

JMCD HOLDINGS INC.

MULTI-UNIT RESIDENTIAL DEVELOPMENT



**TREE INVENTORY, PRESERVATION PLANS, AND
TREE CONSERVATION REPORT**

**4 RANGE ROAD MULTI-UNIT RESIDENTIAL DEVELOPEMENT,
CITY OF OTTAWA, ONTARIO**

JULY, 2020

OUR FILE: LA 473-20

PREPARED BY:



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1.0 Scope/Assignment:

The Landmark Environmental Group Ltd. (LEGGroup) (Jim Hosick, OALA, ISA Arborist # 1098A) is retained by Mr. Christopher Donegan/Mr. Jeff Mycyk (JMCD Holdings Inc) to provide Consulting Arbor and Landscape Architecture services to lands generally in the east side of the Sandy Hill district of Ottawa, ON. The assignment is to prepare a Tree Preservation Plan and Tree Conservation Report for a new multi-unit residential re-development as further described below. LEGroup was requested to create a tree inventory/assessment, preservation plans, and Tree Conservation Report to assess the existing trees on the subject site and indicate those trees that can be preserved and the methods for protecting the same. Further, those trees that cannot be preserved either by poor or declining health, structural deficiencies or to facilitate the proposed development on the site, are indicated to be removed.

Specifically, LEG was assigned to provide the following services:

- Review of site data, review of the City of Ottawa urban design guidelines, City of Ottawa Streetscape Character Analysis Manual, City of Ottawa Tree Conservation Report Guidelines as it pertains to the subject site along with the Rideau Valley Conservation Authority (RVCA) development policies as applicable and discussion with respective staff as necessary;
- Conduct a field review to inventory tree specimens, and the impacts of any trees on both the subject site and within the dripline of neighbouring properties as per the City of Ottawa's Municipal Trees and Natural Areas Protection By-Law along with the Road Activity By-Law. We will tag trees using GPS technology, assess the quality of the vegetation, Level 1 Tree Risk Assessment, make recommendations for preservation or removal, indicate the presence of any Butternut (in accordance with the *Endangered Species Act, 2007*) and show the location of any hazard trees for removal. Tree Preservation Plans and a Tree Conservation Report (TCR) will be prepared following the City's Tree Conservation Report Guidelines;
- Provide a Tree Inventory/Assessment, Tree Preservation Plans, and Tree Conservation Report that sets out the methodology, observations, criteria, analysis and conclusions of our review and area conditions;
- Indicate on a Tree Inventory and Preservation Plan, those trees that are suitable for preservation or removal and providing the methods of protecting the same;

It is the intent in the undertaking of this Report, to comply with the City of Ottawa tree conservation policies and the requirements of the RVCA.

2.0 Proposed Development:

The subject site is municipally known 4 Range Road, in the geographic City of Ottawa, Ontario. The site is approximately 0.06 ha in area and the proposed development is for a multi-unit residential development. (see **Appendix A**-Draft Site Plan).

The subject site is currently a residential lot, formerly used as an embassy. The site is comprised largely of sod and hard surface (asphalt), with a few trees on the southwest boundary, and a cedar hedge on the south east boundary. The surrounding land uses are multi-unit residential to the north, Strathcona Park to the east, residential to the south, and the Embassy of Switzerland to the east.

The limits of the Arborist study is confined to the area within the lot boundaries of 4 Range Road and those offsite trees immediately adjacent to the subject site that may be affected as a result of the proposed development.

This Tree Inventory/Analysis, Preservation Plan, and Tree Conservation Report is submitted in support of and intended to accompany the application for Zoning Amendment/Site Plan Control for the multi-unit residential development as noted above.

Below, is a street map illustrating the location of the subject site (red lines show the site boundaries):



Figure 1 Street map of Subject Site (Boundary Highlighted) and Surrounding Area (Simcoe County GIS)

3.0 Method:

A summary of inventory, observations and assessments that were determined in the field can be found in **Appendix C** at the end of this Report.

The tree assessments were identified in accordance with the detailed typical criteria used in best arboricultural practices to indicate the merits of tree preservation including the species (*Latin* and common names), size diameter at breast height (dbh), maturity, biological health, structural concerns (if any), condition rating and recommendations for preservation or removal of existing specimen trees.

