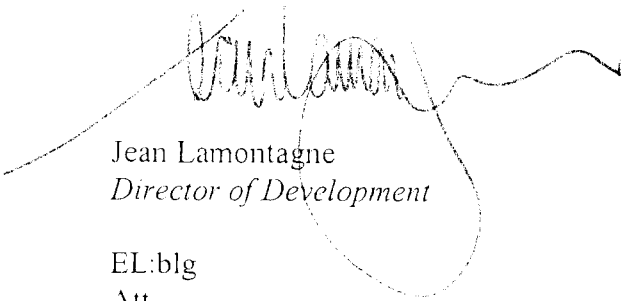




To: Planning Committee *To Planning - Feb 20, 2007*
From: Jean Lamontagne Date: January 30, 2007
 Director of Development RZ 06-352822
Re: **Application by Parmjit S. Randhawa for Rezoning at 11480 Williams Road from**
Single-Family Housing District, Subdivision Area E (R1/E) to Single-Family
Housing District (R1-0.6) *File: 12-8060-20-8197*

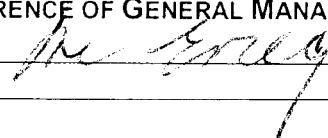
Staff Recommendation

That Bylaw No. 8197, for the rezoning of 11480 Williams Road from “Single-Family Housing District, Subdivision Area E (R1/E)” to “Single-Family Housing District (R1-0.6)”, be introduced and given first reading.



Jean Lamontagne
 Director of Development

EL:blg
 Att.

FOR ORIGINATING DEPARTMENT USE ONLY
CONCURRENCE OF GENERAL MANAGER


- There are requirements to be dealt with prior to final adoption:
- Proof of a contract with a Registered Arborist to monitor the removal of concrete driveways and demolition immediately adjacent to the maple trees in the front yard, the pruning of trees and hedgerows along the east property line, and the construction of building foundation, retaining walls, and perimeter drainage immediately adjacent to the preservation trees.
 - Submission of a landscape plan prepared by a registered landscape architect to the satisfaction of the Director of Development and deposit of a landscaping security based on 100% of the cost estimates provided by the landscape architect. The landscape plan and landscaping security should include the six (6) replacement trees required - four (4) at 9 cm calliper or 5.0 m tall, and two (2) at 11 cm calliper or 6.0 m tall;

- Contribution of \$6,000 in-lieu of 12 replacement trees to go to the Tree Compensation Fund; and
- Registration of a flood indemnity covenant on title.

[signed copy on file]

Agreement by Applicant
Parmjit S. Randhawa

Item	Details
Application	RZ 06-352822
Location	11480 Williams Road (Attachment 1)
Owner	Jagdeep Kaur Randhawa
Applicant	Parmjit S. Randhawa

Date Received	November 7, 2006
Acknowledgement Letter	November 23, 2006
Fast Track Compliance	January 12, 2007
Staff Report	January 30, 2007
Planning Committee	February 20, 2007

Site Size	613 m ² (6,598 ft ²)
Land Uses	Existing - Single-Family Residential Dwelling
	Proposed - two (2) single-family residential lots (approximately 306 m ² or 3,291 ft ² each)
Zoning	Existing - Single Family Housing District, Subdivision Area E (R1/E) – minimum width 18 m or 59 ft.
	Proposed - Single Family Housing District (R1-0.6) – minimum width 9 m or 29.5 ft.
Planning Designations	<ul style="list-style-type: none"> • OCP General Land Use Map – Neighbourhood Residential • OCP Specific Land Use Map – Low Density Residential • Single-Family Lot Size Policy 5434 – Permits subdivision to R1-0.6 and Coach House District (R9) (Attachment 3) • Lane Establishment and Arterial Road Redevelopment Policies – Permits Single-Family residential and Coach House development along this arterial road. <p><i>Application conforms with applicable designations and policy</i></p>
Surrounding Development	<ul style="list-style-type: none"> • This neighbourhood contains a majority of older character single-family dwellings on larger Single-Family Housing District, Subdivision Area E (R1/E) zoned lots as well as some recently developed Single-Family Housing District, Subdivision Area K (R1/K) and R1-0.6 zoned lots fronting on Williams Road. • The majority of the lots in this block fronting Williams Road have similar development potential due to the existing lane system.

Staff Comments	<ul style="list-style-type: none"> • Five (5) similar applications to rezone nearby properties to R1-0.6 have been approved along Williams Road between Shell Road and No. 5 Road (reference file RZ 06-328581, RZ 06-331753, RZ 06-333643, RZ 06-334342, RZ 06-337137). • Three (3) other similar applications to rezone nearby properties within this block to R1-0.6 have been given third readings (reference file RZ 06-342551, RZ 06-351245, RZ 06-352151). • Four (4) other similar applications to rezone nearby properties within this block to R1-0.6 have been received (RZ 06-331192, RZ 06-333519, RZ 06-339825, RZ 06-350825). • A tree survey is submitted (Attachment 4) and five (5) bylaw-sized trees and twelve (12) stumps are noted on site. • An Arborist Report (Attachment 5) is submitted in support of the application. The Report recommends retention of the two (2) Maple trees in the front yard, removal of the three Lawson Cypress trees along the west property line, and establishment of a 2 m wide tree protection zone along the east property line to protect the trees and hedgerows on the adjacent property to the east (10500 Williams Road). • The applicant has agreed to follow the Arborist's recommendations and will hire a registered arborist to monitor the removal of concrete driveways and demolition immediately adjacent to the maple trees in the front yard, the pruning of trees and hedgerows along the east property line, and the construction of building foundation, retaining walls, and perimeter drainage immediately adjacent to the preservation trees. • Tree protection barriers around the Maple trees and the Cedar hedgerow, as specified by the Arborist, have already been installed and will remain on site until the construction of the future dwellings is completed. • Based on the 2:1 tree replacement ratio goal stated in the Official Community Plan (OCP) and according to the size of replacement tree requirement of the Tree Protection Bylaw #8057, six (6) replacement trees are required – four (4) at 9 cm calliper or 5.0 m tall, and two (2) at 11 cm calliper or 6.0 m tall.
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<p>Staff Comments (Cont.)</p>	<ul style="list-style-type: none"> • In order to ensure that the replacement trees will be planted and the front yards of the future lots will be enhanced, a landscape plan prepared by a registered landscape architect and a landscaping security (100% of the cost estimates provided by the landscape architect) are required to be submitted prior to final adoption of the rezoning bylaw. • It is noted that a Tree Permit was issued to the previous owner on October 18, 2006 (3 weeks prior to the rezoning application being submitted). Seven (7) Cedars in the over-grown, badly pruned hedge along west property line, four (4) Cedars, and one (1) Norway Spruce with large fork in the front yard were removed. Six (6) replacement trees to be planted on site or compensation of \$500 per tree to be planted by the City were required. However, no replacement trees or compensations have been provided to date. • Based on the 2:1 tree replacement ratio goal stated in the OCP, 24 replacement trees would be required for the 12 trees removed. However, since the applicant has made an effort to preserve the two large Maple trees in the front yard and the Cedar hedgerow on the adjacent property to the east, staff recommend a 1:1 tree replacement ratio for the 12 trees removed by the previous owner prior to the rezoning application being made. The applicant has agreed to provide a cash contribution of \$6,000 (\$500 per replacement tree required) to the Tree Compensation Fund. • In accordance with the Interim Flood Protection Management Strategy, the applicant is required to register a flood indemnity covenant on title prior to final adoption of the rezoning bylaw. • At subdivision stage, the developer will be required to pay Neighbourhood Improvement Charges for future lane improvements, Development Cost Charges (City & GVS&DD), School Site Acquisition Charge, Address Assignment Fee, and Servicing Cost.
<p>Analysis</p>	<ul style="list-style-type: none"> • The rezoning application complies with the City's Lane Establishment and Arterial Road Redevelopment Policies since it is a single-family residential redevelopment proposal with access to an operational lane. • The future lots will have vehicle access to the existing operational laneway with no access being permitted onto Williams Road. • The proposal is consistent with all applicable land use designation and policies guiding development in this block.

Attachments	Attachment 1 – Location Map/Aerial Photo; Attachment 2 – Development Data Sheet; Attachment 3 – Single-Family Lot Size Policy 5434; Attachment 4 – Tree Survey/Proposed Subdivision Layout; Attachment 5 – Arborist Report
Recommendation	The rezoning application complies with all policies and land use designations contained within the Official Community Plan (OCP) and is consistent with the direction of redevelopment currently ongoing in the surrounding area. On this basis, staff support the application.

