

Arboricultural Inventory and Report

For:

City of New Westminster

Project:

Active Transportation Network Plan (ATNP)

Year 2 Improvements

To be submitted with Tree Management Plans
dated May 5, 2026.

Submitted to:

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Date: September 8, 2025

Updated: May 5, 2026

Submitted by:



The following Diamond Head Consulting staff conducted the on-site tree inventory and prepared or reviewed the report.

All general and professional liability insurance and staff accreditations are provided below for reference.

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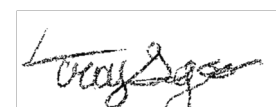
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Scope of Assignment:

Diamond Head Consulting Ltd. (DHC) was retained to complete an arboricultural assessment to supplement the Active Transportation Network Plan (ATNP) Year 2 Improvements project. This report contains an inventory of trees and summarizes management recommendations with respect to future construction activities. The approximate location and general health of off-site trees are included, as a limited assessment, because there is a legal obligation to protect them. This report is produced with the following primary limitations, detailed limitations specified in Appendix 7:

- 1) Our investigation is based solely on visual inspection of the trees during our last site visit. This inspection is conducted from ground level. We do not conduct aerial inspections, soil tests or below grade root examinations to assess the condition of tree root systems unless specifically contracted to do so.
- 2) Unless otherwise stated, tree risk assessments in this report are limited to trees with a *high* or *extreme* risk rating in their current condition, and in context of their surrounding land use at the time of assessment. The time frame for assessment of the likelihood of failure is 2 years.
- 3) The scope of work is primarily decided by site boundaries. Only trees specified in the scope of work were inventoried.
- 4) Beyond six months or if there are significant changes to the site or to the trees, from the date of this report, the client must contact DHC to confirm its validity because site base plans and tree conditions may change beyond the original report's scope. Added site visits and report revisions may be needed after this point to ensure report accuracy for the municipality's development permit application process. Site visits and reporting needed after the first submission are not included within the original proposal fee and will be charged to the client at an additional cost.

The client is responsible for:

- Obtaining a tree removal permit from the relevant authority prior to any tree cutting.
- Reviewing this report to understand and implement all tree **risk**, removal and protection requirements related to the project.
- Understanding that we have shown trees along the outskirts of the property boundary but not shrubs or other material that could be impacted by your contractors working at your property. The trees we have located are approximate locations and a legal survey is required to determine proper ownership of a tree. It is your responsibility to ensure that all plant material that may have roots passing property lines are protected.
- Obtaining relevant permission from adjacent property owners before removing off-site trees and vegetation.
- Obtaining a timber mark if logs are being transported offsite.
- Ensuring the project is compliant with the tree permit conditions.
- Constructing and maintaining tree protection fencing.
- Ensuring an arborist is present onsite to supervise any works in or near tree protection zones.
- Ensuring they (the client) carry out the risk mitigation recommendations in a reasonable time frame as noted in the Risk Rating Matrices Appendix.

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1.0 Introduction

1.1 Site Overview

The subject site consists of sections of various neighbourhood streets of New Westminster, including a long stretch of London Street from 10th to 23rd street, 8th St between Dublin and 8th Ave, 13th St from London St to 4th Ave, 10th St from 8th Ave and 7th Ave, Moody Park pedestrian pathway from 10th St to 6th Ave, 9th St from 6th Ave to 5th Ave, and 8th St from Milton to Columbia St. The proposed project works span approximately 7 km of roadway.

1.2 Proposed Works

The proposed project consists of the installation of new road infrastructure, including bike lanes, bike lane on/off ramps, sidewalk extensions, and speed bumps, to support the development of New Westminster's Active transportation network. In preparing this report, we reviewed the following information:

- CAD file titled '1274007601 - Aerial Traced Base for export', provided by client.
- CAD file titled 'ATNP Year 2 - Bundle 1 Updated Design', provided by client.

1.3 Report Objective

This report has been prepared to ensure the proposed project is compliant with the City of New Westminster's Tree Protection and Regulation Bylaw No. 7799, 2016. Refer to Bylaw 7799 for the complete definition of protected trees, summarized below as:

- Trees with a stem diameter at breast height (DBH, measured at 1.3 m above grade) of 20 cm or greater, measured for a single stem or, for multi-stemmed trees, the sum of all squared stem DBHs rounded to the nearest centimeter (e.g., $\sqrt{DBH1^2 + DBH2^2 + DBH3^2}$);
- A tree or shrub of any size on City-owned or occupied land;
- A replacement tree or a tree retained as part of a tree permit;
- A specimen tree (DBH greater than 60 cm); and
- A tree with evidence of nesting by a "bird" defined in the *Wildlife Act*.

Additionally, neighbouring trees with a tree protection zone that extends into the subject site have been captured in the arborist report.

2.0 Process and Methods

Nick Mantegna and Troy Sgro of DHC visited the site on August 21-22, 25-26, 2025. The following methods and standards are used throughout this report.

2.1 Tree Inventory

Trees on site and trees shared with adjacent properties were marked with a numbered tag and assessed for attributes including species; height measured to the nearest meter; and diameter at breast height (DBH) measured to the nearest centimeter at 1.4 m above grade. Off-site trees were inventoried but not tagged. The general health and structural integrity of each tree was assessed visually and assigned to one of five categories: *excellent*; *good*; *moderate*; *poor*; or *dying/dead*. Descriptions of the health and structure rating criteria are given in Appendix 3.

Tree retention value, categorized as *high*, *medium*, *low*, or *nil*, was assigned to each tree or group of trees based on their health and structure rating, and potential longevity in a developed environment. Descriptions of the retention value ratings are given in Appendix 4. Recommendations for tree retention or removal were determined by taking in to account a tree's retention value rating, its location in relation to proposed building envelopes and development infrastructure.

2.2 Tree Risk Assessment

Tree risk assessments were completed following methods of the ISA Tree Risk Assessment Manual¹ published in 2013 by the International Society of Arboriculture, which is the current industry standard for assessing tree risk. This methodology assigns risk based on the likelihood of failure, the likelihood of impact and the severity of consequence if a failure occurs. Only on-site hazard trees that had *high* or *extreme* risk ratings in their current condition and in context of their surrounding land use were identified and reported in section 3.2. Appendix 5 gives the likelihood and risk rating matrices used to categorize tree risk. DHC recommends that on-site trees be re-assessed for risk after the site conditions change (e.g. after damaging weather events, site disturbance from construction, creation of new targets during construction or in the final developed landscape).

2.3 Tree Protection and Replacement

Tree protection zones were calculated for each tree according to Bylaw 7799's Tree Protection Barrier minimum protection distance of 6 x DBH but may be modified based on professional judgement of the project arborist to accommodate species specific tolerances and site-specific growing conditions.

The number of replacement trees has been calculated based on the number of protected trees removed and their species according to the specifications in Bylaw 7799.

¹ Dunster, J.A., Smiley, E.T., Matheny, N. and Lilly, S. (2013). Tree Risk Assessment Manual. *International Society of Arboriculture*. Champaign, Illinois.

3.0 Findings: Tree Inventory and Risk Assessment

3.1 Tree Inventory

The complete tree inventory is given in Appendix 1.

City Trees

One hundred and eighty-nine (189) City trees were inventoried. Of these trees, 32 are proposed for removal to accommodate the proposed site plan, and 157 are recommended for retention.

Trees Off-site

Twenty-one (21) off-site trees were inventoried, all of which are recommended for retention.

3.2 Tree Risk Assessment

There were no trees on this site that posed a *high* or *extreme* risk at the time of assessment. However, tree City111 we have identified as a moderate risk tree and recommend it be removed (please refer to Appendix 1 for further details).

4.0 Tree Replacement

The City of New Westminster requires tree replacements for trees that are removed. Table 1 summarizes the anticipated tree replacement requirements based on the number of trees planned for removal.

Table 1. Tree replacement summary.

	Protected trees to be removed @ 2:1	Hazardous trees to be removed @1:1	Required tree replacements*
City	32 x 2 = 40	0 x 1 = 0	64
Total replacements			64 x 6 cm caliper deciduous or 3 m tall coniferous

5.0 Discussion and Summary

Tree Protection Fencing

- **Tree protection fencing (TPF) requirements are to be finalized in consultation with the City of New Westminster; locations and specifications may be adjusted under arborist direction.**
- TPF can be adjusted with arborist supervision and direction.

Tree Retention

- All work within or 1.5 m of Tree Protection Zones (TPZs) - including hardscape removal, replacement, and curb work - must be conducted under arborist supervision.
- Existing sub-bases within TPZs should be retained where possible.
- MUP installation within TPZs is to use zero-excavation, low-impact, above-grade methods under arborist supervision, with flexible alignment to avoid trunks and surface roots and maximize setback from tree bases.
 - Ground preparation may include selective removal of loose organics under arborist direction.
 - Use an aerated sub-base (minimum 15 cm of 19 mm clear crush) with Nilex 4545 non-woven geotextile beneath to reduce compaction and prevent leachate.
 - Fill within TPZs should not exceed 10 cm.
- Speed bumps are to be installed within existing road extents, with curbs in TPZs left undisturbed.
- New signposts within TPZs must be hand-dug under arborist supervision, with flexible placement to avoid root conflicts.
- Any pruning required must be conducted by an ISA-certified arborist using ANSI A300 pruning standards.

