Speedvale Apartments 303-317 Speedvale Avenue, Guelph, Ontario

ARBORIST REPORT

Submission: ZBA / Site Plan

January 31st, 2024

Prepared for:

Prepared by: JK Consulting Arborists 89 Aberdeen Rd S Cambridge, ON N1S 2X8 (519) 778-5502



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1.0 INTRODUCTION

JK Consulting Arborists has been retained by Habitat for Humanity (the Client), to prepare an Arborist Report and Tree Inventory and Preservation Plan (TIPP) for the proposed apartment building development located at 303-317 Speedvale Avenue (the Project) in Guelph, Ontario. The Arborist Report and TIPP has been prepared as a requirement of the City of Guelph to support the Zoning By-law Amendment and Site Plan applications and process.

The Arborist Report and TIPP includes recommendations to protect existing healthy trees where available and provides direction for trees which may be impacted by the proposed Site Plan design. The preparation of this report and associated drawing has been prepared in accordance with the City of Guelph <u>Tree Technical Manual</u> (December 2019), as well as the city tree bylaw (2010)-19058.

1.1 EXISTING SITE

The Project property is located within the northern area of Guelph in a residential neighbourhood. The Project includes three properties: 303 Speedvale Ave. which is an existing residential with a one storey house and detached garage; 309 Speedvale which is an existing business property with a one storey house and asphalt driveway which connects to the adjacent 317 Speedvale property. 317 Speedvale is an existing business property with a two-storey brick building and associated parking lot. The Project property is bound by Speedvale Avenue East to the north, Manhattan Court to the east, private residential properties to the south and east.

2.0 METHODOLOGY

The City of Guelph has outlined requirements for an Arborist Report and Tree Inventory and Tree Preservation Plan in their <u>Tree Technical Manual</u> (December 2019). The requirements have been utilized in developing the Arborist Report for this Project.

A tree inventory was completed for trees located on the Project site, and trees located directly adjacent to the Project site, which could potentially be impacted by construction. The tree inventory was completed by Ms. Jennifer Koskinen, ISA Certified Arborist, on January 12th, 2024. The trees included in the inventory were tagged with a numbered steel tree tag, (e.g., #1, #2, #3 etc.). Trees included in the inventory that were located on private property, or could not be physically tagged, have been identified with an 'ID' code 'A', 'B' 'C' etc.

The tree inventory data has been compiled into Table 1. Tree Inventory for 303-317 Speedvale Avenue, which is located on drawing TIPP-2 in Appendix 'A'. The tree locations have been identified on drawing TIPP-1 in Appendix 'A'. Drawing TIPP-1 was created using the site plan and engineering design drawings completed by Strik, Baldinelli, and Moniz (sbm), January 2024. The information includes preliminary grading, servicing, and landscape design. The tree locations have been legally surveyed, and for trees that were located onsite, not legally surveyed, these have been differentiated on drawing TPP-1.

The Arborist Report provides a summary of site observations, impacts based on Project design and construction.

2.1 TREE ASSESSMENT

The following identifies the assessment and information completed for each tree that has been included in Table 1.

Botanical and Common Name: The scientific and common name are identified for each tree.

Diameter at Breast Height (DBH): Tree diameter measurement in centimetres taken 1.4 metres up the tree's trunk from existing grade.

Condition Assessment: Assessment completed from ground review.

Trunk Integrity (TI) – Assessment of root flare, trunk, and main stem.

Canopy Structure (CS) – Assessment of branches and overall canopy.

Canopy Vigor (CV) – Assessment of general health and vigor of live buds or leaves throughout the canopy.

Overall Condition (OC) – Final condition rating based on TI, CS, and CV. One poor rating will result in an OC of poor. If two of the three are rated good and one is fair the OC will be fair, and so on.

Condition Rating:

Excellent: (Vigour Class 6: Healthy)

No major branch mortality: crown is reasonably normal with less than 10% branch or twig mortality; no signs of decay or defects.