Condition ratings applied to overall tree assessments using the above-noted criteria range from 1 (poor) to 5 (excellent). Typically, those trees being assessed a condition rating of 1-3 are recommended for removal while those trees being assessed a condition rating of 4-5 are recommended for preservation unless there are extenuating circumstances regarding the development of the site. The criterion is also applied to assist in assessment of their potential for survival in-situ post construction.

For the purposes of this Report, only those trees over 10cm dbh were captured. No shrubs or low understory perennials were captured in the data.

Each tree that is assessed is assigned a key number (1-13) and observations relating to each tree were tabulated in the Tree Inventory (**Appendix C**). Each tree was also located on a Tree Inventory and Preservation Plans (**Map-1, Map-2**) with the corresponding key number as shown in **Appendix B**.

4.0 Observations

In July 2020, LEGroup staff (J. Hosick) who is a qualified Arborist (ISA) visited the subject site to review the existing trees in light of the proposed multi-unit residential development. LEGroup staff attended the site with the intent to provide an inventory and assessment of existing individual tree species present. LEGroup staff also made a cursory review of existing trees exterior to the subject property to visually assess the quality of the vegetation and degree of canopy crossover the boundary. The description below is a culmination of observations obtained from both site visits.

The subject site is currently a residential lot, formerly used as an embassy. LEGroup staff generally observed a somewhat even grade on the site. There is observed a long driveway on the north side of the site with no adjacent trees. There is a mature cedar hedge along the east and a portion of the south boundary as well as three coniferous boundary trees along the mid-south boundary and grouping of several trees along the south west corner of the site. There was no understorey vegetation on the site.

The following woody plant species were observed on the subject site during fieldwork:

Latin name	Common Name	% of Total Trees
<i>Acer negundo</i>	Manitoba Maple	23.0%
<i>Picea glauca</i>	White Spruce	23.0%
<i>Thuja occidentalis</i>	Eastern White Cedar	46.3%
<i>Ulmus americana</i>	American Elm	7.7%
Total (subject to rounding)		100%

Table 1 List of Observed Woody Plant Species on the Subject Site (% Total Trees is subject to rounding).

A total of 13 trees were observed at a DBH (diameter breast height) of equal to or greater than 10cm. on the subject site and are recorded in **Appendix C**.

As noted in **Table 1**, the most commonly observed tree is Eastern White Cedar (46.3%), followed by Manitoba Maple (23%), White Spruce (23%) and American Elm (7.7%).

Many of the trees observed in the Table above are native and indigenous to the area and many of the assessed trees appeared to be in poor to marginal health given the lack of sunlight, and close proximity to the existing building. The advanced growth of Riverbank Grape Vine (Tree No.1) and the existing building impacting the root zones (Trees nos. 2, 3 and 4) exacerbates the poor health of the trees through water/nutrient uptake and competition for light which is vital for continued health. (**See Photo A, B & C in Appendix D**)

LEGroup staff observed trees with multiple trunks, trunk wounds (cracks), insects (carpenter ants), trunk crossover (merged basal flare), and suspected interior decay (Trees Nos. 2, 3, and 4), all of which are in close proximity to the existing building and are undermining the foundation and existing retaining wall (**see Photos B & C in Appendix D**). In addition, 3 White Spruce along the western boundary (trees nos. 6, 7 and 8) showed defects including branch dieback, exposed roots, minor sap bleeding, and the growth of the Virginia Creeper Vine.

On the north east corner of the site, there is a cedar hedge made up of trees nos. 9-13 (**see Photos D & E in Appendix D**). Trees in this area were observed to have thin canopies, offset canopies, one sided branching, trunk wounds, and seem to be competing for light with a large offsite Sugar Maple.

LEGroup observed one offsite Sugar Maple offsite whose canopy has crossed over into the subject site on the north east corner (see **Map 1, Map 2, Appendix B**). This native/indigenous tree appears to be in good condition and extends into the site between 1m beyond the common boundary line.

LEGroup staff did not identify any Butternut (*Juglans cinerea*) on the subject parcel during the on-site

inventory in accordance with the requirements of the *Endangered Species Act, 2007*.

