

November 15, 2016 [*Revised February 7, 2020*]

ARBORIST REPORT
37 Johnson Street, Barrie, Ontario

BACKGROUND

MHBC was retained to conduct an inventory of the existing trees within the boundaries of 37 Johnson Street, as they pertain to the City of Barrie's guidelines. Field work was completed on November 11th, 2016 and updated on January 27, 2020, this report relates to the condition of the trees as observed on that date.

PROCEDURE

The on-site inventory of existing trees was carried out using the current survey of the property and relies on the accuracy of this survey. The inventory includes trees within the area of work and all trees within 6.0 meters of the area of work as per City of Barrie's guidelines.

This inventory is summarized graphically in the Tree Inventory Plan TI-1, which shall always be read in conjunction with this report and shall form part of this report. For the purposes of this report, trees and groupings of trees are identified in terms of species, size, condition, and recommendations.

The following rating system was used in describing the general condition of the trees inventoried:

- Good (G): Indicates a condition of vigour and no major concerns;
- Fair (F): Indicates an adequate tree, which may have some minor issues;
- Poor (P): Indicates declining health, bad form, or other more serious issues;
- Dead (D): Indicates a dead tree that should be removed.

ASSUMPTIONS AND LIMITING CONDITIONS

- Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible and is assumed to be correct; however MHBC can neither guarantee nor be responsible for the accuracy of information provided by others.
- It is assumed that the properties are not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
- Unless otherwise required by law, possession of this report or a copy thereof does not imply right of publication or use for any purpose in whole or in part by any other than the person or company by whom it was commissioned.
- The use of excerpts from this report or alterations to this report, without the authorization of MHBC Planning will invalidate the entire report. This report may not be used for any purpose other than its intended purpose as outlined.
- Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection;

and 2) the inspection is limited to visual examination or accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies in the plants inventoried may not arise in the future.

- The determination of ownership of any subject tree(s) is the responsibility of the owner and any civil or common-law issues, which may exist between property owners with respect to trees, must be resolved by the owner. The recommendation to remove or maintain any tree(s) does not grant authority to encroach in any manner onto adjacent private properties.

SUMMARY OF TREES INVENTORIED

The following table summarizes the on-site trees.

| Tree No. | Common Name | Botanical Name | DBH (CM) | Cond. | TPZ Size (M) | Comments | Recommendation |
|----------|---------------|-----------------------|----------|-------|--------------|----------------------------|----------------------------|
| 1 | Honey Locust | Gleditsia triacanthos | 44 | F | | | Remove due to construction |
| 2 | Ash sp. | Fraxinus sp. | 51 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 3 | Ash sp. | Fraxinus sp. | 64 | P | 3 | Signs of Emerald Ash Borer | Retain |
| 4 | Spruce sp. | Picea sp. | 34 | F | 2 | | Retain |
| 5 | Austrian Pine | Pinus nigra | 48 | F | | | Remove due to construction |
| 6 | Ash sp. | Fraxinus sp. | 49 | P | 2.5 | Signs of Emerald Ash Borer | Retain |
| 7 | Spruce sp. | Picea sp. | 36 | F | | | Remove due to construction |
| 8 | Ash sp. | Fraxinus sp. | 50 | P | 2.5 | Signs of Emerald Ash Borer | Retain |
| 9 | Austrian Pine | Pinus nigra | 46 | F | | | Remove due to construction |
| 10 | Austrian Pine | Pinus nigra | 45 | F | 2.5 | | Retain |
| 11 | Austrian Pine | Pinus nigra | 49 | F/P | 2.5 | | Retain |
| 12 | Honey Locust | Gleditsia triacanthos | 47 | F | 2.5 | | Retain |
| 13 | Crabapple sp. | Malus sp. | 34 | F | | | Remove due to construction |
| 14 | Crabapple sp. | Malus sp. | 29 | F | | | Remove due to construction |
| 15 | Crabapple sp. | Malus sp. | 27 | F | | | Remove due to construction |
| 16 | Crabapple sp. | Malus sp. | 29 | F | | | Remove due to construction |
| 17 | Crabapple sp. | Malus sp. | 23 | F/P | | | Remove due to construction |

