



City of Richmond
Planning and Development Department

Report to Committee

To: Planning Committee
From: Brian J. Jackson, MCIP
Director of Development
Date: February 25, 2008
File: RZ 07-361266
Re: Application by Orion Estates Ltd. for Rezoning at 7140 Railway Avenue from Single-Family Housing District, Subdivision Area E (R1/E) to Comprehensive Development District (CD/54)

Staff Recommendation

That Bylaw No. 8343, to:

1. Amend "Comprehensive Development District (CD/54)" to reduce the minimum lot size restriction from 5,759.8 m² to 1,830 m² for townhouses; and
2. To rezone 7140 Railway Avenue from "Single-Family Housing District, Subdivision Area E (R1/E)" to "Comprehensive Development District (CD/54)";

be introduced and given first reading.

Brian J. Jackson, MCIP
Director of Development

BJ:blg
Att.

FOR ORIGINATING DEPARTMENT USE ONLY

CONCURRENCE OF GENERAL MANAGER

Staff Report

Origin

Orion Estates Ltd. has applied to the City of Richmond for permission to rezone 7140 Railway Avenue (**Attachment 1**) from "Single-Family Housing District, Subdivision Area E (R1/E)" to "Comprehensive Development District (CD/54)" to permit the development of a townhouse complex consisting of 10 three-storey units.

Findings of Fact

Project Description

The proposed zoning text amendment and rezoning are intended to facilitate the construction of a 10-unit townhouse project in the Blundell Area at the curve of Granville Avenue and Railway Avenue with vehicle access from the existing rear lane. Roughly, the northern half of the triangular lot is included in the Laurelwood Sub-Area Plan (**Attachment 2**).

A Development Application Data Sheet providing details about the development proposal is attached (**Attachment 3**).

Surrounding Development

The Blundell Area and Laurelwood Sub-Area lot is located at the curve of the major arterials Granville Avenue and Railway Avenue. Development surrounding the lot includes:

- To the north, across Granville Avenue, is Burnett High School, zoned "School and Public Use (SPU)". Neighbouring the high school site is Thompson Community Centre and Blair Elementary;
- To the east, is a 155-unit townhouse development fronting onto Lynwood Road and a vacant City-owned lot at 7117 Lindsay Road, both zoned "Comprehensive Development District (CD/54)". Across the rear lane are single-family homes, under Land Use Contract (LUC 033);
- To the south, are single-family homes, under Land Use Contract (LUC 050) and zoned "Single-Family Housing District, Subdivision Area E (R1/E)"; and
- To the west, across Railway Avenue is the unused CPR rail right-of-way, and across McCallan Road, strata-titled duplexes and single-family homes, zoned "Two-Family Housing District (R5)" and "Single-Family Housing District, Subdivision Area E (R1/E)".

Related Policies & Studies

Official Community Plan

On the Richmond Official Community Plan (OCP) Generalized Land Use Map, the proposed Blundell Area site is designated "Neighbourhood Residential". On the OCP Specific Land Use Map, roughly the southern half of the proposed Blundell Area site is designated "Low-Density Residential" which has a defined maximum floor area ratio (FAR) of 0.7 (See the

Laurelwood Sub-Area Plan section below regarding the northern portion of the site). The proposed land use complies with the designation.

The proposed lot is also located along a major arterial road as identified in the Arterial Road Redevelopment Policy contained in the OCP and meets the criteria listed for Multiple-Family Residential Development, including precedence of Multiple-Family development, and proximity to bus routes and neighbourhood amenities. The proposed land use complies with the Policy.

Laurelwood Sub-Area Plan

Approximately half of the site is subject to the OCP Laurelwood Sub-Area Plan. On the Land Use Map, the northern portion of the site is designated "Residential (Townhouses)". The proposed land use complies with the designation (**Attachment 2**).

Floodplain Management Implementation Strategy

In accordance with the City's Floodplain Management Implementation Strategy (Policy 7000), the applicant is required to register a Flood Indemnification Covenant on title as a condition of rezoning, referencing the minimum habitable elevation for the area, which is 0.9 m (geodetic). The proposed development building grade elevation satisfies the required Flood Plain Construction Elevation in the area.

Public Input

A development sign has been posted on-site as public notification of the intent to rezone this site. Staff has received some inquiries on this application. No concerns regarding the rezoning were expressed to staff.

Staff Comments

A preliminary site plan, unit plans, and streetscape elevations are enclosed for reference (**Attachment 4**). Separate from the rezoning process, the applicant is required to submit separate applications for Development Permit, Servicing Agreement and Building Permit.

Analysis

Land Use

As discussed above, the proposed land use complies with the OCP Generalized Land Use Map, Specific Land Use Map, Arterial Road Redevelopment Policy, and Laurelwood Sub-Area Plan. Project particulars include providing residential density on a major arterial road in close proximity to bus routes and neighbourhood amenities, and contribution towards the City's Affordable Housing Strategy.

Density and Form

- The proposed development complies with the Laurelwood Sub-Area Plan which designates the northern portion of the site for Multiple-Family Residential Townhouse Development.
- The proposed development complies with the Arterial Road Redevelopment Policy contained in the OCP regarding criteria for Multiple-Family Residential Development.

- The proposed development complies with the OCP principles of increasing residential density along bus routes and in close proximity to neighbourhood amenities such as schools and community centres.
- The proposed zoning district and density are the same as the adjacent existing Lynwood Road 155-unit townhouse development and vacant City-owned lot at 7117 Lindsay Road. The proposed lot is smaller than the townhouse development lot and larger than the vacant lot, although less regular in shape. A zoning text amendment is needed to reduce the minimum lot size to allow the subject property and adjacent vacant Lindsay Road lots to redevelop with townhouses. The proposed development is located at the intersection of two (2) major arterial roads, achieves a functional layout, provides adequate private and common outdoor space.
- The proposed site layout provides for a pedestrian-oriented streetscape of townhouses fronting Railway Avenue.
- The majority of the townhouses are stand-alone buildings on either side of a north-south internal drive aisle. The streetscape units provide a saw-tooth setback to the curve, so that these units all benefit from some south exposure.
- The proposed townhouse streetscape expression with a 2 ½-storey and 3-storey building height duplex and stand alone units is an appropriate transition between the larger scale 3-storey building massing of the adjacent townhouse development and the 2-storey single-family homes to the south. The proposed 3-storey building height is consistent with the adjacent development and arterial road redevelopment elsewhere in the City. The streetscape units define the edge of the public road.

Amenities

- On-site indoor amenity space is not included in the proposal. The developer is proposing a contribution in-lieu of on-site indoor amenity space for the 10-unit townhouse development in compliance with the OCP and Council policy (e.g. \$10,000 for 10 dwelling units).
- On-site outdoor amenity space is proposed at the northern end of the site, and exceeds the OCP requirements for size. The amenity space provides an open space transition between the larger scale 3-storey building massing of the adjacent townhouse development and the smaller scale massing of the development proposal. Additional open space is provided at the entry from the lane. The design of landscape details will be refined as part of the required Development Permit application.
- The outdoor amenity is also adjacent to a well-used informal pedestrian path, which will be formalized into a 3 m public rights-of-passage (PROP) right-of-way (ROW) through the proposed development site from Granville Avenue to the rear lane. The adjacency with the amenity space lends a generous entrance and high degree of visibility to the proposed public path (**Attachment 4**).

Affordable Housing

- The applicant has committed to a voluntary contribution of \$0.60 per buildable ft² towards affordable housing. This in accordance with the Richmond Affordable Housing Strategy for applications received prior to July 1, 2007 as the application was received on February 02, 2007.

Transportation

- Vehicular access is proposed to be from the existing rear lane which runs from Lindsay Road through to Linfield Gate.
- The developer is required to design and construct transportation infrastructure through a Servicing Agreement required as a condition of the rezoning (**Attachment 6**). Transportation infrastructure works include, but are not limited to:
 - a. Railway Avenue: Improvements along the entire frontage to be reasonably designed around the retention of the two (2) existing Oak boulevard trees. The ability to retain the trees will be investigated in detail as part of the Servicing Agreement. Works include, but are not limited to, removing the existing sidewalk and relocating it closer to the property line with a new 1.5 m concrete sidewalk located on the same alignment/offset as the existing sidewalk ending at the "bend" of Granville Avenue/Railway Avenue complete with street lighting and a grass boulevard with trees.
 - b. Public Path: Construct a new 2 m wide concrete walkway in a new 3 m PROP ROW complete with the required drainage and walkway lighting from Granville Avenue southward to the lane. The path way is to be built by the developer and maintained in the future by the City.
 - c. Lane: Upgrade existing rear lane with works including, but not limited to, storm sewer, "roll over" curb/gutter (both sides), 5.1 m wide asphalt pavement and lane lighting.
- Resident and visitor parking for the townhouse development lot is provided on-site in compliance with the Zoning & Development Bylaw requirement and is accessed from the internal drive aisle.
- Garbage and recycling are consolidated at a single location, accessed for pick-up from the internal drive aisle. Design development is required to the garbage/recycling/mailbox structure, and visitor parking through the forthcoming required Development Permit application process.
- Pedestrian routes through the site are provided to Railway Avenue and Granville Avenue.

Tree Management and Site Vegetation

An Arborist report and tree survey (**Attachment 5**) has been submitted and reviewed by City staff, with recommendations for tree removal within the site and protection measures for the adjacent Oak trees in the boulevard. The findings of the report are summarized in the table below.

Parks arborist staff and the site arborist are concerned about the potential impact of construction activity on the long-term health of the Oak trees. Successful protection will need coordination between the contractor, site arborist, engineering design consultant, City Engineering and Parks staff as significant upgrades are required in the City boulevard. The infrastructure upgrades will need to be carefully detailed during the forthcoming required Servicing Agreement process.

A landscape plan, designed by a registered Landscape Architect is required to be provided as part of the Development Permit application submission. A Landscape Security will also be a requirement of the Development Permit to cover on-site landscaping works. Staff will be seeking a 2:1 replacement for trees removed from the development site with consideration given to an appropriate mix of deciduous and evergreen trees in the landscape plan.

There is a boulevard street-tree which conflicts with required infrastructure improvements being secured through the required Servicing Agreement process. Staff will also be seeking compensation for the removal of this tree at a 2:1 replacement ratio through the forthcoming Development Permit process.

