



GYE + ASSOCIATES

Consultants in Urban Forestry and Arboriculture

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City of Victoria

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Planning & Development Department
Development Services Division

Arborist Report

224 Superior Street, Victoria

Date of Report: August 18, 2017

Dates of Field Work: June 29 & August 16, 2017

Prepared by Jeremy Gye

On behalf of Gye and Associates, Urban Forestry Consultants Ltd.

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EXECUTIVE SUMMARY

A rezoning and strata conversion are proposed for the existing 2 lots at 224 Superior Street. The existing residential structure will be retained on the eastern-most lot and converted into four condominium suites, with a new driveway entrance and associated parking. A new single family residence is proposed for the smaller lot to the west. Three mature street trees fronting the existing lot and three mature fruit trees on the east side of the lot are proposed for retention and protection. A mature weeping willow is at the north corner of the lot is proposed for removal. There are no significant off-site trees on private property that will be impacted by the proposed development.



Fig-1 North-west facing perspective of front of lot

ASSIGNMENT

Gye and Associates (G&A) have been retained to prepare a tree protection plan report, contribute input into the site planning process and provide on-site tree protection services during the redevelopment of the property. This report has been prepared in accordance with the City's published Terms of Reference for Tree Preservation Plans.

METHODOLOGY

- Site visits were made to identify measure and assess the condition of relevant trees and review the site plan for potential tree impacts anticipated from construction.
- Biometric and assessment data was recorded and is presented in table format below (Table-1) and on the referenced tree plan.



- The canopy and protected root zone (PRZ) of each tree was plotted to scale on the tree plan using a multiplier of 18x the tree stem diameter.
- The owners of the subject property were interviewed to obtain a history of the site and a better understanding of the proposed redevelopment. An earlier iteration of the proposed lot layout and site plan was reviewed by the arborist with City of Victoria Parks Division. Feedback was then provided back to the owners and the lot layout and site plans amended accordingly.
- A PDF copy of the landscape site plan drawing was provided to the arborist, which has been used as the base for the attached Tree Preservation Plan drawing.
- The architectural site plan was reviewed to identify elements that encroach within the PRZ or crown of each tree.

OBSERVATIONS

SITE DESCRIPTION

The subject property is located in a fully developed urban neighborhood. The terrain of the site is relatively flat. The majority of the lot surface is constructed, paved or well landscaped. No recent soil disturbances were observed within tree habitat areas during the site visit. As illustrated in Figure-1, an established holly hedge provides significant privacy to the lot.

TREE RESOURCE

Three mature public boulevard trees are located along the frontage of the lot: two English oaks (*Quercus robur*) and a European hornbeam (*Carpinus betulus*). Four established trees are located on the existing lot: a weeping willow (*Salix babylonica*) and three fruiting plums (*Prunus spp.*), none of which are protected under the City's tree protection bylaw. All trees are considered to be in a good health and structural condition. Biophysical attributes are presented below in Table-1.

Table -1. Tree inventory table

TREE TABLE								
Tree ID (no tag)	Common Name	DBH (cm)	Protected Tree?	PRZ (m)	Crown Radius (m)	Health	Structural Condition	Recommendations
1	English oak	54	Yes	9.7	7.5	Good	Good	Retain and protect
2	European hornbeam	53	Yes	9.5	6	Good	Good	Retain and protect
3	English oak	32	Yes	5.8	4	Good	Good	Retain and protect
4	Weeping willow	55	No	9.9	6	Good	Good	REMOVE
5	Plum	45	No	8.1	3.5	Good	Fair	Retain and protect
6	Plum	45	No	8.1	3.5	Good	Fair	Retain and protect
7	Plum	30	No	5.4	3	Good	Fair	Retain and protect



SITE PLAN

The site plan includes the following elements that are located within or immediately adjacent to tree protection areas identified in the attached tree plan:

- Construction of a new driveway, boulevard crossing and parking area to service the existing house;
- modification to the existing driveway to service the new lot and proposed house;
- construction activity associated with the new house;
- re-landscaping of the front and side yards.