5.0 Study Criteria

Tree observations were recorded individually, as set out in the Tree Inventory and Assessment Table (**Appendix C**), in accordance with the criteria established by common arboricultural practice including:

- ✓ Latin/Common Name of tree;
- ✓ Age;
- ✓ Height (ft);
- ✓ Canopy (m radius);
- ✓ Size (mm cal);
- ✓ Condition/Comments; and
- ✓ Recommendation for Preservation or Removal

Tree locations are on the Tree Inventory and Preservation Plan were recorded and adjusted however; the locations are approximate as shown on Drawing **Map-1** and **Map-2** in **Appendix B**.

6.0 Analysis and Recommendations

6.1 Analysis

The following analysis criteria were generally applied to measure the merits of tree preservation:

- Species (including native & non-native)
- Size/Maturity
- Structure
- Health
- Location
- Areas of proposed development.

These criteria were applied to the tree assessments to determine the extent of preservation and removal. In addition, the criterion is applied to assist in assessment of their potential for survival in-situ post construction.

Generally, LEGroup staff note that many of the individual trees within subject site are in declining health and rated in poor to marginal condition as disclosed in **Appendix C**. Tree No.1 which has had its leader removed, is in very close proximity to the utility pole and is a host to advanced infestation Riverbank Grape Vine (*Vitis riparia*) growth. Tree Nos. 2, 3 and 4 exhibited signs of multiple trunks, trunk wounds (cracks), insects (carpenter ants-usually indicative of trunk decay), trunk crossover (merged basal flare), and suspected interior decay. The close proximity to the existing building of the Manitoba Maple and the effect of the tree in low light conditions also caused significant leans, trunk twisting and dual leaders making them poor specimens for retention. Further, the significant tree leans are suspected to decrease the structural integrity of the tree and the prospect of becoming a hazard as a result of a storm event. These Manitoba Maples are considered poor candidates for retention. In addition, the roots of Tree No. 2 and 3 are undermining the building foundation and adjacent retaining wall (**see Photos B & C in Appendix D**). Tree No. 5 has merged its basal flare with Tree no. 4, and has had its leader removed due to its proximity to the utility lines and therefore is also a poor candidate for retention.

We note that there are a number of trees that were recorded to be over 10cm dbh that are recommended for retention (Tree Nos. 6, 7, 8, 9, 10, 11, 12 and 13 as set out in **Appendix C**) due to their optimum location and buffering/screening potential. (**see Photo D, E, & F in Appendix D**) These trees are located mainly on the south east, corner of the site.

The remaining trees (Trees Nos. 1-5), due to their poor to marginal condition combined with their location within the expected development area, are recommended for removal to accommodate the development since the grading in the treed area of the site is expected to change.

As far as the effect on natural on-site systems goes, the loss of these trees will have a minor effect with on-site water absorption. While mature, healthy trees can make a significant addition to stormwater management, trees Nos 1-5 are in poor to marginal condition and as such would not be absorbing water at an optimal level.

Tree preservation fencing is shown on Map-2 (**Appendix B**), and it is recommended that an Arborist or qualified personnel be retained to oversee the installation of the tree preservation fencing at the dripline in coordination with the approved survey lines.

6.2 Description of Environmental Value

From an ecological perspective, while many of the trees on-site are in poor condition and not respiring at optimal levels, they would provide a certain aspect of improvement to air quality as a healthy tree can absorb a large amount of CO₂.

The cedar hedge abutting Range Road (Trees Nos. 9-13), while in poor to marginal condition, provides both a visual buffer as well as a barrier to urban noise. All on-site trees would also contribute to stormwater management, however trees in poor condition would not be absorbing nearly as much CO₂ as a healthy tree.

With Strathcona Park located across the road from the subject site, the on-site trees would not provide a significant benefit in the context of the surrounding landscape. With all on-site trees in poor to marginal condition, they are not functioning at their optimal capacity and therefore do not make a significant contribution.

6.3 Impacts of Development on Trees to Be Retained

The tree preservation fencing (shown on **Map-2 in Appendix B**) will play an integral role in the success of the existing on-site trees post-construction. With a significant portion of the critical root zone being protected, the trees will suffer minimal root damage and expected to be relatively unaffected by the development.