Tree Summary Table

Item	Number of Trees	Retention Trees	Compensation Required	Comments
On-site bylaw trees	4	0	8	To be removed, due to conflicts with proposed building locations, internal roadways and driveways, or poor health of the tree
Off-site boulevard trees adjacent to site	3	2	2	Located within excavation and construction zones for frontage improvement and infrastructure upgrade works as part of the Servicing Agreement application process
Off-site trees adjacent to the site	7	7	-	Neighbour's trees to be protected

Accessible Housing

- The applicant will provide one (1) unit that is designed with conversion for universal accessibility in mind. Conversion would provide access to all three (3) floors of the unit and at least one (1) adaptable bathroom. Details of opportunities for providing enhanced accessibility and aging in place will be reviewed at the required Development Application stage.

Servicing Capacity

- Storm Sewer: The City has reviewed the developer's storm analysis and upgrades have been identified. A storm sewer upgrade across the Railway frontage is included in the Servicing Agreement, which is a requirement of the rezoning (approximately 96 m of sewer pipe upgraded to 1050mmØ from existing manhole MH654 to MH652).
- Watermain: The City has reviewed the developer's water service analysis and upgrades have been identified. A watermain upgrade across Railway Avenue and along the site frontage is included in the Servicing Agreement, which is a requirement of the rezoning (approximately 115 m of 100mmØ watermain pipe upgraded to 200mmØ across the frontage and complete with a 200mmØ road crossing connected to the existing 300mmØ watermain along the west side of Railway Avenue at the south edge of the site).

Design Review and Future Development Permit Application Considerations

A Development Permit Application is to be processed to the satisfaction of the Director of Development as a condition of rezoning. Review by the Advisory Design Panel will be required as part of the Development Permit process.

The applicant has developed a preliminary design for this site (**Attachment 4**). The following items will be further investigated at the Development Permit stage:

- Detailed review of building form and architectural character. Design development is needed throughout the project to provide articulation, harmonize proportions, rationalize garage design, and emphasize pedestrian orientation;
- The number and dimensions of off-street parking stalls, including accessible spaces, to be in accordance with the City Zoning and Development Bylaw, Division 400. Detailed dimensions of parking stalls to be provided on plans;
- Detailed mailbox and garbage/recycling structure design. The mailboxes to be at least 6 m away from the vehicle entry;
- Detailed landscaping design, including an internal on-site outdoor amenity area;
- Careful detailing of the building and front yard area adjacent to the Oak tree which is to be protected and retained in the boulevard. As noted previously, Parks Department staff is concerned about compounded impact of construction activity on the long-term health of the Oak tree. Successful protection will need coordination between the contractor, site arborist, engineering design consultant, City Engineering and Parks staff; and
- Review of units providing opportunities for aging in place (including providing blocking in bathroom walls for future installation of grab rails).

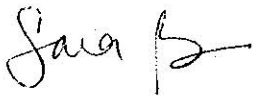
Guidelines for the issuance of Development Permits for multiple-family projects are contained in Schedule 1 of Bylaw 7100 (Section 9.0 Development Permit Guidelines).

Financial Impact or Economic Impact

None.

Conclusion

The proposal is in conformance with Smart Growth principles of providing denser residential development in close proximity to bus routes and neighbourhood amenities such as community centres and schools. The proposal for frontage improvements and the formalization of a well-used path support the vision for this area. Overall, the project should be a good fit with the neighbourhood. On this basis, staff recommend that the proposed rezoning application be approved.



Sara Badyal, M.Arch.
Planner 1
(Local 4282)

SB:blg

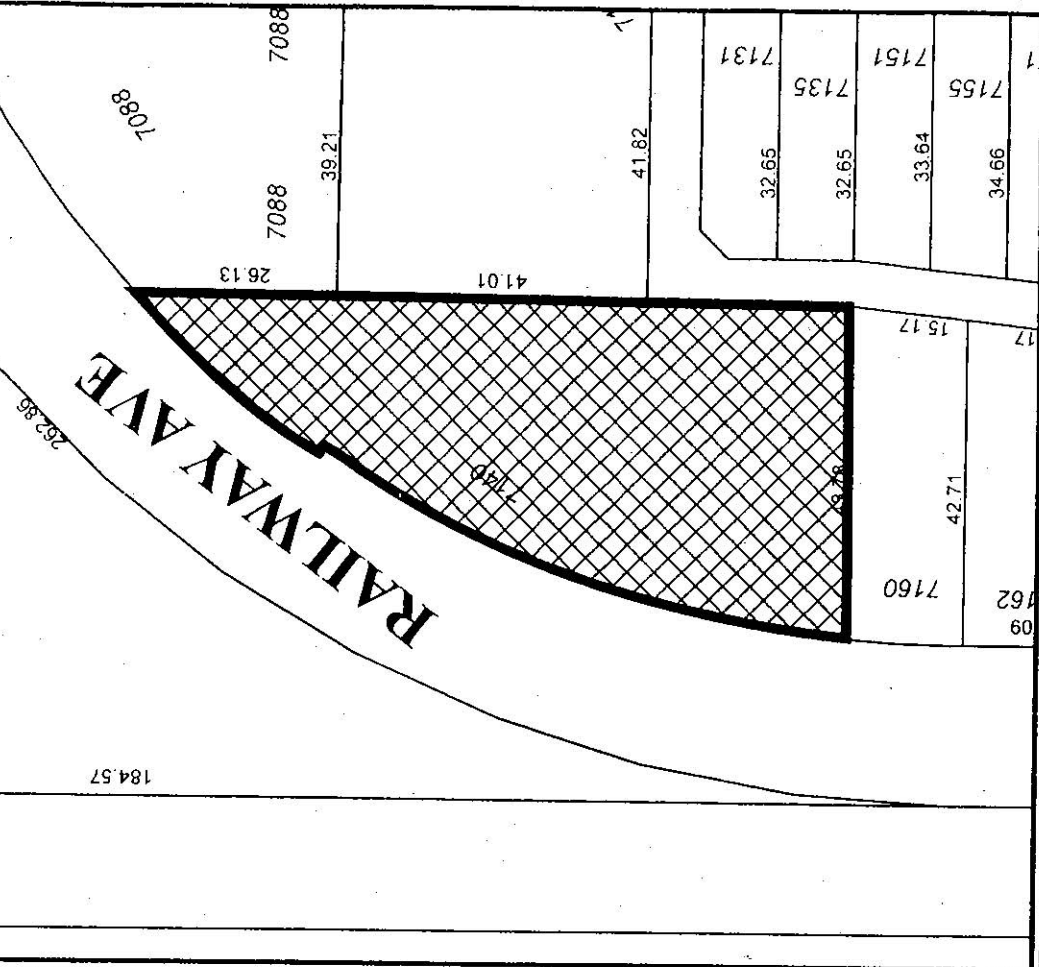
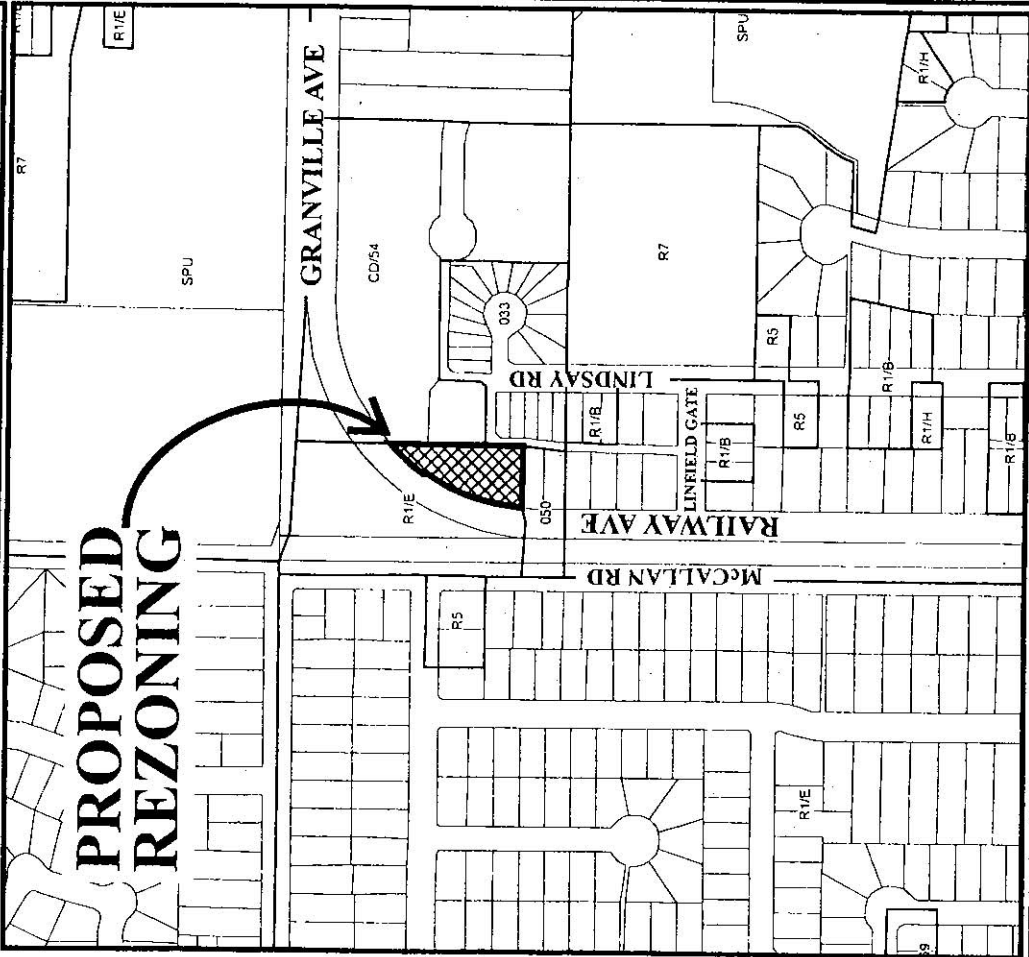
List of Attachments:

- Attachment 1: Location Map and GIS Aerial Photo
- Attachment 2: Laurelwood Sub-Area Land Use Map
- Attachment 3: Development Application Data Sheet
- Attachment 4: Preliminary Site Plan, Streetscape Elevations, and Reference Floor Plans
- Attachment 5: Arborist Report
- Attachment 6: Rezoning Considerations Concurrence