Appendix 1 Complete Tree Inventory Table

The complete tree inventory below contains information on tree attributes and recommendations for removal or retention. Tree ownership in this inventory table is not definitive, its determination here is based on information available from the legal site survey, GPS locations, and field assessment during site visits. Tree Protection Zones are measured from the outer edge of a tree's stem. If using these measurements for mapping the tree protection zone, ½ the tree's diameter must be added to the distance to accommodate a survey point at the tree's center. Where tree protection fencing is proposed to vary from the minimum municipal TPZ, comments will be included in the Retention/TPZ comments and shown on the Tree Management Plans.

*TPZ is the tree protection zone size required by the relevant municipal bylaw or, if not defined, the project arborist.

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City001	City	Yellow Cedar	<i>Cupressus nootkatensis</i>	32	7	2	Good	Growing in mowed boulevard. Appears healthy.	High	Retain	Protect and retain per TMP.	2
No	City002	City	Douglas-Fir	<i>Pseudotsuga menziesii</i>	33	10	2	Good	Growing in mowed boulevard. Appears healthy. Dense crown.	High	Retain	Protect and retain per TMP.	2
No	City003	City	Norway Maple	<i>Acer platanoides</i>	25	10	4	Moderate	Single stem growing under hydro lines.	Medium	Retain	Protect and retain per TMP.	2
No	City004	City	Horsechestnut	<i>Aesculus hippocastanum</i>	72	23	7	Moderate	Multistem from 1.5m. Good vigor. Historic clearance prune for hydro.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	4.32

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City005	City	European Ash	<i>Fraxinus excelsior f. 'diversifolia'</i>	35	20	5	Good	Open grown in grass boulevard. Full symmetrical crown with good vigour.	High	Remove	Conflicts with proposed civil works. Must receive permission from City prior to removal.	2.1
No	City006	City	English Walnut	<i>Juglans regia</i>	6	2	1	Good	Planted in grass boulevard.	High	Remove	Conflicts with proposed civil works. Must receive permission from City prior to removal.	2
No	City007	City	Norway Maple	<i>Acer platanoides</i>	38	13	4	Moderate	Growing in boulevard. Minor dieback in crown. Minor wound on the trunk.	Medium	Retain	Protect and retain per TMP.	2.28
No	City008	City	Norway Maple	<i>Acer platanoides</i>	37	17	4	Good	Growing at corner of boulevard. Symmetrical crown.	High	Retain	Protect and retain per TMP.	2.22
No	City009	City	Japanese Maple	<i>Acer palmatum</i>	10	2	1	Good	Open grown in grass boulevard. Full symmetrical crown with good vigour.	High	Retain	Protect and retain per TMP.	2
No	City010	City	Hawthorn	<i>Crataegus spp.</i>	7	4	1	Good	Growing in boulevard. Appears healthy.	High	Retain	Protect and retain per TMP.	2
No	City011	City	Japanese Maple	<i>Acer palmatum</i>	10	3	1	Good	Open grown in grass boulevard. Full symmetrical crown with good vigour.	High	Retain	Protect and retain per TMP.	2
Yes	City012	City	Fragrant Snowbell	<i>Styrax obassia</i>	20	4	2	Moderate	Open grown in retained garden bed. Overhead power lines.	Medium	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City013	City	Norway Maple	<i>Acer platanoides</i>	41	20	5	Moderate	Growing in grassy boulevard. Shallow roots with mower damage.	Medium	Retain	Protect and retain per TMP.	2.46
No	City014	City	Norway Maple	<i>Acer platanoides</i>	52	20	5	Moderate	Growing in grassy boulevard. Shallow roots with mower damage.	Medium	Retain	Protect and retain per TMP.	3.12
No	City015	City	Norway Maple	<i>Acer platanoides</i>	39	20	5	Moderate	Growing in grassy boulevard. Shallow roots with mower damage.	Medium	Retain	Protect and retain per TMP.	2.34
No	City016	City	Norway Maple	<i>Acer platanoides</i>	48	20	5	Moderate	Growing in grassy boulevard. Shallow roots with mower damage.	Medium	Retain	Protect and retain per TMP.	2.88
No	City017	City	Norway Maple	<i>Acer platanoides</i>	52	20	5	Poor	Growing in grassy boulevard. Considerable dieback in crown.	Low	Retain	Protect and retain per TMP.	3.12
No	City018	City	Deodar Cedar	<i>Cedrus deodara</i>	85	25	6	Moderate	Growing in grass lawn. Hydro wires through crown. Pruned for line clearance. Asymmetrical form.	Medium	Retain	Protect and retain per TMP.	5.1
No	City019	City	Flowering Dogwood	<i>Cornus florida</i>	85	12	6	Moderate	Growing in grass lawn. Hydro wires through crown. Pruned for line clearance. Asymmetrical form.	Medium	Retain	Protect and retain per TMP.	5.1
No	City020	City	Japanese Maple	<i>Acer palmatum</i>	25	5	2	Moderate	Open grown in grass lawn.	Medium	Retain	Protect and retain per TMP.	2
No	City021	City	Flowering Dogwood	<i>Cornus florida</i>	25	3	2	Moderate	Open grown in grass lawn.	Medium	Remove	Conflicts with proposed light post. Must receive permission from City prior to removal.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City022	City	Fir	<i>Abies spp.</i>	45	18	3	Moderate	Open grown in grass lawn. Multiple stems at base, dbh 15-24 cm each.	Medium	Remove	Conflicts with proposed light post. Must receive permission from City prior to removal.	2.7
No	City023	City	American Linden	<i>Tilia americana</i>	24	11	3	Good	Growing in boulevard. Single stem with full symmetrical crown.	High	Retain	Protect and retain per TMP.	2
No	City024	City	Red Maple	<i>Acer rubrum</i>	22	12	3	Moderate	Growing as pair. Asymmetrical crown.	Medium	Retain	Protect and retain per TMP.	2
No	City025	City	Red Maple	<i>Acer rubrum</i>	21	12	3	Moderate	Growing as pair. Asymmetrical crown.	Medium	Retain	Protect and retain per TMP.	2
Yes	City026	City	Foxglove tree	<i>Paulownia tomentosa</i>	52	21	7	Poor	Growing in grass boulevard next to sidewalk. Crown is in decline with moderate amount of deadwood.	Low	Retain	Protect and retain per TMP.	3.12
Yes	City027	City	Foxglove tree	<i>Paulownia tomentosa</i>	33	14	3	Poor	Growing in grass boulevard next to sidewalk. Crown is in decline with moderate amount of deadwood. Multiple wounds on trunk.	Low	Retain	Protect and retain per TMP.	2
No	City028	City	Pin Oak	<i>Quercus palustris</i>	26	13	3	Good	Growing in boulevard. Full crown.	High	Retain	Protect and retain per TMP.	2
No	City029	City	Red Maple	<i>Acer rubrum</i>	10	5	1	Moderate	Growing in boulevard. Multiple tops.	Medium	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City030	City	Eastern redbud	<i>Cercis canadensis</i>	18	6	2	Good	Growing in boulevard under power lines. Appears healthy.	High	Retain	Protect and retain per TMP.	2
No	City030a	City	Whitebeam	<i>Sorbus aria</i>	36	6	3	Moderate	Growing in grass boulevard between sidewalk and road. Multiple stems begin at 1.5 m.	Medium	Retain	Protect and retain per TMP.	2.16
No	City031	City	Hungarian Oak	<i>Quercus frainetto</i>	23	11	2	Good	Growing in grass boulevard. Full crown.	High	Retain	Protect and retain per TMP.	2
No	City032	City	Hungarian Oak	<i>Quercus frainetto</i>	66	23	6	Good	Growing in grass boulevard. Full crown.	High	Retain	Protect and retain per TMP.	3.96
No	City033	City	Trident Maple	<i>Acer buergerianum</i>	20	10	3	Good	Open grown in grass lawn between sidewalk and road. Full symmetrical crown.	High	Retain	Protect and retain per TMP.	2
No	City034	City	Lilac	<i>Syringa reticulata</i>	8	2	1	Moderate	Open grown in grass lawn between sidewalk and road. Full symmetrical crown.	Medium	Retain	Protect and retain per TMP.	2
No	City035	City	Colorado Blue Spruce	<i>Picea pungens</i>	26	10	2	Moderate	Growing in grassy boulevard. Codominant at 3m.	Medium	Retain	Protect and retain per TMP.	2
No	City036	City	Norway Maple	<i>Acer platanoides</i>	38	16	4	Good	Open grown in grassy boulevard. Dense crown.	High	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2.28