In addition, further attention to the retained existing trees post development will significantly benefit the trees. The inclusion of planting beds, sod instead of asphalt, managing and eliminating existing vines (Riverbank Grape/Virginia Creeper), pruning by qualified personnel, and regular watering/care will not only mitigate any negative impacts caused by the development but also further benefit the trees in the future.

6.4 Summary and Recommendations

In summary, as a result of a proposed multi-residential housing development at 4 Range Road, the City of Ottawa has required that the Owner submit a tree inventory/assessment, Preservation Plans, and Tree Conservation Report for their review.

The summarized recommendations noted above are as follows:

- Trees 1-5 on the Project Site are to be removed as shown on **Map-2 in Appendix B**. and Trees No. 6-13 are to be retained for reasons set out in the Report above;
- That all trees to be retained on or off site be protected to the extent possible and that tree preservation fencing be provided at the dripline of each tree which represents the tree preservation

zone. Where tree preservation fencing cannot be established at the dripline, the tree preservation fence should be installed as far as practical from the trunk. The Arborist/Landscape Architect or qualified personnel shall be on site during the erection of the tree preservation fencing for guidance;

- Proposed planting for the Landscape Plan should include shade-tolerant species, due to the lack of sunlight on the southeast side of the site;
- That tree preservation signage (see dwg **D-1**, **Appendix B**) be erected at the time of the hoarding installation (tree preservation fencing) attached to the preservation fencing;
- No equipment storage or refueling is to take place within the tree preservation zone as established by the preservation fencing;
- Tree preservation fencing is to be removed only after construction on the site is complete;
- Existing tree branching that interferes with the development works may be lightly pruned by qualified personnel;
- For other preservation methods, please refer to the Tree Preservation Notes on drawing **D-1** in **Appendix B**.

7.0 Arborist's Declaration

It is the policy of Landmark Environmental Group Ltd to attach the following clause regarding the limitations:

The Consulting Arborist's visual assessment and recommendations, made in this Report, have been completed based on accepted arboricultural practices and represents a fair and accurate assessment of the number, type, size and condition of trees on the subject property. Such visual assessments of all tree components could include scars, bark damage, external decay, insect infestations, discoloured foliage, crown dieback, an excessive degree of lean from the vertical and above-ground root defects. In addition, environmental conditions, which could affect overall health of the trees such as damaging maintenance practices, have also been taken into consideration where appropriate. However, no tree was dissected, cored or rooting systems assessed through excavation.

I hereby certify that I, Jim Hosick have:

- Personally performed a visual inspection of the trees and property referred to in this letter report and have stated my findings accurately in accordance with accepted arboricultural practices without personal interest or bias;
- No current or prospective interest in the property that is the subject of this Report and have no personal interest or bias with respect to the parties involved;
- That my analysis, opinions and conclusions stated are my own and based on commonly accepted arboricultural practices;
- That my compensation is not contingent on the reporting of a predetermined conclusion that favours the client; and
- That I am a member in good standing with the International Society of Arboriculture (ISA) and the Ontario Association of Landscape Architects (OALA) and the American Association of Consulting Arborists (ASCA).

I trust the above-noted recommendations are of assistance. If there are any questions regarding the 4 Range Road Residential Development Tree Inventory, Analysis and Preservation Report, please do not hesitate to contact our Firm at (705) 717-8484.

Prepared by,



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8.0 Glossary of Arboricultural Terms

Arboriculture – practice and study of the care of trees and other woody plants in the landscape.

Bleeding – flow of sap from plant wounds, injuries, or pathogen invasion.

Branch Collar – area where a branch joins another branch or trunk that is created by the overlapping vascular tissues from both the branch and the trunk.

Canopy – collective branches and foliage of a tree or a group of trees' crowns.

Cavity – open or closed hollow within a tree stem, usually associated with decay.

Codominant branches/stems – forked branches nearly the same size in diameter, arising from a common junction and lacking a normal branch union.

Conk – fruiting body or non-fruiting body (sterile conk) of a fungus. Often associated with decay.

Crown – upper part of the tree, measured from the lowest branch, including all the branches and foliage.

DBH – acronym for tree diameter at breast height. Measured 1.4 meters above ground.

Dieback – condition in which the branches in the tree crown die from the tips toward the centre.

Drip-line – imaginary line defined by the branch spread of a single plant or group of plants.

