# TREE INVENTORY AND PROTECTION PLAN
## 616 Mill Street
## City of Hamilton
September 2023

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

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September 21, 2023
RS# 2022-345

**Charlie Firth**

*via email: cfirth@boweswon.com*

***SUBJECT*: Tree Inventory and Protection Plan, 616 Mill Street, City of Hamilton**

Dear Mr. Firth:

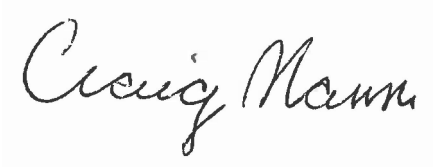
RiverStone Environmental Solutions Inc. is pleased to provide you with the attached report.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Bev Wicks, Ph.D.,
Senior Ecologist/Principal



Craig Mann H.B.Sc.F., Dipl. IFRM.
Ecologist/ISA certified Arborist (ON-2369A)

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# 1 BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter, "RiverStone") was retained by Mr. Firth to prepare a Tree Inventory/Protection Plan as part of an application for severance on a property described as 616 Mill Street, in the City of Hamilton (hereafter, "subject property"; **Figure 1**). The subject property measures approximately 0.26 ha and is currently developed as a residential property with a dwelling and associated structures. It is our understanding that the owner of the subject property (the 'proponent') is preparing applications to subdivide the existing parcel into one (1) severed and one (1) retained lots with the retained lot having a frontage of 38.16 m along Mill Street and an area of 0.19 ha and the severed lot having a frontage of 19.08 m along Mill Street and an area of 0.008 ha. It is assumed that the retained property will maintain the existing dwelling with future development to only occur on the new lot severed lot.

The subject property is located within an area covered by targeted provincial plans that include the Greater Golden Horseshoe Growth Plan, Greenbelt Plan and Niagara Escarpment Plan (NEP) and is subject to the natural heritage planning provisions of the Provincial Policy Statement (PPS; MMAH 2020). Proposed development on the property is also subject to the policies and provisions of the City of Hamilton Urban Plan (UP; November 2022).

As per the Town's submission requirements, RiverStone has also prepared an *Environmental Impact Study* under a separate cover to characterize and assess potential impacts to ecological features and functions in association with implementation of the development plan. The results of the *Environmental Impact Study* have informed this Tree Inventory/Protection Plan where applicable.

# 2 APPROACH AND METHODS

## 2.1 Methods

A tree inventory and health assessment were carried out on the subject property on July 31, 2022 by C. Mann (Ecologist/Certified ISA Arborist ON-2369A). Trees inventoried included all trees 10 cm diameter at breast height (DBH) or greater and located within the proposed area of disturbance; all trees were inventoried and assessed from the ground. Trees were identified to species and assessed based on health and condition. Tree information recorded for each specimen included:

- Tag Number,
- Species (common and scientific name),
- Diameter at breast height – approximately 1.37 metres above ground (DBH),
- General visual assessment from the ground of tree condition (health and structure),
- Estimation of canopy radius,
- Comments, and
- GIS location.

Based on the information collected, an overall visual assessment of tree health and structural integrity as viewed from the ground is provided. The structural condition of the tree and the overall health of each tree were given a ratio of poor, fair or good. Notwithstanding the determinations of tree health and structural integrity made herein (e.g., good, fair, poor), it must be recognized that all trees (in good health or otherwise) have the potential for failure given adverse weather, damage due to mechanical injury, or other factors that cause stress.

In general, an individual tree was assessed if it was located within lands identified as being within the subject property as identified on a severance sketch included as part of a committee of adjustment memo provided by the client dated October 20, 2022. Data from the inventory will be used to inform the detailed design and to prepare a tree protection plan that responds to the impacts of the detailed design.

## 3 DEFINITIONS

The following definitions have been utilized in this report, inventory table, or to assess trees in the field.

**Tree Number** – Tag number applied in the field used in referencing trees on maps and inventory tables
**Species** – The scientific and common names of each tree
**DBH** – The diameter in centimetres of a tree at breast height, measured at 1.37 m above the ground
**Inclusion** – Location where multiple stems meet and form a junction where a weak union may be present
**Tree Health Condition** – Overall health of the tree based on the crown
**Tree Structure Condition** – Overall condition of the tree based on the presence of defects, inclusions, and branching on the stem and in the crown
**Good** – The assessment of a tree with observed deficiencies less than 15% within a tree's health and structure condition
**Fair** – The assessment of a tree with observed deficiencies between 15%-40% within a tree's health and structure condition
**Poor** – The assessment of a tree with observed deficiencies greater than 40% within a tree's health and structure condition

## 4 TREE INVENTORY AND HEALTH ASSESSMENT

At the time of our site visit on July 31, 2023 the subject property consisted of residential property that was primarily cleared with manicured yard, landscape trees, gardens, dwelling a associated structures. The treed portion of the property consisted scattered trees within the developed portion of the property and a forest community in the rear portion of the subject property. This report provides an inventory of trees located on the subject property and within 6.0 m of the property line (**Figure 2** and **Figure 3**).