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|----|------------------|---------------------------------|----|-----|-----|------------------------------------|----------------------------|
| 18 | Crabapple sp. | Malus sp. | 28 | D | | Snag; Dead | Remove due to health |
| 19 | Honey Locust | Gleditsia triacanthos | 50 | F | | | Remove due to construction |
| 20 | Honey Locust | Gleditsia triacanthos | 46 | F | 2.5 | | Retain |
| 21 | Linden sp. | Tillia sp. | 35 | F | 2 | | Retain |
| 22 | Linden sp. | Tillia sp. | 50 | F | 2.5 | | Retain |
| 23 | Ash sp. | Fraxinus sp. | 23 | F/P | | 4 stem; Signs of Emerald Ash Borer | Remove due to construction |
| 24 | Ash sp. | Fraxinus sp. | 43 | F/P | 2.5 | Signs of Emerald Ash Borer | Retain |
| 25 | Ash sp. | Fraxinus sp. | 55 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 26 | Honey Locust | Gleditsia triacanthos | 35 | F | | | Remove due to construction |
| 27 | Honey Locust | Gleditsia triacanthos | 36 | F | | | Remove due to construction |
| 28 | Honey Locust | Gleditsia triacanthos | 39 | F | 2 | | Retain |
| 29 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 8 | F | 1 | | Retain |
| 30 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 9 | F | 1 | | Retain |
| 31 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 9 | F | 1 | Signs of Emerald Ash Borer | Retain |
| 32 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 8 | F | 1 | | Retain |
| 33 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 9 | F | 1 | Signs of Emerald Ash Borer | Retain |
| 34 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 9 | F | 1 | | Retain |
| 35 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 9 | F | 1 | | Retain |
| 36 | Ivory Silk Lilac | Syringa reticulata 'Ivory Silk' | 8 | F | 1 | | Retain |
| 37 | Crabapple sp. | Malus sp. | 28 | F | 2 | | Retain |
| 38 | Spruce sp. | Picea sp. | 38 | F | 2 | | Retain |
| 39 | Hawthorn sp. | Crataegus sp. | 25 | F | | | Remove due to construction |
| 40 | Spruce sp. | Picea sp. | 38 | F | | | Remove due to construction |
| 41 | Spruce sp. | Picea sp. | 33 | F | | | Remove due to construction |
| 42 | Maple sp. | Acer sp. | 25 | F/P | | | Remove due to construction |

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|----|----------------|------------------|-------|-----|---|--|----------------------------|
| 43 | Norway Maple | Acer platanoides | 23 | F | | | Remove due to construction |
| 44 | Austrian Pine | Pinus nigra | 49 | F | | | Remove due to construction |
| 45 | Ash sp. | Fraxinus sp. | 23-28 | P | | 2 stem; Signs of Emerald Ash Borer | Remove due to construction |
| 46 | Hawthorn sp. | Crataegus sp. | 26 | F | | | Remove due to construction |
| 47 | Ash sp. | Fraxinus sp. | 39 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 48 | Ash sp. | Fraxinus sp. | 16 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 49 | Ash sp. | Fraxinus sp. | 28 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 50 | Ash sp. | Fraxinus sp. | 28 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 51 | Ash sp. | Fraxinus sp. | 25 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 52 | Ash sp. | Fraxinus sp. | 48 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 53 | Ash sp. | Fraxinus sp. | 36 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 54 | Ash sp. | Fraxinus sp. | 19 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 55 | Ash sp. | Fraxinus sp. | 33 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 56 | Ash sp. | Fraxinus sp. | 35 | P | | 2 stem; Signs of Emerald Ash Borer | Remove due to construction |
| 57 | Ash sp. | Fraxinus sp. | 27 | P | | 2 stem; Signs of Emerald Ash Borer | Remove due to construction |
| 58 | Hawthorn sp. | Crataegus sp. | 18 | F | | Signs of Emerald Ash Borer | Remove due to construction |
| 59 | Elm sp. | Ulmus sp. | 36 | F/P | | Significant deadwood; Grown into fence | Remove due to construction |
| 60 | Elm sp. | Ulmus sp. | 28 | F/P | | Significant deadwood | Remove due to construction |
| 61 | Austrian Pine | Pinus nigra | 42 | F | | | Remove due to construction |
| 62 | Austrian Pine | Pinus nigra | 36 | F | | | Remove due to construction |
| 63 | Norway Maple | Acer platanoides | 37 | F | 2 | | Retain |
| 64 | Ash sp. | Fraxinus sp. | 19 | F | | Grown into chainlink fence | Remove due to construction |
| 65 | Manitoba Maple | Acer negundo | 64 | F/P | | Signs of rot; Fruiting bodies | Remove due to construction |