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City037	City	Norway Maple	<i>Acer platanoides</i>	40	18	5	Good	Growing in grassy boulevard. Full dense crown. Epicormic growth at base.	High	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2.4
No	City038	City	Norway Maple	<i>Acer platanoides</i>	44	22	7	Moderate	Open grown in grass lawn between sidewalk and road. Asymmetrical crown that extends over road. Pruned for hydro clearance. Unions begin at 2 m.	Medium	Retain	Protect and retain per TMP.	2.64
No	City039	City	Chokecherry	<i>Prunus virginiana</i>	21	7	2	Poor	Growing in a curb extension planter. Approx 60% live crown. Considerable deadwood.	Low	Retain	Protect and retain per TMP.	2
No	City040	City	Horsechestnut	<i>Aesculus hippocastanum</i>	26	10	4	Good	Growing in grassy boulevard. Full symmetrical crown.	High	Retain	Protect and retain per TMP.	2
No	City041	City	Japanese Maple	<i>Acer palmatum</i>	8	2	1	Moderate	Open grown in grass boulevard.	Medium	Remove	Conflicts with proposed parking. Must receive permission from City prior to removal.	2
No	City042	City	Japanese Cherry	<i>Prunus serrulata</i>	37	8	8	Poor	Open grown in grass boulevard. Low vigour. Wide spreading asymmetrical crown extends over road.	Low	Retain	Protect and retain per TMP.	2.22
No	City043	City	Japanese Cherry	<i>Prunus serrulata</i>	53	8	8	Moderate	Open grown in grass boulevard. Wide spreading asymmetrical crown extends over road.	Medium	Retain	Protect and retain per TMP.	3.18

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City044	City	Japanese Cherry	<i>Prunus serrulata</i>	60	8	12	Moderate	Open grown in grass boulevard. Wide spreading asymmetrical crown extends over road.	Medium	Retain	Protect and retain per TMP.	3.6
No	City045	City	Japanese Cherry	<i>Prunus serrulata</i>	67	8	7	Moderate	Open grown in grass boulevard. Wide spreading asymmetrical crown extends over road.	Medium	Retain	Protect and retain per TMP.	4.02
No	City046	City	Japanese Cherry	<i>Prunus serrulata</i>	43	8	7	Moderate	Open grown in grass boulevard. Wide spreading asymmetrical crown extends over road.	Medium	Retain	Protect and retain per TMP.	2.58
No	City047	City	Norway Spruce	<i>Picea abies</i>	28	14	1	Moderate	Single straight stem with moderate vigour.	Medium	Retain	Protect and retain per TMP.	2
No	City048	City	Japanese Cherry	<i>Prunus serrulata</i>	45	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped. Wide spreading asymmetrical crown extends over road.	Medium	Retain	Protect and retain per TMP.	2.7
No	City049	City	Japanese Cherry	<i>Prunus serrulata</i>	43	8	7	Moderate	Open grown in grass lawn next to pathway. Pruned for hydro clearance. Low vigour.	Medium	Retain	Protect and retain per TMP.	2.58
No	City050	City	Japanese Cherry	<i>Prunus serrulata</i>	44	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped.	Medium	Retain	Protect and retain per TMP.	2.64
No	City051	City	Japanese Cherry	<i>Prunus serrulata</i>	45	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped.	Medium	Retain	Protect and retain per TMP.	2.7
No	City052	City	Japanese Cherry	<i>Prunus serrulata</i>	45	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped.	Medium	Retain	Protect and retain per TMP.	2.7

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City053	City	Japanese Cherry	<i>Prunus serrulata</i>	39	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped.	Medium	Retain	Protect and retain per TMP.	2.34
No	City054	City	Japanese Cherry	<i>Prunus serrulata</i>	45	8	7	Poor	Open grown in grass boulevard. Low vigour. Historically topped.	Low	Retain	Protect and retain per TMP.	2.7
No	City055	City	Norway Spruce	<i>Picea abies</i>	26	12	1	Poor	Topped at 8 m. Asymmetrical crown.	Low	Retain	Protect and retain per TMP.	2
No	City056	City	Japanese Cherry	<i>Prunus serrulata</i>	76	8	7	Moderate	Open grown in grass boulevard. Moderate vigour. Historically topped.	Medium	Retain	Protect and retain per TMP.	4.56
No	City057	City	Persian Ironwood	<i>Parrotia persica</i>	18	3	1	Moderate	Growing in grassy boulevard. Crown has been sheered into egg shape.	Medium	Retain	Protect and retain per TMP.	2
No	City058	City	Sweetgum/ Liquidambar	<i>Liquidambar styraciflua</i>	4	3	1	Good	Recently planted in boulevard. Appears healthy.	High	Retain	Protect and retain per TMP.	2
Yes	City059	City	Willow Oak	<i>Quercus phellos</i>	31	14	4	Moderate	Growing in grassy boulevard. Multiple tops. Moderate vigor.	Medium	Remove	Conflicts with proposed civil works. Must receive permission from City prior to removal.	2
Yes	City060	City	Hornbeam	<i>Carpinus betulus</i>	74	11	7	Moderate	Growing in boulevard. Multiple stems from 1m. Sprawling crown. Topped for hydro.	Medium	Retain	Protect and retain per TMP.	4.44
Yes	City061	City	Hornbeam	<i>Carpinus betulus</i>	59	9	7	Moderate	Growing in boulevard. Multiple stems from 1.7m. Sprawling crown. Topped for hydro.	Medium	Retain	Protect and retain per TMP.	3.54

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City062	City	Hornbeam	<i>Carpinus betulus</i>	45	9	7	Moderate	Growing in boulevard. Multiple stems from 2m. Sprawling crown. Topped for hydro.	Medium	Retain	Protect and retain per TMP.	2.7
Yes	City063	City	Hornbeam	<i>Carpinus betulus</i>	81	10	7	Moderate	Growing in boulevard. Multiple stems from 1m. Sprawling crown. Topped for hydro.	Medium	Retain	Protect and retain per TMP.	4.86
Yes	City064	City	Dawn Redwood	<i>Metasequoia glyptostroboides</i>	131	28	8	Good	Growing in grassy park. Bulging at base. Full symmetrical crown.	High	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	7.86
Yes	City065	City	Dawn Redwood	<i>Metasequoia glyptostroboides</i>	134	28	8	Good	Growing in grassy park. Bulging at base. Full symmetrical crown. One perpendicular structural root starting to girdle.	High	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	8.04
Yes	City066	City	Field Maple	<i>Acer campestre</i>	31	15	3	Good	Growing in grassy park area. Full symmetrical crown.	High	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2
Yes	City067	City	Dawn Redwood	<i>Metasequoia glyptostroboides</i>	35	15	3	Moderate	Growing in grassy park area. Moderate vigor and symmetrical crown.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2.1