Good: (Vigour Class 5: Light Decline)

Branch mortality, twig dieback in 11-25% of the crown: broken branches or crown missing based on presence of old snags is less than 26%; minor evidence of decay or defects.

Fair: (Vigour Class 4: Moderate Decline)

Branch mortality, twig dieback in 26-50% of the crown: broken branches or crown area missing based on presence of old snags is 50% or less; decay evident.

Poor: (Vigour Class 3: Severe Decline)

Branch mortality, 50% or more of the crown dead: broken branches or crown area missing based on presence of old snags in more than 50%; decay may result in high hazard assessment or recommendation for tree removal.

Dead: (Vigour Class 2: Dead due to Natural Causes)

Tree is dead, either standing or down: phloem under bark has brown streaks: few epicormic shoots may be present.

Dead: (Vigour Class 1: Dead due to Human Causes)

Tree removed: tree has been sawed or girdled by human activity.

Tree Location: Identifies if the tree is located on project site, property line or boundary tree, neighbouring property, or public property.

Comments: Additional information or observations of the tree.

3.0 OBSERVATIONS and ANALYSIS

This section is to be read in conjunction with the information on the drawings in Appendix 'A'.

3.1 OBSERVATIONS

The trees included in the inventory were located primarily in the rear yard of the existing 303 Speedvale Ave property. The inventory includes sixteen (16) trees, which were predominantly assessed to be in good condition. The following tree species were included in the detailed inventory:

Amelanchier sp. (Serviceberry), Acer x freemanii (Freeman Maple), *Acer platanoides (Norway Maple), Gleditsia triacanthos var. 'inermis' (Honeylocust), Juniperus virginiana (Red Cedar), Picea glauca (White Spruce), and Picea pungens (Colorado Spruce).

* Denotes highly invasive species as currently listed by the Ontario Invasive Plant Council

3.1.1 Species at Risk

The property was reviewed for Species at Risk (SAR), according to the Ontario Endangered Species Act (ESA), 2007, S.O. 2007, c.6. The field review determined that there was no SAR observed on the Project property.

3.1.2 Tree Ownership

Project Site Trees

There were fourteen, (14), trees included in the inventory which were located on the Project property.

City Owned Trees

There were no City owned trees adjacent to the Project property limits.

Neighbour Trees

Tree 'A' and 'B' were private owned trees located on adjacent neighouring properties. Trees were located between 3 to 3.5m from the property line and were assessed from the property line to be in good condition.

3.2 ANALYSIS

The Tree Inventory and Preservation Plan, drawing TIPP-1 was prepared using the preliminary grading, servicing plan, and site plan layout design to determine and provide justification for impacts to existing trees. The Project design proposes construction of a 6-storey apartment building with associated ground level parking, and access to the property from Manhattan Court. To facilitate development of the Project, fourteen trees 10cm DBH and greater will be removed within the Project property limits.

Tree species tolerance to impact, tree health and condition, along with construction encroachment to a tree's dripline were reviewed to determine tree impacts for all inventoried trees.

Tree Transplanting

There are no recommendations to transplant trees. In some cases, it may be possible to transplant existing trees on-site to avoid injury or removal. Transplanting was considered for trees less than 15cm DBH which are trees typically can be transplanted easily. Transplanting considerations included tree diameter, tree species, site conditions and time of year. Trees #652 a Serviceberry with multiple stems in good condition, and #664 a Callery Pear in fair condition would have been the two candi0 for transplant. Due to the condition, tree form, and species type, these trees are not desired for transplant.

Project Site Trees

The trees identified to be removed for the Project were all located on the Project property. A total of fourteen trees, predominantly located in the rear yard of 303 Speedvale Ave., will be removed.

Neighbour Trees

Trees 'A' and 'B' will be retained and protected.

City Owned Trees

No impact to City trees.

