



North Halton Coordinated EA – Regional Road 25 Improvements

Preliminary Tree Inventory Report

Prepared for:

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Aquatic, Terrestrial and Wetland Biologists

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Table of Contents

1.0	Introduction	1
2.0	Tree Inventory and Methodology	2
3.0	Summary of Tree Inventory Findings.....	4
4.0	Preliminary Tree Removal and Retention Analysis.....	5
4.1	Impacts Beyond the Scope of Tree Inventory	6
5.0	Preliminary Tree Compensation Plan	7
6.0	Tree Protection Measures and Recommended Mitigation.....	10
6.1	Prior to Construction	10
6.1.1	Timing Windows	11
6.2	During Construction.....	12
6.3	Post-Construction	12
7.0	Summary.....	13
8.0	References.....	15

List of Tables

Table 1. Preliminary Retention and Removal Analysis	5
Table 2: Preliminary Tree Compensation	7

List of Appendices (Available Upon Request)

Appendix I Tree Inventory Data

Appendix II Tree Health and Potential for Structural Failure Assessment Criteria

Appendix III Conditions of Tree Assessment

Appendix IV Tree Data and Summary Tables

Maps (Available Upon Request)

Map 1. Study Area

Map 2a-2d. Regional Road 25 Tree Inventory

1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was retained by HDR Inc., on behalf of Halton Region, to complete a Preliminary Tree Inventory Report (TIR) for the proposed road improvements to Regional Road 25, between 5 Sideroad and 10 Sideroad, in the Town of Halton Hills (Map 1). The TIR informs the Municipal Class Environmental Assessment (MCEA) and Preliminary Design for these improvements, completed as part of the larger North Halton Coordinated MCEA for transportation corridor improvements of three regional roads: Regional Road 25, James Snow Parkway, and Steeles Avenue. Preliminary TIRs for James Snow Parkway and Steeles Avenue have been prepared under separate covers (NRSI 2025a, 2025b).

For the purpose of this report, the “study area” refers to lands within 120m of Regional Road 25, between 5 Sideroad and 10 Sideroad (Map 1), which was used in the Natural Heritage Assessment. This TIR addresses lands within 6m of the roadway. The study area currently consists of rural residential, industrial, natural, agricultural, and other developed areas. Natural feature cover is primarily concentrated within the northern half of the study area, including wetlands and woodlands, and a watercourse crossing.

This report has been prepared with consideration of the policies of the Halton Region’s Official Plan (2024), which is now regulated as a local plan by the Town of Halton Hills, as well as the Regional Road Landscaping Guidelines and Specifications (2018), and Tree Canopy Replacement Policy on Regionally Owned Lands (Report No. LPS31-08, 2008). The Regional Municipality of Halton’s Tree By-law No 121-05 (2006) exempts activities undertaken by the municipality and is thus not applicable to this TIR.

The following report has been prepared based on the Preliminary Design and grading plans provided by HDR Inc., dated December 2024. The report summarizes the following:

- Findings of the tree inventory;
- Assessment of overall health and potential for structural failure of inventoried trees;
- Preliminary tree retention analysis based on details of the proposed development plan;
- Protection measures for trees to be retained; and
- Recommended mitigation and compensation considerations.

2.0 Tree Inventory and Methodology

An inventory of trees $\geq 10\text{cm}$ in Diameter at Breast Height (DBH) along the Regional Road 25, between 5 Sideroad and 10 Sideroad, was completed by NRSI Certified Arborists and Registered Professional Foresters on April 24 and 27, and May 10, 2023. As Right-of-Way (ROW) survey data was not yet available, the tree inventory effort included all trees within 6m of the existing road edge. Trees located on private properties, with the potential to be impacted by the development were assessed from the property boundary. This inventory will be updated at the Detailed Design stage based on the refined proposed grading and development limits.

Individual trees $\geq 10\text{cm}$ in DBH were assigned an alphanumeric-identifier. Tree ownership was determined conservatively through desktop analysis based on the ROW limit provided by HDR Inc. (December 2024). Where trees are in close proximity to the ROW limit, confirmation of tree ownership may be necessary at a later stage, where required. The location of inventoried trees was surveyed using an SXBlue II GNSS GPS unit, as shown on Maps 2a-2d.

The following information was recorded for inventoried trees:

- Tree location;
- Tag number/alphanumeric identifier;
- Species (common and scientific name);
- DBH (cm);
- Number of stems;
- Crown radius (metres);
- General health (excellent, good, fair, poor, very poor, snag);
- Potential for structural failure (Improbable, Possible, Probable, Imminent); and
- General comments (i.e., disease, aesthetic quality, development constraints, prune to reduce structural failure, sensitivity to development, etc.).

