Sisters of St. Joseph's Convent

Tree Protection Plan

Prepared for:
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Project No. 2199 l August 2021

Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

Sisters of St. Joseph's Convent
Tree Protection Plan

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Report submitted on August 20, 2021

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1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was first retained in November 2018 by IBI Group on behalf of Columbia International College Canada to complete an Environmental Impact Study (EIS) for the Sisters of St. Joseph's Convent property. An additional EIS was submitted in October 2019, and is to be resubmitted to address City comments provided in March, 2021. The client intends to convert the Convent into a private secondary school that caters to Grade 12 only. As tree removal will be necessary to complete the proposed development, a Tree Protection Plan (TPP) has also been submited as part of each submission. This TPP addresses the proposal for a new gymnasium, additional parking area, and the expansion of the existing septic system. The Plan has been updated to reflect additional SWM infrastructure not previously included. The proposed development footprint is within manicured areas, consisting of mown lawn, hedgerow features, and isolated landscape trees. The subject property is located at 574 Northcliffe Ave., City of Hamilton (Rural), Ontario, and is located in Ecoregion 7E (Map 1).

The subject property is 19.5ha in size and is bounded by Northcliffe Ave. to the north, Highway 6 to the east, Highway 403 to the south, and natural features to the west; only a small portion of the property will be affected by the proposed development (Map 2). The existing Convent facility is characterized by manicured lawns, landscape trees, buildings, parking areas, and common amenity areas. Mature forests occur on-site and are contiguous off-property in the east and west portions of the subject property. The forested area to the west is identified as a Core Area according to the Rural Hamilton Official Plan (2016) Natural Heritage System mapping; this feature is concurrent with the Escarpment Natural Area land use designation within the Niagara Escarpment Plan (NEP) (2017).

This Tree Protection Plan (TPP) considers the City of Hamilton By-law No. 06-151 (2006). Within the By-law, a regulated tree is defined as

> *"a plant of any species of woody perennial including its root system, which has reached or can reach a height of at least 4.5 metres at physiological maturity".*

This TPP has been developed in accordance with the City of Hamilton Tree Protection Guidelines – City Wide (herein referred to as ‘the City Guidelines’) (Appendix “A” to Report PD02229 (f) 2010). These guidelines state that if an owner wishes to destroy or injure a regulated tree, then the owner shall submit the information required in Part 2 of the Appendix A, including a General Vegetation Inventory (GVI) and, at the request of the City, a TPP and Landscape Plan. A GVI was not completed for the subject property, due to the understanding that a GVI would inevitably result in the requirement for a TPP. This method is supported by the City Guidelines.

The tree inventory data and mapping has been compared to the layout of the proposed Concept Plan prepared by IBI Group (2021). Map 2 shows the tree inventory data overlaying the proposed development plan.

This report summarizes the following:

- findings of the tree inventory,
- assessment of overall health and potential for structural failure of inventoried trees,
- assessment of rare, unusual and heritage trees (not present),
- tree retention analysis based on details of the proposed development,
- protection measures for trees to be retained and,
- recommended mitigation and compensation measures.

This TPP was scoped to address trees with the potential to be impacted by the proposed development at the time of application. If the footprint areas change at the Detailed Design stage, this TPP may need to reevaluate tree retention, fencing, compensation, and mitigation.

2.0 Tree Inventory and Methodology

A comprehensive inventory of trees ≥10cm in Diameter at Breast Height (DBH) within the vicinity of the proposed development was completed by NRSI Certified Arborists on June 7, 2019, with additional trees included on July 30, 2021. Individual trees ≥10cm in DBH were tagged with a pre-numbered aluminum forestry tag and assessed by a Certified Arborist. Some trees had pre-existing tags presumably from historical inventory work; in these cases, the original tag numbers were carried forward to this report. Rare or unusual trees, heritage trees, and high-quality vegetation as defined in the Tree Protection Guidelines – City Wide were searched for and documented if present. The locations of inventoried trees were surveyed by the Certified Arborist using a mapping grade SXBlue II GNSS GPS unit and are shown on Map 2. A complete list of the trees that were assessed and their overall health and potential for structural failure is included in Appendix I. Tree assessment criteria is outlined in Appendix II.

The following information was recorded for each tree:

- species,
- DBH (cm),
- number of stems,
- crown radius (metres),
- overall health (excellent, good, fair, poor, very poor, dead),
- potential for structural failure (improbable, possible, probable, imminent),
- tree location, and,
- general comments (i.e. disease, aesthetic quality, development constraints, sensitivity to development, presence of cavities or features that may provide bat maternity colony habitat, etc.).

The overall health of each tree was assessed based on the criteria outlined in Appendix II and was compared to the criteria outlined in the City Guidelines. Both sets of criteria are very similar, with the exception that the criteria outlined Appendix II assesses health using 6 ratings (i.e. excellent, good, fair, poor, very poor, dead), whereas the City Guidelines (2010) assesses health using 4 ratings (i.e. good, fair, poor, dead), and are defined as follows:

- Good: dead branches less than 10%; signs of good compartmentalization on any wounds, no structural defects.
- Fair: 10-30% dead branches, size or occurrence of wounds present some concerns, minor structural defects.
- Poor: more than 30% dead branches, weak compartmentalization, early leaf drop, presence of insects or disease, major structural defects.
- Dead: tree shows no signs of life

As such, any trees assessed as being in excellent or very poor health based on Appendix II can be considered to be in good or poor health, respectively, according to the City Guidelines. Criteria for the assessment of potential for structural failure is also outlined in Appendix II.

Trees beyond the development footprint with the potential to be impacted were also included in the inventory. Dead or declining trees with brittle branches can fail at a radial distance of 1.5 times the tree height compared to those with live, flexible branches (generally, a radius equal to tree height) (Dunster et al. 2013). As a conservative measure, a potential impact area of 1.5 times the height of the tree was used when determining whether to include declining trees within the inventory.

The assessments have been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect infestation, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. None of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken. The conditions for this assessment, including, but not limited to, restrictions, professional responsibility, and third-party liability can be found in Appendix III.

2.1 Bat Habitat Assessment Methodology

In total, 3 bat species known from the area are listed as Endangered provincially and are afforded general habitat protection under the *Endangered Species Act, 2007*. Species at Risk (SAR) bat species include Little Brown Myotis (*Myotis lucifungus*), Northern Myotis (*Myotis septentrionalis*), and Tri-coloured Bat (*Perimyotis subflavus*).

Little Brown Myotis and Northern Myotis are known to roost in tree cavities, hollows, or under loose bark, as well as within buildings (OMNR 2000, MNRF 2017). As part of the tree assessment, NRSI's Certified Arborists, who are trained and experienced in the Ministry of Natural Resources and Forestry (MNRF) bat habitat assessment protocol, visually scanned all trees ≥10cm in DBH for the presence of cavities that may provide bat maternity colony habitat. Although the MNRF's guidance document *Bats and Bat Habitats: Guidelines for Wind Power Projects, July 2011* (OMNR 2011) specifies trees ≥25cm in DBH, all trees ≥10cm in DBH were scanned for cavities as a means of thoroughly searching for any potential habitat for bats. Information recorded for cavity trees included tree species, DBH, decay class according to Watt and Caceres (1999), and number of potentially suitable cavities. Other criteria were also considered, including the use of cavities by other wildlife, the potential for cavities to be used by predators, supporting/surrounding habitat, and other characteristics which may contribute to the habitat requirements of this species, such as temperature regulation (MNRF 2017). Tri-coloured Bat typically roosts in clusters of dead or dying leaves formed in oak and maple trees (MNRF 2017). Therefore, all oaks and maples ≥10cm in DBH were also visually scanned for the presence of suitable bat habitat.

3.0 Summary of Tree Inventory

In total, an additional 13 trees were inventoried for this submission, totaling 126 trees, and comprising 22 species. Of the trees inventoried and assessed, 102 (81%) are native species and 24 (19%) are non-native. A complete list of trees inventoried is provided in Appendix I and tree locations within the subject property are shown on Map 2.

Table 1 provides a list of tree species inventoried within the subject property, whether they are native or non-native and their overall health.