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City068	City	Field Maple	<i>Acer campestre</i>	24	15	3	Moderate	Growing in grassy park area. symmetrical crown. Multiple tops.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2
No	City069	City	Black Locust	<i>Robinia pseudoacacia</i>	78	6	6	Poor	Growing in landscape planter. Topped for hydro. Low vigor. Approx 60% live crown. Multistem from 1.2m. DBH 26x3.	Low	Retain	Protect and retain per TMP.	4.68
Yes	City070	City	Loquat Oak	<i>Quercus rysophylla</i>	37	15	4	Moderate	Growing in landscape planter. Support present. Codominant tops at 10m. Full crown. Significant historic damage at base with moderate reaction wood.	Medium	Retain	Protect and retain per TMP.	2.22
No	City071	City	Black Locust	<i>Robinia pseudoacacia</i>	29	8	5	Moderate	Growing in boulevard underneath powerline. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2
Yes	City072	City	Norway Maple	<i>Acer platanoides</i>	61	12	6	Good	Growing in grassy park. Symmetrical crown. Appears healthy.	High	Retain	Protect and retain per TMP.	3.66
Yes	City073	City	Horsechestnut	<i>Aesculus hippocastanum</i>	50	12	4	Good	Growing in grassy park adjacent to pool. Full symmetrical crown.	High	Retain	Protect and retain per TMP.	3
Yes	City074	City	Honey Locust	<i>Gleditsia triacanthos</i>	5	5	1	Poor	Recently planted in park. Support and mulch present. Considerable deadwood. Tree is not adapting well to new environment.	Low	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City075	City	Swamp white oak	<i>Quercus bicolor</i>	5	5	1	Poor	Recently planted in park. Support, irrigation and mulch present. Considerable deadwood. Tree is not adapting well to new environment.	Low	Retain	Protect and retain per TMP.	2
Yes	City076	City	Persian Ironwood	<i>Parrotia persica</i>	6	4	1	Good	Recently planted in park. Support, irrigation and mulch present. Full crown.	High	Retain	Protect and retain per TMP.	2
Yes	City077	City	Persian Ironwood	<i>Parrotia persica</i>	5	4	1	Good	Recently planted in park. Support, irrigation and mulch present. Full crown.	High	Retain	Protect and retain per TMP.	2
No	City078	City	Big-Leaf Maple	<i>Acer macrophyllum</i>	84	20	5	Poor	Growing in grassy park. Tree has been topped and has a history of crown reduction heading cuts. A deadwood column extends from base to one scaffold branch.	Low	Retain	Protect and retain per TMP.	5.04
No	City079	City	Horsechestnut	<i>Aesculus hippocastanum</i>	47	12	4	Moderate	Growing 20cm from adjacent pathway. Tree has 30 degree lean west. Crown appears healthy.	Medium	Retain	Protect and retain per TMP.	2.82
Yes	City080	City	Norway Spruce	<i>Picea abies</i>	37	18	3	Good	Single stem with full symmetrical crown. Heavy resinosis on trunk.	High	Retain	Protect and retain per TMP.	2.22
Yes	City081	City	Norway Spruce	<i>Picea abies</i>	49	20	3	Good	Single stem with full symmetrical crown. Heavy resinosis on trunk.	High	Retain	Protect and retain per TMP.	2.94
Yes	City082	City	Persian Ironwood	<i>Parrotia persica</i>	6	4	1	Good	Recently planted in park. Support, irrigation and mulch present. Full crown.	High	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City083	City	Honey Locust	<i>Gleditsia triacanthos</i>	6	5	2	Poor	Recently planted in park. Support, irrigation and mulch present. Considerable deadwood. Tree is not adapting well to new environment.	Low	Retain	Protect and retain per TMP.	2
Yes	City084	City	Swamp White Oak	<i>Quercus bicolor</i>	5	4	1	Moderate	Recently planted with support, irrigation and mulch present. Moderate vigor.	Medium	Retain	Protect and retain per TMP.	2
Yes	City085	City	Honey Locust	<i>Gleditsia triacanthos</i>	5	5	2	Poor	Recently planted in park. Support, irrigation and mulch present. Considerable deadwood. Tree is not adapting well to new environment.	Low	Retain	Protect and retain per TMP.	2
Yes	City086	City	Douglas-Fir	<i>Pseudotsuga menziesii</i>	52	24	5	Excellent	Open grown in grassy park. Single straight stem with full symmetrical crown.	High	Retain	Protect and retain per TMP.	3.12
Yes	City087	City	Yellow Cedar	<i>Cupressus nootkatensis</i>	90	19	5	Moderate	Open grown in grassy park. Good vigor. Secondary stems from base included in DBH. DBH 47+22+21.	Medium	Retain	MUP to be built on existing grade using low-impact methods.	5.4
Yes	City088	City	Western Red Cedar	<i>Thuja plicata</i>	66	17	4	Moderate	Open grown in grassy park. Numerous competing leaders throughout crown. Good vigor.	Medium	Retain	MUP to be built on existing grade using low-impact methods.	3.96
Yes	City089	City	Scots Pine	<i>Pinus sylvestris</i>	32	10	4	Good	Full crown extending to base. Flat top, typical of species profile.	High	Retain	Protect and retain per TMP.	2
Yes	City090	City	Persian Ironwood	<i>Parrotia persica</i>	5	4	1	Good	Recently planted in park. Support irrigation and mulch present. Appears healthy.	High	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City091	City	Persian Ironwood	<i>Parrotia persica</i>	6	4	1	Good	Recently planted in park. Support irrigation and mulch present. Appears healthy.	High	Retain	Protect and retain per TMP.	2
Yes	City092	City	Honey Locust	<i>Gleditsia triacanthos</i>	5	4	1	Poor	Recently planted in park. Support irrigation and mulch present. Girdling root at base. Low vigor.	Low	Retain	Protect and retain per TMP.	2
Yes	City093	City	Western Red Cedar	<i>Thuja plicata</i>	87	18	4	Moderate	Open grown. Dense crown. Codominant from base. DBH 60+27.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	5.22
No	City094	City	Field Maple	<i>Acer campestre</i>	34	10	6	Excellent	Open grown in park. Full symmetrical crown with good structure.	High	Retain	Protect and retain per TMP.	2.04
Yes	City095	City	English Holly	<i>Ilex aquifolium</i>	32	6	2	Poor	Growing within 2m of path. Multistem from base with acute unions. Dieback in crown.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	2
Yes	City096	City	English Holly	<i>Ilex aquifolium</i>	47	11	3	Poor	Growing within 2m of path. Multistem from base with acute unions and inclusion. Dieback in crown.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	2.82

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City097	City	English Holly	<i>Ilex aquifolium</i>	51	10	3	Poor	Growing within 2m of path. Multistem from base with acute unions and inclusion. Dieback in crown.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	3.06
Yes	City098	City	English Holly	<i>Ilex aquifolium</i>	30	7	3	Poor	Growing within 2m of path. Multistem from base with acute unions and inclusion. Appears to have been topped.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	2
Yes	City099	City	English Holly	<i>Ilex aquifolium</i>	39	10	3	Poor	Growing within 2m of path. Multistem from base with acute unions and inclusion. Dense crown extending to base.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	2.34
No	City100	City	Douglas-Fir	<i>Pseudotsuga menziesii</i>	99	30	7	Poor	Open grown in park. Top appears to have historically broken at 20m with competing leaders as a result. Good vigor. Moderate resinosis on trunk.	Low	Retain	Protect and retain per TMP.	5.94
Yes	City101	City	Sawara Cypress	<i>Chamaecyparis pisifera</i>	81	27	3	Moderate	Open grown in park. Codominant at 2m with a bulging, sound inclusion. Full crown extending to base.	Medium	Retain	Protect and retain per TMP.	4.86

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City102	City	Persian Ironwood	<i>Parrotia persica</i>	6	5	1	Good	Recently planted with support irrigation and mulch present. Appears healthy.	High	Retain	Protect and retain per TMP.	2
Yes	City102a	City	Swamp White Oak	<i>Quercus bicolor</i>	5	4	1	Moderate	Recently planted with support irrigation and mulch present. Moderate vigor. Broken branch.	Medium	Retain	Protect and retain per TMP.	2
Yes	City103	City	Persian Ironwood	<i>Parrotia persica</i>	6	4	1	Moderate	Recently planted with support irrigation and mulch present. Moderate vigor. Competing leaders.	Medium	Retain	Protect and retain per TMP.	2
Yes	City104	City	Honey Locust	<i>Gleditsia triacanthos</i>	6	5	2	Moderate	Recently planted with support irrigation and mulch present. Moderate vigor.	Medium	Retain	Protect and retain per TMP.	2
Yes	City105	City	Swamp White Oak	<i>Quercus bicolor</i>	4	4	2	Moderate	Recently planted with support irrigation and mulch present. Moderate vigor.	Medium	Retain	Protect and retain per TMP.	2
Yes	City106	City	Honey Locust	<i>Gleditsia triacanthos</i>	6	4	2	Moderate	Recently planted with support irrigation and mulch present. Moderate vigor.	Medium	Retain	Protect and retain per TMP.	2
Yes	City107	City	English Holly	<i>Ilex aquifolium</i>	36	8	2	Poor	Growing within 2m of path. Multistem from 1m with acute unions and inclusion. Dieback in upper crown.	Low	Remove	Due to its existing condition and invasive species profile. Must receive permission from City prior to removal.	2.16

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City108	City	English Holly	<i>Ilex aquifolium</i>	40	7	2	Poor	Growing within 2m of path. Multistem from 1m with acute unions and inclusion. Dieback in upper crown.	Low	Remove	Conflicts with proposed MUP. Must receive permission from City prior to removal.	2.4
Yes	City109	City	English Holly	<i>Ilex aquifolium</i>	28	9	2	Poor	Growing within 2m of path. Codominant at 2m. Low vigor.	Low	Remove	Conflicts with proposed MUP. Must receive permission from City prior to removal.	2
Yes	City110	City	English Holly	<i>Ilex aquifolium</i>	41	11	2	Poor	Growing within 2m of path. Codominant at 1.5m with acute union and inclusion.	Low	Remove	Conflicts with proposed MUP. Must receive permission from City prior to removal.	2.46