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|----|----------------|-----------------------|-------|-----|-----|-----------------------------|----------------------------|
| 66 | Austrian Pine | Pinus nigra | 38 | F/P | | | Remove due to construction |
| 67 | Norway Maple | Acer platanoides | 34 | F | 2 | | Retain |
| 68 | Austrian Pine | Pinus nigra | 48 | F/P | | | Remove due to construction |
| 69 | Honey Locust | Gleditsia triacanthos | 53 | F | | | Remove due to construction |
| 70 | Austrian Pine | Pinus nigra | 46 | F | | | Remove due to construction |
| 71 | Austrian Pine | Pinus nigra | 46 | F | | | Remove due to construction |
| 72 | Manitoba Maple | Acer negundo | 33 | F | 2 | Grown into fence | Retain |
| 73 | Maple sp. | Acer sp. | 13-23 | F | | 5 stem | Remove due to construction |
| 74 | Fir sp. | Abies sp. | 37 | F/P | 2 | | Retain |
| 75 | Black Walnut | Juglans nigra | 26 | F | 2 | | Retain |
| 76 | Fir sp. | Abies sp. | 46 | F | 2.5 | | Retain |
| 77 | Birch sp. | Malus sp. | 23 | F | 1.5 | | Retain |
| 78 | Maple sp. | Acer sp. | 18 | F | | | Remove due to construction |
| 79 | Spruce sp. | Picea sp. | 71 | F | 3 | | Retain |
| 80 | Spruce sp. | Picea sp. | 35 | F | 2 | | Retain |
| 81 | Maple sp. | Acer sp. | 21 | F | | | Remove due to construction |
| 82 | Spruce sp. | Picea sp. | 25 | F | 1.5 | | Retain |
| 83 | Spruce sp. | Picea sp. | 38 | F | 2 | Grown into fence | Retain |
| 84 | Manitoba Maple | Acer negundo | 67 | F | 3 | | Retain |
| 85 | Maple sp. | Acer sp. | 77 | F | 3 | Moderate deadwood in canopy | Retain |
| 86 | Basswood | Tillia americana | 55 | F | | | Remove due to construction |
| 87 | Austrian Pine | Pinus nigra | 39 | F | 2 | | Retain |
| 88 | Austrian Pine | Pinus nigra | 38 | F | 2 | | Retain |
| 89 | Basswood | Tillia americana | 65 | F | | | Remove due to construction |
| 90 | Honey Locust | Gleditsia triacanthos | 33 | F | | | Remove due to construction |
| 91 | Basswood | Tillia americana | 57 | F | | | Remove due to construction |
| 92 | Spruce sp. | Picea sp. | 28 | F | 2 | | Retain |

| | | | | | | | |
|-----|-------------|----------------|-------|-----|-----|------------------------------|----------------------------|
| 93 | Ash sp. | Fraxinus sp. | 54 | P | | Signs of Emerald Ash Borer | Remove due to construction |
| 94 | Oak Sp. | Quercus Sp. | 27/41 | F | 2.5 | | Retain |
| 95 | Oak Sp. | Quercus Sp. | 71 | F/G | 3 | | Retain |
| 96 | Beech Sp. | Fagus Sp. | 9 | F | 1 | | Retain |
| 97 | Oak Sp. | Quercus Sp. | 34 | F | 2.5 | | Retain |
| 98 | Beech Sp. | Fagus Sp. | 22 | F/G | 1.5 | | Retain |
| 99 | Sugar Maple | Acer | 24 | F | 1.5 | | Retain |
| 100 | Sugar Maple | Acer saccharum | 71 | F | 3 | | Retain |
| 101 | Sugar Maple | Acer saccharum | 66 | F | 3 | | Retain |
| 102 | Ash sp. | Fraxinus sp. | 24 | D | 1.5 | Affects of Emerald Ash Borer | Retain |
| 103 | Ash sp. | Fraxinus sp. | 16 | D | 1.5 | Affects of Emerald Ash Borer | Retain |
| 104 | Ash sp. | Fraxinus sp. | 36 | D | 2 | Affects of Emerald Ash Borer | Retain |

TREE GROUPINGS

| | | | | | | | |
|---|--------------------------------|--|---|-----|---|--|----------------------------|
| A | Norway Maple, Elm, Ash, Cherry | Acer platanoides Ulmus, Fraxinus and Prunus | - | F | - | Stems up to +/- 10cm | Remove due to construction |
| B | Norway Maple, Linden | Acer platanoides, Tilia Sp. | - | F | - | Stems up to +/- 10cm Remnant of old fence line | Remove due to construction |
| C | Manitoba Maple | Acer negundo | - | F/P | - | 1x Common Buckthorn clump (Rhamnus cathartica) stems +/- 5 - 10 cm, 4x Manitoba Maple (Acer negundo) line. Grown into fence. Stems up to +/- 15cm. | Retain |

TREE PROTECTION RECOMMENDATIONS

The following standards shall apply to any trees that are identified to be retained. Where the municipality enforces its own standards, those of the governing municipality shall supersede the recommendations contained herein. In all other instances, the following recommendations shall be treated as minimum standards for tree protection and retention.