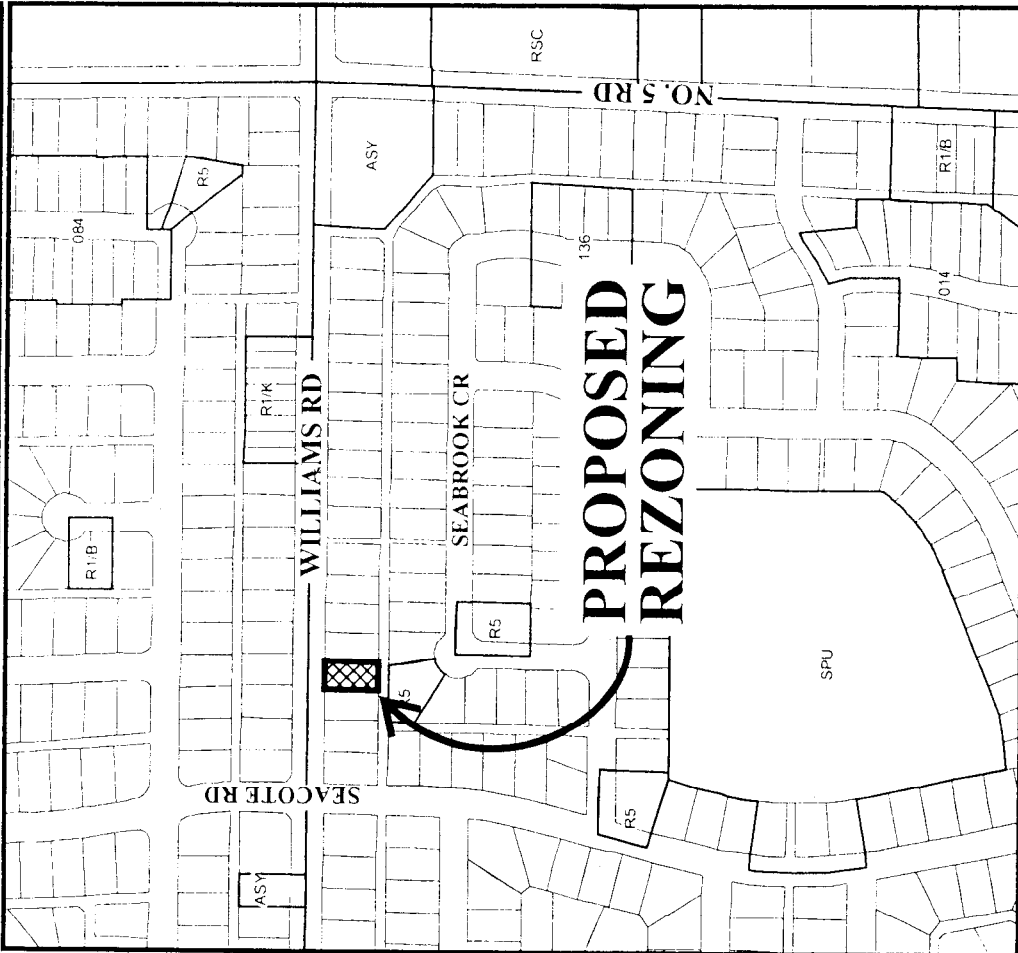


Edwin Lee
Planning Technician - Design
(4121)

EL:blg

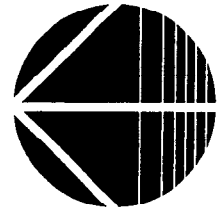
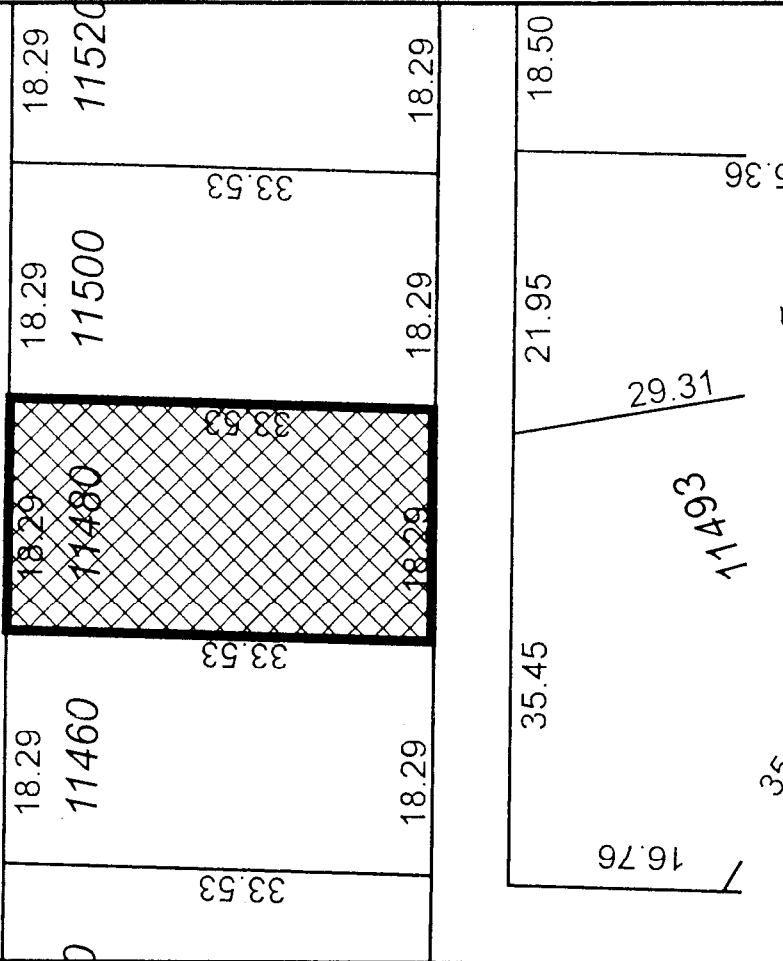


City of Richmond



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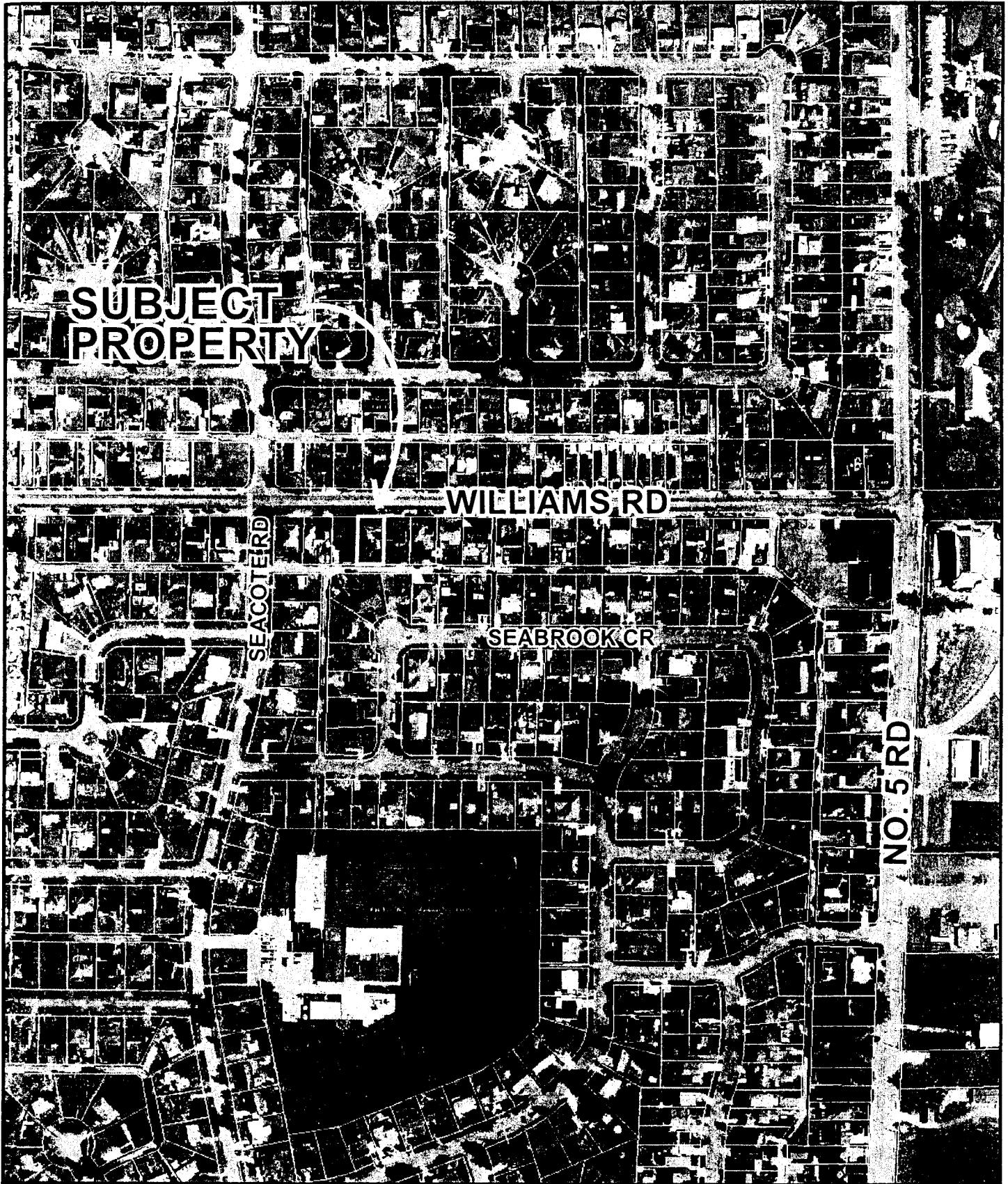
WILLIAMS RD