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City111	City	Big-Leaf Maple	<i>Acer macrophyllum</i>	93	24	11	Moderate	Edge of stem is growing approximately 1.5m from existing path. Tree is mature and has a history of large pruning wounds of first order branches. One structural branch overhanging walkway has a historic tear out. In the tear out is a cavity- arborist observed a northern flicker inside the cavity. The branch is structurally compromised. Structural branch failure is probable, targets people. Risk moderate. One other structural branch has a column of decay with moderate reaction wood.	Medium	Remove	Structural branch failure is probable within the next two years. Tree also conflicts with proposed MUP. Removal recommended. Must receive permission from City prior to removal.	5.58
Yes	City112	City	Big-Leaf Maple	<i>Acer macrophyllum</i>	101	19	10	Poor	Growing approx 1m from existing path. Historically topped with Epicormic growth. Sprawling crown. Conflicts with path widening. Constrained roots are cracking the existing walkway.	Low	Retain	Protect and retain per TMP.	6.06
No	City113	City	English Holly	<i>Ilex aquifolium</i>	4	2	1	Poor	Appears to be a stump with vigorous Epicormic growth.	Low	Remove	Conflicts with proposed MUP. Must receive permission from City prior to removal.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City114	City	English Holly	<i>Ilex aquifolium</i>	17	4	1	Poor	Growing within 2m of existing pathway. Supressed.	Low	Remove	Conflicts with proposed MUP. Must receive permission from City prior to removal. If permission is received, stump is recommended to be ground under arborist supervision.	2
Yes	City115	City	Horsechestnut	<i>Aesculus hippocastanum</i>	50	16	6	Moderate	Growing at edge of park. Spiral grain at trunk. Large pruning wound of structural branch at 2m. Vigorous crown. Minor wounds throughout trunk with reaction wood.	Medium	Retain	Protect and retain per TMP.	3
No	City116	City	Horsechestnut	<i>Aesculus hippocastanum</i>	54	22	4	Moderate	Growing at edge of park. Historically headed for hydro. Healthy top.	Medium	Retain	Protect and retain per TMP.	3.24
No	City117	City	Eastern Redbud	<i>Cercis canadensis</i>	14	3	2	Moderate	Growing in boulevard underneath Powerline. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2
No	City118	City	European Beech	<i>Fagus sylvatica</i>	4	3	1	Poor	Growing in grassy area. Confirm ownership. Drought stress. Low vigor.	Low	Retain	Protect and retain per TMP.	2
No	City119	City	Pin Oak	<i>Quercus palustris</i>	23	11	4	Moderate	Growing in grassy boulevard. Good vigor. Multiple tops.	Medium	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City120	City	Pin Oak	<i>Quercus palustris</i>	27	13	3	Good	Growing in boulevard. Tree appears healthy. Existing tree protection fencing as of August 2025.	High	Retain	Protect and retain per TMP.	2
No	City121	City	Norway Maple	<i>Acer platanoides</i>	33	19	4	Good	Growing in boulevard. Appears healthy. Proposed speed bump sign in root zone.	High	Retain	Protect and retain per TMP.	2
No	City122	City	Eastern Redbud	<i>Cercis canadensis</i>	29	10	3	Moderate	Growing in boulevard. Powerline in canopy. Proposed speed bump sign near root zone.	Medium	Retain	Protect and retain per TMP.	2
No	City123	City	Kousa Dogwood	<i>Cornus kousa</i>	4	2	1	Good	Growing in boulevard. Proposed speed bump signing conflicts. Move sign out of root zone.	High	Retain	Protect and retain per TMP.	2
Yes	City124	Off-Site	Norway Maple	<i>Acer platanoides</i>	92	23	7	Good	Growing in grassy area. Full, sprawling crown. High value shade tree.	High	Retain	Protect and retain per TMP.	5.52
Yes	City125	City	Japanese Cherry	<i>Prunus serrulata</i>	40	6	3	Moderate	Growing in grassy area. Previously tagged 0731 by DHC. Asymmetric crown.	Medium	Retain	Protect and retain per TMP.	2.4
Yes	City126	Off-Site	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	38	15	2	Poor	Growing in grassy area. Codominant at 4m with acute union and crack beginning to form in inclusion. Crown appears healthy. Previously tagged 0733 by DHC.	Low	Retain	Protect and retain per TMP.	2.28
Yes	City127	Off-Site	Lawson Cypress	<i>Chamaecyparis lawsoniana</i>	44	15	2	Moderate	Growing in grassy area. Multistem at 4m with sound unions. Crown appears healthy. Previously tagged 0732 by DHC.	Medium	Retain	Protect and retain per TMP.	2.64

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City128	City	Ginko	<i>Ginko biloba</i>	5	3	1	Good	Growing in boulevard. Appears healthy.	High	Retain	Protect and retain per TMP.	2
Yes	City129	City	American Hophornbeam	<i>Ostrya virginiana</i>	6	5	1	Good	Growing in boulevard. Appears healthy.	High	Retain	Protect and retain per TMP.	2
Yes	City130	City	Japanese Zelkova	<i>Zelkova serrata</i>	10	5	2	Good	Growing in boulevard. Full symmetrical crown.	High	Retain	Protect and retain per TMP.	2
Yes	City131	City	Bur Oak	<i>Quercus macrocarpa</i>	8	6	2	Moderate	Growing in boulevard. Gator bag present. Upper crown is bowed east.	Medium	Retain	Protect and retain per TMP.	2
Yes	City132	City	Japanese Zelkova	<i>Zelkova serrata</i>	11	5	2	Good	Growing in boulevard. Full symmetrical crown.	High	Retain	Protect and retain per TMP.	2
Yes	City132a	City	English Holly	<i>Ilex aquifolium</i>	42	7	3	Poor	Growing in park. Multistem from base with crown extending to base. Supressed by adjacent tree.	Low	Retain	Protect and retain per TMP.	2.52
Yes	City133	City	Red Maple	<i>Acer rubrum</i>	10	6	2	Moderate	Growing in grassy area. Previously tagged 069. Moderate vigor.	Medium	Retain	Protect and retain per TMP.	2
Yes	City133a	City	Red Oak	<i>Quercus rubra</i>	110	30	6	Good	Growing in grassy park. Good form considering size of tree. Minor deadwood in crown. Multistem at 3 with seams extending from union to base. Previously tagged 083 in field. Likely conflicting with proposed MUP.	High	Retain	Protect and retain per TMP.	6.6

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City134	City	Red Oak	<i>Quercus rubra</i>	130	28	15	Good	Growing in grassy park. Good form considering size of tree. Minor deadwood in crown. Multistem at 2m with seams extending from union to base. Previously tagged 0823 in field. Likely conflicting with proposed MUP. One scaffold branch extends approx 15m west.	High	Retain	Protect and retain per TMP.	7.8
Yes	City135	City	Red Oak	<i>Quercus rubra</i>	76	22	8	Moderate	Growing in grassy park. Minor deadwood in crown. Codominant at 2m U shaped union. Previously tagged 0822 in field. Likely conflicting with proposed MUP.	Medium	Retain	Protect and retain per TMP.	4.56
Yes	City136	City	Red Oak	<i>Quercus rubra</i>	123	30	11	Moderate	Growing in grassy park. Considerable deadwood in crown. Moderate to poor overall structure-large seams and sinuses 8m from multiple tops to base. Moderate vigor. Heavy asymmetric growth south. Relying on neighbours for stability.	Medium	Retain	Protect and retain per TMP.	7.38
No	City137	City	Red Maple	<i>Acer rubrum</i>	54	20	4	Moderate	Growing in highly constrained sidewalk cutout. Moderate health and vigor. Ensure curb remains in design.	Medium	Retain	Protect and retain per TMP.	3.24
No	City138	City	Red Maple	<i>Acer rubrum</i>	43	16	3	Poor	Growing in highly constrained sidewalk cutout. Approx 60% live crown. Ensure curb remains in design.	Low	Retain	Protect and retain per TMP.	2.58