The overall health of each tree and potential for structural failure was assessed based on the criteria outlined in Appendix II (Dunster 2009, Dunster et al. 2013). In carrying out these assessments, NRSI has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out these assessments. 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 attack, 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 were dissected, cored, probed or climbed and detailed root examinations involving excavation were not undertaken. The conditions for this assessment, including restrictions, professional responsibility and third-party liability can be found in Appendix III.

3.0 Summary of Tree Inventory Findings

In total 389 trees were inventoried in 2023, comprising 40 species. Of the trees inventoried, 214 (55%) are native species and 158 (41%) are non-native species. The most common species were White Ash (*Fraxinus americana*) and Black Locust (*Robinia pseudoacacia*), each respectively comprising 9% of all inventoried trees. The majority (73%) of trees are in fair or good condition and have an improbable likelihood of failure. A complete list of inventoried trees is provided in Appendix I and tree locations are shown in Maps 2a-2d.

Appendix I provides a list of inventoried trees, whether they are native or non-native, overall health, and potential for structural failure. A summary of the overall health of inventoried trees, along with their potential for structural failure can also be found in Appendix IV.

4.0 Preliminary Tree Removal and Retention Analysis

The tree removal and retention analysis in this report is considered preliminary and is based on the following considerations:

1. Trees identified as having a probable or imminent potential for structural failure or poor to very poor health, or confirmed dead. Removal may be recommended for safety, especially if they are located within striking distance of a component of the proposed project or existing infrastructure.
2. Trees that require removal based on the proposed ROW grading, servicing, or road footprint.

Of the 389 trees inventoried, 214 would require removal under the existing plans. Many of these trees are in direct conflict with the proposed road construction, or are situated in close proximity to the grading limit and would incur severe root damage as a result of grading.

Table 1 provides a breakdown of the preliminary recommended actions. Appendix I includes a list of inventoried trees, overall health, potential for structural failure, and rationale for removal. Trees are shown on Map 2a-2d, along with their crown radius and Tree Protection Zone (TPZ) distance. The following categories were included in the analysis:

- Retain;
- Retain / Impact; and
- Remove.

Table 1. Preliminary Retention and Removal Analysis

Proposed Action	Total
Total Trees to be Removed	214
Retain	165
Retain / Impact	10
Total Trees to be Retained	175
Total Number of Trees Inventoried	389

Of the 214 trees proposed for removal, 33 are assumed to be boundary or off-property trees. If the main stem of any tree is located on multiple properties, all owners of those properties must be consulted before any tree removal occurs. Removal of any boundary or off-property trees will require the permission of all owners involved, as indicated in the *Forestry Act* (1990). NRSI is not aware of receipt of approval for these removals at this time, and our recommendation for removal should not be inferred to reflect any approval from any parties.

Some naturalized areas contained dead or dying trees, which will be left standing as valuable wildlife habitat. Where dead or dying trees are in proximity to development, the tree may be topped or delimbed while retaining the trunk. These snags should be clearly marked by a Certified Arborist before topping.

Additional trees <10cm DBH may require removal due to conflicts with the proposed undertaking, but these smaller trees were outside the scope of the inventory and are not addressed in this report. Since forestry tags were not used in this inventory, trees should be clearly marked by a Certified Arborist prior to removal.

4.1 Impacts Beyond the Scope of Tree Inventory

The tree inventory was conducted prior to the development of the road Preliminary Design, which occurred in early 2025. Through the subsequent completion of the Preliminary Design, road improvement works are now expected to extend farther from the existing ROW boundary in some locations, such as a where a widened ROW is proposed. Additional tree inventory work will be required at the Detailed Design stage to update and refine the inventory presented in this report, to fully assess impacts to these trees in these areas.

5.0 Preliminary Tree Compensation Plan

The Regional Municipality of Halton's Tree By-law (121-05) exempts activities or matters undertaken by a municipality from the requirement for a tree removal permit. However, it is required that in the interest of preserving the urban canopy, efforts be made to plant new trees to compensate for the proposed tree removals. Section 147.6.b) of the Halton Region Official Plan (2024), which is now regulated as a local plan by the Town of Halton Hills, states that it is the policy of the Region to “*retain treescapes along major transportation corridors, replace trees cut down for public works and, wherever possible, develop new treescapes consistent with safe and aesthetically pleasing road or corridor design.*”

To determine the number of required compensation trees, the Canopy Replacement Schedule from the Tree Canopy Replacement Policy on Regionally-Owned Lands (LPS31-08) (Halton Region 2008) was used. Table 2 outlines the Region of Halton compensation requirements, the number of trees requiring replacement and the proposed number of replacement trees. To determine compensation requirements for multi-stemmed trees, the DBH of the largest stem was used. Twenty-three (23) dead trees proposed for removal were excluded from compensation calculations.