RZ 06-352822

Original Date: 11/23/06
 Revision Date:
 Note: Dimensions are in METRES

ATTACHMENT I



RZ 06-352822

Original Date: 11/23/06

Amended Date:

Note: Dimensions are in METRES



City of Richmond

6911 No. 3 Road
 Richmond, BC V6Y 2C1
 www.richmond.ca
 604-276-4000

**Development Application
 Data Sheet**

RZ 06-352822

Attachment 2

Address: 11480 Williams Road

Applicant: Parmjit S. Randhawa

	Existing	Proposed
Owner:	Jagdeep Kaur Randhawa	To be determined
Site Size (m²):	613 m ² (6,598 ft ²)	approximately 306 m ² or 3,291 ft ² each
Land Uses:	Single-Family Residential Dwelling	Two (2) Single-Family Residential Lots
OCP Designation:	Low Density Residential	No Change
Zoning:	Single-Family Housing District, Subdivision Area E (R1/E)	Single-Family Housing District (R1-0.6)
Number of Units:	One (1) single-family detached	Two (2) single-family detached

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.60	Max. 0.60	none permitted
Lot Coverage – Building:	Max. 50%	Max. 50%	none
Lot Size (min. dimensions):	270 m ²	306 m ²	none
Setback – Front Yard (m):	6 m Min.	6 m Min.	none
Setback – Side (m):	Min. 1.2 m	Min. 1.2 m	none
Height (m):	2.5 storeys	2.5 storeys	none

Other: Tree replacement compensation required for removal of Bylaw-sized trees.



City of Richmond

Policy Manual

Page 1 of 2

POLICY

POLICY 5434

File Ref:

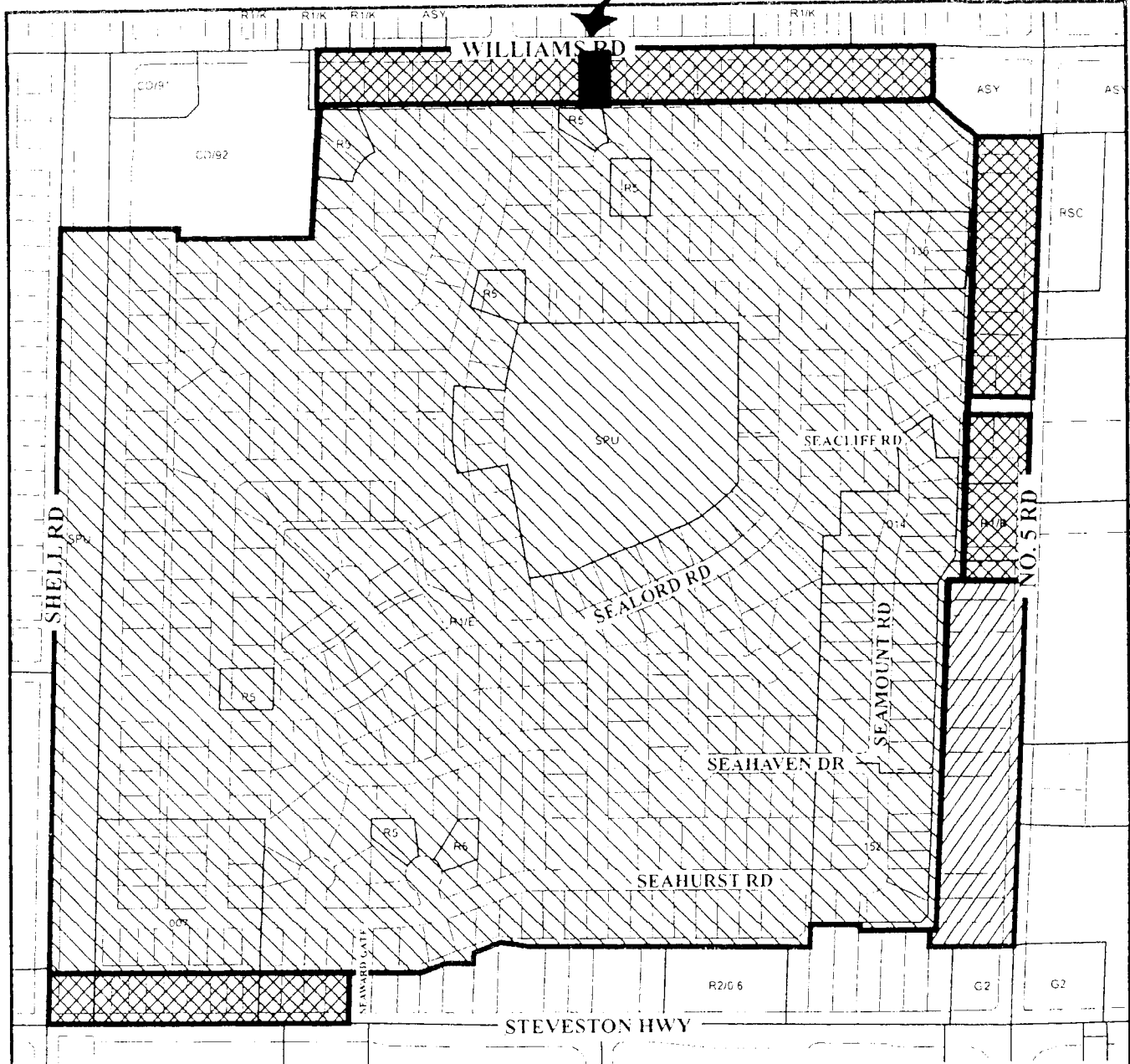
SINGLE-FAMILY LOT SIZE POLICY IN QUARTER-SECTION 36-4-6




POLICY 5434:

The following policy establishes lot sizes in a portion of Section 36-4-6, within the area bounded by **Steveston Highway, Shell Road, No. 5 Road, and Williams Road**:

1. That properties within the area bounded by Shell Road, Williams Road, No. 5 Road, and Steveston Highway, in a portion of Section 36-4-6, be permitted to subdivide in accordance with the provisions of Single-Family Housing District (R1/E), with the exception that:
 - a) Properties fronting on Williams Road from Shell Road to No. 5 Road, properties fronting on Steveston Highway from Seaward Gate to Shell Road, and properties fronting on No. 5 Road from Williams Road to approximately 135 m south of Seacliff Road to rezone and subdivide in accordance with the provisions of Single-Family Housing District (R1-0.6) or Coach House District (R/9) provided that vehicle accesses are to the existing rear laneway only. Multiple-family residential development shall not be permitted in these areas.
 - b) Properties fronting on No. 5 Road from Steveston Highway to approximately 135 m south of Seacliff Road be permitted to subdivide in accordance with the provisions of Single-Family Housing District, Subdivision Area B (R1/B) provided that vehicle accesses are to the existing rear laneway only.
2. This policy, as shown on the accompanying plan, is to be used to determine the disposition of future rezoning applications in this area, for a period of not less than five years, unless changed by the amending procedures contained in the Zoning and Development Bylaw.