City of Richmond

PROPOSED REZONING

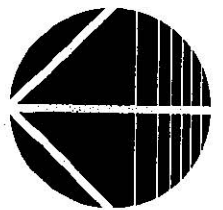


Original Date: 02/22/07

Revision Date: 03/03/08

Note: Dimensions are in METRES

RZ 07-361266





RZ 07-361266

Original Date: 02/22/07

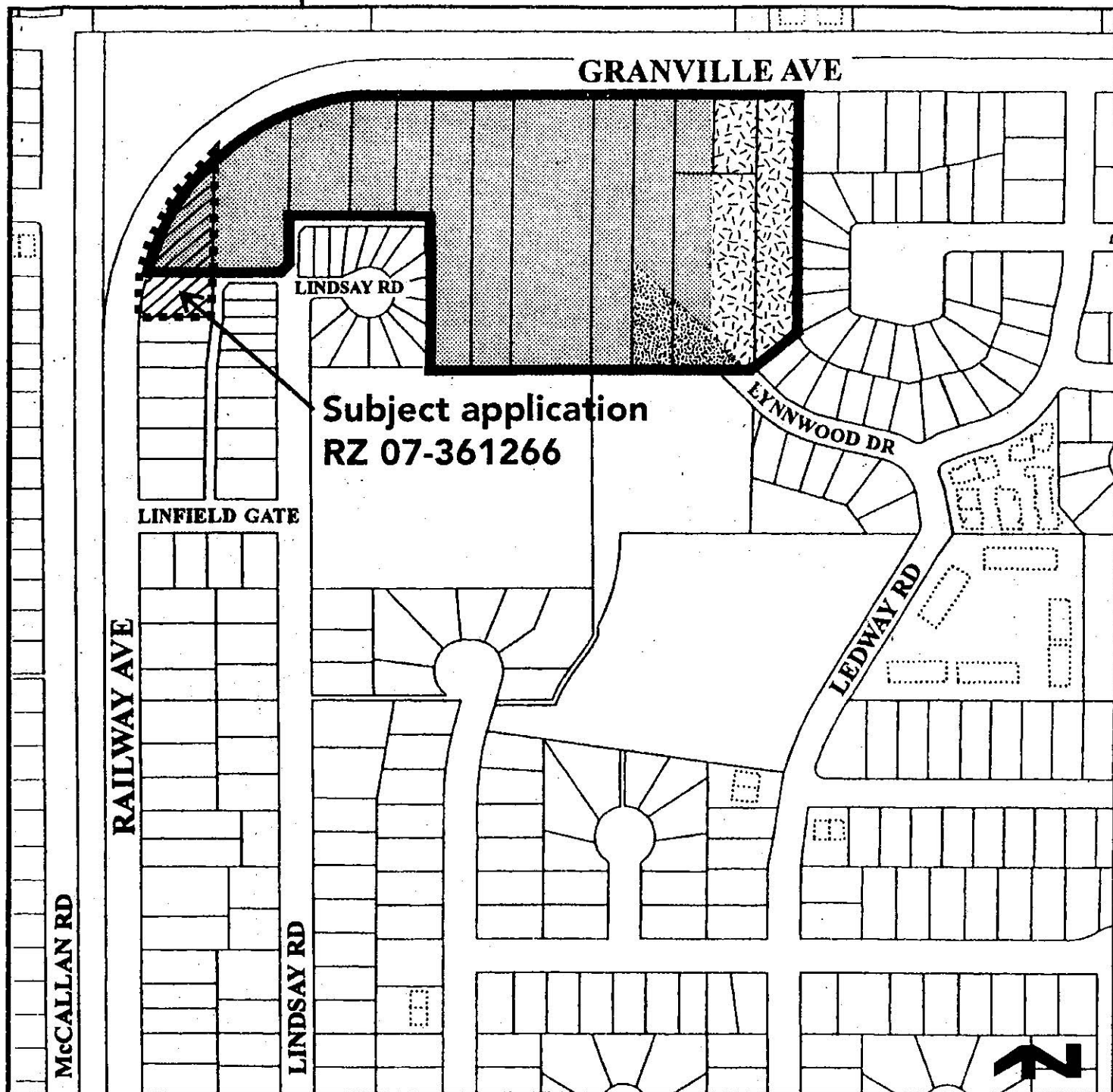
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Blundell Area

Laurelwood Sub Area

Land Use Map



Legend

- | | | |
|---|--|---|
|  Area Boundary |  Residential (Townhouses) |  Strata Outlines |
|  Residential (Single Family) |  Public Open Space | |



City of Richmond

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

Development Application Data Sheet

RZ 07-361266

Attachment 3

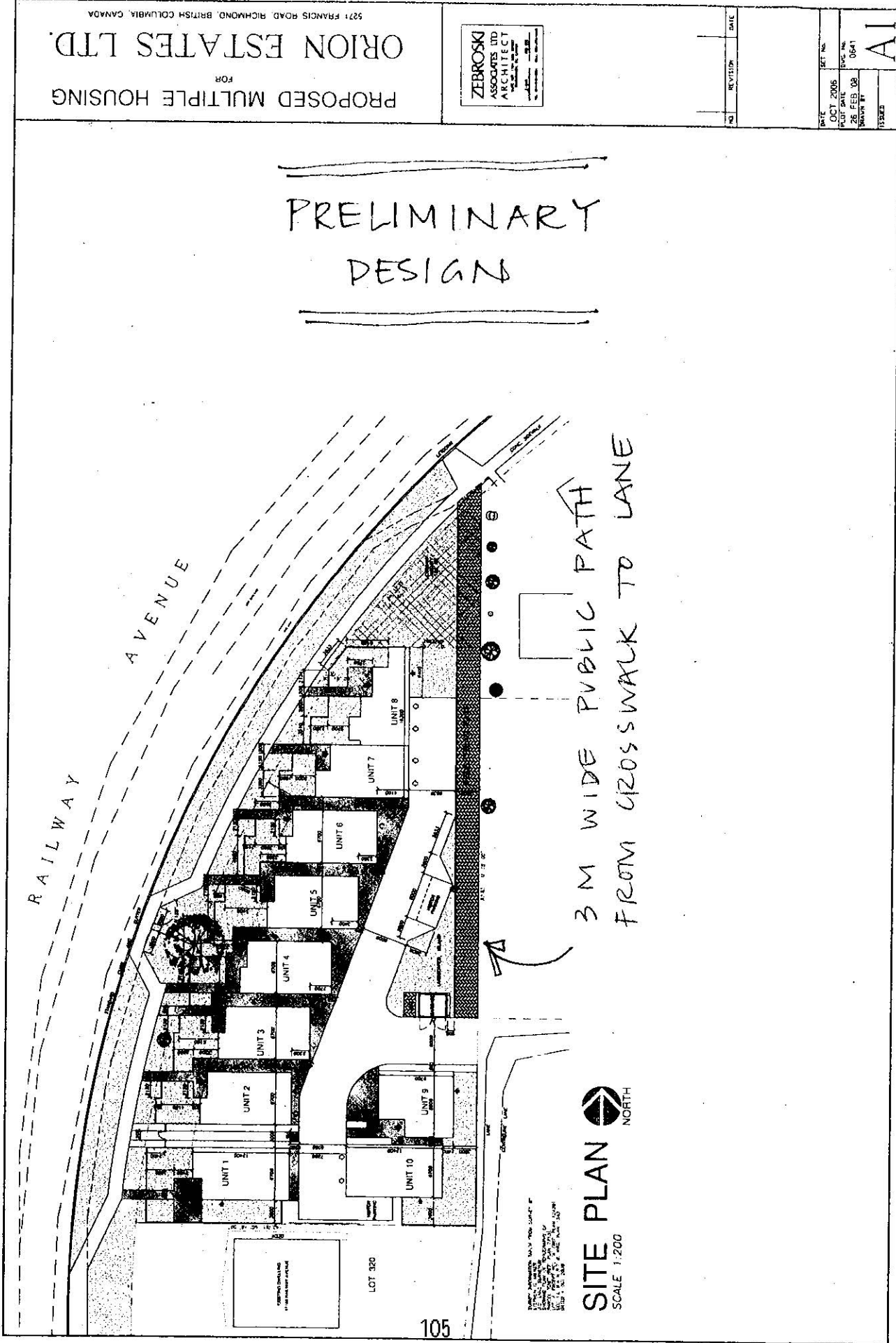
Address: 7140 Railway Avenue

Applicant: Orion Estates Ltd.

Planning Area(s): Blundell Area (Laurelwood Sub-Area for northern portion)

	Existing	Proposed
Owner:	V. Joy & C. Nicols	Future Strata
Site Size (m ²):	2,681 m ²	No change
Land Uses:	Single-Family Residential	Multi-Family Residential
OCP Designation:	Neighbourhood Residential	No change
Area Plan Designation:	Residential (Townhouses)	No change
Zoning:	R1/E	CD/54
Number of Units:	1	10