3.2.1 Summary of Tree Impacts

Tree removals and trees to be retained have been identified in the TIPP drawings. The following table provides a summary of the tree impacts for this Project.

Table 3-1. Summary of Tree Impacts

Tree Impacts	# of Trees
Retain	2
Remove	14
Total Trees Inventoried	16

4.0 TREE PROTECTION

Tree Protection Fence (TPF) locations have been identified on drawing TPP-1, with City details and associated notes provided in on drawing TPP-2 in Appendix 'A'.

5.0 COMPENSATION

The City of Guelph requires compensation for the removal or injury of regulated trees. Compensation can be implemented thought onsite planting and is recommended to be identified on the Landscape Plan for the Project. Offsite planting could be completed and would include City owned property. Off-site planting would be determined in conjunction with City staff. The following are City requirements that pertain to trees planted as compensation:

- Small stock (in lieu of standard stock size) may be acceptable as compensation and for naturalization and other mass plantings;
- All plant material shall conform to the latest edition of the Canadian Nursery Trades Association Specification and Standards;
- The spacing of plant material should account for the ultimate size and form of the selected species; and
- Deciduous shade trees are preferable, and coniferous trees shall not account for more than one-quarter of proposed trees.

Planting shall be completed as per the Tree Technical Manual guidelines, and in consultation with City staff.

5.1 PROJECT COMPENSATION REQUIREMENTS

The tree inventory table, table 1.1 on drawing TIPP-2 identifies the compensation for the removal of 16 trees. Compensation was calculated to be 82 trees. It is understood that currently the City's cash in lieu is \$500 per tree destroyed. As such the cash value was calculated to be \$8,000.

TOTAL TREES REMOVED = 16
TOTAL COMPENSATION TREES = 82
TOTAL CASH IN LIEU OF PLANTING \$8.000

6.0 RECOMMENDATIONS DURING CONSTRUCTION

- 1. The following is the process that shall be carried out if tree removals are requested during the restricted time indicated in the Migratory Birds Convention Act (for Southern Ontario this timing is estimated for April 1 to August 31):
 - It is to be determined if nesting birds are within the tree removal disturbance area.
 - If it has been determined that there are nesting birds onsite, there will be no tree removals/chipping conducted within a boundary set out in conjunction with City staff.

Tree removals can resume within this area at the end of the nesting season, August 31, or if it has determined the birds have left.

- If it has been determined there are no migratory birds nesting within the disturbance area, the contractor has 7 days to conduct removals. At the end of 7 days, if removals and chipping is not complete, the area shall be reassessed and if there are still no birds, work can resume for another 7 days. This process will continue until all removals and chipping is complete.
- 2. Prior to the start of construction, the City shall have approved the TIPP.
- 3. Onsite Monitoring during construction is not required as trees to be retained are located on adjacent private property, 3 metres off the property line.

7.0 STATUTE OF LIMITATIONS

The assessment of the trees presented within this report has been made using accepted arboricultural techniques. These include a visual examination of the above-ground parts of each tree for structural defects, scars, external indications of decay, evidence of insect presence, discoloured foliage, the general condition of the trees and the surrounding site, as well as the proximity of property and people. None of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms, and their health and vigour is constantly changing. They are not immune to changes in site conditions or seasonal variations in the weather.

While reasonable efforts have been made to ensure the trees recommended for retention are healthy, no guarantees are offered or implied that these trees or any part of them will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behavior of any single tree or group of trees in all circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure if provided with the necessary combinations of stresses and elements. This risk can only be eliminated if the tree is removed.

Every effort has been made to ensure that this assessment is reasonably accurate, and the trees should be reassessed periodically. The assessment presented in this report is valid at the time of inspection.

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Prepared by:		

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REFERENCES

City of Guelph. 2019. Tree Technical Manual. 53 p.