SUBJECT PROPERTY



-  Subdivision permitted as per **R1/E** (18 m wide lots)
-  Subdivision permitted as per **R1-0.6 or R/9**
(access to lane only) (No Multiple-family residential development is permitted).
-  Subdivision permitted as per **R1/B**



Policy 5434
Section 36-4-6

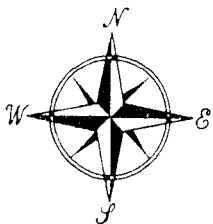
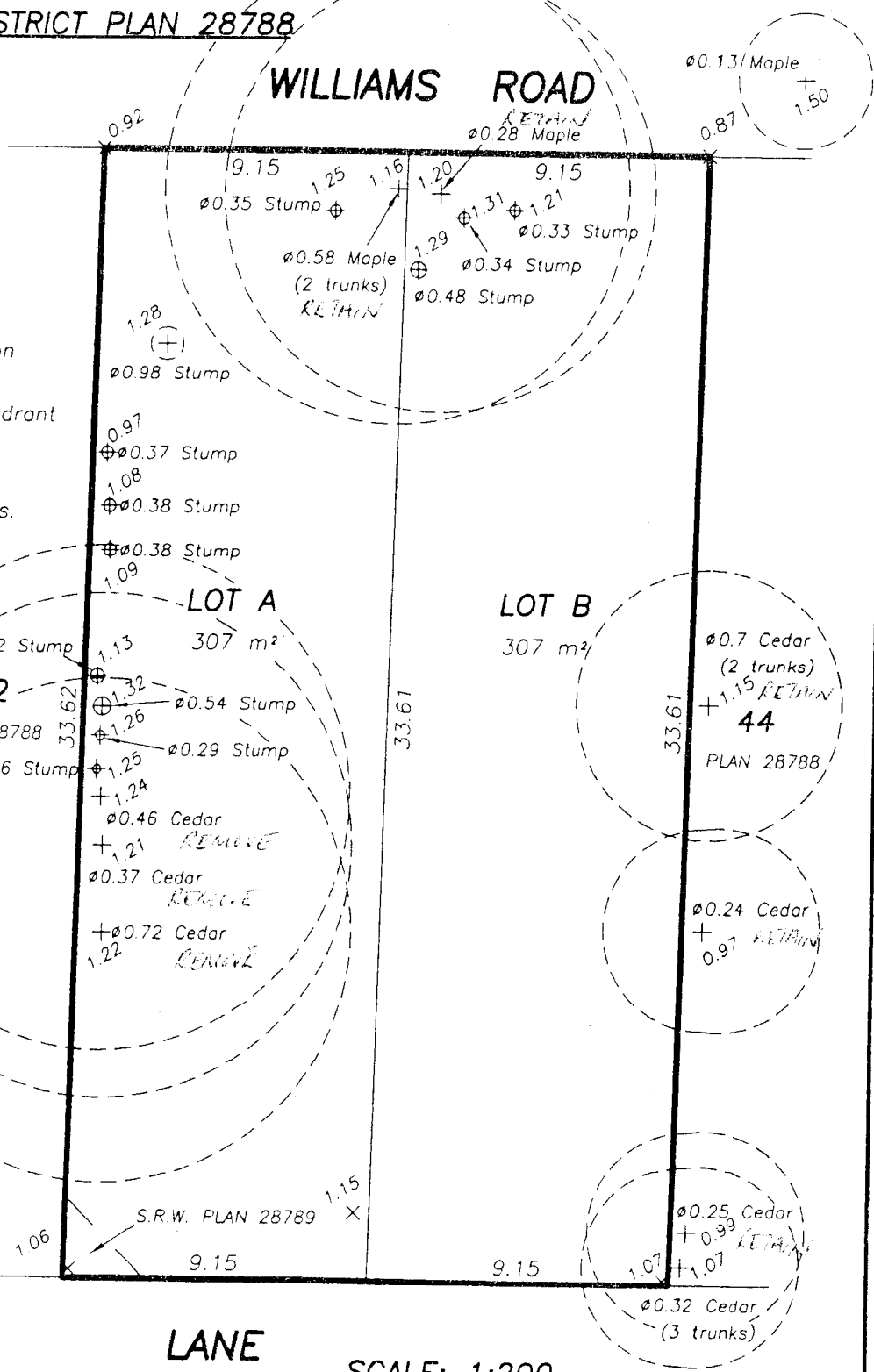
Adopted Date: 02/19/1990
Amended Date: 11/18/1991
10/16/2006

**PLAN OF TREE SURVEY AND PROPOSED SUBDIVISION
OF LOT 43 SECTION 36 BLOCK 4 NORTH RANGE 6 WEST
NEW WESTMINSTER DISTRICT PLAN 28788**

#11480 WILLIAMS ROAD,
RICHMOND, B.C.
P.I.D. 004-080-181

NOTE:

Elevations shown are based on
Richmond City Datum.
Bench Mark: Arrowhead on hydrant
located on the South side of
Williams Road at #11460.
B.M. elevation = 2.234 metres.



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J. C. Tam and Associates
Canada and B.C. Land Surveyor
115 - 8833 Odlin Crescent
Richmond, B.C. V6X 3Z7
Telephone: 214-8928
Fax: 214-8929
E-mail: jctam@telus.net
Job No. 3133
FB-80 P35-36
Drawn By: KA

LANE

SCALE: 1:200



ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED



VanArbor Vegetation Consulting Ltd.
Consulting Arborist & Urban Forest Resources

Arboriculture Report

Date of Report: January 12, 2007

Project Address: 11480 Williams Road, Richmond, BC File # RZ 06-352822

Arborist: Ken Bell, P.Ag., CAC, ISA Certified Arborist

Distribution: Parmjit S. Randhawa
City of Richmond – Planning and Development Department

Introduction

Parmjit S. Randhawa has applied to the City of Richmond for permission to rezone 11480 Williams Road from Single-Family Housing District, Subdivision Area E (R1-E) to Single-Family Housing District, (R1-0.6) in order to create 2 new Single-Family lots with an existing lane. File # RZ 06-352822. There are significant sized trees on the proposed subdivision lots and neighbouring properties that may be impacted by development.

The purpose of this Arborist report is to provide a *Tree Preservation Plan*. The report includes a tree survey, tree inventory, a tree protection plan and tree replacement calculations to help enable the proposed subdivision approval. The Landscape Architect is to provide a landscape scheme that will include replacement trees. This *Tree Preservation Plan* report endeavours to provide compliance with the City of Richmond Tree Protection By-law No. 8057.

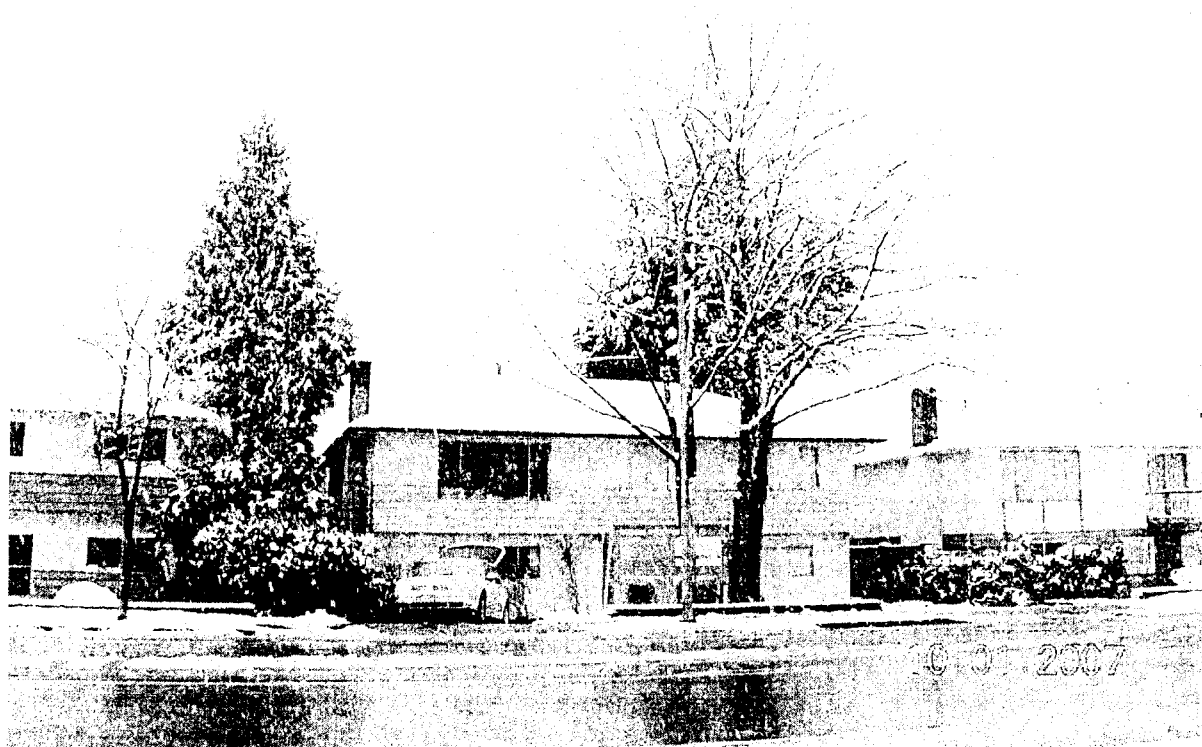
Tree Survey

VanArbor conducted the field work to review site conditions and trees on January 10, 2007. Protected trees have been field identified with numerical survey tag attached to the lower tree trunk(s). Appendix 1 shows the tree survey and the locations of the protected trees in the proposed subdivision and neighbouring lot to the East. Appendix 2 Tree Inventory documents the trees and lists: tree number, species, diameter-breast-height (DBH) size, condition rating, observations and tree preservation recommendations. It is to be noted that the Appendix 1 Tree Survey shows the locations of stumps: the stumps were not considered by VanArbor.