A total of sixty eight (68) trees were assessed in this study with tree tags 901 – 964 and previously tagged trees 873, 874, 878 and 880. Trees inventoried consisted primarily of deciduous species with three (3) live conifer being inventoried with ages ranged from young to mature. Tree size ranged from 11.0 to 109 cm in DBH within the subject property and lands directly adjacent. Fifteen (15) different species were documented within the proposed development areas with American Basswood (*Tilia americana*), Black Cherry (*Prunus serotina*), Black Walnut (*Juglans nigra*), Blue Spruce, Butternut, Eastern Redbud, Green Ash (*Fraxinus pennsylvanica*), Horse Chestnut (*Aesculus hippocastanum*), Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Scots Pine, Silver Maple, and White Spruce (*Picea glauca*). Three (3) additional trees were identified to species genus (Ginko Species, Spruce Species – *Picea* sp., *Willow Species – Salix sp.*) and four (4) dead trees of unknown species. The complete inventory and health assessment of trees can be found in **Appendix 1**.

Emerald Ash Borer (*Agrilus planipennis*; EAB) has affected Green Ash within the assessed area with many Green Ash being dead and only five (5) trees being alive. Of the Green Ash that are alive, all

show signs of decline. Observations of decline and defects present in trees inventoried on the property included:

- Emerald Ash Borer
- Inclusion wood
- Multiple stems
- Large lateral branching
- Dieback
- Sever lean
- Wounds on stem or branches

## 5 APPLICABLE BY-LAWS AND PERMITS

This study has been conducted in accordance with the City of Hamilton's Tree Protection Guidelines (October 2010) which protects trees during the development approvals process. This document outlines the requirement that all individual trees or trees in a woodland having a DBH of 10 cm or greater are to be inventoried. This policy also describes the compensation for tree removals and indicates that any tree removed greater than 10 cm diameter at (DBH) requires compensation.

## 6 PROPOSED DEVELOPMENT

The proposed severance is presented on **Figure 2** as provided by the client that includes the creation of one (1) new lot with one (1) retained lot (**Appendix 2**). It is anticipated that the existing residence on the retained lot will be maintained along with the driveway, and the new lot will be developed with a single residence with associated driveway, and municipal servicing. The drawing of the proposed severance plan is shown graphically alongside the results of the tree inventory in **Figure 3**. The driveway to the new lot is assumed to be off Mill Street. Tree removal is anticipated to be limited to the proposed severed lot and outside the significant woodland feature in the south portion of the property.

## 7 IMPACT ASSESSMENT AND RECOMMENDATIONS

This impact assessment addresses potential impacts to individual trees based on the proposed development limits. Impacts outlined in the following section are subject to change as a result of alterations as the design progresses. Existing trees within the proposed development area may be negatively affected by removal, grading, construction, and other activities associated with implementation of residential development via the following pathways:

- Direct tree removal in areas where trees conflict with building envelopes or areas of site alteration (e.g., grading of building site and driveways, etc.);
- Mechanical injury to the trunk, roots, branches, and/or foliage during construction activities;
- Soil compaction within the rooting zone; and
- Smothering or exposure of roots because of changes in grade.

**Figure 3** provides an overlay of the proposed severance with RiverStone's anticipated tree preservation / removal direction.

## 7.1 Injury and Removal of Trees

With the subject property being primarily cleared, only limited tree removal is anticipated for development of the new lot. In addition, injury to individual trees have the potential to occur when construction activities encroach into areas containing trees to be retained. Without a proposed development plan for the proposed severed lot, tree removal has been assumed based on the small size of the lot and likely location of a proposed dwelling. Removals are anticipated to be trees within the severed lot outside the significant woodland feature. If there are additional tree removals required, compensation number and mitigation measures will need to be updated. This assessment is based on no required removals within the significant woodland feature. Anticipated tree removals for the severed lot are as follows

- Severed Lot 1 – Trees 947, 948, 949, 950 and 951 are assumed to require removal for development. All of these trees are in fair to good condition and located within a landscape feature where limbs have been pruned and undergrowth suppressed.
- While trees 944, 945 and 946 are located solely on the retained lot, these trees should be considered boundary trees due to their location to the property boundary. Any maintenance (e.g., pruning), removal or work within the dripline of these trees requires permission from the adjacent property owner.
- Tree protection fencing is recommended along the edge of the significant woodland and to the severance side of tree 944, 945 and 946 as indicated on Figure 3.

## 7.2 Preservation of Trees

Tree preservation is recommended for trees where encroachment, excavation, or disturbance into the root and driplines is anticipated to be minor or non-existent, and for individuals for which tree health and stability will not be negatively impacted. Where minor encroachments may occur, mitigation measures will be employed to reduce the potential for negative impacts to individuals allowing for these trees to be preserved. It is anticipated that tree removals will be require for development of the lot. Tree preservation measures are to be implemented for trees adjacent to this impacted area.