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City139	City	Red Maple	<i>Acer rubrum</i>	41	20	4	Moderate	Growing in highly constrained sidewalk cutout. Moderate health and vigor. Ensure curb remains in design.	Medium	Retain	Protect and retain per TMP.	2.46
No	City140	City	Red Maple	<i>Acer rubrum</i>	53	20	4	Moderate	Growing in highly constrained sidewalk cutout. Notable dieback in crown. On the verge of poor condition. Ensure curb remains in design.	Medium	Remove	In conflict with the proposed lightpost.	3.18
No	City141	City	Red Maple	<i>Acer rubrum</i>	54	20	4	Moderate	Growing in highly constrained sidewalk cutout. Moderate health and vigor. Ensure curb remains in design.	Medium	Retain	Protect and retain per TMP.	3.24
No	City142	City	Red Maple	<i>Acer rubrum</i>	36	17	4	Moderate	Growing in highly constrained sidewalk cutout. Moderate health and vigor. Ensure curb remains in design.	Medium	Retain	Protect and retain per TMP.	2.16
No	City143	City	Pin Oak	<i>Quercus palustris</i>	13	7	1	Moderate	Growing in grated sidewalk cutout. Fastigate form. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2
No	City144	City	Pin Oak	<i>Quercus palustris</i>	13	6	1	Poor	Growing in grated sidewalk cutout. Fastigate form. Patchy crown with multiple dead shoots.	Low	Retain	Protect and retain per TMP.	2
No	City145	City	Pin Oak	<i>Quercus palustris</i>	28	19	5	Good	Growing in grassy boulevard. Appears healthy. Good structure.	High	Retain	Protect and retain per TMP.	2
No	City146	City	Japanese Maple	<i>Acer palmatum</i>	10	3	1	Poor	Growing in boulevard. Significant damage to 1/2 of trunk area. Moderate vigor.	Low	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City146a	City	Norway Maple	<i>Acer platanoides</i>	75	22	8	Moderate	Mature tree, historically pruned for clearance, has multiple branches surrounding hydro line.	Medium	Retain	Protect and retain per TMP.	4.5
No	City147	City	Japanese Cherry	<i>Prunus serrulata</i>	52	6	5	Good	Growing in boulevard. Full healthy crown. Previously tagged 0602 in field.	High	Retain	Protect and retain per TMP.	3.12
No	City148	City	Japanese Cherry	<i>Prunus serrulata</i>	41	6	5	Good	Growing within meter of existing bike path. Full healthy crown.	High	Retain	Protect and retain per TMP.	2.46
No	City149	City	Horsechestnut	<i>Aesculus hippocastanum</i>	35	10	4	Good	Demse canopy, good vigour street tree. Root zone extends into proposed speed bump development.	High	Retain	Arborist supervision required for proposed works near TPZ.	2.1
No	City150	City	Cylindrical Magnolia	<i>Magnolia cylindrica</i>	40	9	5	Good	Dense canopy, good vigour street tree. Root zone extends into proposed speed bump development.	High	Retain	Protect and retain per TMP.	2.4
No	City151	City	Norway Maple	<i>Acer platanoides</i>	40	11	5	Good	Dense canopy, good vigour street tree. Root zone extends into proposed speed bump development.	High	Retain	Protect and retain per TMP.	2.4
No	City152	City	Cylindrical Magnolia	<i>Magnolia cylindrica</i>	48	9	6	Good	Dense canopy, good vigour street tree. Root zone extends into proposed speed bump development.	High	Retain	Protect and retain per TMP.	2.88
No	City153	City	Norway Maple	<i>Acer platanoides</i>	25	13	5	Moderate	Moderate vigour street tree, asymmetric canopy East. Root zone extends into proposed speed bump development.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City154	City	Norway Maple	<i>Acer platanoides</i>	31	8	5	Moderate	Moderate vigour street tree, some branch dieback. Root zone extends into proposed speed bump development.	Medium	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2
No	City155	City	Norway Maple	<i>Acer platanoides</i>	37	8	5	Poor	Poor vigour street tree, branch dieback throughout. Root zone extends into proposed speed bump development.	Low	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2.22
No	City156	City	Norway Maple	<i>Acer platanoides</i>	25	9	3	Poor	Poor vigour street tree, branch dieback throughout. One leader removed, peeling bark on several branches, leaves showing signs of stress, browning edges. Root zone extends into proposed speed bump development.	Low	Remove	Conflicts with proposed UE line. Must receive permission from City prior to removal.	2
No	City157	City	Cherry Plum	<i>Prunus cerasifera</i>	37	5	3	Moderate	Single stem in grass boulevard between sidewalk and road. Under hydro wire. Root zone extends into proposed speed bump development.	Medium	Retain	Protect and retain per TMP.	2.22
No	City158	City	Eastern Redbud	<i>Cercis canadensis</i>	27	6	4	Moderate	Single stem in grass boulevard between sidewalk and road. Decay column protruding from lower stem with good reaction wood. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City159	City	Sweetgum/ Liquidambar	<i>Liquidambar styraciflua</i>	59	17	6	Good	In grass boulevard between sidewalk and road, typical form. Root zone extends into proposed speed bump development.	High	Retain	Protect and retain per TMP.	3.54
No	City160	City	Hawthorn/ crus-galli	<i>Crataegus spp.</i>	19	6	2	Moderate	In grass boulevard between sidewalk and road, typical form. Root zone extends into proposed speed bump development.	Medium	Retain	Protect and retain per TMP.	2
No	City161	City	Japanese Snowbell	<i>Styrax japonicus</i>	21	8	3	Good	Single stem in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City162	City	Japanese Snowbell	<i>Styrax japonicus</i>	18	8	2	Good	Single stem in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City163	City	Japanese Snowbell	<i>Styrax japonicus</i>	25	7	3	Good	Single stem in grass boulevard between sidewalk and road. Under hydro wire. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City164	City	Norway Maple	<i>Acer platanoides</i>	44	14	6	Good	Typical form, dense canopy, in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2.64
No	City165	City	Hungarian Oak	<i>Quercus frainetto</i>	45	15	6	Good	Typical form, single stem, dense canopy, in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2.7

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City166	City	Eastern Redbud	<i>Cercis canadensis</i>	27	6	4	Moderate	Typical form, in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City167	City	Cornelian Cherry Dogwood	<i>Cornus mas</i>	17	5	3	Moderate	In grass boulevard between sidewalk and road, moderate vigour. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City168	City	Norway Maple	<i>Acer platanoides</i>	39	13	5	Good	In grass boulevard between sidewalk and road, good vigour. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2.34
No	City169	City	Cornelian Cherry Dogwood	<i>Cornus mas</i>	17	5	3	Good	In grass boulevard between sidewalk and road, good vigour. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City170	City	Flowering Dogwood	<i>Cornus florida</i>	9	5	2	Moderate	Single stem, in grass boulevard between sidewalk and road within planter box. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City171	City	Manna Ash	<i>Fraxinus ornus</i>	45	10	4	Good	Typical form, in grass boulevard between sidewalk and road, good vigour. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2.7
No	City172	City	Whitebeam	<i>Sorbus aria</i>	43	9	4	Moderate	Hydropruned canopy, remaining branches asymmetric South. In grass boulevard between sidewalk and road, good vigour. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2.58

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City173	City	Amur Maackia	<i>Maackia amurensis</i>	27	7	4	Moderate	Hydropruned canopy, remaining branches asymmetric South. In grass boulevard between sidewalk and road, good vigour. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City174	City	Hawthorn	<i>Crataegus x lavallei</i>	13	4	1	Moderate	In grass boulevard between sidewalk and road, moderate vigour. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City175	City	Manna Ash	<i>Fraxinus ornus</i>	39	10	5	Good	In grass boulevard between sidewalk and road within small planted bed. Good vigour. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2.34
No	City176	City	American Hophornbeam	<i>Ostrya virginiana</i>	35	6	3	Moderate	Hydro pruned canopy. In grass boulevard between sidewalk and road. Good vigour. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2.1
No	City177	City	Persian Ironwood	<i>Parrotia persica</i>	30	7	4	Moderate	Hydro pruned canopy. Single stem growing in grass boulevard between sidewalk and road. Root sone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City178	City	Katsura	<i>Cercidiphyllum japonicum</i>	73	12	5	Moderate	Multi-stemmed at 1m, growing in grass boulevard between sidewalk and road. Root sone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	4.38

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	City179	City	Persian Ironwood	<i>Parrotia persica</i>	29	7	4	Moderate	Single stem, canopy pruned for hydro clearance, growing in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	Medium	Retain	Protect and retain per TMP.	2
No	City180	City	Kousa Dogwood	<i>Cornus kousa</i>	10	5	2	Good	Single stem, good vigour, growing in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City181	City	Sawtooth Oak	<i>Quercus acutissima</i>	31	12	5	Good	Good vigour, growing in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City182	City	Green Ash	<i>Fraxinus pennsylvanica</i>	13	6	2	Good	Good vigour, growing in grass boulevard between sidewalk and road. Root zone extends into proposed speed bump.	High	Retain	Protect and retain per TMP.	2
No	City183	City	Henry's Maple	<i>Acer cissifolium ssp. henryi</i>	36	7	4	Moderate	City boulevard tree growing between curb and sidewalk in grass. Root zone extends into proposed speed bump. Moderate health and vigour. Cleared from power line.	Medium	Retain	Protect and retain per TMP.	2.16
No	City184	City	Japanese Maple	<i>Acer palmatum</i>	37	5	5	Moderate	City boulevard tree growing between curb and sidewalk in grass. Multiple stems, root zone extends into proposed speed bump. Moderate health and vigour. Multistem at 0.6 m. Cleared from power line.	Medium	Retain	Protect and retain per TMP.	2.22

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
Yes	City185	City	Japanese Maple	<i>Acer palmatum</i>	19	5	4	Good	City boulevard tree within tree well on road as traffic calming/bike lane infrastructure. Appears healthy, with good vigour. Moderate health and vigour.	High	Retain	Protect and retain per TMP.	2
No	City186	City	Japanese Cherry	<i>Prunus serrulata</i>	32	5	3	Moderate	18+14, under skytrain along bike path, moderate vigour.	Medium	Retain	Protect and retain per TMP.	2
No	Hedge1	City	Eastern White Cedar	<i>Thuja occidentalis</i>	10	2	1	Good	Planted hedge row with good vigour.	High	Retain	Protect and retain per TMP.	2
No	OS01	Off-Site	Deodar Cedar	<i>Cedrus deodara</i>	90	28	7	Moderate	Open grown in grass lawn. Multiple stems at 2 m. Pruned for hydro clearance.	Medium	Retain	Protect and retain per TMP.	5.4
No	OS02	Off-Site	Deodar Cedar	<i>Cedrus deodara</i>	99	26	7	Moderate	Appears to be growing just offsite. Check ownership. New speed bump sign within root zone. Codominant at 8m. Full crown.	Medium	Retain	Protect and retain per TMP.	5.94
No	OS03	Off-Site	Tulip Tree	<i>Liriodendron tulipifera</i>	120	12	6	Poor	Growing off site. Unable to access. Attributes estimated. Historically topped.	Low	Retain	Protect and retain per TMP.	7.2
No	OS04	Off-Site	Deodar Cedar	<i>Cedrus deodara</i>	45	15	5	Moderate	Offsite tree behind hedge, measurements estimated. Proposed bike lane development possibly within root zone. Codominant at 8m. Hydro wires adjacent to canopy. Full crown.	Medium	Retain	Arborist supervision required for proposed works near TPZ.	2.7