Site Conditions and Tree Assessment

Site conditions

The site is presently occupied by an existing home. The existing home will require demolition to enable proposed subdivision development. The ground is relatively flat and there are no water courses on the existing lot or other significant environmental features to report. The yards are landscaped with shrubs around the existing house. It was observed that the natural ground and existing house elevations is approximately 0.4 meter below the front sidewalk / boulevard grade.



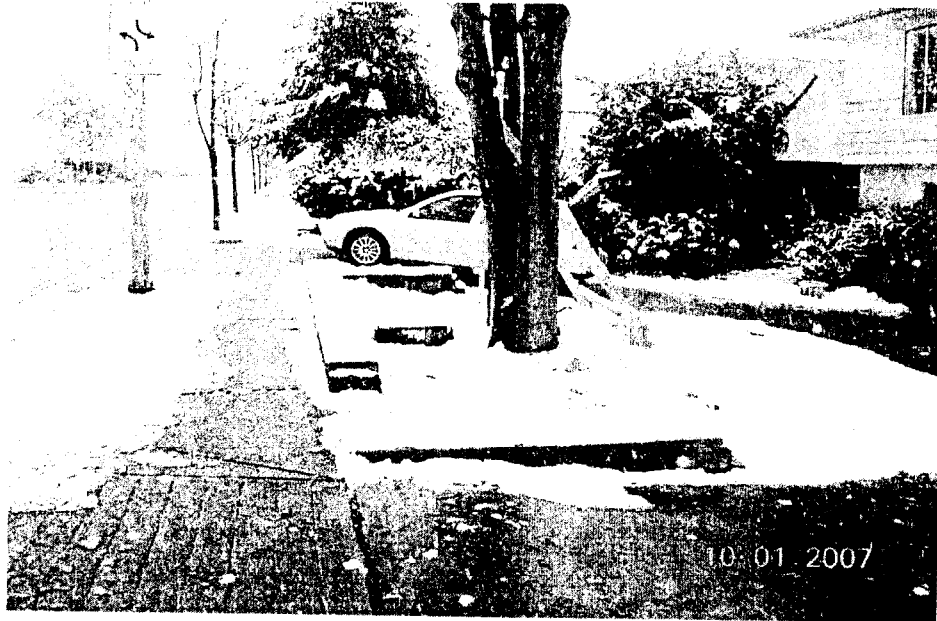
Photograph 1 shows the existing house and trees on lot proposed for 2 lot subdivision

Tree Assessment and Tree Preservation Considerations

Protected trees greater than 20 cm DBH were assessed to determine their existing condition. Base information about the trees is tabulated in Appendix 2 Tree Inventory. There are 3 primary groups of trees associated with the proposed subdivision:

1. Two (2) Maple trees in the front yard centered in the middle of the lot. The two trees are growing together (less than a meter apart) with merging crowns and are considered a single cohesive unit. The trees are considered to be in good condition and worthy of on-site preservation. The trees are sited on grade that is approximately 0.4 meters below the

existing sidewalk grade. Managing the grade differences will require special planning to successfully preserve the trees.



Photograph 2 shows the base of the two Maple trees (Trees # 5621, 5622). There is an approximate 0.4 meter grade difference between the sidewalk and the base of the trees.

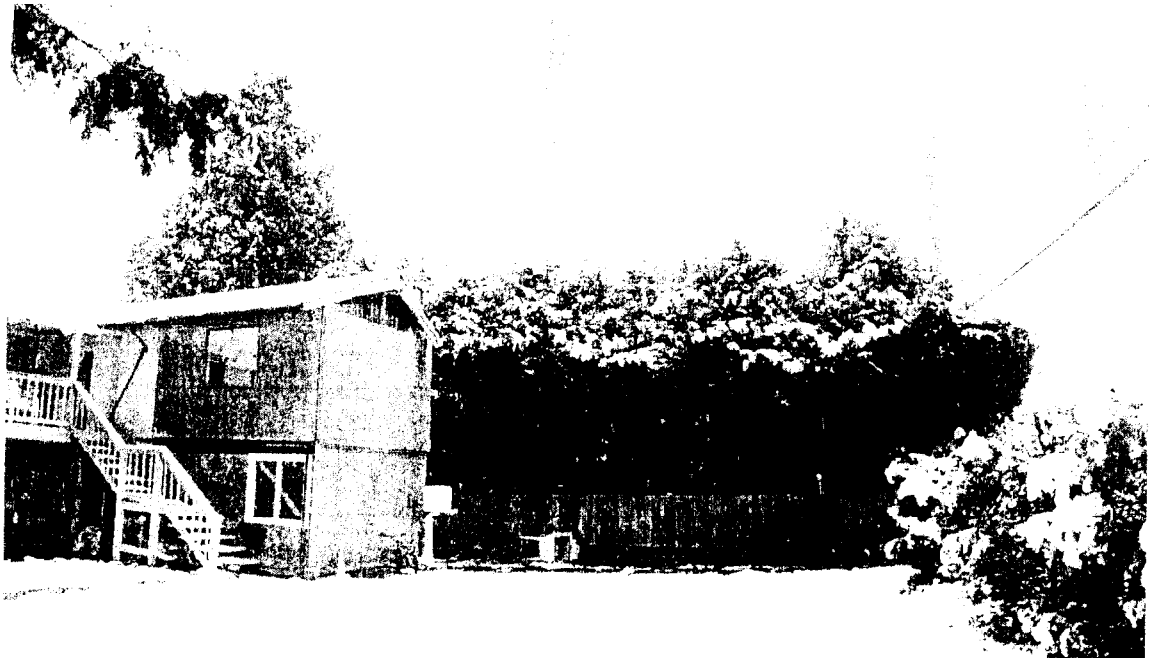
2. Three (3) Lawson cypress trees (Trees 5623, 5624, 5625) are located in the rear yard along the West property line. The trees are in poor – moderate condition. The bottom branches of the trees were recently pruned to crown raise the trees and there is evidence of branch damage due to snow loads. The Lawson cypress trees are not considered good specimen trees and not viable candidates for on-site preservation.



Photograph 3 shows the Lawson Cypress trees

3. Western red cedar tree # 5626 and the Western red cedar hedgerow # 5627 are planted on the neighbouring lot, near property line. The off-site trees are considered a low – moderate hazard risk at this time and do not require removal or pruning modification due to safety issues. The preservation of these trees may impose design and construction considerations. If written permission can be obtained from the neighbouring land owner to remove the trees, then development can proceed without the trees. However, there is no indication the trees may be removed at this time and it is assumed the neighbouring trees will require preservation. The successful preservation of the neighbouring trees will require special building design and Engineering considerations.