## 7.3 Avoidance and Mitigation Measures

Due to the proximity of the proposed development to the driplines of trees to be retained on adjacent lands, these specimens require protection measures to be implemented. RiverStone recommends the following measures:

- **It is recommended that the location of any proposed development on the new lot be located towards Mill Streat and out of the Significant Woodland feature. A variance for this action may be required.**
- **If there is a requirement to remove or prune trees that are overhanging the property boundary or work within the root zone of a tree on adjacent land, consent from adjacent landowner is required before commencing.**
- **Trees along the property boundary will be monitored with documentation logged, for damage and health during and post construction with maintenance or remove completed to any poor health or damaged trees once construction is complete. Maintenance and or removal must receive consent from the property owner prior to completion and compensation may be**

**required. Machinery movement, or storage of any equipment or materials should occur as little as possible adjacent to retained trees.**

- **If it is determined that any tree canopy may be damaged during construction, these trees are to be pruned for clearance. Canopy clearance pruning must only be undertaken by an ISA Certified Arborist or Ontario College of Trades 444A Arborist or Arborist apprentice.**
- **Detailed redevelopment and grading plans for subject property must consider all trees on adjacent properties as mapped on Figure 3 as design constraints.**
- **For trees located on adjacent lands, at a minimum, tree protection fence as outlined in the City's Tree Protection Guidelines be installed along the grading limits that abut trees.**
- **Due to the small size of the proposed lots, tree protection zones within the City's Tree protection Guidelines may not be met. Fencing is to be installed as far from the trunk as possible from adjacent trees.**
- **All adjacent trees are to be monitored during and after construction and maintenance or compensation may be required. Permission from landowner(s) is required before any maintenance can occur.**
- **In the event of mechanical injury to any trees recommended for retention and/or their branches, or if pruning is required to provide clearance for construction machinery, the following best management practices are recommended:**
    - **Prune damaged limbs cleanly and according to standard arboricultural practices.**
    - **Prune damaged roots that have been exposed cleanly and according to standard arboricultural practices.**
    - **Trim loose bark but avoid enlarging any open wounds.**
- **The following activities are prohibited from within a tree protection area prior to, during and following site work:**
    - **Installation or attachment of any items to the tree**
    - **Operation of equipment or machinery**
    - **Storage of equipment, machinery or materials**
    - **Access by any personnel**
    - **Placement of trailer, temporary buildings or structures**
    - **Flushing. Storage or dumping of fuels, chemicals or other contaminants**
    - **Stockpiling of soil**
    - **Digging, trenching or excavation**
    - **Change in existing grade**
- **If work required to occur within a tree protection area shall conform to the following requirements:**
    - **The Tree Protection fencing shall not be moved at any time during construction unless with the oversight of a Qualified Arborist**

- **A Qualified Arborist must be present for all work within the identified tree protection area.**
- **Root sensitive excavation provisions must be followed when working in the tree protection area.**

· **If excavation must occur within 4 m of trees located on adjacent lands, hydro-excavation / air spading is recommended to minimize the damage to roots. The following methods are to be applied where hydro- excavation is recommended:**

- **At the limit of excavation, hydro-excavate to a depth of 150 mm along the length of the buffer distance and at a width of 0.5 m to expose roots.**
- **Prune any roots in this area using good arboricultural practices per the guidelines in this report or under the supervision of a Certified Arborist.**
- **Backfill with excavated material and reinstate to original condition or better.**
- **Upon completion reinstate tree protection fencing to original location.**
- **Water trees periodically during construction.**
- **At the completion of construction, apply 100mm depth shredded bark mulch within the root zone of adjacent trees (may vary depending on tree location).**
- **Conventional excavation must not encroach beyond the back face of the trench and limit of rood pruning in order to prevent further damage to pruned roots.**

### 7.4 Species-at-Risk

No Butternut was inventoried on the subject property; however, one (1) Butternut was observed and inventoried approximately 40 m from the west property boundary. With existing development on the retained lot anticipated to remain and the boundary of the new lot greater than 40 m from the identified Butternut, no impacts to the Butternut are anticipated.

## 8 TREE COMPENSATION

As pre the City of Hamilton Tree Protection Guidelines (October 2010) any tree that is removed requires a 1 to 1 compensation. Since the tree size requirement for the tree inventory was greater than 10 cm DBH, it is assumed that only trees over 10 cm DBH require compensation. Compensation tree plantings are to be considered on the subject property, and if compensation planting can not occur on the subject property cash-in-lieu will be provided to the City to plant trees elsewhere.

Based on information provided in the City's Tree Protection Guidelines the following are recommended for compensation and tree planting.

· **As per the Tree Protection Guidelines, the preferred approach to tree replacement is to plant the required five (5) trees on the subject property. Soils in the designated planting area must contain a minimum of 30 cubic metres per tree. The second preferred option is to plant trees on other locations outside the proposed development.**

· **Permission from the neighbouring property owners will be required where removal or potential damage to trees (including root damage) may occur.**

- **If it is determined that cash-in-lieu is the method of compensation, the City of Hamilton is to be contacted to determine the price per tree. Compensation for the estimated five (5) trees that are anticipated to be removed can them be calculated.**
- **If additional trees are required for removal beyond what is indicated on Figure 3, additional compensation will be required.**
- **Based on the City's Tree Protection Guidelines, native plants are to be used whenever possible. Approved native plants are provided in Appendix 3 along with a list of non-native and invasive plants that are not to be used on the subject property since the property is adjacent to a core area.**
- **Additional guidelines provided in the Tree protection Guidelines include:**
    - **Transplanted stock should be restricted to specimens under 20 mm dbh.**
    - **Minimum caliper for deciduous planting stock is 50 mm dbh.**
    - **Minimum height for a conifer is 1.5 metres.**
    - **Include a mix of tree species (no monocultures).**
    - **Invasive species should not be transplanted.**

To ensure that plated material is given the opportunity to survive and thrive the following are recommended.