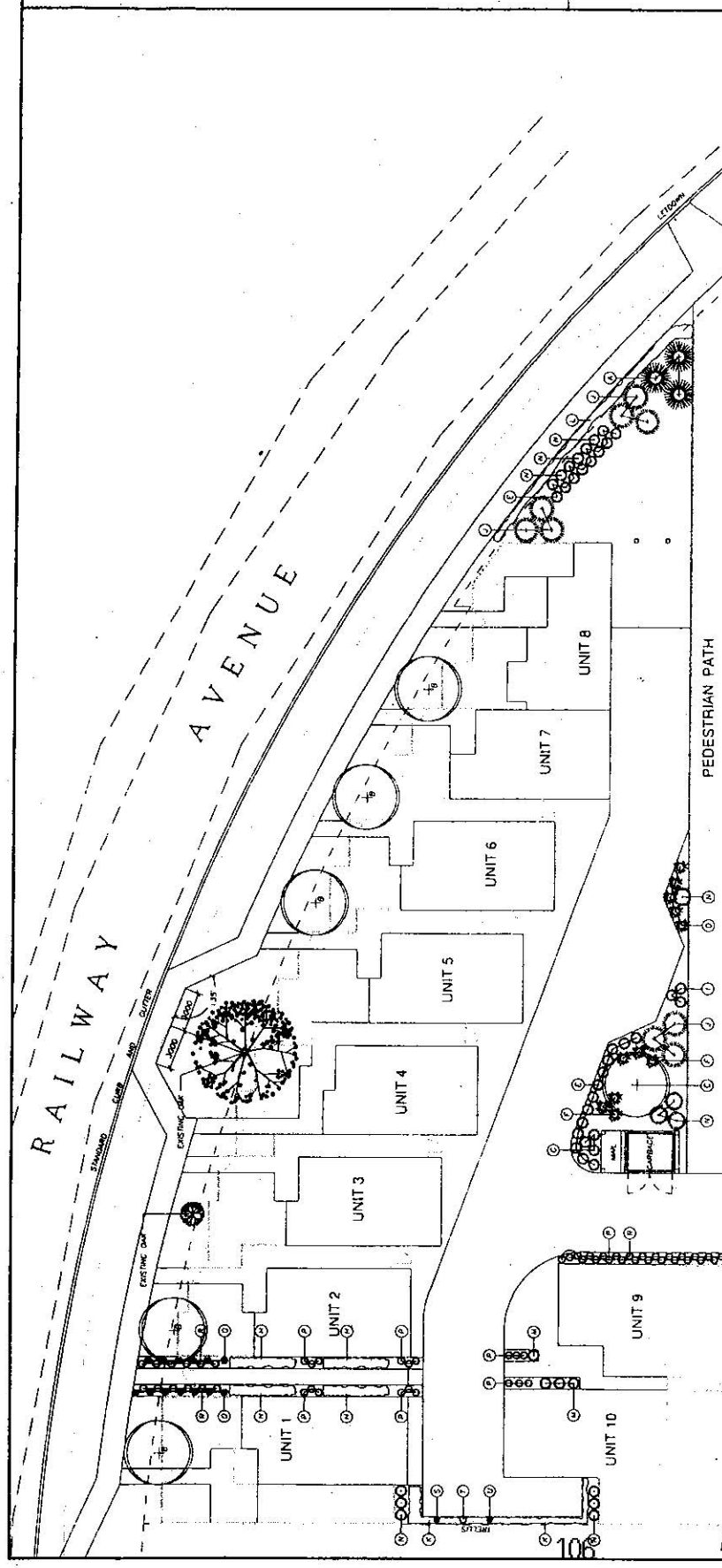
	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Townhouses Max. 0.66	Max. 0.66	None permitted
Lot Coverage – Building:	Max. 40%	32%	None
Lot Size (min. dimensions):	1,830 m ²	2,681 m ²	None
Setback – Front Yard (m):	Min. 6 m	4.5 m to 6 m	1.5 m Decrease
Setback – Side & Rear Yards (m):	Min. 3 m	Min. 3 m	None
Height (m):	Max. 11 m & 3-Storey	11 m & 2 ½ to 3-Storey	None
Off-street Parking Spaces – Resident and Visitor:	20 and 2	20 and 2	None
Off-street Parking Spaces – Total:	22	22	None
Tandem Parking Spaces:	Not permitted	0	None
Amenity Space – Indoor:	Min. 70 m ²	Cash-in-lieu	None
Amenity Space – Outdoor:	Min. 60 m ²	183 m ²	None



PROPOSED MULTIPLE HOUSING
FOR
ORION ESTATES LTD.
5271 FRANCIS ROAD, RICHMOND, BRITISH COLUMBIA, CANADA



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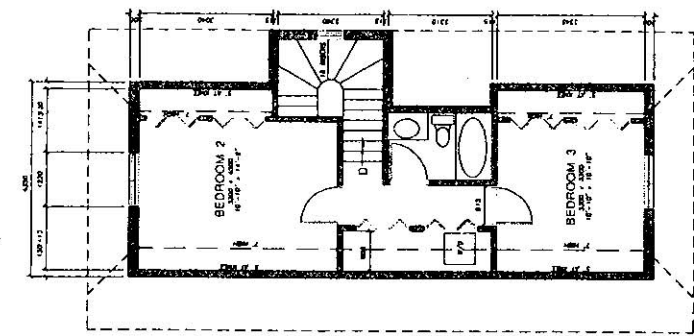
LANDSCAPE PLAN
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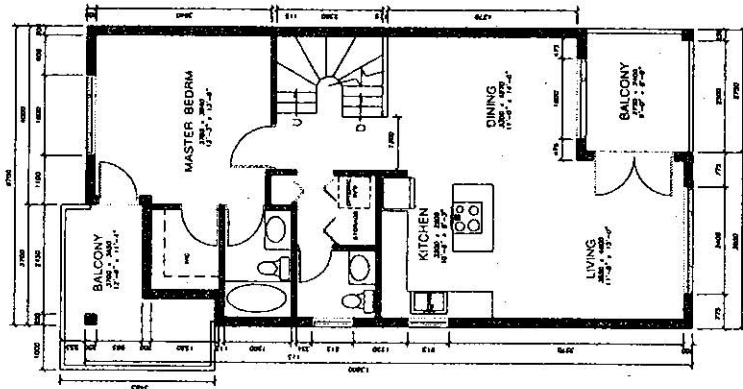
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- EXISTING CONIFEROUS SHRUB
- PROPOSED CONIFEROUS TREE
- PROPOSED CONIFEROUS SHRUB
- EXISTING DECIDUOUS TREE
- EXISTING DECIDUOUS SHRUB
- PROPOSED DECIDUOUS TREE
- PROPOSED DECIDUOUS SHRUB

NO.	BOTANICAL NAME	COMMON NAME	SIZE	SELECTED FOR	
A	TREES				
B	PICEA DENSATA	SCOTCH SPRUCE	2700 TO 3000 HT	NARROW SHAPE	EVERGREEN
C	STYLIKIA PARVIFLORA	JAPANESE SNOWBALL	2700 TO 3000 HT	SPRING FLOWER, DRUPES	DECIDUOUS
D	SHRUBS			FLOWERS, FALL COLOUR	DECIDUOUS
E	QUERCUS LAEVIS	WHITE OAK	PRUNE TO 600 HT	SCARLET FALL COLOUR	DECIDUOUS
F	AMALGAMUS P. LEMOINEI	SHARP BURNING BUSH		SMALL FALL COLOUR	DECIDUOUS
G	PHILADELPHUS	FLORIDA DOGWOOD		FRAGRANCE	DECIDUOUS
H	SAURAUCA	BLACK CHERRY		FLOWERS	DECIDUOUS
I	SAURAUCA	BLACK CHERRY		FRAGRANCE	DECIDUOUS
J	SAURAUCA	BLACK CHERRY		FRAGRANCE	DECIDUOUS
K	SAURAUCA	BLACK CHERRY		FRAGRANCE	DECIDUOUS
L	SAURAUCA	BLACK CHERRY		FRAGRANCE	DECIDUOUS
M	SAURAUCA	BLACK CHERRY		FRAGRANCE	DECIDUOUS
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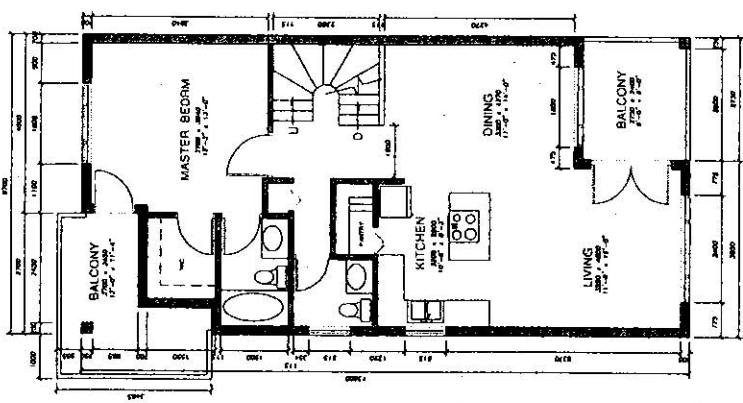




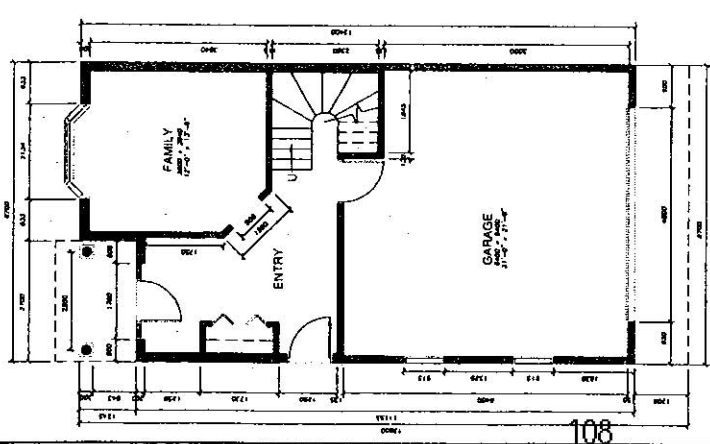
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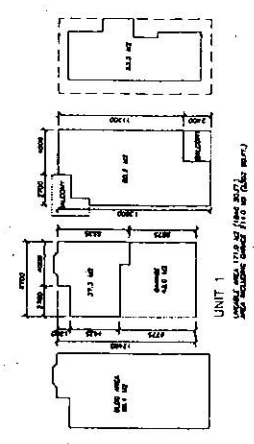
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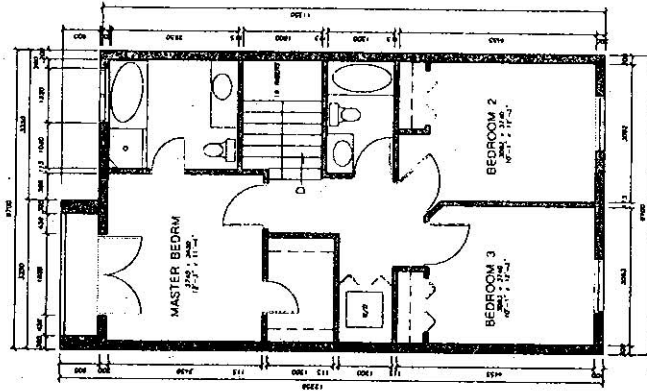
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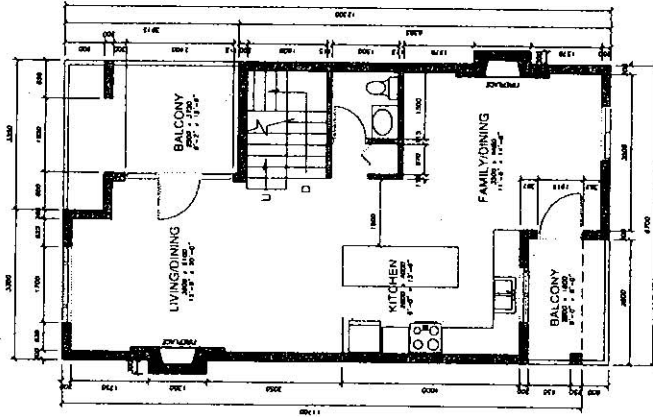
ZEBROSKI
ASSOCIATES LTD
ARCHITECT
1000 10th Ave. S.W.
Calgary, AB T2P 1C1