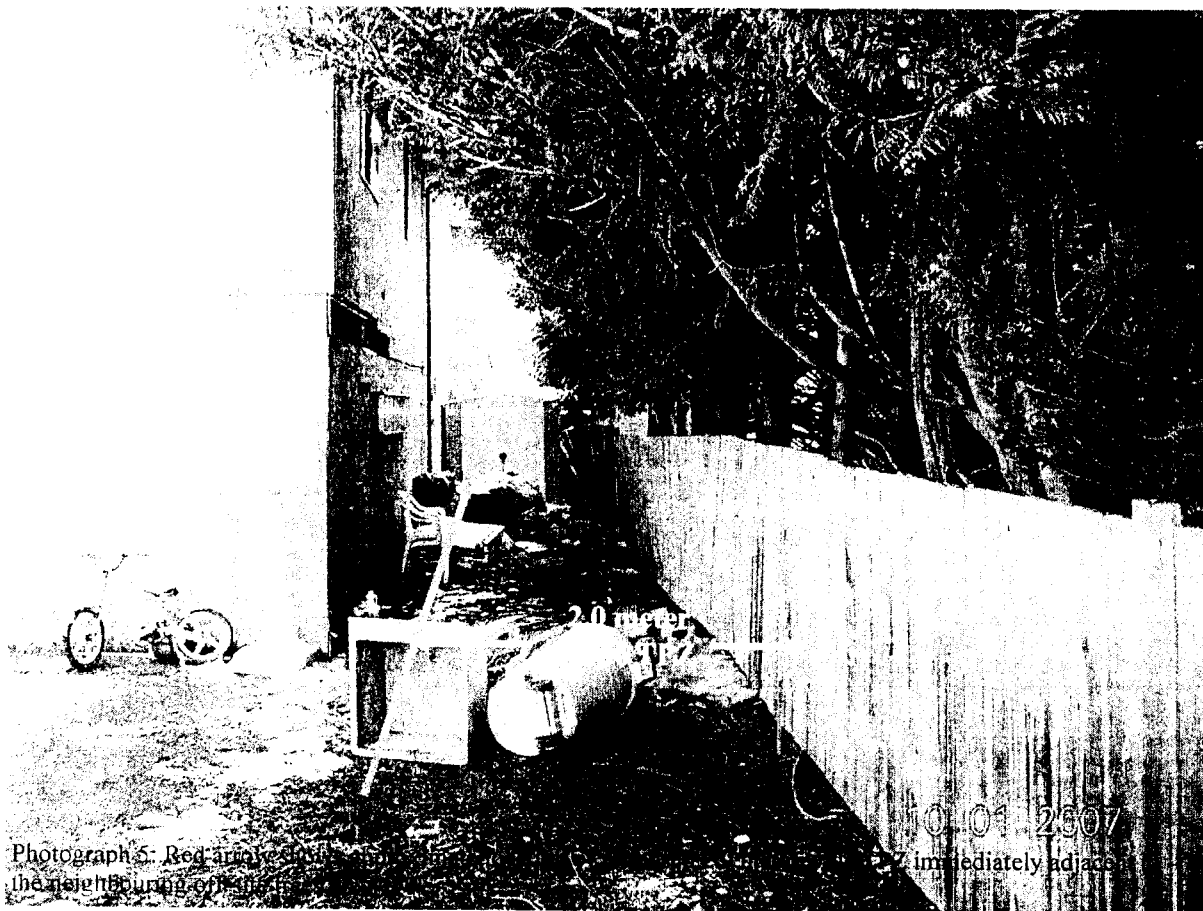
There are spatial constraints associated with the neighbouring trees and the construction of any new building on the proposed subdivision lot. The trees are located within approximately 0.5 meters from the property line and the crowns of the trees overhang the proposed subdivision lot by 2 – 4 meters. Pruning tree crown in-bounds to prevent interference with new building construction and not ruin the aesthetics of the hedgerow trees, will be a challenge. The proponent of the development should obtain written approval to permit the pruning of the trees in accordance to best management practices. Mechanical shearing the hedgerow trees is not recommended; mechanical shearing of the trees will ruin the aesthetics of the trees and likely impact the value of the subdivision lot. The tree pruning should be performed by a Certified tree care professional and work monitored by the Project Arborist.



Photograph 4 shows a panorama view of Western red cedar tree # 5626 and Western red cedar hedgerow # 5627. Trees and hedgerow are located in the rear yard of the neighbouring lot.

Tree roots from the off-site trees encroach underground into the proposed subdivision property. It is advised that the ground (parent soil and roots) not be cut within 2.0 meters of property line; otherwise the trees may die or windthrow due to excessive root loss. The

safe distance to cut roots to excavate parent soils and enable new house foundations is 2.0 meters from property line. Therefore, no excavations into parent soils within 2.0 meters of the East property line (side yard) be permitted. The 2.0 meter side yard area on the East subdivision lot immediately adjacent to the off-site trees is proposed to be a TPZ. The roots under the parent soils need to be preserved and not impacted by construction activities. Any roots that are cut outside the proposed 2.0 meter TPZ should be cut cleanly and under the direction of the Project Arborist. A barrier fence should be erected to define the TPZ. The location of the TPZ fence is not expected to interfere with the demolition of the existing house.



Photograph 5: Red arrow shows
the neighbouring off-site trees

There may be a need to increase the grade of the proposed subdivision lots. Therefore, a retaining wall along the East and West property lines will need to be constructed to hold the soil fill. Installing a retaining wall with “continuous footings” immediately adjacent to the neighbouring trees (and inside the proposed side yard TPZ) is not recommended. Alternatively, it is proposed that a retaining wall with “discontinuous footings” be constructed at/near the property line. Appendix 3 shows a detail of a retaining wall with discontinuous footings.

The location of the proposed side yard TPZ along the East property may impact the potential widths of the new home. The proponent may need to consider building design

options that will permit the construction of a new house to maximum allowable widths. Building design options may include (but not limited to): a) pier and grade beam foundations or b) a cantilever style foundation immediately adjacent to the neighbouring trees. The successful preservation of the neighbouring trees will not permit excavations into the parent soils within the 2.0 meter side yard TPZ. It is advised that the Project Arborist vet the construction plans for new house foundations to determine potential impacts to the neighbouring trees.

There are additional building constraints due to the location of the proposed 2.0 meter side yard TPZ to protect the root zone of the neighbouring trees. Conventional perimeter drainage tile may not be installed inside the proposed 2.0 meter TPZ along the East property line, immediately adjacent to the trees. Instead, the proponent may be required to Engineer design a drainage system that will not impact the root system of the neighbouring trees. Engineered drainage designs may consider strategically placed catch basins (or other technologies) to capture surface drainage. The Project Arborist should vet the construction plans for perimeter drainage immediately adjacent to the neighbouring trees and monitor any digging into parent soils inside to the TPZ that may be required to install a drainage system.

Tree Preservation Plan

On-site Trees

1. Maple Trees 5621 and 5622 are proposed for on-site preservation. The trees are already planted in a bed. It is proposed:

- Establish a tree protection (TPZ) barrier at the inside edges of the existing driveway
 - 4" inch layer of "standard" bark mulch to be placed inside the TPZ
- If ground elevations are to increase, then a retaining wall is to be constructed at the inside edges of the existing driveway. The trees shall stand in a well.
 - Perimeter drainage shall not be permitted inside the TPZ
 - Drainage basin will be required at the low point in the planting bed containing the subject trees and be installed near the new retaining wall
 - Drainage system to be engineered
 - Any digging inside the TPZ shall be done by hand digging
- New driveways to service the new homes from Williams Road shall utilize the existing driveway letdown(s).
 - Any removal of concrete driveways immediately adjacent to the subject trees shall be done carefully by machine. Digging into the sub-straight under the concrete should be minimized.
 - The removal of concrete driveways or demolition immediately adjacent to the subject trees to be actively monitored by the project arborist.

- Any tree roots encountered under the old driveway shall be cut cleanly by the project arborist

2. Three (3) Lawson cypress trees # 5623, 5624 and 5625 are proposed for removal

- Tree may be cut down by a qualified tree worker crew in accordance to ANSI A300 Standards
- Tree stumps may be removed by an excavator
 - i. Excavator operator / contractor to ensure no damage occurs to the adjacent fence during stump removal and / or initiate prompt repair of the fence if damage occurs during stump removal.
- Tree debris and stump debris to be disposed off-site in accordance to City of Richmond Tree protection Bylaw No. 8057.
 - i. Do not use chip debris from Lawson cypress trees as bark mulch in TPZ's

Off-site trees

1. Western red cedar tree # 5626 and Western red cedar hedgerow # 5627 are proposed to be preserved

- Prior to site demolition:
 - i. Dismantle metal shed, remove garbage and debris from existing side yard by hand
 - ii. Establish TPZ barrier fence at 2.0 meters from property line immediately adjacent to the neighbouring trees
 1. No machinery is permitted inside the TPZ
- Tree and hedgerow pruning
 - i. Trees and hedgerows to be pruned in accordance to best management practices using natural target pruning techniques by Certified personnel
 1. Trees to be side pruned to ≤ 1.0 meter overhang of the subdivision property; pruning of trees for ground-to-sky clearance at property line is not advised
 - a. Reducing the heights of the trees/hedgerow is not required
 2. Mechanical shearing of trees not permitted
 3. Proponent to obtain written permission from neighbouring tree owners to prune trees on the West side of the hedgerow
 4. Tree pruning to be monitored by the Project Arborist
- If site requires soil fill to increase the grade, then a discontinuous retaining at / near the property line immediately adjacent to the neighbouring trees is required.
 - i. Discontinuous footings such as posts require drilling deep holes. Depth, diameter and distance between holes is to be specified by the Project Engineer.