1.0 ESTABLISH A TREE PROTECTION ZONE

The purpose of the tree protection zone is to prevent root damage, soil compaction and soil contamination during construction activities. Workers and machinery shall not disturb the tree protection zone in any way. In order to prevent access, the following recommendations are offered.

- Install tree protection hoarding as per detail 2 / TI-1.
- Allow no fill, equipment, supplies, or waste within the tree protection zone.
- Maintain the tree protection hoarding in good condition for the duration of construction.
- Tree protection hoarding is not to be removed until all construction activities have been completed.

2.0 ROOT PRUNING

Where possible, hand dig areas closest to each tree to prevent any unnecessary tearing or pulling of roots. Removal of roots that are greater than 2.5 centimetres in diameter or roots that are injured or diseased should be performed as follows:

- Preserve the root bark ridge (similar in structure to the branch bark ridge). Directional Root Pruning (DRP) is the recommended technique and should be employed during hand excavation around tree roots. Roots are similar to branches in their response to pruning practices. With DRP, objectionable and severely injured roots are properly cut to a lateral root that is growing downward or in a favorable direction.
- All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools, by a Certified Arborist.
- No wound dressings or pruning paint shall be used to cover the ends of each cut.
- All roots requiring pruning shall be cut using any of the following tools:
Large or small loppers, Hand pruners, Small hand saws, Woundscribers
- Avoid prolonged exposure of tree roots during construction - keep exposed roots moist and dampened with mulching materials, irrigation or wrap in burlap if exposed for longer than 4 hours.

3.0 FERTILIZATION AND IRRIGATION

The following measures are recommended:

- Aeration and deep root fertilize to ensure that all trees receive the appropriate nutrients for healthy growth.
- Fertilizer must be a low nitrogen formula such as 5-30-30 to promote root growth rather than shoot growth.
- If construction occurs during July and / or August, roots must be irrigated during conditions of drought.

4.0 ESTABLISH MAINTENANCE PROGRAM

Pre-Construction:

- Prune all trees to remove any deadwood and obstruction prune as required.

During Construction:

- Irrigate tree preservation zones during drought conditions (June through September), in an attempt to reduce the effects of drought stress.
- Inspect the site every month to ensure that all tree protection fence / hoarding is in place and in good condition, inspect the trees to monitor condition.

Post-Construction:

- Prune crowns to remove any newly developed deadwood only. Do not remove any live growth.
- Inspect the trees three times per year (May, July, and September) to monitor condition for a minimum period of 2 additional years.

5.0 LANDSCAPING

Any landscaping completed within the tree preservation zones, after construction is completed and tree protection fencing / hoarding has been removed, is to be carried out in such a way that it will not cause damage to any of the trees or their roots. The trees must be protected to the same standards listed earlier in this report, but without the use of tree protection fence or hoarding.

The following guidelines are recommended:

- **No grade changes** are permitted which include adding and/or removing soil.
- **No excavation** is permitted that can cause damage to the roots of the tree.
- **No heavy equipment** can be used to compact the soil within the tree preservation zone.
- Where possible, hard surface paving around trees to be protected should be constructed using permeable products such as interlocking stone. Areas to be paved must be hand dug when encroaching within the tree protection zone.

CONCLUSIONS

Based on our investigations, we are of the opinion that forty-nine (49) of the one hundred four (104) trees inventoried in this report can be successfully protected and retained if the commendations made within this report are followed. These trees are far enough removed from the proposed work that they should not be adversely impacted by the proposed development. Of the remaining fifty-five (55), tree #18 is marked for removal due to health conditions and fifty-four (54) trees will need to be removed to accommodate the proposed development. In addition, Tree Groupings A and B will also need to be removed in order to accommodate construction.

Kindly direct any questions regarding this report to the undersigned.

Respectfully submitted,

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