Table 1. Summary of Inventoried Trees

Common Name	Scientific Name	Excellent	Good	Fair	Poor	Very Poor	Dead	Total
Native Species								
American Basswood	*Tilia americana*		1					**1**
Eastern White Cedar	*Thuja occidentalis*			36	2			**38**
Eastern White Pine	*Pinus strobus*	4	6					**10**
Freeman's Maple	*Acer* X *freemanii*	1	3					**4**
Hop Hornbeam	*Ostrya virginiana*		2	1	1			**4**
Red Oak	*Quercus rubra*		1	1	1		3	**6**
Red Pine	*Pinus resinosa*			1				**1**
Shagbark Hickory	*Carya ovata* var. *ovata*	1						1
Silver Maple	*Acer saccharinum*		1	4	4	3		**12**
Sugar Maple	*Acer saccharum* ssp. *saccharum*	1	1	1		1	1	**5**
Tulip Tree	*Liriodendron tulipifera*			2				**2**
White Ash	*Fraxinus americana*						1	**1**
White Birch	*Betula papyrifera*		1	1				**2**
White Oak	*Quercus alba*		3	2				**5**
White Spruce	*Picea glauca*	6	2	2				**10**
Total		**13**	**21**	**51**	**8**	**4**	**5**	**102**
Non-Native Species								
Austrian Pine	*Pinus nigra*			14	2			**16**
Colorado Spruce	*Picea pungens*	1						**1**
London Plane-Tree	*Platanus* X *acerifolia*			1				**1**
Northern Catalpa	*Catalpa speciosa*		1					**1**
Small Leaf Linden	*Tilia cordata*			3				**3**
Thornless Honey Locust	*Gleditsia triacanthos* var. *inermis*			1				**1**
White Mulberry	*Morus alba*			1				**1**
Total		**1**	**1**	**20**	**2**			**24**
Overall Total		**14**	**22**	**71**	**10**	**4**	**5**	**126**

Table 2 provides a summary of the overall health of trees inventoried within the subject property, along with their potential for structural failure. A majority of the trees inventoried are in fair condition with an improbable potential for structural failure.

Table 2. Overall Health of Trees Inventoried

Potential for Structural Failure Rating	**Overall Condition**						**Total**
	Excellent	Good	Fair	Poor	Very Poor	Dead	
Improbable	14	22	68	5	2	0	111
Possible	0	0	3	5	2	0	10
Probable	0	0	0	0	0	5	5
Imminent	0	0	0	0	0	0	0
Total	14	22	71	10	4	5	126

3.1 Bat Habitat Assessment Summary

No evidence of potential SAR bat habitat in the form of cavities or dead leaf clusters was documented in any of the inventoried trees.

4.0 Tree Removal and Retention Analysis

Tree removal and retention was based on two considerations:

1. Trees that require removal based on the extent of proposed site construction and associated grading within their root zones. This was determined by comparing the location of the trees to the location of the proposed development footprint as shown on Map 2; or
2. Trees identified as having a probable or imminent potential for structural failure or poor or very poor health, or identified as dead. The removal of these trees may be recommended for safety, especially if they are located within striking distance of a component of the proposed development.

Currently, the proposed development footprint encroaches into the dripline and root zone of a large, 126cm DBH White Oak (*Quercus alba*). Modifications will be made at the Detailed Design stage to further protect this tree.

Of the 126 trees inventoried, 56 are anticipated to be removed based on the extent of the proposed development footprint. This includes trees situated along the grading limit or in close proximity that may incur root damage as a result of grading. Most of these trees are in fair condition with an improbable potential for structural failure, and range in size from 11cm DBH to 119cm DBH. The majority of these are Eastern White Cedar (*Thuja occidentalis*), with White Spruce (*Picea glauca*) and Eastern White Pine (*Pinus strobus*). Recommendations for each tree can be found in Appendix I and Map 2.

5.0 Tree Compensation Plan

The City of Hamilton Tree Protection Guidelines – City Wide (2010) states that:

> *"to ensure existing tree cover is maintained, the City requires 1 for 1 compensation for any trees to be removed. If it is not possible to replant trees on site (i.e. no space), Cash-in-lieu will be provided to the City to plant trees elsewhere. Where compensation planting is required, credit will be given for street trees planted, as required under a Subdivision Agreement".*

Dead trees were also inventoried; one dead tree is being recommended for removal. In accordance with guidance received from City of Hamilton Natural Heritage Planning staff, compensation is not required for dead trees (Email correspondence from A. Cicchi to B. Khes on October 12, 2018).

Table 3 provides a summary of the trees inventoried throughout the subject property, total number proposed for removal and the proposed compensation plan. A complete list of inventoried trees, including a determination of whether trees require compensation, is provided in Appendix I.

Table 3. Summary of Trees to be Removed and Recommended Compensation Plan

Tree Inventory	**Total**
Total number of trees inventoried	126
Total number of trees to be removed	56
Tree Compensation	
Trees that are dead	1
Trees in excellent to poor health to be removed	55
1:1 Compensation for all native/non-native trees to be removed	**55**

Compensation plantings may be provided throughout the landscaped areas within the subject property, or along the edges of the Significant Woodland. This will be explored at the Detailed Design Stage.

6.0 Tree Protection Measures and Recommended Mitigation

6.1 Prior to Construction

Vegetation clearing required as part of grading activities has the potential to directly impact bird breeding activity through damage and destruction of nests, eggs and young, or avoidance of the area by breeding adults. Vegetation clearing is therefore recommended to occur outside the bird nesting season (April 1 to August 31) to limit disturbances to nesting activities of birds, and to avoid destruction of active nests. The destruction of migratory birds and their nests is prohibited under the federal *Migratory Birds Convention Act*, 1994. If vegetation clearing cannot be avoided during the bird nesting season, a qualified avian biologist must be retained to carry out a nest search within 48h of clearing activities within “simple” (i.e., non-forested) habitats.

Temporary tree protection fencing (TPF) will be situated where trees are adjacent to the limit of disturbance/grading as shown on Map 2. A combined sediment and erosion control fence (i.e. silt fence) and TPF is recommended where trees are situated adjacent to the limit of disturbance. This TPF is to take the form of 1200mm high heavy-duty paige-wire fencing, at a minimum 1 meter from the dripline, where feasible (City of Hamilton 2010).

The TPF will be installed and maintained by the Client and/or their agents. Prior to any construction activities (rough grading, vegetation and tree removal), TPF will be installed at the limit of the associated buffer of trees to be retained in order to protect the root systems, where feasible. Prior to works commencing on-site, fence installation and location is to be inspected by a Certified Arborist and/or the on-site Environmental Inspector. Signage indicating the purpose of protection fencing will be installed every 100m or less in a manner so as to be visible from all angles. Recommended fencing locations are shown on Map 2.

This TPP is to be reviewed and approved by the City of Hamilton. Upon approval of the TPP, and prior to any on-site works (i.e. rough grading, tree removal), a qualified tree management professional (ie. Certified Arborist, Registered Professional Forester or Landscape Architect) is to submit written verification to City of Hamilton Natural Heritage Planning staff confirming that all of the recommended tree protection measures have been installed in accordance with the TPP in the form of a Verification of Tree Protection

Letter. Prior to this final authorization, a site inspection will be performed to determine any deficiencies that may exist and recommend corrective measures to be followed.

A security deposit to the City in the form of cash or acceptable letter of credit is required before this TPP will be accepted. The amount of this deposit will be determined through consultation with City staff. Once the consultant certifies that the TPP measures have been implemented appropriately, 75% of the deposit will be released, following the submission of the Post-Grading Tree Maintenance Report (City of Hamilton 2010). The remaining 25% of the security deposit will be held for a 2-year maintenance period to ensure the survival of remaining trees. If trees to be retained do not survive this 2-year period, a portion of this deposit may not be refunded.

6.2 During Construction

Temporary TPF is to be maintained by the Client and/or their agents during the entire construction period to ensure that trees being retained and their root systems are protected. All workers should be informed of all tree protection requirements outlined in this report. Any minimal damage (i.e. damage to limbs or roots) to trees to be retained during construction must be pruned using proper arboricultural techniques. Should any of the trees intended to be retained be seriously damaged or die as a result of construction activities, the Client will remove and replace the tree at their own expense at a 1:1 ratio. Watering and pruning of newly planted trees will be carried out by the Client and/or their agents as required during the warranty period (approximately 2 years). After grading has been completed, the City requires that a Post-Grading Tree Maintenance Report be submitted to the Director of Planning outlining the following (City of Hamilton 2010):

- Assessment of damage or removal of trees to be retained,
- a dollar value for damaged trees and a corresponding compensation plan, and
- preservation recommendations such as crown and root fertilization, watering and pruning to improve the health of remaining trees.

6.3 Post-Construction

It is recommended that the temporary TPF be removed upon completion of construction activities and adjacent areas are stabilized with a vegetative cover (i.e. sod or native vegetation as required) to the satisfaction of the Environmental Inspector or qualified biologist.

6.4 Mitigation

The recommendations provided below are aimed at protecting retained trees and associated natural features. Species used for replacement/enhancement plantings should be native to the City of Hamilton and not include any species that are listed as introduced, or locally, provincially or federally significant. The use of hardy species will ensure successful early establishment and minimize the potential for invasive species proliferation. A Landscape Plan should be prepared at the Detailed Design stage and submitted to the Director of Planning for City staff review and approval. This will include proposed plantings, maintenance methods, and landscape features, as explained in the City of Hamilton Tree Protection Guidelines (2010).