- **All native tree installations are to have rodent guards installed at the root flare (i.e., where the soil contacts the ground).**
- **All installations are to be watered during drought or low rainfall periods for at least one (1) growing season post-installation. Watering should occur every four (4) days or so in the absence of sustained rainfall. Watering should deeply penetrate the soil to promote deeper root growth.**
- **Planting are to be installed between March 1 and May 31, or between September 15 and October 15.**
- **Any removal of trees or other woody vegetation must occur outside of the primary breeding bird season (April 1 – August 31), otherwise a visual survey by a qualified ecologist must be undertaken to ensure no active bird nests are present.**

# 9 COMPLIANCE WITH RELEVANT POLICY AND LEGISLATION

## 9.1 Federal Migratory Birds Convention Act, 1994 (MBCA)

Section 6 of the Migratory Birds Regulations under the MBCA makes it an offence to "disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird."

Restricting clearing of vegetation for the proposed development to times outside of the period April 1 to August 31, will prevent contravention of Section 6 of the regulations.

If development and site alteration is going to occur during this period, a nest survey should be conducted by a qualified avian biologist prior to commencement of construction activities to identify and locate active nests of migratory bird species covered by this Act. If a nest is located or evidence of breeding noted, then a mitigation plan should be developed to address any potential impacts on migratory birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.

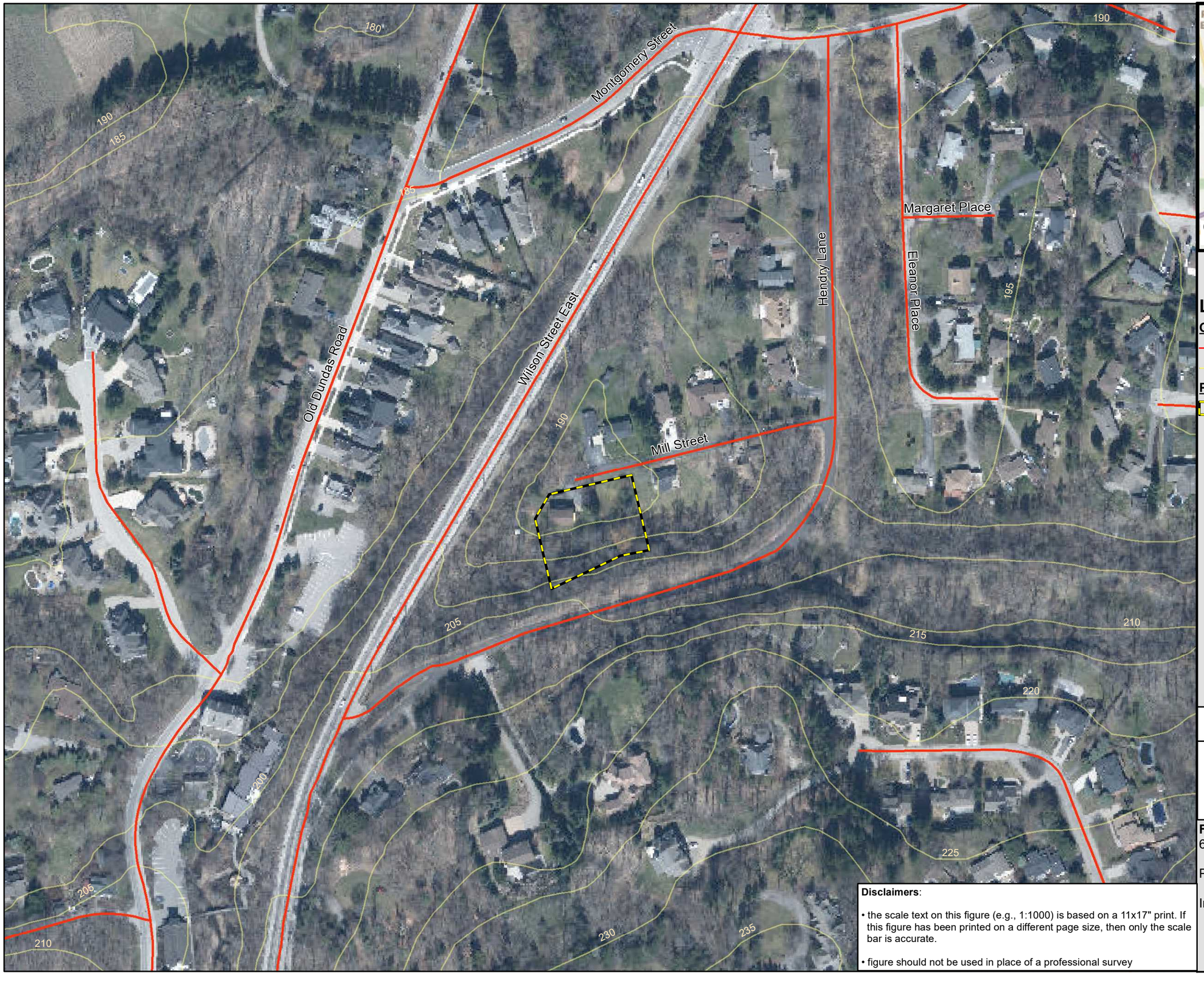
### 9.2 Provincial *Endangered Species Act*, S.O. 2007, c. 6

The *Endangered Species Act* (ESA) protects designated Endangered and Threatened species in Ontario from being killed, harmed, or harassed (s. 9) or having their habitat damaged or destroyed (s. 10). To comply with the ESA, all land clearing and vegetation removal be completed outside of the active season for endangered and threatened species (i.e., removal is to occur between October 1 and March 31).