Matheny N., and Clark J. 1998. <u>Trees and Development: a technical guide to preservation of trees during land development</u>. Champaign IL: International Society of Arboriculture. 183 p.

International Society of Arboriculture. 2023. Managing Trees During Site Development and Construction. 3rd Edition. Champaign (IL, USA): International Society of Arboriculture. 63 p.

Appendix A

- DRAWING TIPP-1: TREE INVENTORY AND PRESERVATION PLAN
- DRAWING TIPP-2: TREE INVENTORY AND PRESERVATION PLAN DETAILS

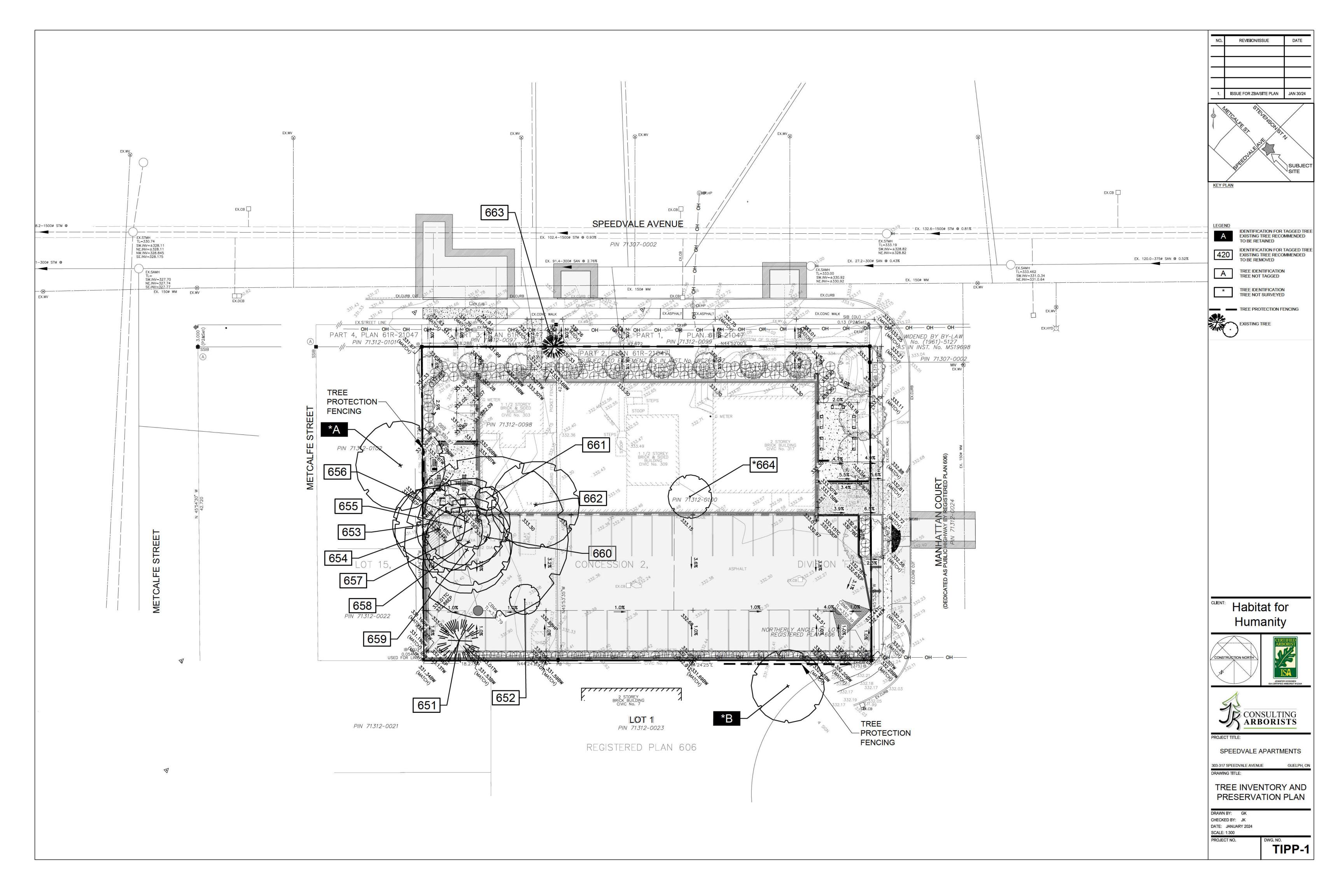


TABLE 1. Detailed Tree Inventory for 303 - 317 Speedvale Avenue Guelph, ON

Tree Inventory Date: January 12 2024.

LEGEND:

A' - tree not tagged; DBH estimated from the property line

Tree Tag #				Dripline	Condition					2 2200	Action	City Compensation # of Trees Required (60mm cal tree per 60mm diameter removed.
or ID	Botanical Name	Common Name	DBH (cm)	Radius (m)	trunk integrity	crown structure	was I Overall I	Ownership				
651	Juniperus virfiniana	Red Cedar	36	3	Good	Good	Good	Good		Project	Remove	6
652	Pyrus calleryana	Callery Pear	<10,10	2	Good	Good	Good	Good	Growing in a planter box. Fruit tree = no compensation.	Project	Remove	0
653	Acer x freemanii	Freeman Maple	21,49	5	Fair	Fair	Fair	Fair	21cm stem is a dead stub; some dead branches in canopy; stem arches slightly.	Project	Remove	8
654	Acer x freemanii	Freeman Maple	24,34	6	Fair	Fair	Fair	Fair	Tree stems arch west. Deadwood in canopy.	Project	Remove	5