At the detailed design stage, it is recommended that the following criteria be followed during the development of proposed planting plans:

- plantings should contain only species mentioned in Appendix 4 of the City of Hamilton Tree Protection Guidelines (2010), and should not contain any of the invasive species listed in Appendix 5 of the same document,
- use drought-resistant plant material to conserve water and reduce long-term maintenance,
- any transplanted stock should be restricted to specimens under 20 mm caliper,
- the minimum size for deciduous planting stock is 40 mm caliper,
- the minimum height for coniferous planting stock is 1.5 metres,
- include a mix of tree species (including diversity of genus and species),
- tree species to be situated in close proximity to roads should be salt tolerant,
- omit ash (*Fraxinus* spp.) species due to the risk of the Emerald Ash Borer (*Agrilus planipennis*),
- avoid ‘messy trees’, such as fruiting trees or poplars (*Populus* spp.) where plantings occur in close proximity to driveways and roadways,
- all plant material is to conform to the latest edition of the *Canadian Nursery Trades Association Specifications and Standards*,
- plantings installed as per specifications outlined in planting plans to be prepared by a qualified professional,

- spacing of plant material should account for the ultimate size and form of the selected species and also the purpose of the planting, whether it be for screening, shade, naturalizing, rehabilitation, etc.,
- special attention to location and height of trees in proximity to utilities, and,
- ensure that there is sufficient soil volume for all plantings.

7.0 References

City of Hamilton. 2006. City of Hamilton By-Law No. 06-151. To Regulate the Planting, Maintenance, and Preservation of Trees on or Affecting Public Property. Adopted by Hamilton City Council June 14, 2006.

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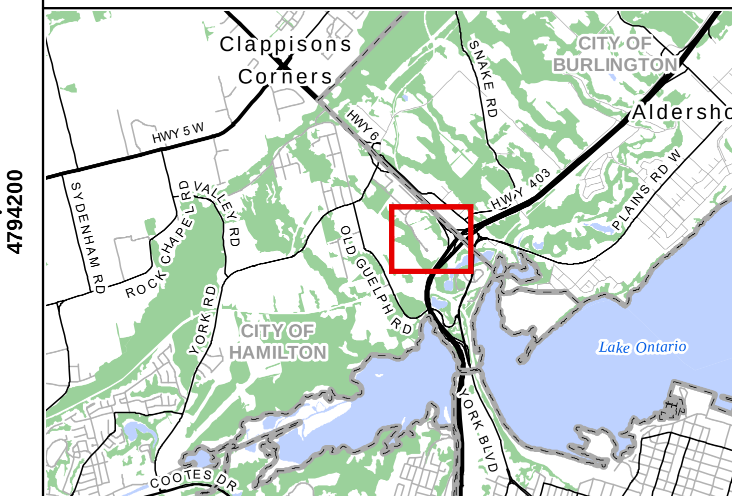
MAPS

Map 1

Sisters of St. Joseph's Convent

Tree Inventory Scope and Study Area



Legend

- Subject Property
- Map 2 Extent
- Proposed New Sanitary
- Utility Line
- Permanent Watercourse
- Intermittent Watercourse
- Dripline (Agency Confirmed August 1, 2019)
- Area of Tree Inventory
- Significant Woodland/ESA

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2199 Date: August 20, 2021	NAD83 - UTM Zone 17 Size: 11x17" 1:3,000

0 50 100 150 200 Metres

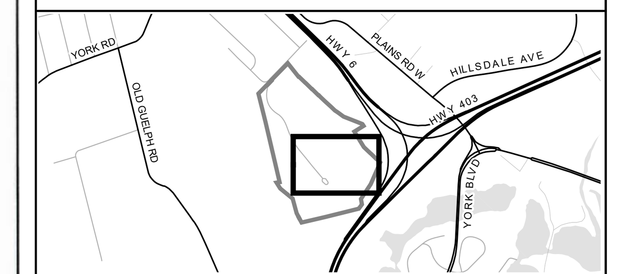
N

Path: X:\2199_SistersofSt.JosephsConvent_EIS\NRSI_2199_Map1_TreeInventoryScope_StudyArea_5K_2021_08_20_GCS.mxd

Map 2

Sisters of St. Joseph's Convent

Tree Inventory and Preservation Plan



Legend

- Subject Property
- Inventoried Tree to be Retained (Crown to Scale)
- Inventoried Tree to be Removed (Crown to Scale)
- Proposed Silt Fence
- Tree Protection Fencing (TPF)
- Limit of Construction
- Proposed New Sanitary
- Proposed Grading
- Proposed Development
- Services
- Existing Conditions
- Existing Contours
- Dripline (Agency Confirmed August 1, 2019)
- Significant Woodland/ESA

Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

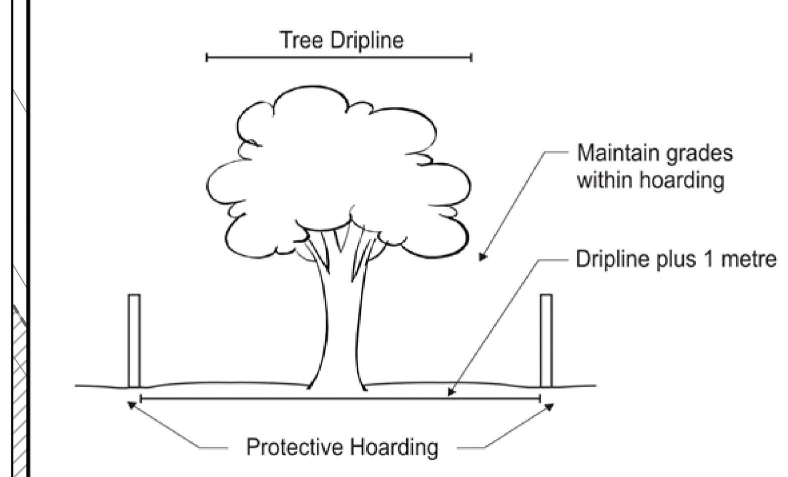
Project: 2199
Date: August 19, 2021

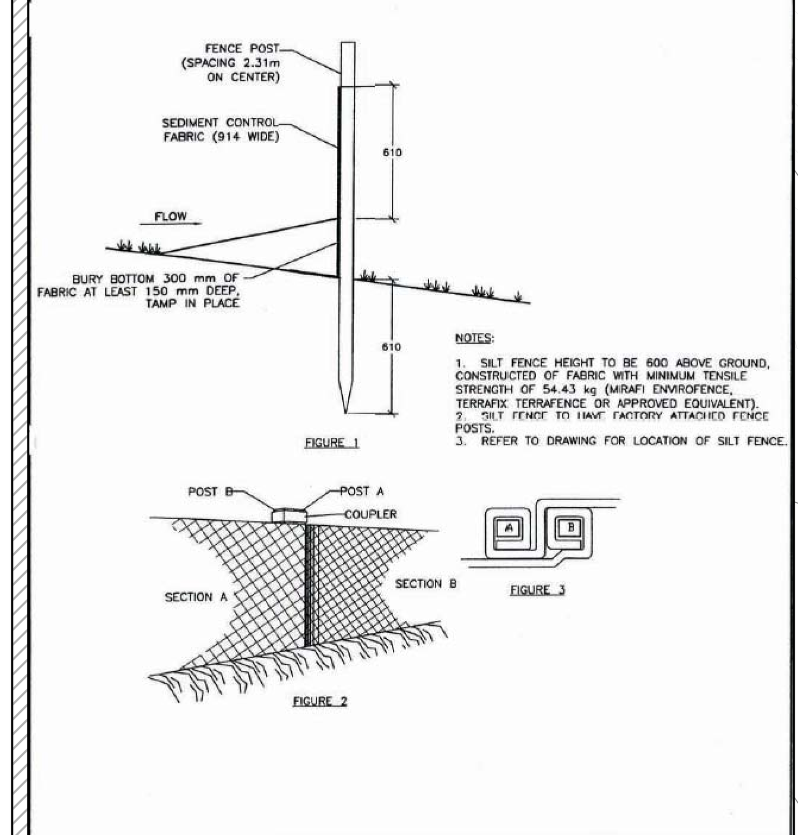
NAD83 - UTM Zone 17
Size: 24x36"
1:400

0 4 8 12 16 20 24
Meters

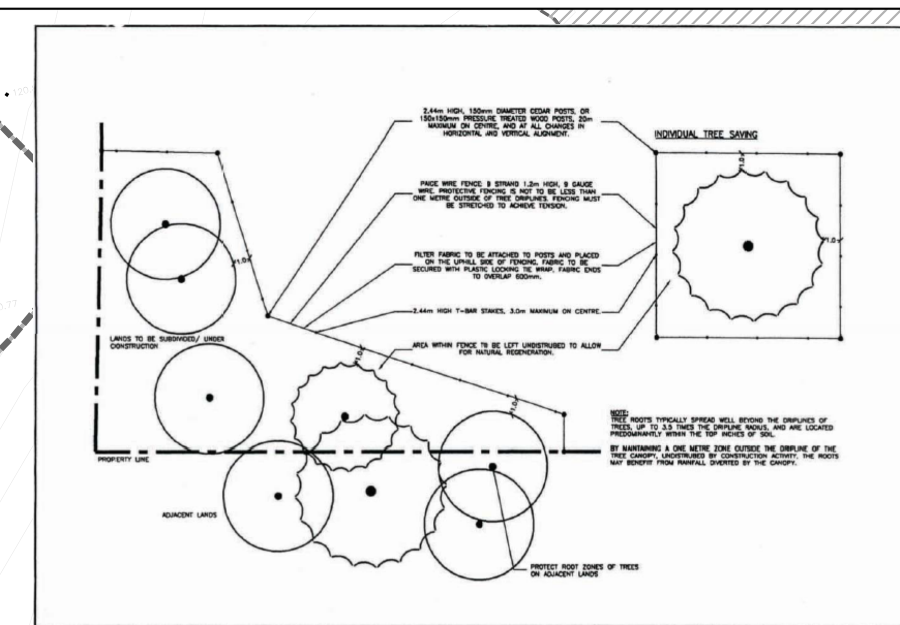
N

Tree Protection Zone

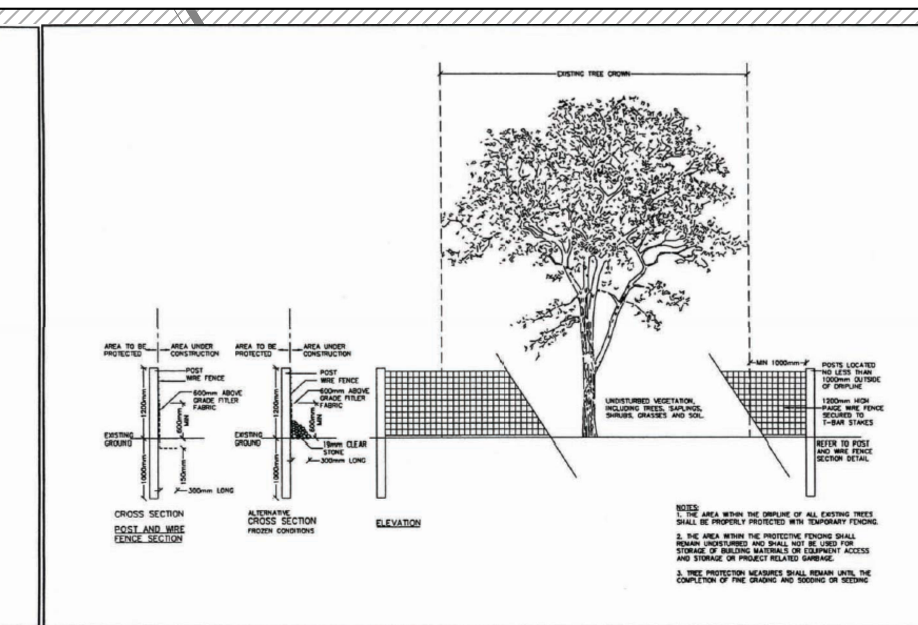




Hamilton SITE PLAN GUIDELINES October 2003 SILT FENCE (NTS)



Hamilton SITE PLAN GUIDELINES October TEMPORARY TREE PROTECTION FENCING (PLAN VIEW, NTS)



Hamilton SITE PLAN GUIDELINES October 2003 TEMPORARY TREE PROTECTION FENCING (POST SECTION AND ELEVATION, NTS)

Tree Number	Common Name	Scientific Name	Native/ Non-native	DBH (cm)	Stem Count	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Proposed Action	Comments
698	Eastern White Pine	*Pinus strobus*	Native	32.3	2	5.0	Improbable	Good	Retain	
778	Red Oak	*Quercus rubra*	Native	34.9	1	6.0	Probable	Dead	Retain	Large dead tree.
779	Red Oak	*Quercus rubra*	Native	35+35	1	6.0	Probable	Dead	Retain	Large dead codominant tree.
780	Red Oak	*Quercus rubra*	Native	37.0	1	5.0	Possible	Poor	Retain	Major lean north with no reaction wood; dead top; next to base of 779
781	White Mulberry	*Morus alba*	Non-Native	12.3+11	1	3.0	Improbable	Fair	Retain	Codominant leaders; dieback; asymmetrical crown west.
803	Silver Maple	*Acer saccharinum*	Native	36.8	1	5.5	Improbable	Fair	Retain	Some branch and twig dieback.
807	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	21.7	1	3.5	Improbable	Very Poor	Retain	Extensive crown dieback.
809	Silver Maple	*Acer saccharinum*	Native	30.2	1	7.0	Improbable	Very Poor	Remove	Branch and twig dieback.
854	Eastern White Pine	*Pinus strobus*	Native	54.7	1	5.0	Improbable	Excellent	Remove	No apparent problems.
863	Eastern White Pine	*Pinus strobus*	Native	41.3	1	6.0	Improbable	Excellent	Retain	No apparent problems.
864	White Spruce	*Picea glauca*	Native	35.4	1	4.0	Improbable	Good	Remove	Light pruning.
865	Eastern White Pine	*Pinus strobus*	Native	53.0	1	6.0	Improbable	Excellent	Retain	No apparent problems.
866	White Spruce	*Picea glauca*	Native	39.3	1	4.5	Improbable	Fair	Retain	Light pruning; dead lower branches.
901	Small Leaf Linden	*Tilia cordata*	Non-Native	27.7	1	3.0	Improbable	Fair	Remove	Exposed roots; codominant leaders; healthy crown.
902	Small Leaf Linden	*Tilia cordata*	Non-Native	29.9	1	3.0	Improbable	Fair	Remove	Exposed roots; water sprouts; minor dieback.
903	Small Leaf Linden	*Tilia cordata*	Non-Native	29.1	1	3.5	Improbable	Fair	Remove	Potential root gurdling; heartwood rot; minor epicormic growth.
904	Tulip Tree	*Liriodendron tulipifera*	Native	16.1	1	3.0	Improbable	Fair	Remove	Minor dieback; seam on stem.
905	Tulip Tree	*Liriodendron tulipifera*	Native	23.1	1	3.0	Improbable	Fair	Remove	Exposed roots; minor dieback.
906	White Spruce	*Picea glauca*	Native	11.0	1	2.0	Improbable	Excellent	Remove	No apparent problems.
907	White Spruce	*Picea glauca*	Native	11.0	1	2.0	Improbable	Excellent	Remove	No apparent problems.
908	White Spruce	*Picea glauca*	Native	11.0	1	2.0	Improbable	Excellent	Remove	No apparent problems.
909	White Spruce	*Picea glauca*	Native	11.0	1	2.0	Improbable	Excellent	Remove	No apparent problems.
910	White Spruce	*Picea glauca*	Native	11.0	1	2.0	Improbable	Excellent	Remove	No apparent problems.
911	White Oak	*Quercus alba*	Native	126.8	1	8.0	Improbable	Good	Retain	Dead epicormic growth; minor dieback; large open growth; healthy large branches.
912	White Oak	*Quercus alba*	Native	62.2	1	6.0	Improbable	Good	Remove	Dieback of smaller branches; minor epicormic growth.
913	Eastern White Cedar	*Thuja occidentalis*	Native	11.6+10.8+15.1+18.2+14	5	2.5	Improbable	Fair	Remove	Codominant leaders; light pruning; damage to 1 stem.
914	Eastern White Cedar	*Thuja occidentalis*	Native	21.2+12.9+14+14.3	4	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark at base.
915	Eastern White Cedar	*Thuja occidentalis*	Native	23+21+12.1+17.1	4	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark at base.
916	Eastern White Cedar	*Thuja occidentalis*	Native	13.8+23.5	4	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark at base.
917	Eastern White Cedar	*Thuja occidentalis*	Native	24.6+20.7+15.3	3	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark at base.
918	Eastern White Cedar	*Thuja occidentalis*	Native	21.4+18.3	2	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark at base.
919	Eastern White Cedar	*Thuja occidentalis*	Native	16.3+10.2	1	3.0	Possible	Poor	Remove	Broken main stem; codominant leaders; included bark.
920	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	50.5	1	4.5	Possible	Fair	Remove	Major dieback; large dead branches.
921	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	32.4	1	2.5	Probable	Dead	Remove	Most of bark is gone.
922	Silver Maple	*Acer saccharinum*	Native	119.7	1	9.0	Improbable	Good	Remove	Codominant leaders; minor dieback; included bark; large open crown.
923	White Birch	*Betula papyrifera*	Native	16.7+22.7+22	1	5.0	Improbable	Good	Remove	Codominant leaders; small dead branches.
924	Eastern White Cedar	*Thuja occidentalis*	Native	17.2+14.3	2	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning.
925	Eastern White Cedar	*Thuja occidentalis*	Native	14.4+14.2	2	2.5	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark.
926	Eastern White Cedar	*Thuja occidentalis*	Native	21.5+19+13	2	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark.
927	Eastern White Cedar	*Thuja occidentalis*	Native	22.5	1	3.0	Improbable	Fair	Remove	Light pruning.
928	Eastern White Cedar	*Thuja occidentalis*	Native	21.9+21.6	2	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; light pruning, broken leader.
929	Eastern White Cedar	*Thuja occidentalis*	Native	14.8+12.4+23.4	3	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; light pruning.
930	Eastern White Cedar	*Thuja occidentalis*	Native	12.5+12.5	2	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; light pruning.
931	Eastern White Cedar	*Thuja occidentalis*	Native	23.3+13.9	2	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; light pruning.
932	Eastern White Cedar	*Thuja occidentalis*	Native	30.9	1	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; light pruning.
933	Eastern White Cedar	*Thuja occidentalis*	Native	30.2	1	3.0	Improbable	Fair	Remove	Light pruning.
934	Eastern White Cedar	*Thuja occidentalis*	Native	11.8	1	2.0	Possible	Poor	Remove	Suppressed; major dieback.
935	Eastern White Cedar	*Thuja occidentalis*	Native	12.8+13.7+10.8+13+18.1	1	3.0	Improbable	Fair	Remove	Codominant leaders; light pruning; included bark.
936	Eastern White Cedar	*Thuja occidentalis*	Native	26.7	1	3.0	Improbable	Fair	Remove	Light pruning.
937	Eastern White Cedar	*Thuja occidentalis*	Native	17.7+15.4+27.4+20.9+20.6	1	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; damage to 1 stem.
939	Eastern White Cedar	*Thuja occidentalis*	Native	20.6+21.7	2	3.0	Improbable	Fair	Remove	Codominant leaders; included bark; damage to 1 stem.
940	Eastern White Cedar	*Thuja occidentalis*	Native	17.4+19.3	2	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
941	Eastern White Cedar	*Thuja occidentalis*	Native	19.9+19.2	2	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
942	Eastern White Cedar	*Thuja occidentalis*	Native	20.5+15.6+20.7	3	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
943	Eastern White Cedar	*Thuja occidentalis*	Native	25.8+16.5	2	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
944	Eastern White Cedar	*Thuja occidentalis*	Native	19.2	1	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
945	Eastern White Cedar	*Thuja occidentalis*	Native	14.3+16.6+15.1	3	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem.
946	Eastern White Cedar	*Thuja occidentalis*	Native	26.4+17.3+27.5	3	3.0	Improbable	Fair	Retain	Codominant leaders; included bark; damage to 1 stem, crack in bark.
947	Eastern White Cedar	*Thuja occidentalis*	Native	17.8	1	3.0	Improbable	Fair	Retain	Light pruning.
948	Eastern White Cedar	*Thuja occidentalis*	Native	28.2	1	3.0	Improbable	Fair	Retain	Light pruning.
949	Eastern White Cedar	*Thuja occidentalis*	Native	13.3+17.4+16.3+20	4	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
950	Eastern White Cedar	*Thuja occidentalis*	Native	14.7+11.8+17.1	3	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
951	Eastern White Cedar	*Thuja occidentalis*	Native	19.5	1	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
952	Eastern White Cedar	*Thuja occidentalis*	Native	25.2	1	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
953	Eastern White Cedar	*Thuja occidentalis*	Native	11+11.1+12.4+11	4	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
954	Eastern White Cedar	*Thuja occidentalis*	Native	14.5+12.5	2	3.0	Improbable	Fair	Retain	Codominant leaders; included bark light pruning.
955	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	35.5	1	5.0	Improbable	Excellent	Retain	No apparent problems.
956	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	33.0	1	5.0	Improbable	Good	Retain	Minor dead branches.
957	Eastern White Pine	*Pinus strobus*	Native	43.8	1	6.0	Improbable	Good	Retain	Light pruning; broken branch.
958	Eastern White Pine	*Pinus strobus*	Native	57.2	1	6.0	Improbable	Good	Remove	Dead branches.
959	Eastern White Pine	*Pinus strobus*	Native	34.2	1	1.0	Improbable	Good	Remove	Dead branches remain.
960	Eastern White Pine	*Pinus strobus*	Native	45.4	1	6.0	Improbable	Good	Remove	Dead branches; light pruning.
961	Eastern White Pine	*Pinus strobus*	Native	74.9	1	5.0	Improbable	Good	Remove	Codominant leaders; light pruning.
962	Eastern White Pine	*Pinus strobus*	Native	57.4	1	5.0	Improbable	Excellent	Remove	No apparent problems.
963	Red Pine	*Pinus resinosa*	Native	27.0	1	4.0	Improbable	Fair	Remove	Dieback; light pruning; sparse crown.
964	Freeman's Maple	*Acer X freemanii*	Native	22.1	1	3.0	Improbable	Good	Retain	Codominant leaders; healthy crown.
965	Freeman's Maple	*Acer X freemanii*	Native	32.8	1	3.0	Improbable	Good	Retain	Codominant leaders; minor dead branches.
966	Freeman's Maple	*Acer X freemanii*	Native	16.2	1	3.0	Improbable	Good	Retain	Codominant leaders; minor dead branches.
967	Northern Catalpa	*Catalpa speciosa*	Non-Native	40.9	1	3.0	Improbable	Good	Retain	Minor dieback.
968	Freeman's Maple	*Acer X freemanii*	Native	24.5	1	3.0	Improbable	Excellent	Retain	No apparent problems.
969	Austrian Pine	*Pinus nigra*	Non-Native	45.8	1	5.0	Improbable	Poor	Retain	Asymmetrical crown south; dieback.