Epicormic Shoot – Shoot arising from a latent or adventitious bud (growth point).

Gall – abnormal swelling of plant tissues caused by gall wasps, mites, nematodes, and various insects and less commonly by fungi or bacteria.

Girdling – restriction or destruction of the vascular system within a root, stem, or branch that causes an inhibition of the flow of water and photosynthates in the phloem.

Girdling Root – root that encircles all or part of the trunk of a tree or other roots and constricts the vascular tissue and inhibits secondary growth and the movement of water and photosynthates.

Included Bark – bark that becomes embedded in a crotch (union) between branch and trunk or between codominant stems. Causes a weak structure.

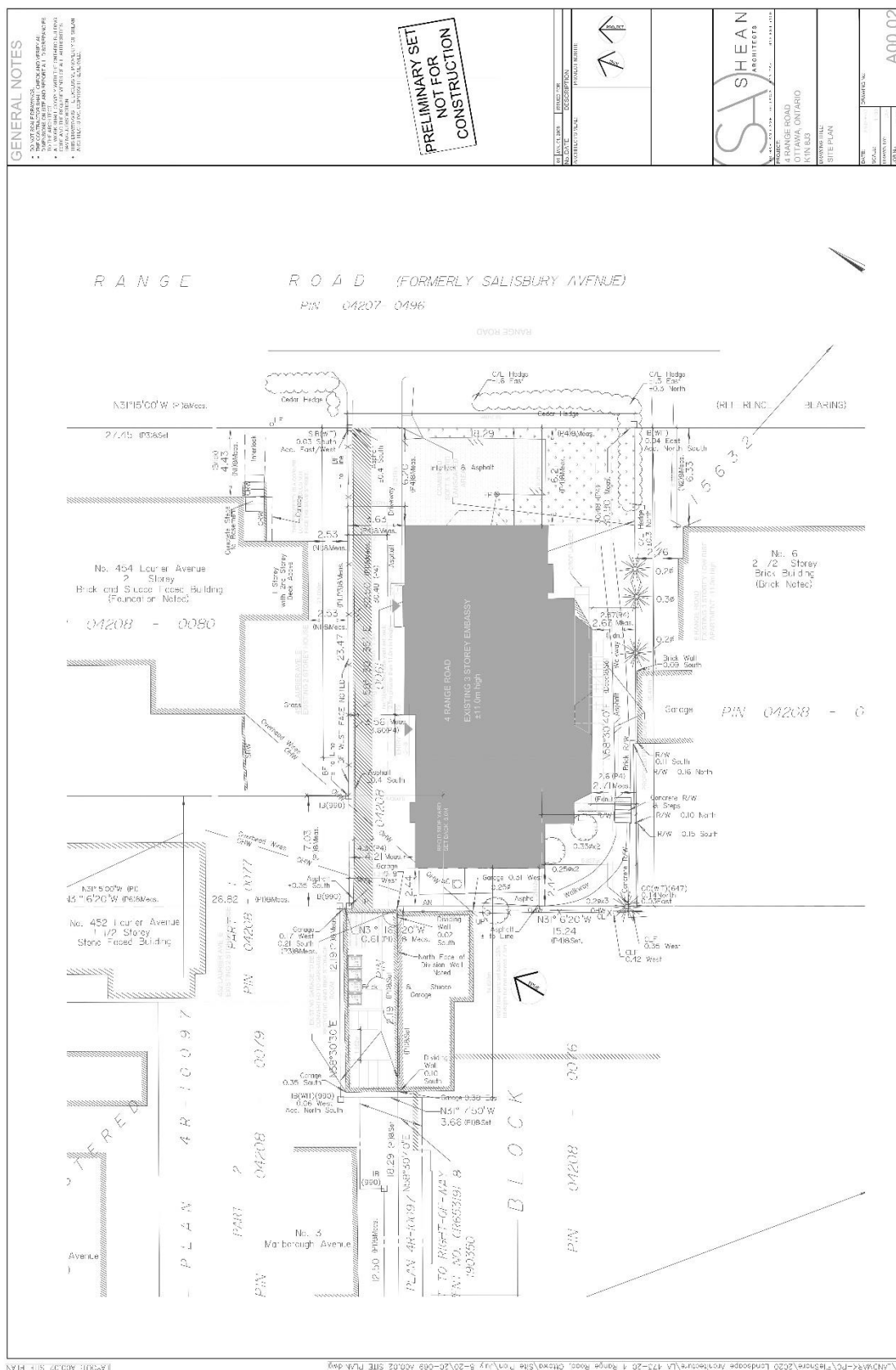
Leader – primary terminal shoot or trunk of a tree. Large, usually upright stem. A stem that dominates a portion of the crown by suppressing lateral branches.