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	OS05	Off-Site	Hawthorn/ crus-galli	<i>Crataegus spp.</i>	55	6	4	Moderate	Offsite tree behind TPZ fence, measurements estimated. Stem covered in ivy. Proposed bike lane development within root zone. Hydro wires above.	Medium	Retain	Protect and retain per TMP.	3.3
No	OS06	Off-Site	Hawthorn/ crus-galli	<i>Crataegus spp.</i>	45	6	4	Moderate	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	Medium	Retain	Protect and retain per TMP.	2.7
No	OS07	Off-Site	Hawthorn/ crus-galli	<i>Crataegus spp.</i>	50	7	5	Good	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	High	Retain	Protect and retain per TMP.	3
No	OS08	Off-Site	Pin Oak	<i>Quercus palustris</i>	47	15	6	Good	Good vigour tree between sidewalks. Check ownership. Root zone extends into proposed speed bump development.	High	Retain	Protect and retain per TMP.	2.82
No	OS09	Off-Site	Japanese Cherry	<i>Prunus serrulata</i>	34	4	3	Moderate	Check ownership, moderate vigour tree on lawn within planted slope. Tagged 0203.	Medium	Retain	Protect and retain per TMP.	2.04
No	OS10	Off-Site	Cockspur hawthorn	<i>Crataegus crus-galli</i>	55	6	5	Good	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	High	Retain	Protect and retain per TMP.	3.3
No	OS11	Off-Site	Cockspur hawthorn	<i>Crataegus crus-galli</i>	52	6	5	Good	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	High	Retain	Protect and retain per TMP.	3.12

Surveyed?	Tag #	Location	Species Common Name	Botanical Name	DBH (cm)	Height (m)	Dripline Radius (m)	Health and Structure Rating	Comments	Retention Value Rating	Retain/ Remove	Retention/TPZ Comments	*TPZ (m)
No	OS12	Off-Site	Cockspur hawthorn	<i>Crataegus crus-galli</i>	83	6	5	Good	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	High	Retain	Protect and retain per TMP.	4.98
No	OS13	Off-Site	Douglas-Fir	<i>Pseudotsuga menziesii</i>	68	26	7	Good	On private lawn, single stem, open grown, good vigour.	High	Retain	Protect and retain per TMP.	4.08
No	OS14	Off-Site	Japanese Cherry	<i>Prunus serrulata</i>	29	7	1	Good	Single stem, columnar form, open grown on grass lawn, good vigour.	High	Retain	Protect and retain per TMP.	2
No	OS15	Off-Site	Cockspur hawthorn	<i>Crataegus crus-galli</i>	50	6	5	Moderate	Offsite tree behind TPZ fence, measurements estimated. Proposed bike lane development within root zone. Hydro wires above.	Medium	Retain	Protect and retain per TMP.	3
No	OShedge1	Off-Site	Cherry Laurel	<i>Prunus laurocerasus</i>	20	5	2	Moderate	Growing offsite. Included for reference. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2
No	OShedge2	Off-Site	Cherry Laurel	<i>Prunus laurocerasus</i>	20	5	2	Moderate	Growing offsite. Included for reference. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2
No	OShedge3	Off-Site	Cherry Laurel	<i>Prunus laurocerasus</i>	20	5	2	Moderate	Growing offsite. Included for reference. Appears healthy.	Medium	Retain	Protect and retain per TMP.	2

Appendix 2 Site Photographs



Photo 1. Tree #City12 facing Southeast at Dublin and 13th St.



Photo 2. Facing Southeast on paved pedestrian pathway through Moody Park.



Photo 3. Trees #City124-128 at Milton and 8th St, facing Northwest.



Photo 4. Trees #City140-142 at Carnarvon and 8th St, Facing South.



Photo 5. Trees #OS11 & OS12 near Edinburgh and 8th St behind TPZ fencing, facing Southeast.



Photo 6. Tree #City59 (right side of road across street). Intersection of London and 10th St, facing Northeast.



Photo 7. Tree #City164 (right) and City165 (left) near intersection of London and 15th St.



Photo 8. Tree #City185, Japanese Maple in road barrier planting well supporting an active transportation network.

Appendix 3 Tree Health and Structure Rating Criteria

The tree health and structure ratings used by Diamond Head Consulting summarize each tree based on both positive and negative attributes using five stratified categories. These ratings indicate health and structural conditions that influence a tree's ability to withstand local site disturbance during the construction process (assuming appropriate tree protection) and benefit a future urban landscape.

Excellent: Tree of possible specimen quality, unique species or size with no discernible defects.

Good: Tree has no significant structural defects or health concerns, considering its growing environment and species.

Moderate: Tree has noted health and/or minor to moderate structural defects. This tree can be retained, but may need mitigation (e.g., pruning or bracing) and monitoring post-development. A moderate tree may be suitable for retention within a stand or group, but not suitable on its own.

Poor: Tree is in serious decline from previous growth habit or stature, has multiple defined health or structural weaknesses. It is unlikely to acclimate to future site use change. This tree is not suitable for retention within striking distance of most targets.

Dying/Dead: Tree is in severe decline, has severe defects or was found to be dead.

High Risk: The tree shows severe health decline and/or with major structural weaknesses or decay. Dead or compromised tree parts increase the likelihood of failure, posing a high risk to nearby targets within the timeframe of this report. the tree is not suitable for retention due to deteriorating tree conditions and exceeding thresholds as a risk high or extreme risk as outlined in Appendix 5. See Section 3.2 for individual detailed risk assessments and Appendix 4 for risk rating definitions.

Appendix 4 Tree Retention Value Rating Criteria

The tree retention value ratings used by Diamond Head Consulting provide guidance for tree retention planning. Each tree in an inventory is assigned to one of four stratified categories that reflect its value as a future amenity and environmental asset in a developed landscape. Tree retention value ratings take in to account the health and structure rating, species profile*, growing conditions and potential longevity assuming a tree's growing environment is not compromised from its current state.

High: Tree suitable for retention. Has a good or excellent health and structure rating. Tree is open grown, an anchor tree on the edge of a stand or dominant within a stand or group. Species of *Populus*, *Alnus* and *Betula* are excluded from this category.

Medium: Tree suitable for retention with some caveats or suitable within a group**. Tree has moderate health and structure rating, but is likely to require remedial work to mitigate minor health or structural defects. Includes trees that are recently exposed, but wind firm, and trees grown on sites with poor rooting environments that may be ameliorated.

Low: Tree has marginal suitability for retention. Health and structure rating is moderate or poor; remedial work is unlikely to be viable. Trees within striking distance of a future site developments should be removed.

Nil: Tree is unsuitable for retention. It has a dying/dead or poor health and structure rating. It is likely that the tree will not survive, or it poses an unacceptable hazard in the context of future site developments.

* The species profile is based upon mature age and height/spread of the species, adaptability to land use changes and tree species susceptibility to diseases, pathogen and insect infestation.

** Trees that are 'suitable as a group' have grown in groups or stands that have a single, closed canopy. They have not developed the necessary trunk taper, branch and root structure that would allow them to be retained individually. These trees should only be retained in groups.

Appendix 5 Risk Rating Matrices

Trees with a *probable* or *imminent* likelihood of failure, a *medium* or *high* likelihood of impacting a specified target, and a *significant* or *severe* consequence of failure have been assessed for risk and included in this report (Section 3.2). These two risk rating matrices showing the categories used to assign risk are taken without modification to their content from the International Society of Arboriculture Tree Risk Assessment Qualification Manual.

Matrix 1: Likelihood

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat Likely	Likely	Very Likely
Probable	Unlikely	Unlikely	Somewhat Likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat Likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Matrix 2: Risk Rating

Likelihood of Failure and Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very Likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat Likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Guidelines for Mitigation Actions

extreme-risk trees

mitigate as soon as possible

high-risk trees

mitigate as soon as work schedule allows

moderate-risk trees

retain and monitor and/or mitigate, as necessary

low-risk trees

retain and monitor or mitigate if desired

Appendix 6 Construction Guidelines

Tree management recommendations in this report are made under the expectation that the following guidelines for risk mitigation and proper tree protection will be adhered to during construction.

Respecting these guidelines will prevent changes to the soil and rooting conditions, contamination due to spills and waste, or physical wounding of the trees. Any plans for construction work and activities that deviate from or contradict these guidelines should be discussed with the project arborist so that mitigation measures can be implemented.

Tree Protection Zones

A Tree protection zone (TPZ) is determined using either dripline or a DBH multiplier to define a radius measured in all directions from the outside of a tree's trunk. It is typically determined according to local municipal bylaw specifications and may be modified based on professional judgement of the project arborist to accommodate species specific tolerances and site specific growing conditions. For retained trees, the TPZ and fencing indicated in this report are proposed as suitable in relation to the level of disturbance proposed on the site plan provided to the project arborist. Arborist consultation is required if any additional work beyond the scope of the plans provided is proposed near the tree. Work done in addition to the proposed impacts discussed in this report may cause the tree to decline and die.

Tree Protection Fencing: Tree protection zones (TPZs) will be protected by Tree Protection Fencing except where site features constrict roots (e.g., retaining walls or roads), where continual access is required (e.g., sidewalks), or when an acceptable encroachment into the TPZ is proposed, in which case the fencing will be modified. Tree Protection Fencing is shown on the Tree Protection Plan and, where it varies from the TPZ, the rationale is described in the inventory table in Section 3.1.