Table 2: Preliminary Tree Compensation

DBH Category	# of Trees	Compensation Method	Compensation Total
Deciduous Trees			
10cm – 15cm DBH	47	2:1	94
16cm – 20cm DBH	17	3:1	51
21cm – 25cm DBH	12	4:1	48
>25cm DBH	61	Equivalent of 6cm caliper trees or greater needed to equal diameter of the tree removed	487
Coniferous Trees			
<20cm DBH	21	2:1 200cm (in height) conifer trees	42
≥20cm DBH	33	4:1 200cm (in height) conifer trees	132
Total	191		855

It is noted that trees proposed to be retained that may be impacted by the roadways may also require compensation. Additionally, portions of wooded features proposed for removal is to be compensated for with an area-based ratio. The above tree compensation summary will be

updated through completion of the supplementary tree inventory work, and updated tree removal/retention analysis, that is to be completed during the Detailed Design phase.

Tree compensation plantings should be installed within the Regional Road 25 ROW to the extent possible. The Tree Canopy Replacement Policy on Regionally-Owned Lands (Halton Region 2008) also indicates that where there is no opportunity to plant on-site, cash-in-lieu payments are permissible, *“in accordance with the International Society of Arboriculture Standards for tree replacement value, payable to the Halton Region Green Fund.”*

Species used for compensation plantings, with the exception of street trees, should be native to Halton Region. The use of non-native species that are tolerant of urban conditions (i.e. salt and drought tolerant) may be suitable for planting outside of natural areas, provided they do not include invasive species such as, but not limited to, Norway Maple (*Acer platanoides*) or Sweet Cherry (*Prunus avium*). A list of recommended plant material can be found in Appendix C of the Halton Region Regional Road Landscaping Guidelines and Specifications (2018).

The following will be considered during development of the planting/landscape plan:

- Plantings limited to non-invasive tree and shrub species that complement the surrounding natural features;
- A variety of species should be identified on the landscape plans so as to avoid a monoculture;
- No more than 10% of any one species and 20% of any one genus;
- Where applicable, the outer extents of any natural feature buffers or boundary between buffers and development area should be comprised of a mix of native tree and shrub species in an attempt to naturalize the area, increase presence of native species, provide wildlife habitat and protect from adjacent development encroachment (i.e., human foot traffic, dumping);
- Tree and shrub species to be situated in close proximity to roads should be salt and drought tolerant;
- Avoid ash (*Fraxinus* spp.) species due to the risk of the Emerald Ash Borer (*Agrilus planipennis*);
- 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 an OALA or Certified Arborist;
- 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 buildings, and;
- Ensure sufficient soil volume for all plantings.

6.0 Tree Protection Measures and Recommended Mitigation

Throughout all stages of development, efforts should be made to protect the health and root systems of trees that are marked for retention. The Region or their designate (e.g. construction inspector or site manager) should ensure that all employees and contractors are informed of the meaning and importance of tree protection measures and the ways in which trees to be retained are identified. The locations of Tree Protection Fencing (TPF) and other tree protection specifications will be provided at the Detailed Design stage.

6.1 Prior to Construction

Tree Protection Fencing (TPF) will be required along the limit of disturbance in order to prevent detrimental impacts to trees from development activities. Appendix E of the Halton Region Regional Road Landscaping Guidelines and Specifications (2018) provides protection details for typical TPF with heavy duty silt fencing. The drawings state that TPF should be installed at minimum 0.9m outside the dripline for trees to be protected in order that wooden support stakes can be placed at or outside the dripline. An Erosion and Sediment Control (ESC) Plan may be implemented in combination with the TPF.

The recommended locations of TPF are to be shown on the updated TIR mapping at the Detailed Design stage. In accordance with the Regional Road Landscaping Guidelines and Specifications (Halton Region 2018), to minimize impact to these trees, root pruning should be undertaken following root-sensitive excavation at the limit of grading. Root pruning, if necessary, should be performed by a Certified Arborist using an appropriate implement to make proper pruning cuts and encourage callous root growth. To prevent root desiccation, the excavated areas should be backfilled with uncontaminated topsoil as soon as reasonably possible. Where grading extends beyond the footprint of road improvements but within tree driplines, heavy machinery traffic must be restricted in order to minimize soil compaction and mechanical root damage.

Prior to installation of the TPF, trees should be clearly marked for removal by a Certified Arborist. The trees should then be felled and removed with minimal disturbance to neighbouring trees and other vegetation. It is recommended that a site meeting between the Certified Arborist and the tree removal contractor take place to discuss the removal approach (i.e., retaining stumps, equipment being utilized, etc.) and timing so that adequate tree protection can be coordinated.