Tree Number	Common Name	Scientific Name	Native/ Non-native	DBH (cm)	Stem Count	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Proposed Action	Comments
970	Austrian Pine	*Pinus nigra*	Non-Native	36.0	1	4.0	Improbable	Fair	Retain	Dieback.
971	Austrian Pine	*Pinus nigra*	Non-Native	47.7	1	5.0	Possible	Poor	Retain	Curling branches; dieback.
972	Austrian Pine	*Pinus nigra*	Non-Native	37.5	1	5.0	Possible	Fair	Retain	Asymmetrical crown north; minor dieback.
973	Austrian Pine	*Pinus nigra*	Non-Native	51.4	1	6.0	Possible	Fair	Retain	Dead branches; dieback.
974	Austrian Pine	*Pinus nigra*	Non-Native	53.5	1	6.0	Improbable	Fair	Retain	Dieback; curled branches.
975	Austrian Pine	*Pinus nigra*	Non-Native	49.3	1	5.0	Improbable	Fair	Retain	Dieback; light pruning.
976	Austrian Pine	*Pinus nigra*	Non-Native	41.5	1	4.0	Improbable	Fair	Retain	Dieback; dead branches.
977	Austrian Pine	*Pinus nigra*	Non-Native	39.2	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
978	Austrian Pine	*Pinus nigra*	Non-Native	43.2	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
979	Austrian Pine	*Pinus nigra*	Non-Native	41.3	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
980	Austrian Pine	*Pinus nigra*	Non-Native	37.3	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
981	Austrian Pine	*Pinus nigra*	Non-Native	47.4	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
982	Austrian Pine	*Pinus nigra*	Non-Native	40.2	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
983	Austrian Pine	*Pinus nigra*	Non-Native	31.8	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
984	Austrian Pine	*Pinus nigra*	Non-Native	36.1	1	4.0	Improbable	Fair	Retain	Dieback; dead branches; light pruning.
985	White Spruce	*Picea glauca*	Native	38.3	1	4.0	Improbable	Fair	Retain	Dieback.
986	Colorado Spruce	*Picea pungens*	Non-Native	19.0	1	3.0	Improbable	Excellent	Retain	No apparent problems.
987	White Spruce	*Picea glauca*	Native	14.0	1	3.0	Improbable	Excellent	Retain	Vines in crown.
988	White Spruce	*Picea glauca*	Native	30+14	2	3.0	Improbable	Good	Retain	Minor dieback; codominant leaders.
989	Red Oak	*Quercus rubra*	Native	35.2+35.9	1	6.0	Improbable	Good	Retain	Codominant leaders; included bark; connected scaffolding; minor dieback.
990	Hop Hornbeam	*Ostrya virginiana*	Native	13.3	1	3.0	Improbable	Fair	Retain	Dieback; asymmetrical crown south.
991	Hop Hornbeam	*Ostrya virginiana*	Native	17.9	1	5.0	Possible	Poor	Retain	Leaning south; major dieback.
992	Red Oak	*Quercus rubra*	Native	46.8	1	6.0	Improbable	Fair	Retain	Minor dead branches; minor dieback.
993	Hop Hornbeam	*Ostrya virginiana*	Native	15.5	1	3.0	Improbable	Good	Retain	Dead branch.
994	Hop Hornbeam	*Ostrya virginiana*	Native	23.2	1	3.5	Improbable	Good	Retain	Leaning southwest.
995	White Oak	*Quercus alba*	Native	47.6+39.7	2	7.0	Improbable	Good	Retain	Minor dieback; minor dead branches; insect damage to leaves.
996	American Basswood	*Tilia americana*	Native	34.5+41+25.2+42	1	5.0	Improbable	Good	Retain	Codominant leaders; included bark.
997	White Oak	*Quercus alba*	Native	13.4+13.4	1	4.0	Improbable	Fair	Retain	Leaning outward; codominant leaders; epicormic growth.
998	White Ash	*Fraxinus americana*	Native	18.8	1	5.0	Probable	Dead	Retain	Leaning outward.
999	White Oak	*Quercus alba*	Native	62.5	1	8.0	Improbable	Fair	Retain	Minor dead branches.
1000	Red Oak	*Quercus rubra*	Native	44.7	1	6.0	Probable	Dead	Retain	Large dead tree.
A	Thornless Honey Locust	*Gleditsia triacanthos var. inermis*	Non-Native	45.0	1	6.5	Improbable	Fair	Remove	Next to shed; minor dieback; codominant leaders.
B	White Birch	*Betula papyrifera*	Native	14.0	1	3.0	Improbable	Fair	Remove	Topped with 2 reacted leaders.
C	London Plane-Tree	*Platanus X acerifolia*	Non-Native	50.0	1	7.0	Improbable	Fair	Remove	Large open crown; healthy crown; minor dieback.
D	Silver Maple	*Acer saccharinum*	Native	42.8	1	7.0	Improbable	Fair	Retain	Minor twig dieback.
E	Silver Maple	*Acer saccharinum*	Native	43.2	1	7.0	Improbable	Fair	Rettain	Minor twig dieback.
F	Silver Maple	*Acer saccharinum*	Native	0.5	1	9.0	Improbable	Poor	Remove	Some recent pruning.
G	Silver Maple	*Acer saccharinum*	Native	33.9	1	8.0	Possible	Very Poor	Remove	Crown dead.
H	Silver Maple	*Acer saccharinum*	Native	53.8	1	9.0	Improbable	Poor	Remove	Branch and twig dieback.
I	Silver Maple	*Acer saccharinum*	Native	54.0	1	6.0	Improbable	Poor	Remove	Branch and twig dieback.
J	Silver Maple	*Acer saccharinum*	Native	47.5	1	8.0	Improbable	Poor	Remove	Branch and twig dieback.
K	Silver Maple	*Acer saccharinum*	Native	55.3	1	7.0	Possible	Very Poor	Remove	Decay from lowest branch union to base.
L	Silver Maple	*Acer saccharinum*	Native	57.4	1	9.0	Improbable	Fair	Retain	Branch and twig dieback.
M	Shagbark Hickory	*Carya ovata var. ovata*	Native	62.4	1	7.0	Improbable	Excellent	Retain	Keep this tree.