Pruning – removing branches from a tree or other plants to achieve a specified objective.

Root Collar – flared area at the trunk base where the roots and trunk come together.

Tree Protection Zone (TPZ) – Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction or development.

Appendix A: Draft Site Plan



Tree Preservation Detail (D-1)

[illegible]

Appendix C: Tree Inventory and Assessment Table

Key	Latin Name	Common Name	Tree Dia. (cm DBH)	Height (ft)	Age Est.	Comments	Assessment	Canopy Radius (m)	Preserve /Remove
1	<i>Ulmus americana</i>	American Elm	23.9	6	10-20 years	leader removed, within 1m of utility pole, riverbank grape vine, at rear fence line	1 Poor	1.7	Remove
2	<i>Acer negundo</i>	Manitoba Maple	23.6, 28.3	15	10-20 years	dual trunk, cracked trunk, suckering, suspected interior decay, corrected significant lean	2 Marginal	6.4	Remove
3	<i>Acer negundo</i>	Manitoba Maple	42.4, 34.5	15	20-40 years	dual trunk, suspected interior decay, carpenter ants, damage to foundation, cracking joints	2 Marginal	5.5	Remove
4	<i>Acer negundo</i>	Manitoba Maple	8.4, 7.1, 13.3	3	5-10 years	multiple trunks, significant lean, grown in fence fabric, grown into cedar, longitudinal crack, branch dieback	2 Marginal	2.2	Remove
5	<i>Thuja occidentalis</i>	Eastern White Cedar	15.4	4	5-10 years	leader removed, merged basal flare w. #4, adjacent to overhead utility wires	1 Poor	4.1	Remove
6	<i>Picea glauca</i>	White Spruce	23.8	22	20-40 years	virginia creeper, branch dieback, leader corrected lean, boundary tree	1 Poor	2.7	Preserve
7	<i>Picea glauca</i>	White Spruce	36.5	22	20-40 years	lower branch dieback, minor sap bleeding	2 Marginal	3.8	Preserve
8	<i>Picea glauca</i>	White Spruce	23.7	22	20-40 years	exposed roots, lower branch dieback, one-sided small crown	1 Poor	3.4	Preserve
9	<i>Thuja occidentalis</i>	Eastern White Cedar	10.9	6	5-10 years	unmanaged cedar hedge, sparse canopy, lower branch dieback, leader gone-suckered leader	1 Poor	1	Preserve
10	<i>Thuja occidentalis</i>	Eastern White Cedar	8.1, 8.8	6	5-10 years	trunk wounds, multi-stemmed, one sided branching, sparse canopy	1 Poor	1	Preserve
11	<i>Thuja occidentalis</i>	Eastern White Cedar	9.5	6	5-10 years	leader removed, sparse canopy	1 Poor	1	Preserve
12	<i>Thuja occidentalis</i>	Eastern White Cedar	13.4	5	5-10 years	gravel over roots, dead broken leader, multiple suckered leaders, sparse canopy	1 Poor	1	Preserve
13	<i>Thuja occidentalis</i>	Eastern White Cedar	10.8	4	5-10 years	branching hangs over sidewalk, broken branches misshapen tree	1 Poor	1	Preserve

Appendix D: Selected Site Photos



Photo A: Showing advanced growth of Riverbank Grape Vine, blocking sunlight to on-site trees.



Photo B: Showing multiple trunks, trunk crossover, and close proximity to the existing building characteristic of the Manitoba Maples



Photo C: Showing root system of a Manitoba Maple undermining the foundation of the existing building as well as the existing retaining wall.



Photo D: Showing Cedar hedge (trees nos. 9-13) to remain



Photo E: Showing Cedar hedge (trees nos. 9-13) to remain



Photo F: Showing 3 White Spruce trees to remain and proximity to existing building.