The location of underground services and utilities, such as storm, sewer, water, electricity, gas and communication, has not been determined at this time. It is proposed to address underground site services and utilities, including their associated tree impacts and protection measures, later in the permit application process.

DISCUSSION

The current site plan proposes to retain all three boulevard trees; however, care will be needed to minimize impacts associated with future site servicing and a new driveway entrance and parking area to the root systems of Tree #s 001 and 003. Significant re-landscaping is proposed within the protected habitat of the three street trees. Protection measures for this work will be addressed at building permit stage.

No significant impacts are anticipated to the three on-site plum trees. The weeping willow is proposed for removal to make way for a new house to be located on the new lot west of the existing house.

TREE PROTECTION MEASURES

Tree protection measures to limit impacts from the construction activity associated with the proposed site plan include the following:

- All tree protection areas (TPAs) shall be fenced to prevent soil compaction, rutting and other forms of disturbance within the PRZ;
- Should it be necessary to provide construction access across a portion of the PRZ, the arborist shall be consulted and the arborist shall have the discretion to reduce the fencing limits in favour of armouring the exposed portion of PRZ with a suitable material to prevent damage to the growing soils. Suitable materials may include ¾" plywood for light-duty usage or 150mm of moderately compacted crushed gravel with an underlayment of geotextile fabric.
- All excavation, grading or landscaping within or adjacent to TPAs shall be supervised by the project arborist;
- Finished driveway elevations shall be designed to minimize intrusions of the excavated driveway bed down into the root horizon. Where considered necessary by the arborist,



pneumatic or hydraulic excavation techniques shall be used in place of mechanical excavation.

- Cross-section details and a written methodology shall be provided to the City Parks division at building permit stage that illustrate how the boulevard crossing, driveway entrance and parking areas will be designed and constructed to avoid unnecessary impacts to the root horizon.
- Any tree roots or branches shall be pruned back to undamaged tissue by the arborist.
- The arborist shall attach a non-porous anti-abrasion fabric to the exposed face of all excavated cuts within or adjacent to TPAs, the purpose of which is to prevent soil erosion and dessication during construction.

Additional detail is provided on the attached tree plan. If diligently implemented, the tree protection measures specified in this report will effectively preserve the subject trees for the long-term benefit of both the homeowner and the community.

ROLE OF THE PROJECT ARBORIST

In addition to assisting with tree preservation planning during the design and permit application phases of the project, the arborist shall be present during the construction and landscape phases of the project to supervise work within or immediately adjacent to the tree protection areas identified on the attached tree plan.

The following is a summary of the key interventions required by the arborist (G&A). **The owner and building contractor are responsible for notifying the arborist to coordinate these interventions.**

- A mandatory site meeting is required with the owner and General Contractor to review the tree preservation plan prior to work commencing on site. The purpose of the meeting is to systematically review the objectives of the plan and the specific measures required to protect the trees during the site preparation, construction and landscape phases of the redevelopment. The meeting provides an opportunity to address any residual building constraints or conflicts and answer questions.
- The arborist shall inspect the prescribed tree protection fencing and any soil armoring prior to a tree permit being issued by the City and prior to work commencing on site.
- The use of explosive for rock removal can kill or injure trees if not managed carefully. If rock removal is required as part of the site preparation phase, the building and blasting contractor shall meet on site with the arborist to develop the rock removal work plan together. This meeting shall happen prior to an estimate of costs being provided by the blasting contractor.
- The arborist shall be present to oversee the following site work within or immediately adjacent to the Tree Protection Areas identified on the attached plan:
 - demolition of existing buildings or other site elements,
 - site grading
 - excavation for house foundation and perimeter drains;