UNIT 2

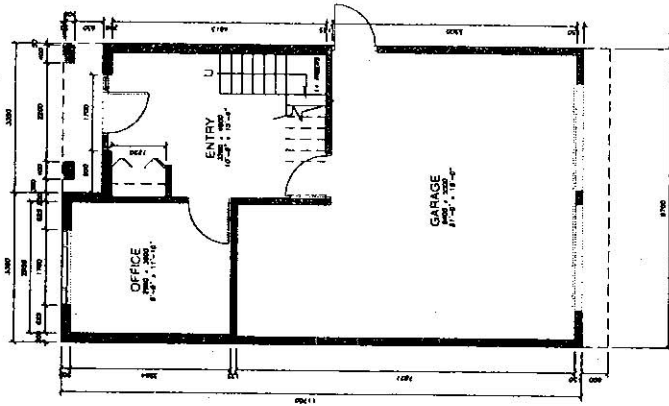
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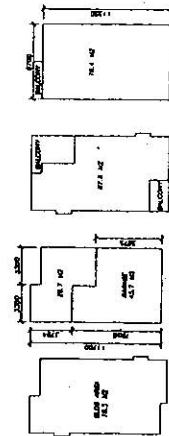
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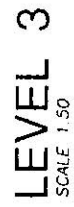
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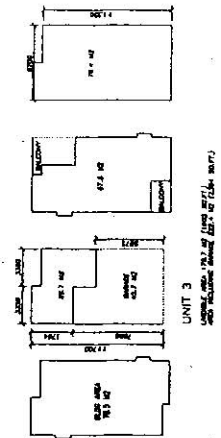
UNIT 2
UNITS ARE 12.5 LB (5.67 KG)
AND INCLUDES 1000 (1000 3000)



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18 JAN '08			
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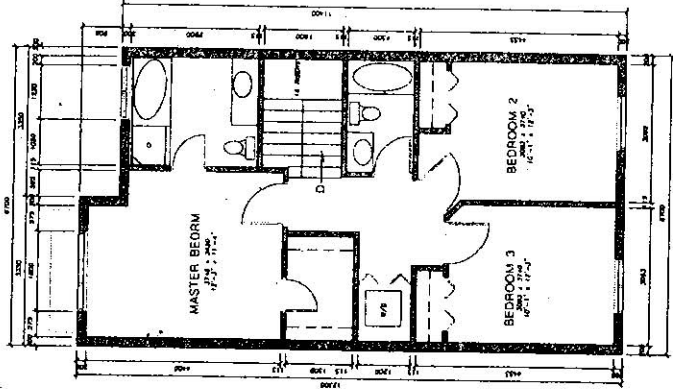
PROPOSED MULTIPLE HOUSING
FOR
ORION ESTATES LTD.
5271 FRANCOIS ROAD, RICHMOND, BRITISH COLUMBIA, CANADA



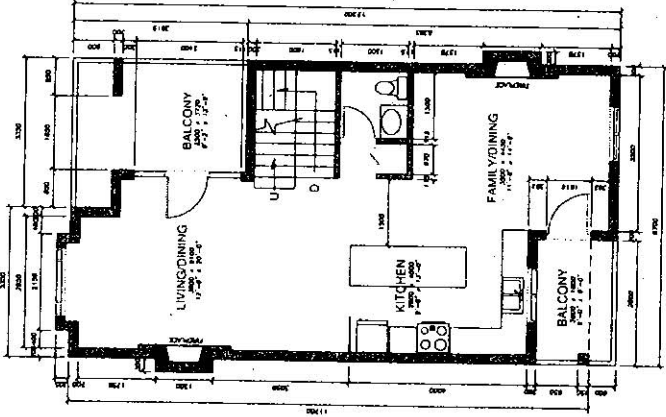
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OCT 2006	0641
PLT DATE	18 JAN 08
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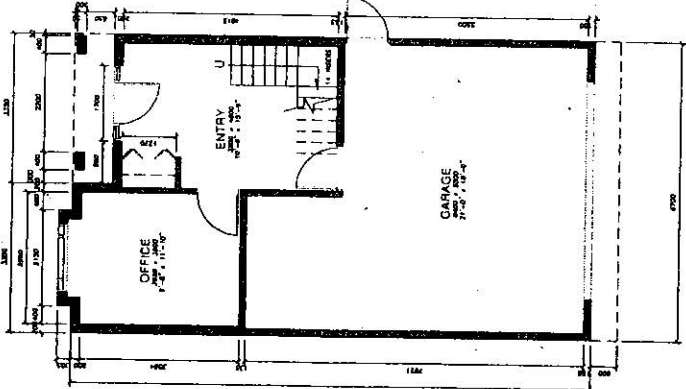
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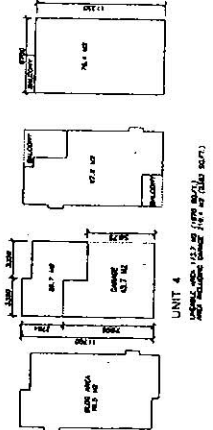
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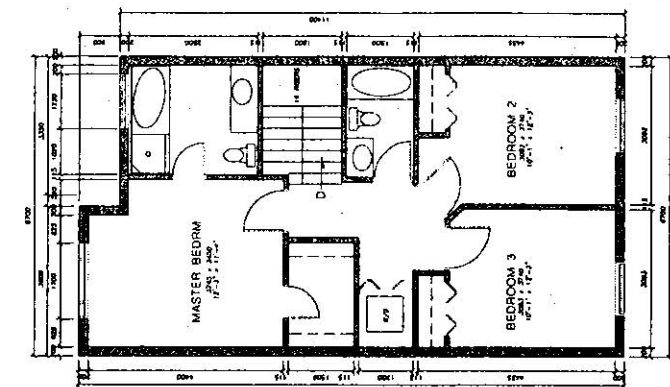


ZEBROSKI
ASSOCIATES LTD
ARCHITECT
1000 10th Ave. S.W.
University City Center
Minneapolis, MN 55415
Tel: 612/338-1100
Fax: 612/338-1101

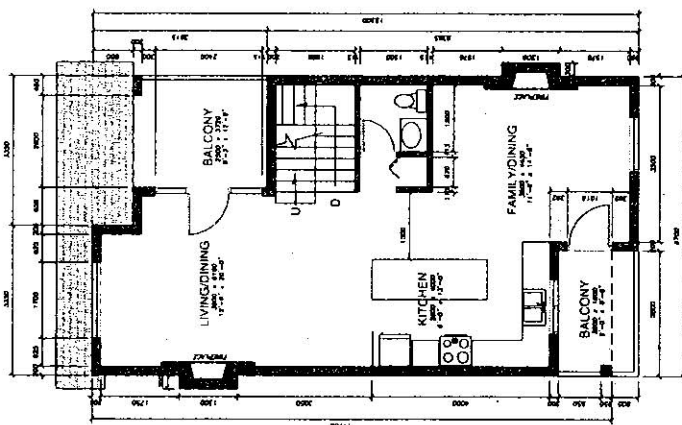
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UNIT 5

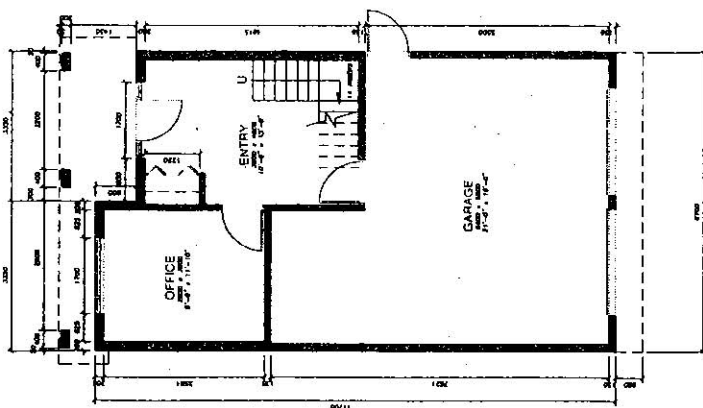
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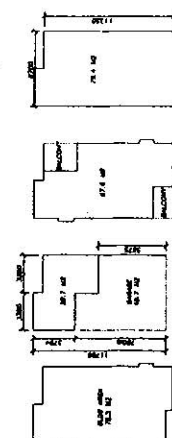
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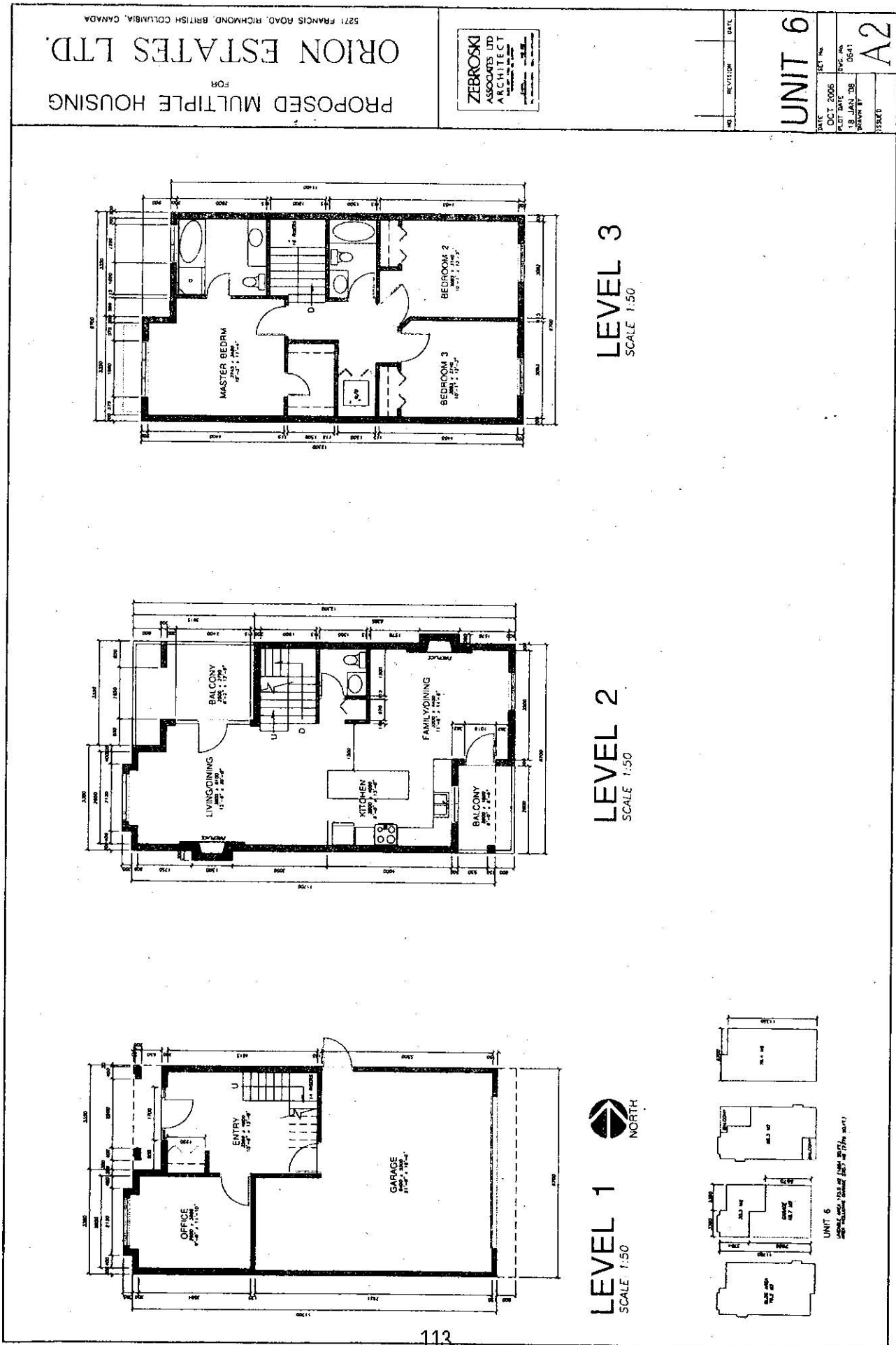