Migratory Birds Convention Act

1. The destruction of migratory birds and their nests is prohibited under the federal *Migratory Birds Convention Act*, 1994.
2. Vegetation clearing has the potential to directly impact bird breeding activity through damage and destruction of nests, eggs and young, or avoidance of the area by breeding adults.
3. Vegetation clearing is recommended to occur outside the bird nesting season (April 1 – August 31) so as to limit disturbances to nesting activities of birds within the proposed work zone.
4. Specific to non-woodland areas, if vegetation clearing cannot be avoided during the bird nesting season, a qualified biologist will be retained to carry out a nest search ahead of clearing activities within the work zone.
5. Nest areas will be identified in the field. There shall be no construction activity in identified nesting areas until sign-off is obtained from the biologist.
6. Areas identified as having no bird nesting activity can be cleared; however, clearing must occur within 48 hours of nest searching. If vegetation clearing is not performed within 48 hours, additional nest searches must be conducted.

Species at Risk (SAR) Bat Habitat

1. The destruction of SAR bats and their habitat is prohibited under the Species At Risk Act, 2007.
2. Vegetation clearing has the potential to directly impact bat roosting habitat.
3. Tree removal should occur outside of the active roosting season (April 1 to October 31) to avoid destruction of potential bat habitat, and therefore contravention of the Species At Risk Act.

Path: X:\2199_SistersofSt.JosephsConvent_EIS\NRSI_2199_Map2_TIPP_24x36_2021_08_19_GCS.mxd

APPENDIX I

Tree Inventory Data

Sisters of St. Joseph's Convent Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Proposed Action	Compensation Required	Comments
A	Thornless Honey Locust	*Gleditsia triacanthos var. inermis*	Non-Native	1	45	6.5	Improbable	Fair	Remove	Yes	Next to shed; minor dieback; codominant leaders.
B	White Birch	*Betula papyrifera*	Native	1	14	3.0	Improbable	Fair	Remove	Yes	Topped with 2 reacted leaders.
C	London Plane-Tree	*Platanus X acerifolia*	Non-Native	1	50	7.0	Improbable	Fair	Remove	Yes	Large open crown; healthy crown; minor dieback.
D	Silver Maple	*Acer saccharinum*	Native	1	43	7.0	Improbable	Fair	Retain		Minor twig dieback.
E	Silver Maple	*Acer saccharinum*	Native	1	43	7.0	Improbable	Fair	Retain		Minor twig dieback.
F	Silver Maple	*Acer saccharinum*	Native	1	1	9.0	Improbable	Poor	Remove	No	Some recent pruning.
G	Silver Maple	*Acer saccharinum*	Native	1	34	8.0	Possible	Very Poor	Remove	No	Crown dead.
H	Silver Maple	*Acer saccharinum*	Native	1	54	9.0	Improbable	Poor	Remove	No	Branch and twig dieback.
I	Silver Maple	*Acer saccharinum*	Native	1	54	6.0	Improbable	Poor	Remove	No	Branch and twig dieback.
J	Silver Maple	*Acer saccharinum*	Native	1	48	8.0	Improbable	Poor	Remove	No	Branch and twig dieback.
K	Silver Maple	*Acer saccharinum*	Native	1	55	7.0	Possible	Very Poor	Remove	No	Decay from lowest branch union to base.
L	Silver Maple	*Acer saccharinum*	Native	1	57	9.0	Improbable	Fair	Retain		Branch and twig dieback.
M	Shagbark Hickory	*Carya ovata var. ovata*	Native	1	62	7.0	Improbable	Excellent	Retain		Keep this tree.
698	Eastern White Pine	*Pinus strobus*	Native	2	32	5.0	Improbable	Good	Retain	No	
778	Red Oak	*Quercus rubra*	Native	1	35	6.0	Probable	Dead	Retain	No	Large dead tree.
779	Red Oak	*Quercus rubra*	Native	1	35+35	6.0	Probable	Dead	Retain	No	Large dead codominant tree.
780	Red Oak	*Quercus rubra*	Native	1	37	5.0	Possible	Poor	Retain	No	Major lean north with no reaction wood; dead top; next to base of 779
781	White Mulberry	*Morus alba*	Non-Native	1	12.3+11	3.0	Improbable	Fair	Retain	No	Codominant leaders; dieback; asymmetrical crown west.
803	Silver Maple	*Acer saccharinum*	Native	1	36.8	5.5	Improbable	Fair	Retain		Some branch and twig dieback.
807	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	21.7	3.5	Improbable	Very Poor	Retain		Extensive crown dieback.
809	Silver Maple	*Acer saccharinum*	Native	1	30.2	7.0	Improbable	Very Poor	Remove	No	Branch and twig dieback.
854	Eastern White Pine	*Pinus strobus*	Native	1	55	5.0	Improbable	Excellent	Remove	Yes	No apparent problems.
863	Eastern White Pine	*Pinus strobus*	Native	1	41	6.0	Improbable	Excellent	Retain	No	No apparent problems.
864	White Spruce	*Picea glauca*	Native	1	35	4.0	Improbable	Good	Remove	Yes	Light pruning.
865	Eastern White Pine	*Pinus strobus*	Native	1	53	6.0	Improbable	Excellent	Retain	No	No apparent problems.
866	White Spruce	*Picea glauca*	Native	1	39	4.5	Improbable	Fair	Retain	No	Light pruning; dead lower branches.
901	Small Leaf Linden	*Tilia cordata*	Non-Native	1	28	3.0	Improbable	Fair	Remove	Yes	Exposed roots; codominant leaders; healthy crown.
902	Small Leaf Linden	*Tilia cordata*	Non-Native	1	30	3.0	Improbable	Fair	Remove	Yes	Exposed roots; water sprouts; minor dieback.
903	Small Leaf Linden	*Tilia cordata*	Non-Native	1	29	3.5	Improbable	Fair	Remove	Yes	Potential root gurdling; heartwood rot; minor epicormic growth.
904	Tulip Tree	*Liriodendron tulipifera*	Native	1	16	3.0	Improbable	Fair	Remove	Yes	Minor dieback; seam on stem.
905	Tulip Tree	*Liriodendron tulipifera*	Native	1	23	3.0	Improbable	Fair	Remove	Yes	Exposed roots; minor dieback.
906	White Spruce	*Picea glauca*	Native	1	11	2.0	Improbable	Excellent	Remove	Yes	No apparent problems.
907	White Spruce	*Picea glauca*	Native	1	11	2.0	Improbable	Excellent	Remove	Yes	No apparent problems.
908	White Spruce	*Picea glauca*	Native	1	11	2.0	Improbable	Excellent	Remove	Yes	No apparent problems.
909	White Spruce	*Picea glauca*	Native	1	11	2.0	Improbable	Excellent	Remove	Yes	No apparent problems.
910	White Spruce	*Picea glauca*	Native	1	11	2.0	Improbable	Excellent	Remove	Yes	No apparent problems.
911	White Oak	*Quercus alba*	Native	1	127	8.0	Improbable	Good	Retain	No	Dead epicormic growth; minor dieback; large open growth; healthy large branches.
912	White Oak	*Quercus alba*	Native	1	62	6.0	Improbable	Good	Remove	Yes	Dieback of smaller branches; minor epicormic growth.
913	Eastern White Cedar	*Thuja occidentalis*	Native	5	11.6+10.8+15.1+18.2+14	2.5	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; damage to 1 stem.
914	Eastern White Cedar	*Thuja occidentalis*	Native	4	21.2+12.9+14+14.3	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark at base.
915	Eastern White Cedar	*Thuja occidentalis*	Native	4	23+21+12.1+17.1	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark at base.
916	Eastern White Cedar	*Thuja occidentalis*	Native	4	13.8+23.5	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark at base.
917	Eastern White Cedar	*Thuja occidentalis*	Native	3	24.6+20.7+15.3	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark at base.
918	Eastern White Cedar	*Thuja occidentalis*	Native	2	21.4+18.3	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark at base.
919	Eastern White Cedar	*Thuja occidentalis*	Native	1	16.3+10.2	3.0	Possible	Poor	Remove	Yes	Broken main stem; codominant leaders; included bark.
920	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	51	4.5	Possible	Fair	Remove	Yes	Major dieback; large dead branches.
921	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	32	2.5	Probable	Dead	Remove	No	Most of bark is gone.
922	Silver Maple	*Acer saccharinum*	Native	1	120	9.0	Improbable	Good	Remove	Yes	Codominant leaders; minor dieback; included bark; large open crown.