- rock removal or blasting;
 - trenching for both municipal service connections and extension of these underground services to the house;
 - sub-grade preparation for the proposed driveway, parking area and internal pathways;
 - periodic site inspections to ensure effective compliance with required tree preservation measures;
 - meetings as required to resolve any emergent conflicts between building requirements and tree protection.
- Landscaping activities--such as trenching for irrigation or lighting, grubbing of vegetation, distribution of soils and other landscape materials—are another potential source of damage to the sensitive soils and root systems of protected trees.
 - If a landscape plan is considered for the project, the arborist shall meet with the owner and landscape designer prior to a landscape plan being developed to ensure that relevant aspects of the tree protection plan are considered in the development of the landscape plan.
 - The arborist shall review a draft of the proposed landscape plan prior to the plan being finalized.
 - The building contractor and landscape contractor shall meet on site with the arborist to review the landscape planting and work plan together, prior to an estimate of costs being provided by the landscape contractor.
 - The arborist shall supervise landscape activity within the tree protection areas.
- At completion of the redevelopment, the arborist shall ensure that any tree protection or restoration deficiencies are addressed by the owner and building contractor. Once all deficiencies have been repaired, the arborist shall prepare a letter to the City of Victoria confirming successful completion of project, including resolution of any deficiencies.

End report.

Submitted on behalf of Gye and Associates, Urban Forestry Consultants Ltd,

Jeremy Gye – Senior Consultant

Gye and Associates, Urban Forestry Consultants Ltd.

Consulting Arborist (Diploma, American Society of Consulting Arborists, 1997)

ISA Certified Arborist (Certification No. PN-0144A)

ISA Certified Municipal Specialist (Certification No. PN-0144AM)

ISA Tree Risk Assessment Qualified



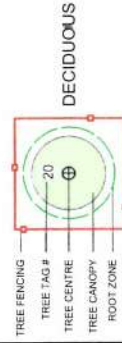
APPENDICES

Tree Preservation and Landscape Plan drawing (see attached).

TREE PRESERVATION MEASURES

1. The arborist shall meet with the demolition contractor prior to demolition to review site access, workplan, debris staging, tree protection etc.
2. Before site preparation begins, erect tree protection fencing as indicated. Contact arborist for inspection once fencing is complete.
3. The arborist shall oversee any excavation, trenching, site grading or blasting within or adjacent to the tree protection areas (TPAs) during the renovation/construction and landscape phases. 48 hours notice is requested for on-site arborist services.
4. Any tree roots or branches damaged during the course of the project shall be pruned back to undamaged tissue by the arborist.
5. Pruning required to provide clearance or to relieve encroachment shall first be reviewed by the project arborist. Place a call for service with the City of Victoria Parks division to have City arborists carry out any pruning of public boulevard trees. Pruning of trees on private property shall be carried out by a certified arborist (or arborist technician) to ANSI 300 standards.
6. If temporary construction access within a TPA is required, it must be approved and supervised by the project arborist.
7. If it should prove necessary to reduce the extent of the tree fencing around a TPA, the exposed soils of the TPA now outside the fencing shall be armored to protect them against compaction and other types of disturbance. Acceptable armoring includes 3/4" plywood or a temporary cover of geo-textile and 200mm of road-base, moderately compacted with a plate compactor. Installed armoring must be approved by the arborist before use.
8. No equipment, materials or excavated soil shall be placed or stored within the TPA. THIS PARTICULARLY INCLUDES HOARDING OF EXCAVATED SOILS NEEDED FOR BACKFILLING OF THE HOUSE FOUNDATION.

LEGEND



REMOVE TREE

Tree Protection Fencing Detail

Robust Tree Protection Fencing shall be constructed with a 2x4 frame and supports. (See photo below.) Snow-fencing will then be affixed to the frame using zip-ties, staples wire or nails. All-weather signage will be attached, clearly designating the area within as a TREE PROTECTION AREA - NO TRESPASSING.