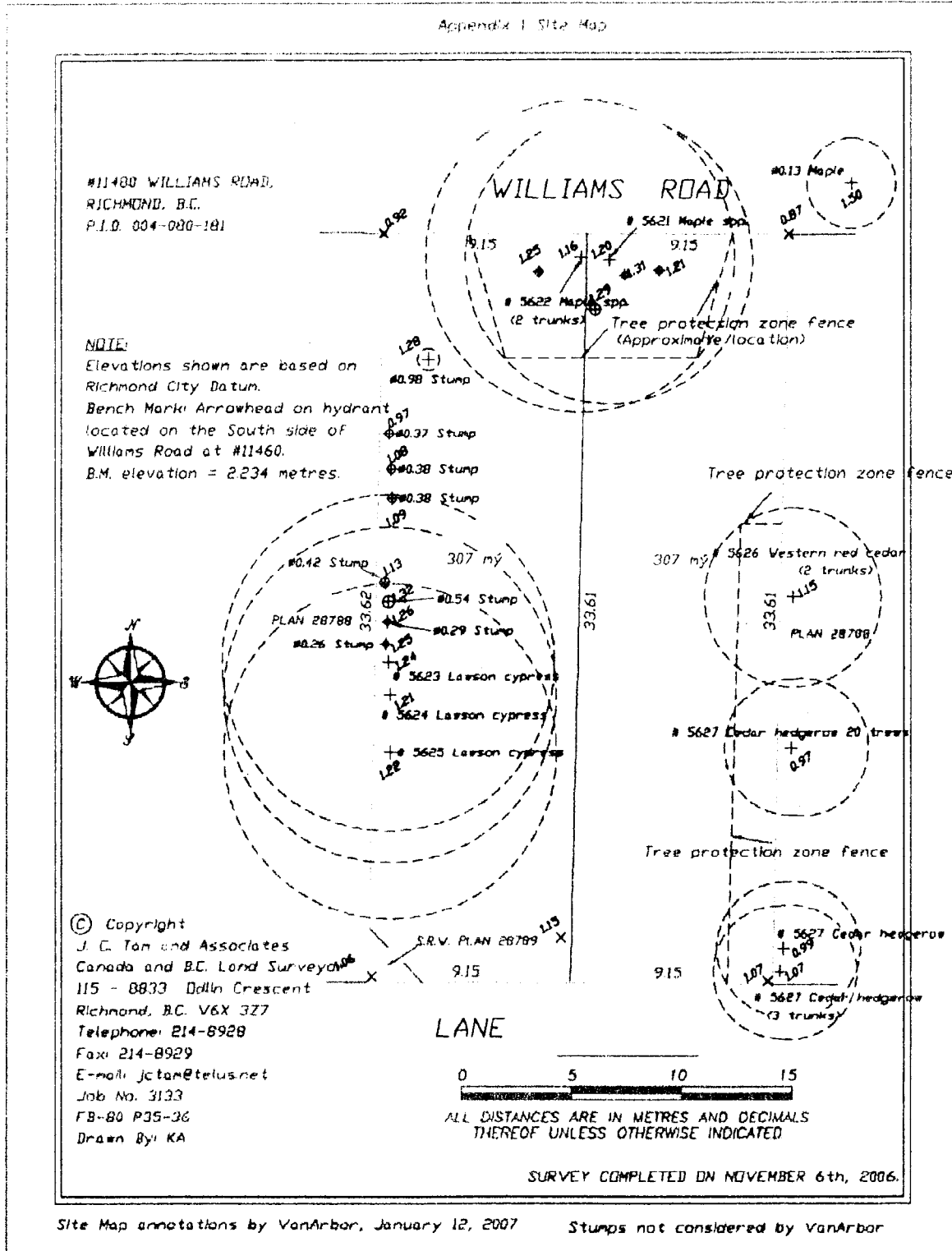
- Building foundation, retaining walls and drainage plans immediately adjacent to the preservation trees is to be vetted by the Project Arborist.
 - i. No digging or construction within TPZ's is permitted without the written authorization from the Project Arborist
- Appendix 5 contains additional "Tree Protection Specifications" that the developer is expected to adopt.
- Additional tree preservation specifications may be required as the need arises to help protect the preservation trees from construction impacts.

Tree Replacements

In accordance to City of Richmond Tree Protection Bylaw No. 8057, Schedule A, protected sized trees proposed for removal are to be replaced with specific sized trees. Appendix 4 provides the tree replacement calculation and summary of replacement tree sizes. A total of three (3) trees are to be replaced on the subdivision site in accordance to Bylaw Schedule A calculations. It is to be noted that the proposed subdivision should be vetted by Landscape Architect plans and the Landscape Architect shall decide the locations of the replacement trees. In the event that the total number of replacement trees cannot be accommodated on the subdivision parcels, the applicant may be required to plant replacement trees on City of Richmond owned properties as designated by the City.

Appendix 1

Site Map



Appendix 2

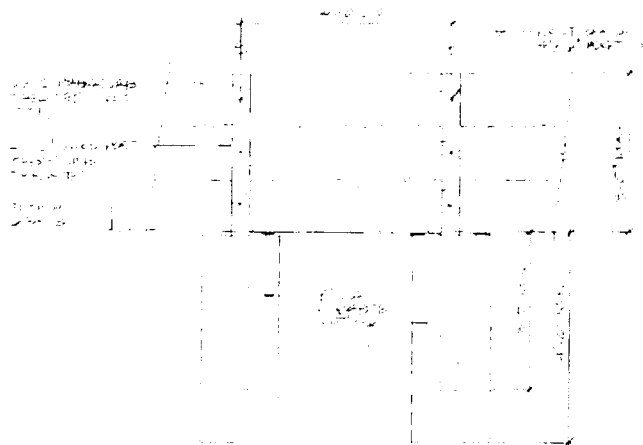
Tree Inventory

11480 Williams Road
Richmond, BC

Tree #	Species	DBH (cm)	Condition Rating	Comments	Preservation Recommendation
5621	Maple spp.	28.9	Moderate - good	<ul style="list-style-type: none"> • Good specimen trees • 4 meter radius crown spread 	Preserve
5622	Maple spp.	34.1 + 30.6	Moderate - good	<ul style="list-style-type: none"> • Trees \approx 0.4 meters below sidewalk grade 	Preserve
5623	Lawson cypress	43.1	Poor - moderate	<ul style="list-style-type: none"> • Three trees growing together; crowns merge 	Remove
5624	Lawson cypress	44.7	Poor - moderate	<ul style="list-style-type: none"> • Trees topped in past • Recently pruned to crown raise; evidence of snow load damage 	Remove
5625	Lawson cypress	64.5	Poor - moderate	<ul style="list-style-type: none"> • Poor candidates for preservation 	Remove
5626	Western red cedar	\approx 60	Moderate	<ul style="list-style-type: none"> • Located on neighbouring lot to the East \approx .5 meters from property line; not able to accurately measure DBH • Tree has codominant trunks with attachment at base • Tree has \approx 4 meter crown spread over property line; prune crown prevent interference with new house construction 	Preserve
5627	20 Western red cedar hedgerow	10 - 20	Moderate	<ul style="list-style-type: none"> • Located on neighbouring lot to the East \approx .5 meters from property line • 20 trees form an \approx 16 meter long hedgerow; planted on \approx 1.0 meter spacing • Trees regularly topped & sheared • Crown overhangs proposed subdivision \approx 2.5 meters over property line • Hedgerow requires major pruning effort to contain the side branches and not ruin the aesthetics of the hedgerow 	Preserve

Appendix 3

Detail of a retaining wall with discontinuous footings.



(c) Discontinuous footings, such as in the post and cason wall, require drilling deep holes. Depth, diameter, and distance between holes are specified by the engineer.

Reference:

Matheny, N., Clark, J.: Trees and Development, A Technical Guide to Preservation of Trees during Land Development. International Society of Arboriculture, 1998

Appendix 4

Calculation of replacement tree sizes in accordance to City of Richmond Tree Protection Bylaw 8057:

Trees proposed for removal Tree #	DBH size (cm) of trees proposed for removal	Conifer replacement tree size
5623	43.1	5.0 meters tall
5624	44.7	5.0 meters tall
5625	64.5	6.0 meters tall

Summary of Conifer replacement tree sizes:

Quantity of conifer trees proposed for replacement	Conifer replacement tree sizes
2	5.0 meters tall
1	6.0 meters tall
Total replacement trees = 3	

Appendix 5

Additional Tree Preservation Specifications

1. Trees and tree protection zone (TPZ) barrier fences are to be plotted on civil and landscape drawings. All planning professionals and on-site construction workers are to be aware of the TPZ's and know that the TPZ are no encroachment areas.
2. Temporary TPZ fencing must be installed at alignments specified by the Project Arborist before any land clearing, demolition or construction commencement.
3. The fence must be sturdily constructed of suitable materials. A wood post and a top rail frame with 1.2 meter snow fence is the common standard. Signs stating: "TREE PROTECTION AREA - NO ENTRY" must be affixed every 10 meters or suitable frequency. The TPZ fence is to be maintained in good order until the infrastructure and buildings are substantially complete. The fence must be removed within 2 weeks of construction completion.
4. The TPZ fencing must be inspected and approved by the Project Arborist prior to work commencement and should be checked on a regular monitoring frequency during the course of construction. The frequency will be determined based on the level of construction activity in the vicinity of preserved trees and conformance results.
5. If encroachment into TPZ is required for any reason, it should be authorized in advance by the Project Arborist. Special measures may need to be implemented to allow access and some activities will not be permitted.
6. Soil, debris and building materials etc. are to be piled or stored outside the TPZ. Specific dumping, liquid waste disposal and wash-out areas shall be provided, well away from trees.
7. There shall be no direct discharge of storm or site drainage waters through or into the TPZ
8. All pruning and site rehabilitation work to trees within the TPZ is to be performed under the supervision of the Project Arborist.
9. All machinery (excavators, bulldozers, bobcats, cars, trucks, etc.) are to be kept out of the TPZ, unless approved in writing by the Project Arborist
10. Excavators and any other machinery are to dig the earth outside the TPZ with the bucket digging towards the tree, and not digging with the bucket across the radiant of tree roots. Tree roots shall be cut cleanly by hand and under the direction of the Consulting Arborist. Excavation wall at the building envelope is to be covered with a black plastic tarp to protect any exposed tree roots. Irrigating the exposed roots under the tarp may be necessary to prevent the roots from drying-out, depending upon the season