## 10 CONCLUSIONS

This study has been conducted in accordance with the City of Hamilton Tree Protection Guidelines. In total of sixty eight (68) trees were inventoried within the subject property and adjacent lands. It is anticipated that five (5) trees within the new lot will require removal. It is recommended that all retained trees be preserved through the establishment of a tree barrier fence, canopy clearance pruning and / or root sensitive excavation and root pruning.

Provided that RiverStone's proposed recommendations and mitigation measures outlined in this report are implemented in full, we believe that trees beyond the proposed development areas can be maintained and protected.





N

## Legend

**Ontario Base Mapping (OBM)**

- Roads
- 5 m Contours

**Planning Boundaries**

- Subject Property

Orthorectified aerial photo - spring 2018

| Scale | RS Project No. | Date Last Updated | By |
|---|---|---|---|
| 1:2,000 | 2022-345 | Sep 12, 2023 | JG |

0 30 60 Metres

RiverStone Environmental Solutions Inc.

**Disclaimers**:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

**Figure 1. Location Of Subject Property**
616 Mill St., City of Hamilton

Prepared for: Charlie Firth

Inset: General Location Of Subject Property


## Legend

**Ontario Base Mapping (OBM)**

- Roads
- 5 m Contours

**Planning Boundaries**

- Subject Property

**Tree Inventory**

- Tree and Tag Number

N

Orthorectified aerial photo - spring 2018

| Scale | RS Project No. | Date Last Updated | By |
|---|---|---|---|
| 1:300 | 2022-345 | Sep 12, 2023 | JG |

0 4.5 9 Metres

RiverStone Environmental Solutions Inc.

**Figure 2. Tree Inventory**
616 Mill St., City of Hamilton

Prepared for: Charlie Firth

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## Legend

**Ontario Base Mapping (OBM)**
- Roads
- 5 m Contours

**Planning Boundaries**
- Subject Property

**Features with Natural Heritage Value - Identified by RiverStone**
- Butternut Tree
- Dripline
- Significant Woodland

**Measures Recommended by RiverStone to Prevent and/or Reduce Impacts**
- Erosion And Sediment Control
- 25 m Regulated Habitat
- 15 m Woodland Setback

**Proposed Development and Site Alteration**
- Lot Lines

**Tree Inventory Outcome**
- Tree To Be Retained
- Boundary Tree
- Anticipated Tree Removal

**Site Plan:**
Barich Grenkie Surveying Ltd
Sketch For Consent To Sever Application
Job Number 22-3036

Orthorectified aerial photo - spring 2018

| Scale | RS Project No. | Date Last Updated | By |
|---|---|---|---|
| 1:300 | 2022-345 | Sep 12, 2023 | JG |

0 4.5 9 Metres

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**Figure 3. Tree Inventory Outcome**
616 Mill St., City of Hamilton

Prepared for: Charlie Firth

**Appendix 1.** Tree Inventory and Health Assessment.

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

# Table 1. Tree Inventory, 616 Mill St., Hamilton.

RS Job #: 2022-345
Client: Charlie Firth
Date of On-site Inventory: Aug 31, 2022
Weather: sunny

Staff
Certified Arborist: Craig Mann
CERT ID: ON-2369A

Assessment Criteria and Condition
Trunk Integrity (TI): defects of weakı Good (G): tree displays less than 15% deficiency or defect
Canopy Structure (CS): scaffold branches, unions, multiple — Fair (F): tree displays 15-40% deficiency or defect
Canopy Vigour (CV): health of tree — Poor (P): tree displays greater than 40% deficiency or defect