655	Acer x freemanii	Freeman Maple	19,45	6	Fair	Good	Good	Fair	19cm stem is rotting; 45cm stem in good condition.	Project	Remove	7
656	Acer x freemanii	Freeman Maple	27,37	6	Good	Good	Good	Good	Uneven canopy distribution due to adjacent trees.	Project	Remove	6
657	Acer x freemanii	Freeman Maple	20	2.5	Poor	Poor	Poor	Poor	Wound 1m long on trunk with rot.	Project	Remove	3
658	Acer x freemanii	Freeman Maple	29,33	6	Fair	Good	Good	Fair	Stems arch southeast.	Project	Remove	5
659	Acer x freemanii	Freeman Maple	30	6	Fair	Good	Good	Fair	Stems arch southeast.	Project	Remove	5
660	Acer x freemanii	Freeman Maple	(2)34, (2)36, 51,55	11	Good	Good	Good	Good	One 36cm stem is a stub cut 4m height.	Project	Remove	9
661	Acer platanoides	Norway Maple	64	4	Good	Good	Good	Good		Project	Remove	10
662	Acer x freemanii	Freeman Maple	34,51,49,65	6	Good	Good	Good	Good	One dead limb in upper canopy.	Project	Remove	10
663	Picea glauca	White Spruce	39	4	Good	Good	Good	Good		Project	Remove	6
664	Amelanchier sp.	Serviceberry	<10,10,14,15	3	Fair	Fair	Good	Fair		Project	Remove	2
Α	Gleditsia triacanthos var.'inermis'	Honeylocust	35-40	6	Good	Good	Good	Good		Private - Neighbour	Retain	NA
В	Picea pungens	Colorado Spruce	40-45	5	Good	Good	Good	Good	Canopy extends slightly into Project property; pruning may be required to install site fencing during construction.	Private - Neighbour	Retain	NA