11. Underground services, drainage and finished grading shall not cause any grade changes (excavation & fill) within the TPZ's, or grade changes of surrounding lands that would result in storm water accumulation or depletion within the TPZ's.
12. Activities within and access to the TPZ's are restricted so that no one may cause or allow the deposit of any soil, spoil, aggregate, construction supplies/materials or waste materials. Vehicles and equipment may not pass within these zones. The preserved trees must not be used to affix signs, lights, cables or any device. Pruning, root pruning or any other treatment to preserved trees must be performed by a qualified Arborist and under the direction of the Project Arborist.
13. Preservation trees and tree protection areas are to be inspected by the Project Arborist prior to occupation of site, and whenever the site superintendent or owner as deemed necessary.
14. Trees being retained in close proximity to any excavation require monitoring and inspection during the excavation process. Roots that encountered are to be pruned at the excavation limits, in order to protect roots from being damaged at a point closer to the tree.
15. Supplemental watering of retained trees during the growing season may be required and must be undertaken by the Developer at their cost as recommended by the Project Arborist.
16. Penalties and compensation rules are to be established to help prevent contractors and sub-contractors to cause damage to trees. Penalties to be included in all standard contracts. Penalties may include but not limited to:
 1. Cost of repair to mitigate damage
 2. Appraisal value of damaged tree(s) in accordance to "Council of Tree & Landscape Appraisers
 3. City of Richmond tree Protection Bylaw 8057

Assumptions and Limiting Conditions

1. Except as expressly set out in this report and in these Assumptions and Limiting Conditions, Vanarbor Vegetation Consulting Ltd. (“**Vanarbor**”) makes no guarantee, representation or warranty (express or implied) with regard to: this report; the findings, conclusions and recommendations contained herein; or the work referred to herein.
2. This report has been prepared, and the work undertaken in connection herewith has been conducted, by Vanarbor for **Parmjit S. Randhawa** (the “**Client**”). It is intended for the sole and exclusive use by the Client for the purpose(s) set out in this report. Any use of, reliance on or decisions made based on this report by any person other than the Client, or by the Client for any purpose other than the purpose(s) set out in this report, is the sole responsibility of, and at the sole risk of, such other person or the Client, as the case may be. Vanarbor accepts no liability or responsibility whatsoever for any losses, expenses, damages, fines, penalties or other harm (including without limitation financial or consequential effects on transactions or property values, and economic loss) that may be suffered or incurred by any person other than the Client as a result of the use of or reliance on this report or the work referred to herein. The copying, distribution or publication of this report (except for the internal use of the Client) without the express written permission of Vanarbor (which consent may be withheld in Vanarbor’s sole discretion) is prohibited. Vanarbor retains ownership of this report and all documents related thereto both generally and as instruments of professional service.
3. The findings, conclusions and recommendations made in this report reflect Vanarbor’s best professional judgement in light of 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 as at the date of this report. Except as expressly stated in this report, the findings, conclusions and recommendations set out in this report are only 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 (which they are likely to do), modifications to the findings, conclusions, and recommendations in this report may be necessary. Vanarbor 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**”, including without limitation structural defects, scars, decay, fungal fruiting bodies, evidence of insect attack, discoloured 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 expressed: information contained in this report covers only those Conditions and trees that are expressly stated to be subject to this report and only reflects such Conditions and trees at the time of inspection; and 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 the trees recommended for retention are both healthy and safe, no guarantees, representations or warranties are made (express or implied) that those trees will remain standing or will not fail. The Client acknowledges that it is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree, or group 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. Vanarbor expressly excludes any duty to provide any such modification if Conditions change or additional information becomes available.

5. Nothing in this report is intended to constitute or provide a legal opinion, and Vanarbor expressly disclaims any responsibility for matters legal in nature (including, without limitation, matters relating to title to and ownership of real or personal property and matters relating to cultural and heritage values). Vanarbor 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, “**Governmental Bodies**”) or as to the availability of licences, permits or authorizations of any Governmental Body. Revisions to any regulatory standards (including by-laws, 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. Vanarbor expressly excludes any duty to provide any such modification if any such regulatory standard is revised.
6. The client agrees that Vanarbor 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, Vanarbor has relied in good faith on information provided by certain persons, Governmental Bodies, government registries and agents and representatives of each of the foregoing, and Vanarbor assumes that such information is true, correct and accurate in all material respects. Vanarbor accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, 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.

Qualifications of Author

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- President of VanArbor Vegetation Consulting Ltd.
- Professional Agrologist, P.Ag.
- Certified Agriculture Consultant, CAC
- Certified Arborist accredited by the International Society of Arboriculture, Certification # PN-0276A
- WCB Certified Tree Risk Assessor: Certification # 35
- WCB Wildlife Danger Tree Assessor: Parks and Recreation Module: Certification # P0625
- BCSLA / BCLNA Landscape Inspector Certificate
- Diploma Horticulture, Olds College, 1980
- Bachelor of Science in Agriculture, University of Alberta, 1986
- Consulting Arborist and Landscape Consultant: April 1992 -- Present
- Member:
 - International Society of Arboriculture (ISA)
 - British Columbia Institute of Agrologists (P.Ag.)
 - Canadian Consulting Agrologist Association (CAC)
 - American Society of Consulting Arborists (ASCA)
- Over 25 years of professional employment in Landscape Horticulture and Arboriculture



VanArbor Vegetation Consulting Ltd.
Consulting Arborist & Urban Forest Resources

Arboriculture Report - Addendum

Date of Report: January 31, 2007

Project Address: 11480 Williams Road, Richmond, BC File # RZ 06-352822

Arborist: Ken Bell, P.Ag., CAC, ISA Certified Arborist

Distribution: Parmjit S. Randhawa
City of Richmond – Planning and Development Department

This report is an Addendum to the Arborist report dated January 12, 2007. The purpose of the addendum is to help clarify the tree protection zone (TPZ) and tree preservation plan on the South side of the proposed subdivision lot.

There is a conifer hedgerow located near the property line on the neighbouring lot. The conifer hedgerow needs to be preserved. The health and structural condition of the trees should not be impacted by development activities on the proposed subdivision lot. The primary concern is the critical root zone of the trees. The report dated January 12, 2007 recommended a 2 meter TPZ from property line. The report states that the "parent soils" within 2 meters of the hedgerow should not be disturbed. (i.e.) no cutting of roots within the 2 meter TPZ, otherwise the health and structural condition of the trees may be impacted. Demolition activities may require monitoring to ensure the parent soils are not disturbed.

If the grade of the proposed subdivision lot is raised between 1 – 2 feet to enable new house construction, then a retaining wall may be constructed at property line. The retaining wall must have "discontinuous footings" as specified in the January 12, 2007 report. A retaining wall at property line with continuous footings is not recommended; the digging of a continuous footing retaining wall will impact the root system of the hedgerow trees. After the construction of the discontinuous footing retaining wall, sand-fill may be placed on the lot. Thereafter, a concrete slab foundation for the new house may be constructed over the sand fill. The concrete slab may encroach into the 2 meter TPZ along the South property line, providing the parent soils are not cut or disturbed. The retaining wall and subsequent development should be vetted by professional engineers.

We hope this addendum helps provides clarification regarding tree preservation and house construction on the proposed subdivision lot. Please contact Ken Bell, P.Ag. if there are any questions regarding this addendum report.



Richmond Zoning and Development Bylaw 5300
Amendment Bylaw 8197 (RZ 06-352822)
11480 WILLIAMS ROAD

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

- 1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning and Development Bylaw 5300, is amended by repealing the existing zoning designation of the following area and by designating it SINGLE-FAMILY HOUSING DISTRICT (R1-0.6).

P.I.D. 004-080-181

Lot 43 Section 36 Block 4 North Range 6 West New Westminster District Plan 28788

- 2. This Bylaw may be cited as "Richmond Zoning and Development Bylaw 5300, Amendment Bylaw 8197".

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER REQUIREMENTS SATISFIED

ADOPTED

Series of horizontal lines for recording readings and requirements.

CITY OF RICHMOND APPROVED by [Signature] APPROVED by Director or Solicitor [Signature]

MAYOR

CORPORATE OFFICER