| Tree No. | Scientific Name | Common Name | DBH (cm) | Condition TI | Condition CS | Condition CV | Canopy Radius (m) | Preservation / Removal | Summary Comments |
|---|---|---|---|---|---|---|---|---|---|
| 901 | *Cercis canadensis* | Eastern Redbud | 19.5 | f | f | f | 2.5 | Preservation | exposed roots, stem wound, flat top, pruned |
| 902 | *Juglans nigra* | Black Walnut | 31 | f | g | g | 3.5 | Preservation | stem wounds, old branch scars |
| 903 | *Fraxinus pennsylvanica* | Green Ash | 13 | | | | dead | Preservation | |
| 904 | *Fraxinus pennsylvanica* | Green Ash | 13 | f | g | f | 2.5 | Preservation | stem wound, EAB sign present |
| 905 | *Pinus sylvestris* | Scots Pine | 41 | g | g | g | 2.5 | Preservation | few lower branches shade dead |
| 906 | *Acer negundo* | Manitoba Maple | 24 | g | p | f | 3.0 | Preservation | sever lean, some dieback |
| 907 | *Cercis canadensis* | Eastern Red Bud | 14 | g | g | g | 2.5 | Preservation | small stem wound at base heald over |
| 908 | *Fraxinus pennsylvanica* | Green Ash | 11 | p | g | g | 2.0 | Preservation | number of stem wounds from base to 1.5 m |
| 909 | *Ginko biloba* | Ginko | 44.5 | f | g | g | 2.5 | Preservation | multiple stems above DBH, seem inclusion |
| 910 | *Acer platanoides* | Norway Maple | 11.5 | p | g | g | 2.5 | Preservation | large branchs towards lawn, inclusion |
| 911 | | Unknown | 40.5 | | | | dead | Preservation | |
| 912 | | Unknown | 46 | | | | dead | Preservation | |
| 913 | *Acer platanoides* | Norway Maple | 70 | p | g | g | 7 | Preservation | large branching, some dieback, large branches, look stable |
| 914 | | Unknown | 11.0, 22.0 | | | | dead | Preservation | |
| 915 | *Juglans nigra* | Black Walnut | 15 | g | g | g | 3 | Preservation | |
| 916 | *Acer negundo* | Manitoba Maple | 35.5, 18.0 | p | p | p | 3.0 | Preservation | epicormic branching, stem wounds, brocken large branches, large branching |
| 917 | *Salix sp.* | Willow Species | 41.5 | p | f | f | 6 | Preservation | vine in tree, multuple branching at 4.0 m, dieback |
| 918 | *Tilia americana* | American Basswood | 22.5 | f | g | g | 2.5 | Preservation | multiple stems at 3.0 m, slope grown |
| 919 | *Tilia americana* | American Basswood | 17 | g | g | g | 2.5 | Preservation | slope grown |
| 920 | *Fraxinus pennsylvanica* | Green Ash | 48.5 | | | | dead | Preservation | |
| 921 | *Acer negundo* | Manitoba Maple | 18 | p | p | p | 3.0 | Preservation | stem wound at base to 3.0 m, mult stems at 4.0 m, cavity, dieback |
| 922 | *Acer platanoides* | Norway Maple | 18 | g | g | g | 3.5 | Preservation | growing top of slope |
| 923 | *Tilia americana* | American Basswood | 18.5, 24.0 | p | g | f | 3.5 | Preservation | severe lean over slope, inclusion at base |
| 924 | *Tilia americana* | American Basswood | 16.5 | p | g | f | 3 | Preservation | severe lean, insect sign leaves, slope grown |
| 925 | *Prunus serotina* | Black Cherry | 16 | f | g | g | 3 | Preservation | some dieback |
| 926 | *Fraxinus pennsylvanica* | Green Ash | 12.5 | | | | dead | Preservation | |
| 927 | *Tilia americana* | American Basswood | 32.5, 17.0 | f | f | f | 2.5 | Preservation | inclusion at base, insect sign in leaves |
| 928 | *Juglans nigra* | Black Walnut | 12 | p | f | p | 3 | Preservation | stem wound at base, sever lean |
| 929 | *Fraxinus pennsylvanica* | Green Ash | 51.0, 26.0 | | | | dead | Preservation | |
| 930 | *Juglans nigra* | Black Walnut | 30 | g | g | g | 3.5 | Preservation | |
| 931 | *Fraxinus pennsylvanica* | Green Ash | 24.5 | | | | dead | Preservation | |
| 932 | *Tilia americana* | American Basswood | 17 | g | g | f | 2.5 | Preservation | slope grown, insect sign in leaves |
| 933 | *Tilia americana* | American Basswood | 14 | g | f | f | 2.5 | Preservation | insect sign leaves, dieback, large lateral branching, |
| 934 | *Fraxinus pennsylvanica* | Green Ash | 46 | | | | dead | Preservation | |

RS Job #: 2022-345
Client: Charlie Firth
Date of On-site Inventory: Aug 31, 2022
Weather: sunny

Staff
Certified Arborist: Craig Mann
CERT ID: ON-2369A

Assessment Criteria and Condition
Trunk Integrity (TI): defects of weak
Canopy Structure (CS): scaffold branches, unions, multiple
Canopy Vigour (CV): health of tree

Good (G): tree displays less than 15% deficiency or defect
Fair (F): tree displays 15-40% deficiency or defect
Poor (P): tree displays greater than 40% deficiency or defect