LEVEL 2
SCALE 1:50



LEVEL 1
SCALE 1:50

UNIT 5
UNITS ARE 179.7 IN (1800 SQ FT)
AND, INCLUDING GARAGE 200 + 40 (2400 SQ FT.)



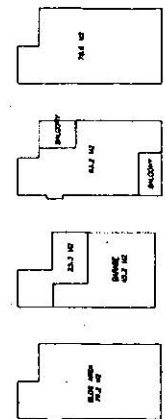
NO	REVISION	DATE
UNIT 7		
DATE	SF No.	QVC No.
OCT 2006		0541
REC'D		
19 JAN 08		
QUART 31		
11543		A2

Floor plan of the second floor showing three bedrooms, a bathroom, and a central hallway. The Master Bedroom is 10'-0" x 12'-0", Bedroom 2 is 10'-0" x 12'-0", and Bedroom 3 is 10'-0" x 12'-0". The bathroom is 5'-0" x 6'-0". The central hallway is 10'-0" x 12'-0". The overall dimensions are 30'-0" x 30'-0".

This floor plan shows a 1000 sq. ft. house with the following layout:

- Living Room:** 13'0" x 18'0"
- Family Dining:** 11'0" x 14'0"
- Kitchen:** 10'0" x 12'0"
- Balcony (Front):** 17'0" x 10'0"
- Balcony (Back):** 8'0" x 10'0"
- Bathroom:** 5'0" x 7'0"
- Bedroom:** 11'0" x 12'0"
- Staircase:** Located between the living room and the bedroom.
- Entrance:** Features a small porch area leading into the living room.

The overall dimensions of the house are 30'0" wide by 33'0" deep.

[illegible]UNIT 7
UNIVERSITY AREA 187.3 SQ (1981 ACFT.)
AREA INCLUDING CAPACIT 212.5 MT (21887 SQ.FT.)

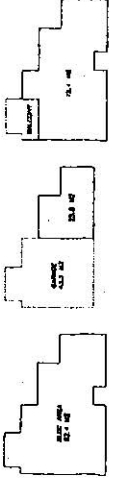
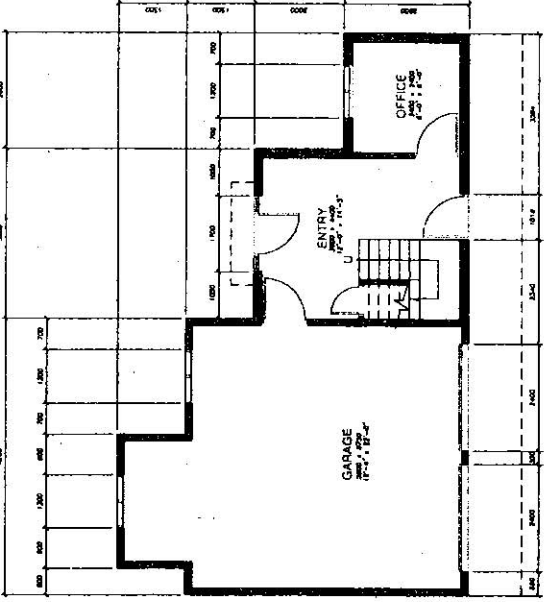
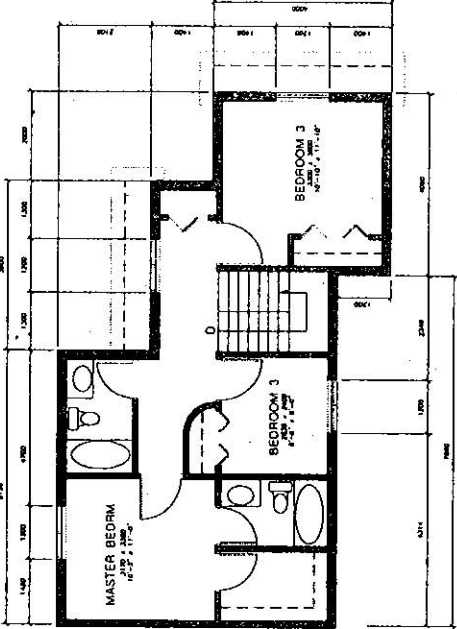
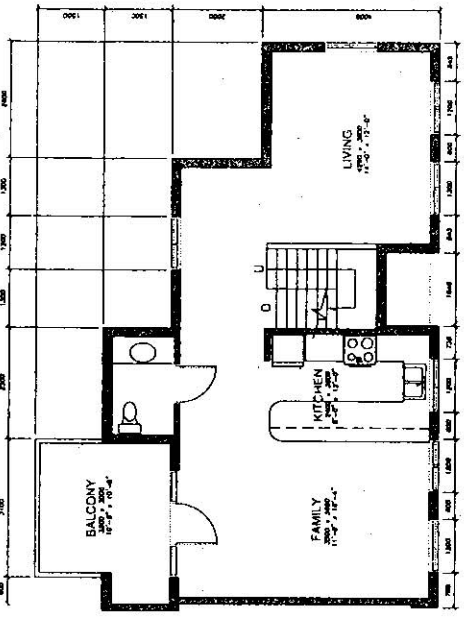
PROPOSED MULTIPLE HOUSING
FOR
ORION ESTATES LTD.
5271 FRANCIS ROAD, RICHMOND BRITISH COLUMBIA, CANADA

ZEBROSKI
ASSOCIATES LTD
ARCHITECT
100-1115
VANCOUVER, B.C. V6E 1A1
TEL: 604-271-1115
FAX: 604-271-1116

NO.	REVISION	DATE

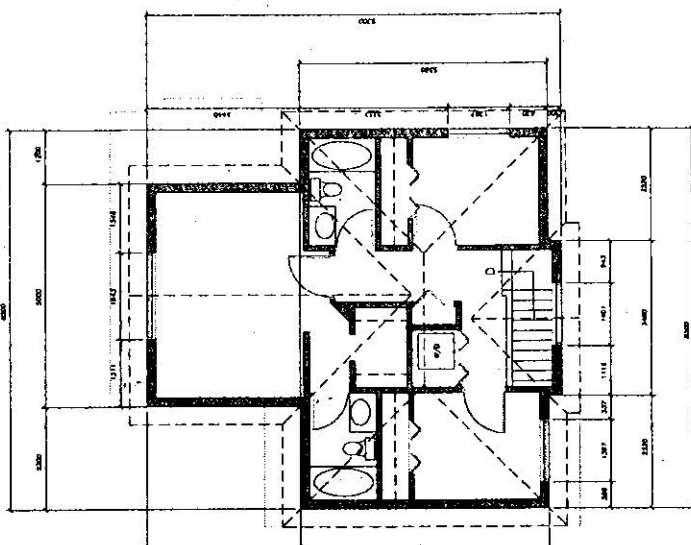
DATE	REV. NO.
OCT 2006	
PLT DATE	
18 JAN 08	08-1
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UNIT 8	A2
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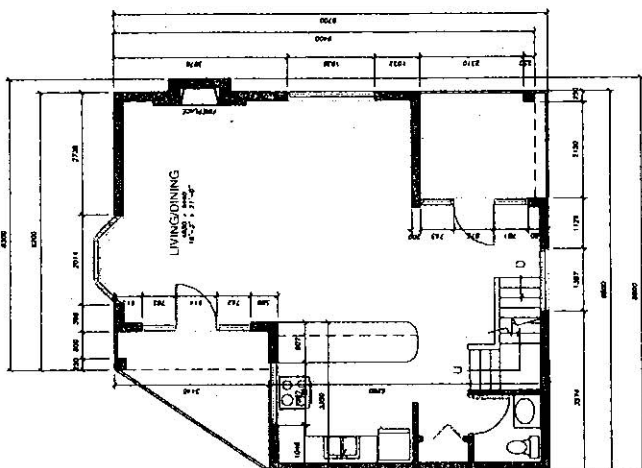




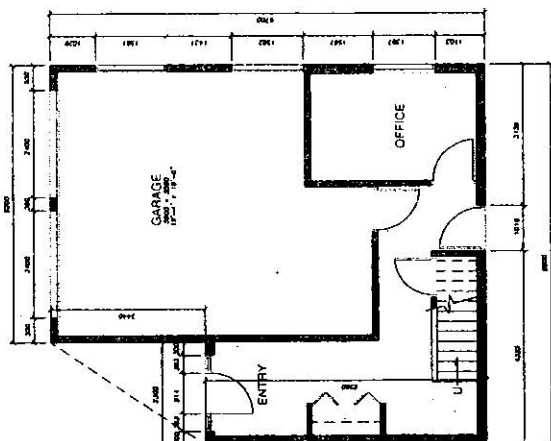
NO.	REVISION	DATE
UNIT 9		
DATE	REV. No.	REV. No.
OCT 2005		0641
PLOT DATE		0641
18 JAN '08		
DRAWN BY		
ISSUED		