Sisters of St. Joseph's Convent Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Proposed Action	Compensation Required	Comments
923	White Birch	*Betula papyrifera*	Native	1	16.7+22.7+22	5.0	Improbable	Good	Remove	Yes	Codominant leaders; small dead branches.
924	Eastern White Cedar	*Thuja occidentalis*	Native	2	17.2+14.3	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning.
925	Eastern White Cedar	*Thuja occidentalis*	Native	2	14.4+14.2	2.5	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark.
926	Eastern White Cedar	*Thuja occidentalis*	Native	2	21.5+19+13	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark.
927	Eastern White Cedar	*Thuja occidentalis*	Native	1	23	3.0	Improbable	Fair	Remove	Yes	Light pruning.
928	Eastern White Cedar	*Thuja occidentalis*	Native	2	21.9+21.6	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; light pruning, broken leader.
929	Eastern White Cedar	*Thuja occidentalis*	Native	3	14.8+12.4+23.4	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; light pruning.
930	Eastern White Cedar	*Thuja occidentalis*	Native	2	12.5+12.5	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; light pruning.
931	Eastern White Cedar	*Thuja occidentalis*	Native	2	23.3+13.9	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; light pruning.
932	Eastern White Cedar	*Thuja occidentalis*	Native	1	31	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; light pruning.
933	Eastern White Cedar	*Thuja occidentalis*	Native	1	30	3.0	Improbable	Fair	Remove	Yes	Light pruning.
934	Eastern White Cedar	*Thuja occidentalis*	Native	1	12	2.0	Possible	Poor	Remove	Yes	Suppressed; major dieback.
935	Eastern White Cedar	*Thuja occidentalis*	Native	1	12.8+13.7+10.8+13+18.1	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; light pruning; included bark.
936	Eastern White Cedar	*Thuja occidentalis*	Native	1	27	3.0	Improbable	Fair	Remove	Yes	Light pruning.
937	Eastern White Cedar	*Thuja occidentalis*	Native	1	17.7+15.4+27.4+20.9+20.6	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; damage to 1 stem.
938	Eastern White Cedar	*Thuja occidentalis*	Native	1	34	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; damage to 1 stem, broken branch.
939	Eastern White Cedar	*Thuja occidentalis*	Native	2	20.6+21.7	3.0	Improbable	Fair	Remove	Yes	Codominant leaders; included bark; damage to 1 stem.
940	Eastern White Cedar	*Thuja occidentalis*	Native	2	17.4+19.3	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
941	Eastern White Cedar	*Thuja occidentalis*	Native	2	19.9+19.2	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
942	Eastern White Cedar	*Thuja occidentalis*	Native	3	20.5+15.6+20.7	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
943	Eastern White Cedar	*Thuja occidentalis*	Native	2	25.8+16.5	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
944	Eastern White Cedar	*Thuja occidentalis*	Native	1	19	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
945	Eastern White Cedar	*Thuja occidentalis*	Native	3	14.3+16.6+15.1	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem.
946	Eastern White Cedar	*Thuja occidentalis*	Native	3	26.4+17.3+27.5	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark; damage to 1 stem, crack in bark.
947	Eastern White Cedar	*Thuja occidentalis*	Native	1	18	3.0	Improbable	Fair	Retain	No	Light pruning.
948	Eastern White Cedar	*Thuja occidentalis*	Native	1	28	3.0	Improbable	Fair	Retain	No	Light pruning.
949	Eastern White Cedar	*Thuja occidentalis*	Native	4	13.3+17.4+16.3+20	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
950	Eastern White Cedar	*Thuja occidentalis*	Native	3	14.7+11.8+17.1	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
951	Eastern White Cedar	*Thuja occidentalis*	Native	1	20	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
952	Eastern White Cedar	*Thuja occidentalis*	Native	1	25	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
953	Eastern White Cedar	*Thuja occidentalis*	Native	4	11+11.1+12.4+11	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
954	Eastern White Cedar	*Thuja occidentalis*	Native	2	14.5+12.5	3.0	Improbable	Fair	Retain	No	Codominant leaders; included bark light pruning.
955	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	36	5.0	Improbable	Excellent	Retain	Yes	No apparent problems.
956	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	33	5.0	Improbable	Good	Retain	Yes	Minor dead branches.
957	Eastern White Pine	*Pinus strobus*	Native	1	44	6.0	Improbable	Good	Retain	No	Light pruning; broken branch.
958	Eastern White Pine	*Pinus strobus*	Native	1	57	6.0	Improbable	Good	Remove	Yes	Dead branches.
959	Eastern White Pine	*Pinus strobus*	Native	1	34	1.0	Improbable	Good	Remove	Yes	Dead branches remain.
960	Eastern White Pine	*Pinus strobus*	Native	1	45	6.0	Improbable	Good	Remove	Yes	Dead branches; light pruning.
961	Eastern White Pine	*Pinus strobus*	Native	1	75	5.0	Improbable	Good	Remove	Yes	Codominant leaders; light pruning.
962	Eastern White Pine	*Pinus strobus*	Native	1	57	5.0	Improbable	Excellent	Remove	Yes	No apparent problems.
963	Red Pine	*Pinus resinosa*	Native	1	27	4.0	Improbable	Fair	Remove	Yes	Dieback; light pruning; sparse crown.
964	Freeman's Maple	*Acer X freemanii*	Native	1	22	3.0	Improbable	Good	Retain	No	Codominant leaders; healthy crown.
965	Freeman's Maple	*Acer X freemanii*	Native	1	33	3.0	Improbable	Good	Retain	No	Codominant leaders; minor dead branches.
966	Freeman's Maple	*Acer X freemanii*	Native	1	16	3.0	Improbable	Good	Retain	No	Codominant leaders; minor dead branches.
967	Northern Catalpa	*Catalpa speciosa*	Non-Native	1	41	3.0	Improbable	Good	Retain	No	Minor dieback.
968	Freeman's Maple	*Acer X freemanii*	Native	1	25	3.0	Improbable	Excellent	Retain	No	No apparent problems.
969	Austrian Pine	*Pinus nigra*	Non-Native	1	46	5.0	Improbable	Poor	Retain	No	Asymmetrical crown south; dieback.