1.1 Summary of Tree Impacts and Permit and Compensation Requirements

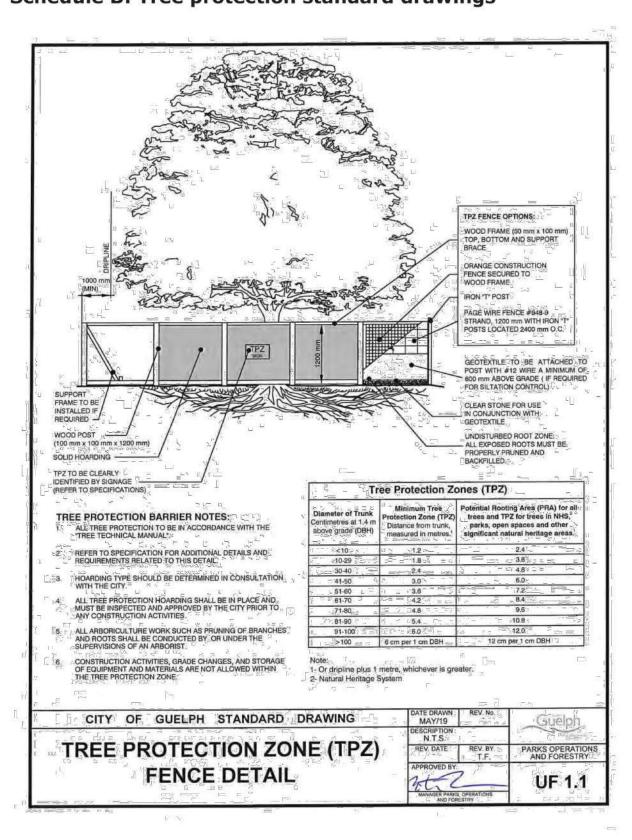
ACTION	TOTAL
Retain	2
Removal	14
Total # trees inventoried	16

Total # Trees Require Compensation	TOTAL COMPENSATION (using aggregate calculation)
16	82

* TOTAL CASH IN LIEU @ 500 / TREE (16 X \$500) = \$8,000

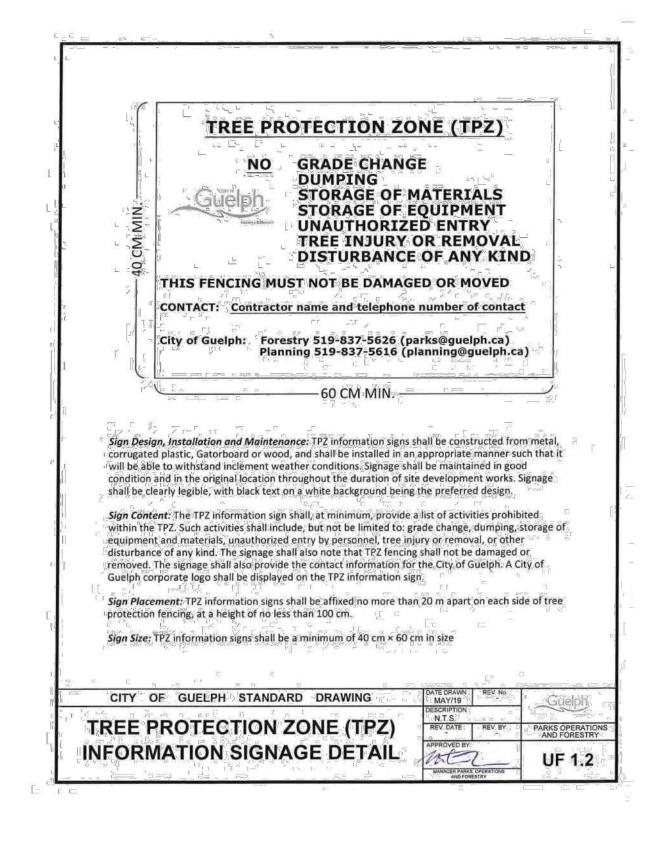
(*By-law (2010 - 19058) Sec. 7.c). 'if replacment planting is not achievable on the subject land, it be substituted by a payment of cash in lieu in the amount of \$500 per tree destroyed or injured')

Schedule B: Tree protection standard drawings



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City of Guelph Tree Technical Manual