| Tree No. | Scientific Name | Common Name | DBH (cm) | Condition TI | Condition CS | Condition CV | Canopy Radius (m) | Preservation / Removal | Summary Comments |
|---|---|---|---|---|---|---|---|---|---|
| 935 | | Unknown | 24 | | | | dead | Preservation | |
| 936 | *Juglans nigra* | Black Walnut | 49.5 | f | g | g | 4.5 | Preservation | slope grown, shared stem at 4.0 m, inclusion |
| 937 | *Tilia americana* | American Basswood | 15.5 | g | f | g | 3 | Preservation | flatop, insect sign leaves |
| 938 | *Fraxinus pennsylvanica* | Green Ash | 22 | | | | dead | Preservation | |
| 939 | *Fraxinus pennsylvanica* | Green Ash | 15 | | | | dead | Preservation | |
| 940 | *Acer platanoides* | Norway Maple | 13 | g | g | g | 2.5 | Preservation | |
| 941 | *Fraxinus pennsylvanica* | Green Ash | 37 | | | | dead | Preservation | |
| 942 | *Tilia americana* | American Basswood | 36.5 | f | f | f | 3.5 | Preservation | exposed roots, large branching, sap sucker sign |
| 880 | *Tilia americana* | American Basswood | 16.0, 11.4 | f | f | f | 2.5 | Preservation | shared stump, smaller dead, broken branches, slope grown |
| 878 | *Juglans nigra* | Black Walnut | 15.5 | g | g | g | 2.5 | Preservation | |
| 943 | *Acer platanoides* | Norway Maple | 27 | f | g | g | 3 | Preservation | exposed roots, slope grown, some dieback |
| 874 | *Aesculus hippocastanum* | Horse Chestnut | 18.6 | f | f | f | 2.0 | Preservation | severe lean, growing slope, insect sign leaves |
| 873 | *Fraxinus pennsylvanica* | Green Ash | 13.7 | p | p | p | 0.5 | Preservation | mostly dead, epicormic branching lower portin |
| 944 | *Acer platanoides* | Norway Maple - Crimson | 39 | f | g | g | 4.0 | Preservation | exposed roots, large branching, split stem at 4.0 m |
| 945 | *Picea glauca* | White Spruce | 43 | f | g | g | 4 | Preservation | exposed roots, pruned lower branches |
| 946 | *Picea glauca* | White Spruce | 56.0 | f | g | g | 4 | Preservation | exposed roots, pruned lower branches, branch stubs |
| 947 | *Fraxinus pennsylvanica* | Green Ash | 11.5 | g | g | g | 2.5 | Remove | pruned lower branches |
| 948 | *Acer negundo* | Manitoba Maple | 17.0 | g | f | g | 3.0 | Remove | large lateral branching |
| 949 | *Picea pungens* | Blue spruce | 21.5 | f | f | f | 2.5 | Remove | lots of pruning stubs, lean, some dieback |
| 950 | *Acer negundo* | Manitoba Maple | 11.5 | f | f | f | 2 | Remove | large branching, lateral branchs, epicormic branching |
| 951 | *Picea sp.* | Spruce Species | 42 | | | | dead | Remove | |
| 952 | *Acer platanoides* | Norway Maple | 31 | g | g | g | 3.5 | Preservation | |
| 953 | *Salix sp.* | Willow Species | 109 | p | g | p | 5.0 | Preservation | branching into 2 large stem at 3.0 m and 4 more stem above, seem at base, inclusion |
| 954 | *Acer platanoides* | Norway Maple | 27 | p | f | f | 3.0 | Preservation | stem wound at 1.0 m, large branching |
| 955 | *Fraxinus pennsylvanica* | Green Ash | 11 | f | p | f | 2.0 | Preservation | dieback |
| 956 | *Fraxinus pennsylvanica* | Green Ash | 12.0 | | | | dead | Preservation | |
| 957 | *Juglans nigra* | Black Walnut | 12.0 | f | f | g | 3.0 | Preservation | severe lean |
| 958 | *Fraxinus pennsylvanica* | Green Ash | 31.0 | | | | dead | Preservation | |
| 959 | *Acer platanoides* | Norway Maple | 21 | f | f | g | 3 | Preservation | healed stem wound base, branching towards opening |
| 960 | *Fraxinus pennsylvanica* | Green Ash | 34 | | | | dead | Preservation | |
| 961 | *Fraxinus pennsylvanica* | Green Ash | 15 | | | | dead | Preservation | |
| 962 | *Fraxinus pennsylvanica* | Green Ash | 29.0, 17.0, 22.0, 23.0 | | | | dead | Preservation | |
| 963 | *Juglans cinerea* | Butternut | 41.0 | p | p | p | 1.0 | Preservation | epicormic branching, mostly dead, canker present |
| 964 | *Acer saccharinum* | Silver Maple | 38.0, 43.0 | p | p | f | 4.0 | Preservation | severe lean over road, inclusion at base |

**Appendix 2.** Proposed Development Plan

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.


ADDRESS: 616 MILL STREET, ANCASTER

SKETCH FOR CONSENT TO SEVER APPLICATION

# PART OF LOT 46 & 47 CONCESSION 2

**(GEOGRAPHIC TOWNSHIP OF ANCASTER)**
**IN THE**

# CITY OF HAMILTON

SCALE & NOTES
Scale 1:400

3 0 10 20 30 METRES

MILL STREET (FORCED ROAD) PIN 17564-0850 (LT)

Edge of Asphalt
Centreline of Road
Centreline of Ditch
Edge of Asphalt
Edge of Bush
Asphalt Driveway
Concrete
Stone Retaining Wall
Concrete Steps
PORCH
No. 616 2 STOREY FRAME DWELLING
Concrete
Steps
PORCH
Steps
Concrete
Stone Retaining Wall
SHED
No. 626 1 1/2 STOREY SIDED DWELLING
BUSH
No Fence
Septic Lids
French Drain
Top of Slope
Edge of Bush
WILSON STREET (P-1651-177) PLAN 62R-4105 PART 1, MISC PLAN 1864 PIN 17564-0848 (LT)