Within a TPZ, no construction activity, including materials storage, grading or landscaping, may occur without project arborist approval. Within the TPZ, the following are tree preservation guidelines based on industry standards for best practice and local municipal requirements:

- No soil disturbance or stripping.
- Maintain the natural grade.
- No storage, dumping of materials, parking, underground utilities or fires within TPZs or tree driplines.
- Any planned construction and landscaping activities affecting trees should be reviewed and approved by a consulting arborist.
- Install specially designed foundations and paving when these structures are required within TPZs.
- Route utilities around TPZs.
- Excavation within the TPZs should be supervised by a consultant arborist.
- Surface drainage should not be altered in such a way that water is directed in or out of the TPZ.
- Site drainage improvements should be designed to maintain the natural water table levels within the TPZ.

Prior to any construction activity, Tree Protection Fencing must be constructed as shown on the Tree Protection Plan. The protection barrier or temporary fencing must be at least 1.2 m in height and constructed of 2" by 4" lumber with orange plastic mesh screening. Tree Protection Fencing must be constructed prior to tree removal, excavation or construction and remain intact for the entire duration of construction.

Tree Crown Protection and Pruning

All heavy machinery (excavators, cranes, dump trucks, etc.) working within five meters of a tree's crown should be made aware of their proximity to the tree. If there is to be a sustained period of machinery working within five meters of a tree's crown, a line of colored flags should be suspended at eye-level of the machinery operator for the length of the protected tree area. Any concerns regarding the clearance required for machinery and workers within or immediately outside tree protection zones should be referred to the project arborist so that a zone surrounding the crowns can be established or pruning measures undertaken. Any wounds incurred to protected trees during construction should be reported to the project arborist immediately.

Unsurveyed Trees

Unsurveyed trees identified by DHC in the Tree Retention Plan have been hand plotted for approximate location only using GPS coordinates and field observations. The location and ownership of unsurveyed trees cannot be confirmed without a legal survey. The property owner or project developer must ensure that all relevant on- and off-site trees are surveyed by a legally registered surveyor, whether they are identified by DHC or not.

Removal of logs from sites

Private timber marks are required to transport logs from privately-owned land in BC. It is property owner's responsibility to apply for a timber mark prior to removing any merchantable timber from the site. Additional information can be found at: <http://www.for.gov.bc.ca/hth/private-timber-marks.htm>

Regulation of Soil Moisture and Drainage

Excavation and construction activities adjacent to TPZs can influence the availability of moisture to protected trees. This is due to a reduction in the total root mass, changes in local drainage conditions, and changes in exposure including reflected heat from adjacent hard surfaces. To mitigate these concerns the following guidelines should be followed:

- Soil moisture conditions within the tree protection zones should be monitored during hot and dry weather. When soil moisture is inadequate, supplemental irrigation should be provided that penetrates soil to the depth of the root system or a minimum of 30 cm.
- Any planned changes to surface grades within the TPZs, including the placement of mulch, should be designed so that any water will flow away from tree trunks.
- Excavations adjacent to trees can alter local soil hydrology by draining water more rapidly from TPZs more rapidly than it would prior to site changes. It is recommended that when excavating within 6 m of any tree, the site be irrigated more frequently to account for this.

Root Zone Enhancements and Fertilization

Root zone enhancements such as mulch, and fertilizer treatments may be recommended by the project arborist during any phase of the project if they deem it necessary to maintain tree health and future survival.

Paving Within and Adjacent to TPZs

If development plans propose the construction of paved areas and/or retaining walls close to TPZs, measures should be taken to minimize impacts. Construction of these features would raise concerns for proper soil aeration, drainage, irrigation and the available soil volume for adequate root growth. The following design and construction guidelines for paving and retaining walls are recommended to minimize the long-term impacts of construction on protected trees:

- Any excavation activities near or within the TPZ should be monitored by a certified arborist. Structures should be designed, and excavation activities undertaken to remove and disturb as little of the rooting zone as possible. All roots greater than 2 cm in diameter should be hand pruned by a Certified Arborist.
- The natural grade of a TPZ should be maintained. Any retaining walls should be designed at heights that maintain the existing grade within 20 cm of its current level. If the grade is altered, it should be raised not reduced in height.
- Compaction of sub grade materials can cause trees to develop shallow rooting systems. This can contribute to long-term pavement damage as roots grow. Minimizing the compaction of subgrade materials by using structural soils or other engineered solutions and increasing the strength of the pavement reduces reliance on the sub-grade for strength.
- If it is not possible to minimize the compaction of sub-grade materials, subsurface barriers should be considered to help direct roots downward into the soil and prevent them from growing directly under the paved surfaces.

Plantings within TPZs

Any plans to landscape the ground within the TPZ should implement measures to minimize negative impacts on the above or below ground parts of a tree. Existing grass layer in TPZs should not be stripped because this will damage surface tree roots. Grass layer should be covered with mulch at the start of the project, which will gradually kill the grass while moderating soil moisture and temperatures. Topsoil should be mixed with the mulch prior to planting of shrubs, but new topsoil layer should not be greater than 20 cm deep on top of the original grade. Planting should take place within the newly placed topsoil mixture and should not disturb the original rooting zone of the trees. A two-meter radius around the base of each tree should be left unplanted and covered in mulch; a tree's root collar should remain free from any amendments that raise the surface grade.

Monitoring during construction

Ongoing monitoring by a consultant arborist should occur for the duration of a development project. Site visits should be more frequent during activities that are higher risk, including the first stages of construction when excavation occurs adjacent to the trees. Site visits will ensure contractors are respecting the recommended tree protection measures and will allow the arborist to identify any new concerns that may arise.

During each site visit the following measures will be assessed and reported on by a consulting arborist:

- Health and condition of protected trees, including damage to branches, trunks and roots that may have resulted from construction activities, as will the health of. Recommendations for remediation will follow.
- Integrity of the TPZ and fencing.
- Changes to TPZ conditions including overall maintenance, parking on roots, and storing or dumping of materials within TPZ. If failures to maintain and respect the TPZ are observed, suggestions will be made to ensure tree protection measures are remediated and upheld.
- Review and confirmation of recommended tree maintenance including root pruning, irrigation, mulching and branch pruning.
- Changes to soil moisture levels and drainage patterns; and
- Factors that may be detrimentally impact the trees.

Appendix 7 Report Assumptions and Limiting Conditions

- 1) Unless expressly set out in this report or these Assumptions and Limiting Conditions, Diamond Head Consulting Ltd. ("Diamond Head") makes no guarantee, representation or warranty (express or implied) regarding this report, its findings, conclusions or recommendations contained herein, or the work referred to herein.
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- 3) The findings, conclusions and recommendations made in this report reflect Diamond Head's best professional judgment given the information available at the time of preparation. This report has been prepared in a manner consistent with the level of care and skill normally exercised by arborists currently practicing under similar conditions in a similar geographic area and for specific application to the trees subject to this report on the date of this report. Except as expressly stated in this report, the findings, conclusions and recommendations it sets out are valid for the day on which the assessment leading to such findings, conclusions and recommendations was conducted. If generally accepted assessment techniques or prevailing professional standards and best practices change at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if generally accepted assessment techniques and prevailing professional standards and best practices change.
- 4) Conditions affecting the trees subject to this report (the "Conditions", include without limitation, structural defects, scars, decay, fungal fruiting bodies, evidence of insect attack, discolored foliage, condition of root structures, the degree and direction of lean, the general condition of the tree(s) and the surrounding site, and the proximity of property and people) other than those expressly addressed in this report may exist. Unless otherwise stated information contained in this report covers only those Conditions and trees at the time of inspection. The inspection is limited to visual examination of such Conditions and trees without dissection, excavation, probing or coring. While every effort has been made to ensure that any trees recommended for retention are both healthy and safe, no guarantees, representations or warranties are made (express or implied) that those trees will not be subject to structural failure or decline. The Client acknowledges that it is both professionally and practically impossible to predict with absolute certainty the behavior of any single tree, or groups of trees, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure and this risk can only be eliminated if the risk is

removed. If Conditions change or if additional information becomes available at a future date, modifications to the findings, conclusions, and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification of Conditions change or additional information becomes available.

- 5) Nothing in this report is intended to constitute or provide a legal opinion and Diamond Head expressly disclaims any responsibility for matters legal in nature (including, without limitation, matters relating to title and ownership of real or personal property and matters relating to cultural and heritage values). Diamond Head makes no guarantee, representation or warranty (express or implied) as to the requirements of or compliance with applicable laws, rules, regulations, or policies established by federal, provincial, local government or First Nations bodies (collectively, "Government Bodies") or as to the availability of licenses, permits or authorizations of any Government Body. Revisions to any regulatory standards (including bylaws, policies, guidelines and any similar directions of a Government Bodies in effect from time to time) referred to in this report may be expected over time. As a result, modifications to the findings, conclusions and recommendations in this report may be necessary. Diamond Head expressly excludes any duty to provide any such modification if any such regulatory standard is revised.
- 6) Diamond Head shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.
- 7) In preparing this report, Diamond Head has relied in good faith on information provided by certain persons, Government Bodies, government registries and agents and representatives of each of the foregoing, and Diamond Head assumes that such information is true, correct and accurate in all material respects. Diamond Head accepts no responsibility for any deficiency, misinterpretations or fraudulent acts of or information provided by such persons, bodies, registries, agents and representatives.
- 8) Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.
- 9) Loss or alteration of any part of this report invalidates the entire report.