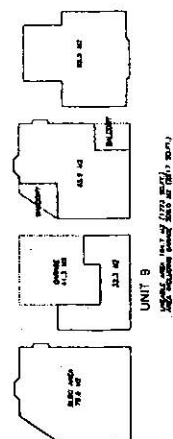
LEVEL 3
SCALE 1:50



LEVEL 2
SCALE 1:50



LEVEL 1
SCALE 1:50



ZEBROSKI
ASSOCIATES LTD
ARCHITECT
1000 17th Ave. West
Calgary, Alberta
T2M 1K6
403-242-2222
FAX 403-242-2222

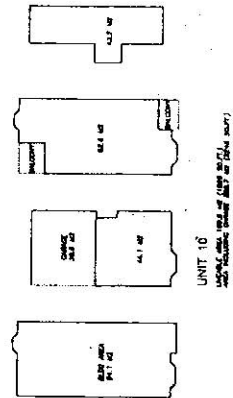
AC	REVISION	DATE
UNIT 10		
DATE	SET No	
OC1 2006	PAGE No	
SHIP DATE	USA1	
18 JAN 08		
DAWN BY		
ISSUED		A2

UNIT 10

A2



LEVEL 1
SCALE 1:50



UNIT 10



**Froggers Creek
Tree Consultants Ltd.**

7763 McGregor Avenue Burnaby BC, V5J4H4
Telephone: 604-721-6002 Fax: 604-437-0970

City of Richmond
Policy Planning Department
6911 No. 3 Rd,
Richmond, BC, V6Y 2C1

January 21, 2008

Re: 7140 Railway Ave. Richmond BC

Revised Tree Protection Report

Please find enclosed my **Tree Protection Report**. I am also attaching as appendices to the Report, a **Tree Inventory** and a **Tree Protection Plan** drawing for reference purposes.

TREE PRESERVATION SUMMARY

18	Trees affected by this development.
8	On-site trees affected by this development.
8	Off-site trees affected by this development.
3	City trees affected by this development
8	Trees proposed for removal.
0	On-site tree proposed for retention
8	Off-site trees proposed for retention
2	City tree proposed for retention

INTRODUCTION

The purpose of this report is two-fold: firstly, to describe the existing tree resource growing on site; secondly, to set forth measures to protect some or all of this resource; or, in the absence of any opportunities for meaningful tree retention, to explain why it is not feasible.

The report will document the following:

1. the extent, character and condition of all surveyed on-site and off-site trees that may be potentially impacted by the development;
2. trees proposed for removal and retention;
3. measures proposed to minimize tree loss and maximize successful tree conservation;

I have been provided with the following resources:

1. a tree survey of the existing property and adjacent lands;
2. a proposed site layout drawing.

I have visited the site and assessed the trees with a diameter of 10cm and greater located on the lot and on lands immediately adjacent. All trees have been tagged, inventoried and evaluated for health and structure.



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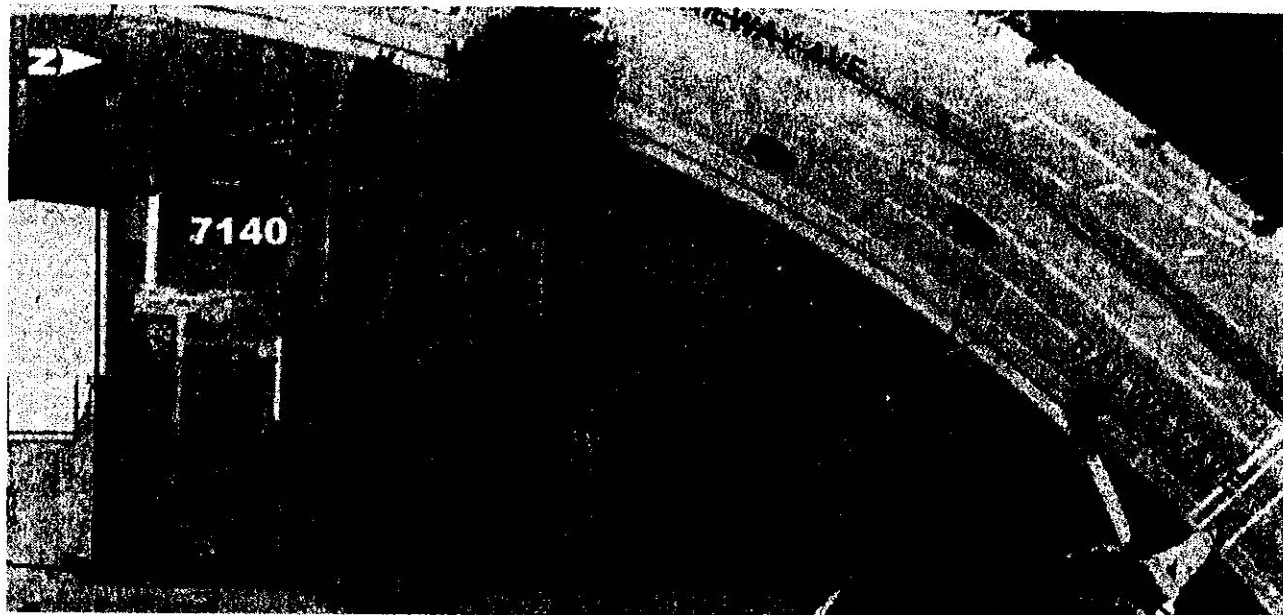


Figure 1. Aerial photo of subject properties - from the City of Richmond's online mapping and GIS website – <http://www.richmond.ca/discover/maps.htm>

OBSERVATIONS

Current Site Conditions

The site is a large flat poorly drained lot. The north part of the site has no house and is covered mostly in Blackberry.

Proposed Development Plans

The proposed development will create a townhouse complex that will occupy most of the site.

Tree Resource

18 trees are inventoried in total. 8 of them are on-site, 7 of them are located on the neighbouring properties and 3 trees are located on the City Boulevard. Most of the trees on site are old, dead or unhealthy. Only 1 of the trees is in good condition (tree # 736). The table below shows the species composition of the tree resource.

Type	Number
English Holly	3
Western Hemlock	2
Paper Birch	1
Plum	1
Cherry	1
Total	18

Details of this tree inventory are provided in the table attached as Appendix—1.



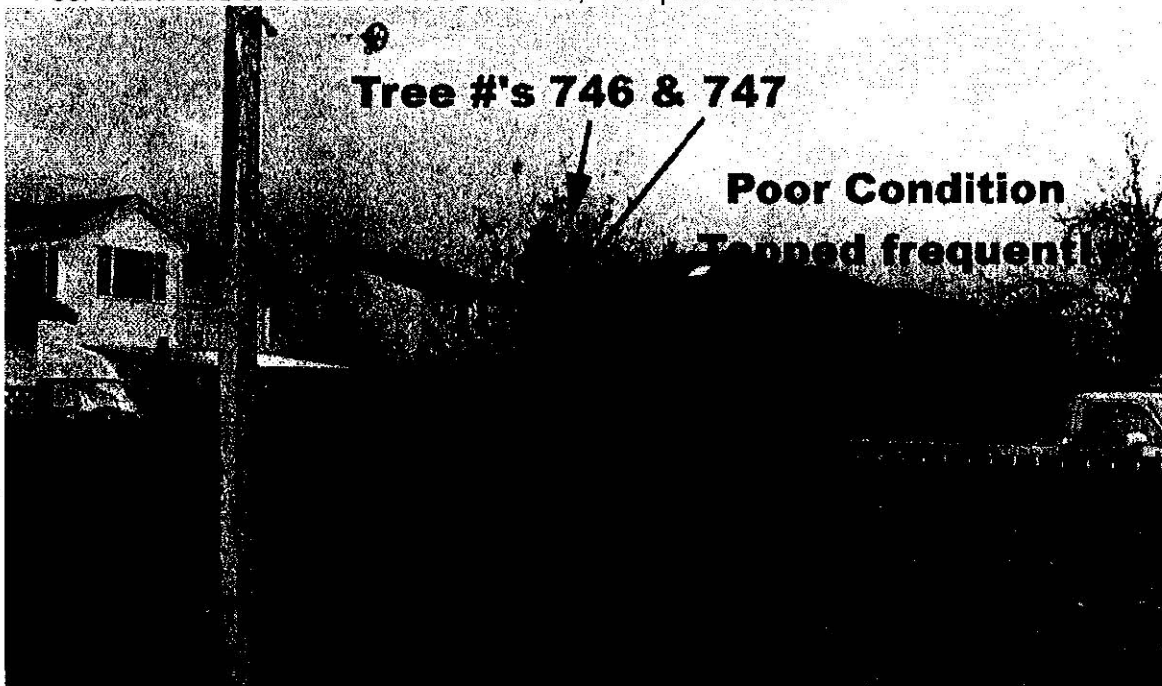
Froggers Creek Tree Consultants Ltd.

DISCUSSION

Tree Removals

8 On site trees are proposed for removal (see Appendix-3). These removals are categorized as follows:

- Dead and extremely hazardous: 1 tree
- Located within Building Envelopes: 2 trees
- Located within the proposed road or parking area: 3 trees
- Poor health and structural condition: 2 trees, See pictures below:





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Tree Retention

None of the On-site trees are suitable for retention.

Off-site Trees

The canopy and the roots of 7 off-site trees are encroaching into the subject property from the east.