LOT 46 — LOT 47 — CONCESSION 2 — GEOGRAPHIC TOWNSHIP OF ANCASTER

| | |
|---|---|
| 30.03 | 16.55 |
| 27.47 (Meas) | 19.08 |
| 15.51 | |
| 38.16 | |
| 46.62 | 42.42 |
| 39.62 | 42.46 |
| 39.30 | 16.09 |
| 42.17 | 16.10 |
| | 2.85 |

LANDS TO BE RETAINED 1078.35m² — PIN 17564-0236 (LT)

LANDS TO BE SEVERED 803.27m²

PART 1 PLAN 62R-19244 PIN 17564-0235 (LT)

HENDRY LANE MISC PLAN 159 PIN 17564-0849 (LT)

## BARICH GRENKIE SURVEYING LTD.

A DIVISION OF GEOMAPLE



## METRIC

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

## NOTES

1. THE SOURCE OF THE DIMENSIONS AND INFORMATION SHOWN ARE TAKEN FROM BARICH GRENKIE SURVEYING LTD., PLAN No. 22-3036.

## CAUTION

THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED, EXCEPT FOR THE PURPOSE INDICATED IN THE TITLEBLOCK.

**Barich Grenkie Surveying Ltd.**
297 HWY No. 8 (UNIT 101) - STONEY CREEK, ON
L8G 1E5 (905) 662-6767
A DIVISION OF GEOMAPLE

DWN BY: JMH
CHK BY: DJ
JOB No. 22-3036

**Appendix 3.** City of Hamilton Approved Native Plants

RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

**Appendix 4:**

**List of Native Tree Species (recommended for planting)**

*Acer rubrum* (Red Maple)
*Acer saccharinum* (Silver Maple)
*Acer saccharum spp nigrum* (Black Maple)
*Acer saccharum* (Sugar Maple)
*Abies balsamea* (Balsam Fir)
*Betula alleghaniensis* (Yellow Birch)
*Betula papyrifera* (White Birch)
*Carpinus caroliniana* (Blue Beech)
*Carya cordiformis* (Bitternut Hickory)
*Carya glabra* (Sweet Pignut Hickory)
*Carya ovata* (Shagbark Hickory)
*Castanea dentata* (Sweet Chestnut)
*Celtis occidentalis* (Hackberry)
*Cornus florida* (Flowering Dogwood)
*Fagus grandifolia* (American Beech)
*Fraxinus americana* (White Ash)
*Fraxinus nigra* (Black Ash)
*Fraxinus pennsylvanica* (Red Ash)
*Hammaemelis virginiana* (Witch-hazel)
*Juglans cinerea* (Butternut)
*Juglans nigra* (Black Walnut)
*Juniperus virginiana* (Red Cedar)
*Larix laricina* (Tamarack)
*Liriodendron tulipifera* (Tulip Tree)
*Morus rubra* (Red Mulberry)
*Nyssa sylvatica* (Black Gum)
*Ostrya virginiana* (Ironwood)
*Picea mariana* (Black Spruce)
*Pinus strobus* (White Pine)
*Platanus occidentalis* (Sycamore)
*Populus balsamifera* (Balsam Poplar)
*Populus deltoids* (Cottonwood)
*Populus grandidentata* (Large-toothed Aspen)
*Populus tremuloides* (Trembling Aspen)
*Prunus serotina* (Black Cherry)
*Prunus virginiana* (Chokecherry)
*Quercus alba* (White Oak)
*Quercus bicolor* (Swamp White Oak)
*Quercus ellipsoidalis* (Hill’s Oak)
*Quercus macrocarpa* (Burr Oak)

**Appendix 4 (Continued):**

**List of Native Tree Species (recommended for planting) (Continued)**

*Quercus muehlenbergii* (Chinquapin Oak)
*Quercus rubra* (Red Oak)
*Quercus velutina* (Black Oak)
*Salix nigra* (Black Willow)
*Sassafras albidum* (Sassafras)
*Thuja occidentalis* (White Cedar)
*Tilia americana* (American Basswood)
*Tsuga canadensis* (Eastern Hemlock)
*Ulmus Americana* (White Elm)
*Ulmus rubra* (Red Elm)
*Ulmus thomasii* (Rock Elm)

**Appendix 5:**

**List of Invasive Tree Species (not recommended for planting; do not plant adjacent to Core Areas in the Natural Heritage System)**

*Acer platanoides* (Norway Maple)
*Acer negundo* (Manitoba Maple)
*Aesculus hippocastanum* (Horse Chestnut)
*Ailanthus altissima* (Tree-of-heaven)
*Alnus glutinosa* (European or Black Alder)
*Betula pendula* (Silver Birch or European White Birch)
*Elaeagnus angustifolia* (Russian Olive)
*Elaeagnus umbellata* (Autumn Olive)
*Morus alba* (White Mulberry)
*Picea abies* (Norway Spruce)
*Pinus sylvestris* (Scots or Scotch Pine)
*Populus alba* (White Poplar)
*Populus nigra* var. *italica* (Lombardy Poplar)
*Rhamnus cathartica* (European or Common Buckthorn)
*Rhamnus frangula* (Glossy Buckthorn)
*Robinia pseudoacacia* (Black Locust)
*Sorbus aucuparia* (European Mountain Ash)
*Ulmus pumila* (Siberian Elm)