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CITY TREE PROTECTION NOTES

- 1. Trees and TPZs should be regularly monitored by or under the supervision of an Arborist throughout the duration of the project;
- 2. If injury should occur to retained trees during construction or development, an Arborist should evaluate the trees immediately so that appropriate treatment can be performed in a timely manner; and
- 3. Written verification from an Arborist that all of the required tree protection measures have been installed in accordance with the TIPP, as approved by the City, is required prior to any demolition, ground-breaking or grading activities taking place on site.
- 4. Encroachment of the TPZ should be avoided. However, in circumstances where this cannot be avoided, the area of encroachment should be determined and the work supervised by an Arborist with approval from the City.

Soil Compaction Prevention

- 5. Construction or development access should be diverted as far away from trees as possible and keep the movement of equipment and materials across root zones to an absolute minimum.
- 6. Soil compaction protection must be installed over area of potential impact when temporary encroachment is required to facilitate work within a TPZ. The type and frequency of encroachment determine which compaction protection is required, as specified below:
- 6.1 Limited non-vehicular (e.g. foot traffic)

- Installation of non-woven permeable geotextile fabric;

Minimum of 150 mm of wood chip mulch laid over geotextile fabric; and
 Installation of 25 mm plywood.

6.2 Frequent non-vehicular or occasional light vehicle

Non-woven permeable geotextile fabric;
 Minimum of 300 mm of wood chip mulch laid over geotextile fabric; and

- Installation of 25 mm plywood.

6.3 Regular vehicular access

- Non-woven permeable geotextile fabric;

- Installation of 100 mm of 19 mm clear stone laid over geotextile fabric;

- Non-woven permeable geotextile fabric over stone;

- Installation of 25 mm plywood or steel plate over mulch.

- Minimum of 300 mm of wood chip mulch laid over the landscape fabric; and

The City must approve all TPZ encroachments. Treatments are temporary and must be removed once access is no longer required.

Root-sensitive excavation and installation of utilities

- 8. Efforts should be made to route all underground utilities around the TPZs. When site development works necessitate excavation within the TPZ or PRA, if feasible, undertake root-sensitive excavation to a minimum depth of 1.6 m, as traditional trenching methods will cause significant root damage to the preserved trees.
- 9. Prior to commencement of any excavation within the TPZ, an exploratory excavation shall be undertaken using hand tools, an air-jet tool, a hydro-vac system, or an equivalent method of root-sensitive excavation. Exploratory excavation shall be done under the supervision of an Arborist. Exploratory excavation may also be required for excavation outside the minimum TPZ depending on the tree and surrounding environment.
- 10. Excavation work performed beyond the TPZ, but within the PRA, and where there is potential to damage structural roots, roots are to be cut a maximum of 300 mm from the edge of excavation (grading or removals). Damaged, exposed roots should be pruned once the excavation is completed. Minimize the limit of excavation, grading or removals to the greatest extent possible and include the use of excavation shoring, smaller excavation equipment or rubber tired machines.

Root pruning

- 11. Root pruning can help ease the stresses experienced by a tree with root damage, encourage the growth of new fine and feeder roots, and prevent the spread of decay. Proper root pruning should be performed by or under the supervision of an Arborist in advance of anticipated root-damaging excavation, or immediately afterwards if such injury was unforeseen. Root pruning guidelines are as follows:
- a. Only clean hand tools shall be used to prune roots. Shovels, picks or other construction tools shall not be used to prune roots;
- b. Severed, exposed, or diseased roots that are greater than 60 mm in diameter shall be pruned in a similar fashion as branches, taking care to maintain the integrity of the root bark ridge;
- c. Wound dressings or pruning paint shall not be used to cover the ends of any root pruning cut; and
- d. Avoid prolonged exposure of tree roots. Keep all exposed roots moist and covered with soil, mulch, irrigation, or at least moistened

