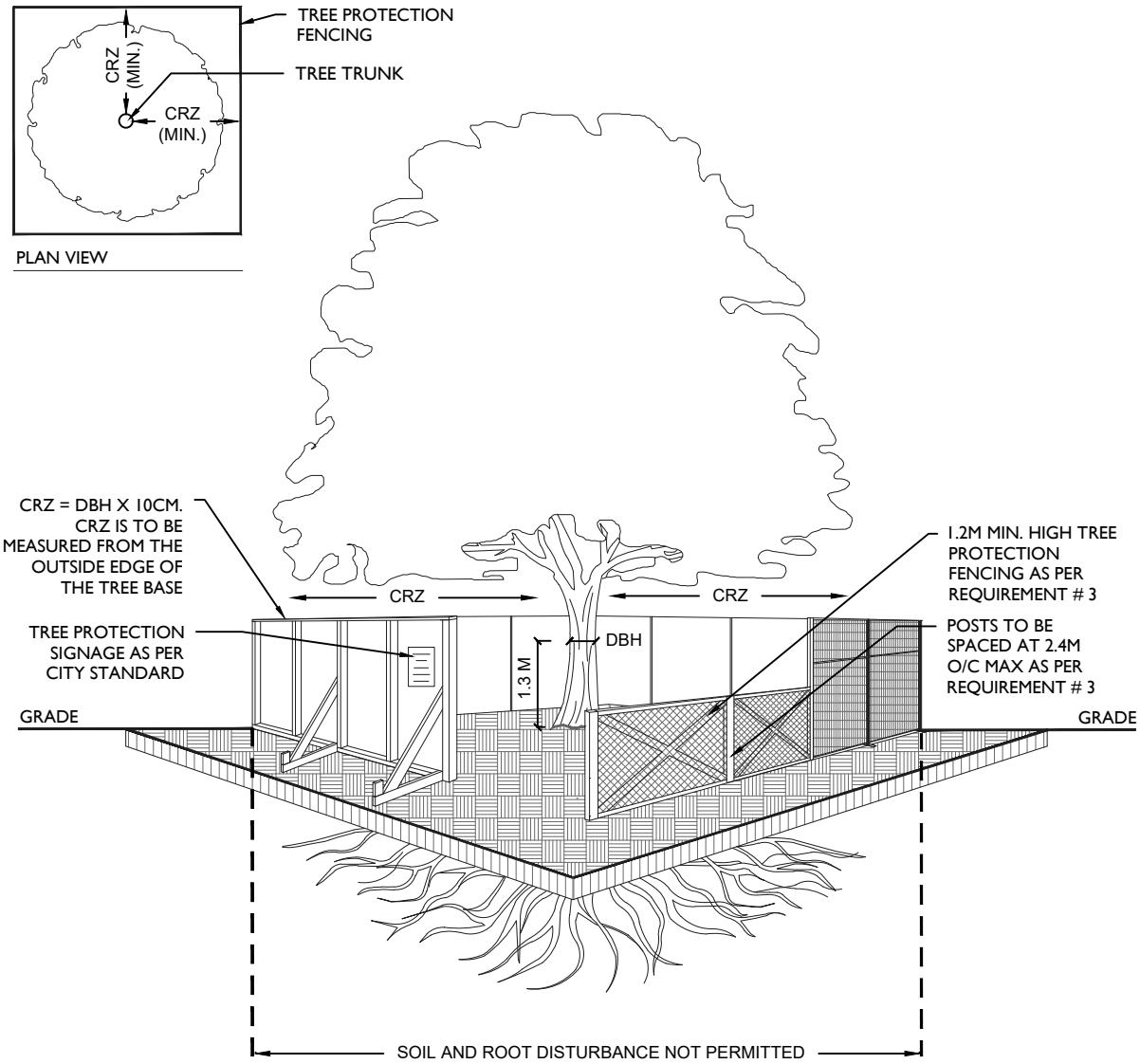
Tree Number GEMTEC	Tree Number JD Barnes	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Signficant Tree (> 50 cm)	Wildlife Tree
53	--	Manitoba Maple	*Acer negundo*	12	120	Healthy	Retainable	No	No
54	T37	Manitoba Maple	*Acer negundo*	12	124	Healthy	Conflict (Pathway)	No	No
55	T36	Green Ash	*Fraxinus pennsylvanica*	11	105	Healthy	Conflict (Pathway)	No	No
56	--	Manitoba Maple	*Acer negundo*	22	22	Healthy	Retainable	No	No
57	T33	Manitoba Maple	*Acer negundo*	20	202	Healthy	Retainable	No	No
58	T34	Manitoba Maple	*Acer negundo*	38	375	Healthy	Retainable	No	No
59	--	Manitoba Maple	*Acer negundo*	20	--	Dead	Retainable	No	No
60	T32	Manitoba Maple	*Acer negundo*	22	217	Healthy	Retainable	No	No
61	T31	Manitoba Maple	*Acer negundo*	14	140	Healthy	Retainable	No	No
62	T35	Manitoba Maple	*Acer negundo*	28	285	Healthy	Retainable	No	No
63	T29	Manitoba Maple	*Acer negundo*	20	203	Healthy	Retainable	No	No
64	T30	Manitoba Maple	*Acer negundo*	58	582	Poor	Conflict (Pathway)	Yes	Yes
65	--	Manitoba Maple	*Acer negundo*	16	155	Healthy	Retainable	No	No
66	T24	Manitoba Maple	*Acer negundo*	26	260	Healthy	Retainable	No	No
67	--	Manitoba Maple	*Acer negundo*	16	160	Healthy	Retainable	No	No
68	T28	Manitoba Maple	*Acer negundo*	11	110	Healthy	Retainable	No	No
69	--	Manitoba Maple	*Acer negundo*	18	180	Healthy	Retainable	No	No
70	T27	Manitoba Maple	*Acer negundo*	18	--	Dead	Retainable	No	No
71	T26	Manitoba Maple	*Acer negundo*	19	190	Healthy	Retainable	No	No
72	T25	Manitoba Maple	*Acer negundo*	24	238	Healthy	Retainable	No	No
73	T23	Manitoba Maple	*Acer negundo*	26	260	Healthy	Retainable	No	No
74	T22	Manitoba Maple	*Acer negundo*	27	275	Healthy	Retainable	No	No
75	--	Manitoba Maple	*Acer negundo*	17	167	Healthy	Retainable	No	No
76	--	Manitoba Maple	*Acer negundo*	27	272	Healthy	Retainable	No	Yes
77	--	Manitoba Maple	*Acer negundo*	15	146	Healthy	Retainable	No	No
78	--	Manitoba Maple	*Acer negundo*	26	262	Healthy	Retainable	No	No
79	--	Manitoba Maple	*Acer negundo*	28	283	Healthy	Retainable	No	No
80	--	Manitoba Maple	*Acer negundo*	33	327	Healthy	Retainable	No	No
81	--	Green Ash	*Fraxinus pennsylvanica*	30	300	Good	Conflict (Pathway)	No	No
82	--	Manitoba Maple	*Acer negundo*	26	262	Healthy	Retainable	No	No
83	--	Manitoba Maple	*Acer negundo*	23	231	Healthy	Retainable	No	No
84	--	Manitoba Maple	*Acer negundo*	18	182	Healthy	Retainable	No	No
85	--	Manitoba Maple	*Acer negundo*	26	255	Healthy	Retainable	No	No
86	--	Manitoba Maple	*Acer negundo*	16	162	Healthy	Retainable	No	No
87	--	Manitoba Maple	*Acer negundo*	10	102	Healthy	Retainable	No	No
88	--	Manitoba Maple	*Acer negundo*	11	106	Healthy	Retainable	No	No
89	--	Manitoba Maple	*Acer negundo*	48	476	Healthy	Retainable	No	Yes
90	--	Manitoba Maple	*Acer negundo*	14	135	Healthy	Retainable	No	No
91	--	Manitoba Maple	*Acer negundo*	50	498	Healthy	Retainable	Yes	No
92	--	Manitoba Maple	*Acer negundo*	17	166	Healthy	Retainable	No	No
93	--	Manitoba Maple	*Acer negundo*	10	100	Healthy	Retainable	No	No
94	--	Manitoba Maple	*Acer negundo*	16	155	Healthy	Retainable	No	No
95	--	Manitoba Maple	*Acer negundo*	19	190	Healthy	Retainable	No	No
96	--	Manitoba Maple	*Acer negundo*	11	110	Good	Retainable	No	No
97	--	Manitoba Maple	*Acer negundo*	11	110	Good	Retainable	No	No
98	--	Manitoba Maple	*Acer negundo*	20	198	Good	Retainable	No	No
99	--	Manitoba Maple	*Acer negundo*	12	120	Poor	Retainable	No	No
100	--	Manitoba Maple	*Acer negundo*	20	202	Healthy	Retainable	No	No
101	--	Green Ash	*Fraxinus pennsylvanica*	16	160	Poor	Retainable	No	No
102	--	Green Ash	*Fraxinus pennsylvanica*	11	110	Poor	Retainable	No	No
103	--	Green Ash	*Fraxinus pennsylvanica*	11	110	Poor	Retainable	No	No