Sisters of St. Joseph's Convent Tree Protection Plan
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Proposed Action	Compensation Required	Comments
970	Austrian Pine	*Pinus nigra*	Non-Native	1	36	4.0	Improbable	Fair	Retain	No	Dieback.
971	Austrian Pine	*Pinus nigra*	Non-Native	1	48	5.0	Possible	Poor	Retain	No	Curling branches; dieback.
972	Austrian Pine	*Pinus nigra*	Non-Native	1	38	5.0	Possible	Fair	Retain	No	Asymmetrical crown north; minor dieback.
973	Austrian Pine	*Pinus nigra*	Non-Native	1	51	6.0	Possible	Fair	Retain	No	Dead branches; dieback.
974	Austrian Pine	*Pinus nigra*	Non-Native	1	54	6.0	Improbable	Fair	Retain	No	Dieback; curled branches.
975	Austrian Pine	*Pinus nigra*	Non-Native	1	49	5.0	Improbable	Fair	Retain	No	Dieback; light pruning.
976	Austrian Pine	*Pinus nigra*	Non-Native	1	42	4.0	Improbable	Fair	Retain	No	Dieback; dead branches.
977	Austrian Pine	*Pinus nigra*	Non-Native	1	39	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
978	Austrian Pine	*Pinus nigra*	Non-Native	1	43	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
979	Austrian Pine	*Pinus nigra*	Non-Native	1	41	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
980	Austrian Pine	*Pinus nigra*	Non-Native	1	37	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
981	Austrian Pine	*Pinus nigra*	Non-Native	1	47	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
982	Austrian Pine	*Pinus nigra*	Non-Native	1	40	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
983	Austrian Pine	*Pinus nigra*	Non-Native	1	32	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
984	Austrian Pine	*Pinus nigra*	Non-Native	1	36	4.0	Improbable	Fair	Retain	No	Dieback; dead branches; light pruning.
985	White Spruce	*Picea glauca*	Native	1	38	4.0	Improbable	Fair	Retain	No	Dieback.
986	Colorado Spruce	*Picea pungens*	Non-Native	1	19	3.0	Improbable	Excellent	Retain	No	No apparent problems.
987	White Spruce	*Picea glauca*	Native	1	14	3.0	Improbable	Excellent	Retain	No	Vines in crown.
988	White Spruce	*Picea glauca*	Native	2	30+14		Improbable	Good	Retain	No	Minor dieback; codominant leaders.
989	Red Oak	*Quercus rubra*	Native	1	35.2+35.9		Improbable	Good	Retain	No	Codominant leaders; included bark; connected scaffolding; minor dieback.
990	Hop Hornbeam	*Ostrya virginiana*	Native	1	13		Improbable	Fair	Retain	No	Dieback; asymmetrical crown south.
991	Hop Hornbeam	*Ostrya virginiana*	Native	1	18		Possible	Poor	Retain	No	Leaning south; major dieback.
992	Red Oak	*Quercus rubra*	Native	1	47		Improbable	Fair	Retain	No	Minor dead branches; minor dieback.
993	Hop Hornbeam	*Ostrya virginiana*	Native	1	16		Improbable	Good	Retain	No	Dead branch.
994	Hop Hornbeam	*Ostrya virginiana*	Native	1	23		Improbable	Good	Retain	No	Leaning southwest.
995	White Oak	*Quercus alba*	Native	2	47.6+39.7		Improbable	Good	Retain	No	Minor dieback; minor dead branches; insect damage to leaves.
996	American Basswood	*Tilia americana*	Native	1	34.5+41+25.2+42		Improbable	Good	Retain	No	Codominant leaders; included bark.
997	White Oak	*Quercus alba*	Native	1	13.4+13.4		Improbable	Fair	Retain	No	Leaning outward; codominant leaders; epicormic growth.
998	White Ash	*Fraxinus americana*	Native	1	19		Probable	Dead	Retain	No	Leaning outward.
999	White Oak	*Quercus alba*	Native	1	63		Improbable	Fair	Retain	No	Minor dead branches.
1000	Red Oak	*Quercus rubra*	Native	1	45		Probable	Dead	Retain	No	Large dead tree.

APPENDIX II

Tree Assessment Criteria

Criteria for Assessing Tree Health

Assessment Criteria	Definition[1]
Excellent	Represents a tree in near perfect form, health, and vigor. This tree would exhibit no deadwood, no decline, and no visible defects.
Good	Represents a tree ranging from a generally healthy tree to a near perfect tree in terms of health, vigor and structure. This tree exhibits a complete, balanced crown structure with little to no deadwood and minimal defects as well as a properly formed root flare.
Fair	Represents a tree with minor health, balance or structural issues with minimal to moderate deadwood. Branching structure shows signs of included bark or minor rot within the branch connections or trunk wood. The root flare shows minimal signs of mechanical injury, decay, poor callusing, or girdling roots. Trees in the category require minor remedial actions to improve the vigor and structure of the tree.
Poor	Represents a tree that exhibits a poor vigor, reduced crown size (<30% of crown typical of species caused by overcrowding or decline), extreme crown unbalance, or extensive rot in the branching and trunk wood. Fungus could be seen from these rotting areas, suggesting further decay. These trees have extensive crown die back with a large amount of deadwood, and possibly dead sections. These weakened areas can lead to a potential failure of tree sections. Rooting zones show signs of extensive root decay or damage (fruiting bodies or mechanical damage) or girdling roots. Trees in this category require more extensive actions to prevent failure. A tree identified as poor would be a candidate for removal in the near future.
Very Poor	Represents a tree that exhibits major health and structural defects. Quite often the defects or diseases affecting this tree will be fatal. Large quantities of fungus, large dead sections with possible cavities and bark falling off all are signs that a tree is in a major state of decline and would be identified as very poor. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.
Dead	Represents a tree that exhibits no sign of new growth, including buds, foliage, or shoot growth. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.

[1]Dunster 2009

Criteria for Assessing Tree Potential for Structural Failure

Assessment Criteria*	Definition[1]
Improbable	The tree or branch is not likely to fail during normal weather conditions and may not fail in many severe weather conditions within the specified time frame.
Possible	Failure could occur, but it is unlikely during normal weather conditions within the specified time frame.
Probable	Failure may be expected under normal weather conditions within the specified time frame.
Imminent	Failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load. This is a rare occurrence for an assessor to encounter, and it may require immediate action to protect people from harm.
*A time frame of 3 years was used when conducting the assessment of Potential for Structural Failure	

[1]Dunster2013

APPENDIX III

Conditions of Assessment

Conditions of Tree Assessment

Limitations

This tree inventory and assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property at 574 Northcliffe Ave., City of Hamilton (Rural), Ontario (the "Property") and the trees situated thereon by NRSI, and upon information provided by the Client to NRSI. The opinions in this assessment are given based on observations made and using generally accepted professional judgment, however, because trees are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this assessment are valid only at the date any such observations and analysis took place. No guarantee, warranty, representation or opinion is offered or made by NRSI as to the length of the validity of the results, observations, recommendations and analysis contained within this assessment. As a result, the Client shall not rely upon this assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this assessment should be re-assessed periodically, where required (i.e. within 1 year).

Further Services

Neither NRSI, nor any assessor employed or retained by NRSI (the "Assessor") for the purpose of preparing or assisting in the preparation of this assessment shall be required to provide any further consultation or services to the Client, save and except as already carried out in the preparation of this assessment and including, without limitation, to act as an expert witness or witness in any court in any jurisdiction unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of the Assessor's regular hourly billing fees.

NRSI accepts no responsibility for the implementation of all or any part of the assessment, unless specifically requested to examine the implementation of such activities recommended herein. In the event that inspection or supervision of all or part of the implementation is requested, that request shall be in writing and the details agreed to in writing by both parties.

Assumptions

The Client is hereby notified and does hereby acknowledge and agree that where any of the facts and information set out and referenced in this assessment are based on assumptions, facts or information provided to NRSI, the Client and/or third parties and unless otherwise set out within this assessment, NRSI will in no way be responsible for the veracity or accuracy of any such information and further, the Client acknowledges and agrees that NRSI has, for the purposes of preparing their assessment, assumed that the Property, which is the subject of this assessment is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. NRSI explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, by-laws, guidelines and laws as it may pertain to or affect the Property to which this assessment applies.

Restriction of Assessment

The assessment carried out was restricted to the outlined areas of the Property as identified within this report. No assessment of any other trees has been undertaken by NRSI**.** NRSI is not legally liable for any other trees on the Property except those expressly discussed herein. The conclusions of this assessment do not apply to any areas, trees, or any other property not covered or referenced in this assessment.

Professional Responsibility

In carrying out this assessment, NRSI and any Assessor appointed for and on behalf of NRSI to perform and carry out the assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this assessment. The assessment has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discolored foliage (during the leaf-on period), the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the assessment, none of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them will remain standing. It is professionally impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential to fall, lean, or otherwise pose a danger to property and persons in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Without limiting the foregoing, no liability is assumed by NRSI or its directors, officers, employers, contractors, agents or Assessors for:

a) any legal description provided with respect to the Property;
b) issues of title and or ownership respect to the Property;
c) the accuracy of the Property line locations or boundaries with respect to the Property; and
d) the accuracy of any other information provided to NRSI by the Client or third parties;
e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
f) the unauthorized distribution of the assessment.

Third Party Liability

This assessment was prepared by NRSI exclusively for the Client. The contents reflect NRSI's best assessment of the trees situated on the Property in light of the information available to it at the time of preparation of this assessment. Any use which a third party makes of this assessment, or any reliance on or decisions made based upon this assessment, are made at the sole risk of any such third parties. NRSI accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use or reliance of this assessment by any such party.

General

Any plans and/or illustrations in this assessment are included only to help the Client visualize the issues in this assessment and shall not be relied upon for any other purpose.

This report shall be considered as a whole, no sections are severable, and the assessment shall be considered incomplete if any pages are missing.