Prior to works commencing on-site, a Certified Arborist, or other qualified other, is to inspect and provide written certification to the Region and Town of Halton Hills that all protective measures have been satisfactorily installed. Signage indicating the purpose of the protection fencing is to be attached to the TPF. The signage is to identify the function of the TPF and that no dumping or storing of materials or equipment, soil grade changes or compaction, damage to tree parts, vehicle/machine traffic or refueling within the tree protection areas are to occur.

6.1.1 Timing Windows

Migratory Birds Convention Act

The removal of trees within the study area has the potential to disrupt nesting birds. The *Migratory Birds Convention Act* (MBCA, Government of Canada 1994) identifies a list of migratory bird species that are protected. It prohibits the destruction of nests, individuals and activities that would cause an adult bird to abandon a nest. Tree removal is to occur outside of the core nesting period for migratory birds as established by the Canadian Wildlife Service (CWS 2012), which extends from approximately April 1 through August 31. Every developer/consultant/contractor, etc. is legally obliged to carry out due diligence to protect migratory birds from harm during all construction projects.

Species at Risk Bat Habitat

One suitable bat roosting habitat tree (RST-021) was identified along the roadside portions of the study area (Map 2c). However, all treed natural features adjacent to the road should be assumed to represent potential Species at Risk bat habitat. Removal of any of the treed features within the study area may cause impacts to Species at Risk bats and their habitat. Impacts to Species at Risk or their habitats are prohibited unless permitted or authorized by the Ontario Ministry of the Environment, Conservation and Parks in accordance with *Endangered Species Act* requirements. It is recommended that trees be removed outside of the bat active period (i.e., outside of April 1-September 30) to avoid impacts to individual bats. Additional information regarding bat habitat within the study area can be found within the Natural Environment Report (NRSI 2025c).

6.2 During Construction

The TPF is to be maintained by the contractor or their agents during the entire construction period to ensure that trees being retained and their root systems are protected. 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 trees identified to be retained in the final report be seriously damaged or die as a result of construction activities, the Region and Town will be consulted and presented with a proposed plan of action, such as treatment or replacement. Any replacement species are to be reviewed by a member in good standing with the Ontario Association of Landscape Architects (OALA) or Certified Arborist.

6.3 Post-Construction

All TPF is to be removed upon completion of construction activities. Watering and pruning of newly planted trees will be carried out as required during the warranty period (approximately two years). Any areas of bare soil within the construction area are to be re-vegetated (e.g., sod in urban areas, or otherwise application of a suitable native herbaceous seed mix or nurse crop) as soon as feasible to prevent erosion of soils and keep dust to a minimum.

7.0 Summary

NRSI was retained by HDR Inc. on behalf of Halton Region to complete a Preliminary TIR for the proposed improvements to Regional Road 25, between 5 Sideroad and 10 Sideroad, in the Town of Halton Hills (Map 1).

NRSI Registered Professional Foresters and Certified Arborists conducted a tree inventory on April 24 and 27, and May 10, 2023. A total of 389 trees belonging to 40 species were inventoried and assessed. Of the 389 inventoried trees, 214 are currently proposed for removal. The tree removal analysis presented in this report is based on a preliminary area of development, which will be further refined during the Detailed Design stage. Additional tree inventory work will be undertaken as part of an updated TIR to be completed during the Detailed Design phase to incorporate the full extent of the proposed road infrastructure widening and improvements.

It is recommended that all proposed tree removals occur in consideration of general timing windows for migratory birds (April 1 through August 31) and the bat active season (April 1 – September 30) (i.e., no removals between April 1 and September 30). As such, it is recommended that tree removals are completed before March 31 or after October 1 to avoid potential contraventions of the *Endangered Species Act*.

According to the *Forestry Act* (1990), it is required that any adjacent landowners be consulted prior to the removal of, or any activity that may impact, trees located on or bordering their property. Written permission from these landowners should be provided prior to the proposed works. TPF is to be installed prior to any on-site work, in order to provide adequate protection for retained trees and their root systems. The recommended locations of TPF will be mapped at the Detailed Design stage. The installed TPF is to be inspected by a Certified Arborist or other, and is to be maintained throughout the construction phase of the project. All TPF is to conform to the specifications of the Regional Road Landscaping Guidelines and Specifications (Halton Region 2018).

As per the compensation requirements set by the Canopy Replacement Schedule from the Tree Canopy Replacement Policy on Regionally-Owned Lands (LPS31-08) (Halton Region 2008), a total of 855 replacement trees are required as compensation for the 214 trees currently proposed for removal. Tree compensation plantings should be installed within the Regional Road 25 ROW to the extent possible. The Tree Canopy Replacement Policy on Regionally-

Owned Lands (Halton Region 2008) also indicates that where there is no opportunity to plant on-site, cash-in-lieu payments are permissible. The tree compensation total will be updated and finalized through completion of the updated tree inventory, and tree removal/retention assessment, to be completed during the Detailed Design phase.

8.0 References

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