TABLE C.1
TREE INVENTORY

Tree Number GEMTEC	Tree Number JD Barnes	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Signficant Tree (> 50 cm)	Wildlife Tree
104	--	Green Ash	*Fraxinus pennsylvanica*	15	152	Healthy	Retainable	No	No
105	--	Bur Oak	*Quercus macrocarpa*	39	385	Healthy	Retainable	No	No
106	--	Manitoba Maple	*Acer negundo*	73	731	Healthy	Retainable	Yes	Yes
107	--	American Elm	*Ulmus americana*	40	400	Healthy	Retainable	No	No
108	--	Black Walnut	*Juglans nigra*	31	315	Healthy	Retainable	No	No
109	--	Black Walnut	*Juglans nigra*	30	298	Healthy	Retainable	No	No
110	--	Black Walnut	*Juglans nigra*	24	243	Healthy	Retainable	No	No
111	--	Black Walnut	*Juglans nigra*	28	275	Healthy	Retainable	No	No
112	--	Manitoba Maple	*Acer negundo*	12	123	Healthy	Retainable	No	No
113	--	Eastern White Pine	*Strobus pinus*	40	395	Healthy	Retainable	No	No
--	T4	--	--	10	100	--	Retainable	--	--
--	T18	--	--	10	100	--	Conflict (Building)	--	--
--	T20	--	--	10	100	--	Conflict (Pathway)	--	--
--	T21	--	--	10	100	--	Retainable	--	--
--	T38	--	--	10	100	--	Conflict (Pathway)	--	--
--	T39	--	--	10	100	--	Retainable	--	--
--	T40	--	--	10	100	--	Conflict (Pathway)	--	--

APPENDIX D

City of Ottawa Tree Protection



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

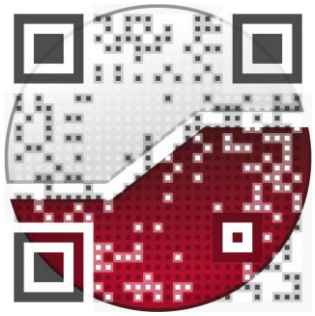
Ottawa

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

experience • knowledge • integrity



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

expérience • connaissance • intégrité