Tree removal measures

- 12. Efforts shall be made to minimize the number of tree removals on proposed development sites. When tree removal is necessary, the following guidelines shall be implemented:
- a. Tree(s) approved for removal must be clearly marked on-site, preferably with orange or yellow spray paint at breast height (1.4 m) and at the base of the stem (stump height) as per the Ontario Tree Marking Guide;
- b. Tree removal cannot proceed until written approval of the TIPP has been granted by The City;
- c. Approved tree removals shall be carried out prior to site works and in such a manner as to minimize site disturbance and damage to trees to be retained;
- d. Approved tree protection fencing must be installed and inspected prior to tree removals unless otherwise approved by the City;
- e. Removal of all trees and tree parts from Termite Management Areas shall adhere to procedures of Guelph's Termite Control Program for removal and disposal of termite infested material and soils; and
- f. The Canadian Food Inspection Agency (CFIA) restricts the movement of any part of trees infested with or host to a regulated pest or disease. For more information about transporting regulated material, contact your local CFIA office.

Tree injury and mitigation

- 13. In some development situations, injury to trees may be unavoidable despite best efforts to plan tree injury mitigation in advance. Additional removals may become necessary due to site conditions or unanticipated circumstances. However, where work may impact trees equal to or greater than 10 cm DBH approved for retention and protection, authorization from the City is required. Activities such as TPZ or PRA encroachment, grading or excavation within the TPZ or PRA, or physical damage to any above ground or below ground parts constitute tree injury. In the event of unauthorized injury to, or removal of trees, additional compensation in the form of tree establishment or monetary penalty will be required.
- 14. Tree injury mitigation may be required in cases where damage can be reversed. In the event of injury, mitigation measures shall be recommended by an Arborist. The development proponent is expected to contact an Arborist and the City of Guelph immediately to report unforeseen tree injury and undertake mitigation measures. All injury to trees (mechanical or chemical) must be reported in inspection reports including method used to mitigate damage.

Mitigation for tree injury may include:

- a. Soil de-compaction, aeration, vertical mulching or mulching of the root zone;
- b. Pruning of damaged branches;
- c. Bark tracing around stem wounds;d. Root pruning;
- e. Fertilization; or
- f. Other arboricultural treatments, as required.

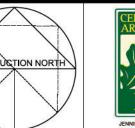
Tree protection monitoring during and after construction or development

- 15. In order to ensure the accepted and approved tree protection measures are successfully implemented, they must be monitored throughout construction and development. Post-construction / development monitoring may be required in addition to monitoring during construction or development activities in order to evaluate the ultimate success of tree protection measures and provide for any final tree injury mitigation. Post-construction monitoring may include the need for an Arborist to return to site post-construction (e.g. could be a year following construction) to assess the tree and determine whether any further action is required.
- 16. Monitoring will be required in circumstances where trees are retained and protected with medium to high risk of potential injury (e.g. work within the TPZ due to extreme site limitations) and/or when trees are unexpectedly injured during construction or development.
 Where monitoring provisions are to be established they will need to include:
- a. Frequency and timing of monitoring inspections;
- The type and format of information that will be collected during monitoring inspections (e.g. tree condition notes including tree injuries and mitigation, photos of protection measures/tree injuries, recommendations for repairs, etc.);
- Measures and protocols that will be followed in the event that tree protection measures have failed or been damaged (e.g. immediate repairs); and
- d. The format and types of information that will be provided back to the approval authority as part of the monitoring.

ISSUED FOR ZBA/SITE PLAN JAN 30/24

REVISION/ISSUE

Habitat for Humanity





ROJECT TITLE:

SPEEDVALE APARTMENTS

DRAWING TITLE:

TREE INVENTORY AND PRESERVATION PLAN DETAILS

DRAWN BY: GK
CHECKED BY: JK
DATE: JANUARY 2024
SCALE: AS NOTED

DWG. NO.

TIPP-2