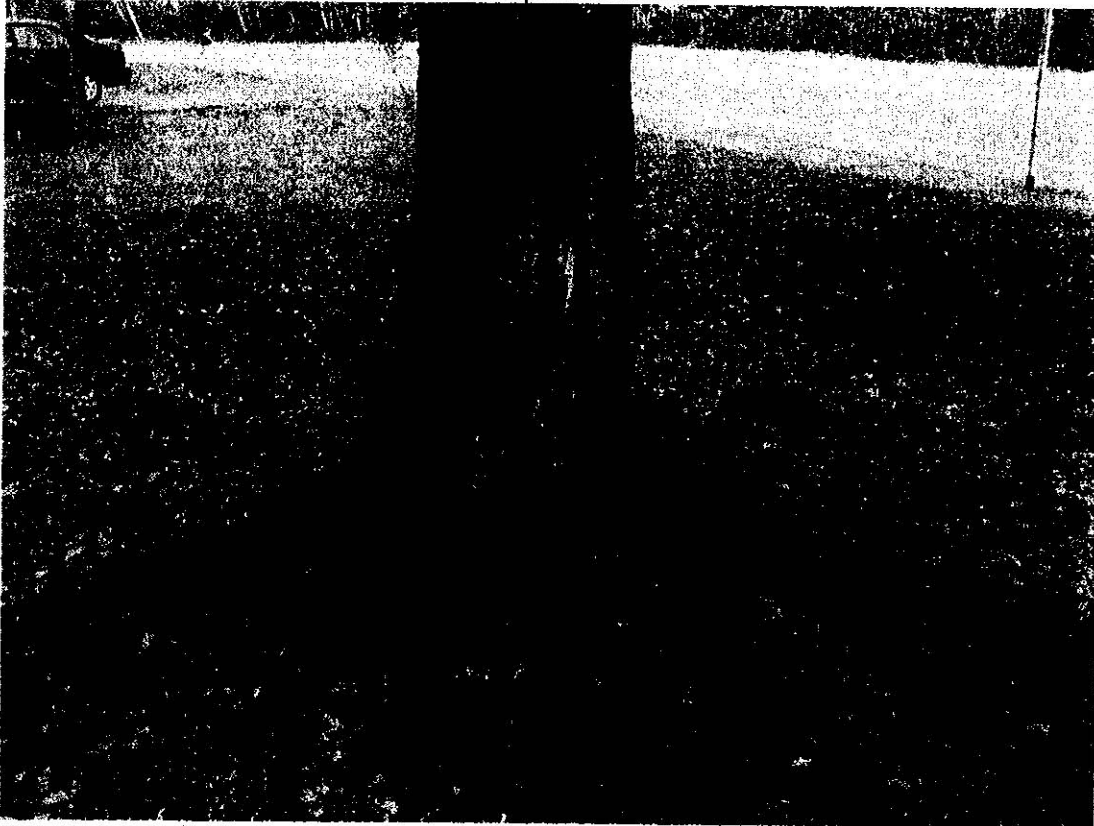
Off site trees are not considered in the statistical calculations. They are identified on the drawings as having shaded canopies. Off- site trees can not be altered in any way without the consent of the owner of the tree. All off site trees will be protected during construction.

City Trees

There are 3 City trees located on the boulevard along Railway Avenue in front of the site. The City of Richmond is requiring the developer to upgrade the existing storm water pipe.

There is a new storm water pipe required to the west of the large retained Oak (tree #738). On January 17, 2008 we had a meeting at Richmond City Hall and it was decided that the large tree would be retained and the new storm water pipe would be installed to the west as far as possible away from the tree under the existing sidewalk location. The old storm water pipe will be left in place and capped within the drip line of the tree. The new sidewalk will be installed above the excavation for the storm water pipe.

The existing storm water line is less than 2 metres from the centre of the tree. Tree #738 is a large Oak tree with decay at the base of the tree. See picture below:





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I have calculated out the Minimum Trenching Distance of the Oak tree to be 6.0 metres from the centre of the tree. For a tree to reliably survive trenching on one side of its root plate, the trenching cut must not encroach closer than a distance nine times the diameter of the trunk. For instance, a 12" (or 30cm) diameter tree has a trenching-impact "threshold" of 108" or 9' (about 2 meters)¹. This minimum threshold distance must be met or exceeded; otherwise the tree may suffer critical root damage. If trenching or excavation must occur within this limit, I recommend that either special measures be taken to avoid damage to larger conduit roots (such as airspading or tunneling in order to avoid damaging larger conductive roots) or, failing this, the tree be removed. This general guideline should be evaluated on a tree-by-tree basis, as some species require more generous off-sets. See Tree Protection Plan Drawing for location of Minimum Trenching Distance for the Oak. This distance should be shown on all drawings.

Tree # 737 is small and therefore suitable for retention and will be protected with fencing during construction.

I am providing special tree protection measures for reducing the impact to the Oak below. See Tree Protection Plan Drawing for the location of the protection fencing.

Replacement Trees

A separate landscape drawing will be submitted which includes the replacement trees.

Drawings

One drawing is included in this report.

A **Tree Protection Plan** drawing, which plots all trees proposed for retention, removal and Tree Protection Fencing in relation to the proposed development layout is attached as **Appendix—3**.

TREE PROTECTION MEASURES

Tree Protection Fencing

All retained trees on the City Property and neighbouring properties will be surrounded by Tree Protection Fencing as laid out in the **Tree Protection Plan** drawing Appendix 3. All fencing must be constructed to a robust standard and clearly signed: "TREE PROTECTION AREA – KEEP OUT" See Appendix 2 for construction details.

Special Protection Measures for Tree #738

The following steps are recommended to minimize the impact to the Oak during excavation for the new Storm Water line:

- Protection fencing is to be installed along the edge of the existing sidewalk and can only be removed in the presence of an arborist.
- The excavation must be kept as far to the west as possible along the east edge of the road.
- A Protection Cage should be used for shoring up the excavation to reduce the width of the cut adjacent to the trees. (WCB requirements)
- The contractor for the storm water line and the Arborist must have an on-site meeting to discuss protection measures prior to the work beginning.
- An arborist must be on site during the excavation within the Minimum Trenching Distance of the tree (6 metres from the centre of the tree) to be able to assess the damage and to cleanly cut any damaged roots.
- The drip line of the tree should be mulched after the excavation.

¹ The British Standards Institute¹ suggests a minimum radial encroachment limit for trenching along one side of a tree of 6:1. The American Society of Consulting Arborists recommends a ratio of 12:1. I have adopted a guideline that splits the difference between these two standards, 9:1.



Froggers Creek Tree Consultants Ltd.

- The tree will require weekly watering for the next few years during the summer from June 1 to Sep 15.
- The new sidewalk should only be located above the storm water line.
- All other underground services must be either installed outside the excavation for the storm water line or be tunneled underneath the tree.
- The location of the Protection fencing the retained trees and the minimum Trenching distance for the trees must be shown on all engineering drawings.

The following steps are recommended to minimize the impact to the Oak during excavation for foundations:

- The excavation should be minimized to no more than 2 feet from the edge of the foundation. This will provide enough room for form work for footings and perimeter drainage.
- The proposed patio should be built on grade with no excavation. The patios should be made of permeable material such as paving stones and be set in sand not concrete.
- There should be no landscape plantings permitted within the protection zone of the tree.
- An arborist should be consulted before any work is performed within the protection zones of the trees.

Other Protection Measures

The following steps are recommended to minimize damage or impact to the retained trees on site:

- Protection fencing will be installed around all the trees before any construction or demolition begins.
- No access by vehicles or personnel is permitted within the fenced-off area. Storage of materials is also not permitted inside this area. In the eventuality that the site supervisor requires access to the tree protection area, the Project Arborist should be consulted beforehand.
- If it should prove necessary for construction access the protected areas protective cover should be placed on the unfenced portions of the root zone to protect the soils against compaction and other forms of disturbance. Such cover generally includes a base layer of filter cloth and either 6 – 12" of "road-base" or tree-chip mulch, depending on the anticipated usage of the area. A bridging of ¾" plywood is also sometimes used in small areas.
- Services (gas, sewer, septic, water, electrical) should be dug outside the protected areas of the retained trees. If this is not possible trees will need to be removed.
- In the eventuality that the site supervisor requires access to the tree protection area, the Project Arborist should be consulted beforehand.
- The Project Arborist should be consulted before any grade changes are performed within the protected areas. This includes landscape grade changes that take place after construction.
- The Site Supervisor should contact the Project Arborist whenever a potential conflict arises with respect to the trees. Such contacts should be proactive in nature. The Project Arborist will ensure that they are available for immediate consultation. (Possible examples of potential conflicts would include the need to temporarily access one of the tree protection areas or the need for some encroachment pruning to be carried out).
- The Project Arborist should be responsible for inspecting the tree sites following completion of the project.



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Cost Estimate

The following is a cost estimate for removing the existing trees, supplying and planting the recommended replacement trees:

Tree # 737 Red Oak

Quantity	Type	Size	Cost/ plant
1	Red Oak	10cm cal	\$550

Total Tree Cost	\$550
Delivery	\$100
Planting Cost	\$500
Removal and Disposal Cost	\$350
Sub Total	\$1,500
GST	\$75
Total	\$1,575

Tree # 738 English Oak

Quantity	Type	Size	Cost/ plant
1	English Oak	10cm cal	\$550

Total Tree Cost	\$550
Delivery	\$100
Planting Cost	\$500
Removal and Disposal Cost	\$1,200
Sub Total	\$2,350
GST	\$118
Total	\$3,668

End Report.

CERTIFICATION:

This report and the opinions expressed within it have been prepared in good faith and to accepted arboricultural standards within the scope afforded by its terms of reference and the resources made available to the consultant.

Glenn Murray – Board Certified Master Arborist
I.S.A. Certification # PN-0795B
Certified Tree Risk Assessor #0049
Froggers Creek Tree Consultants Ltd.

Dated: January 21, 2008

7140 Railway Ave, Richmond BC

7

January 21, 2008



Froggers Creek Tree Consultants Ltd.

ASSUMPTIONS AND LIMITING CONDITIONS

1. This report and the opinions expressed within it have been prepared in good faith and to accepted arboricultural standards within the scope afforded by its terms of reference and the resources made available to the consultant. The report provides no undertakings regarding the future condition or behavior of the trees reviewed within it. Tree hazard and condition assessments are not an exact science. Both qualities can and do change over time and should be reappraised periodically.
2. This assessment was limited to a visual tree evaluation only. No core samples were taken. No tissue samples have been cultured or analyzed by plant pathologists. No root crown excavations were undertaken. No aerial reconnaissance was attempted, beyond that made possible by binoculars. The evaluation period for this assessment is 12 months.
3. Any legal description provided to the consultant/appraiser is assumed to be correct. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
4. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other governmental regulations.
5. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant/appraiser can neither guarantee nor be responsible for the information provided by others.
6. The consultant/appraiser 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. Loss or alteration of any part of this report invalidates the entire report.
8. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.
9. Neither all nor any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser—particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or institute or to any initiated designation conferred upon the consultant/appraiser as stated in his qualification.
10. It is impossible to predict exactly how a tree will react to any excavation near the tree. Sometimes underground soil water movement can be changed because of the building of a house and this could stress or kill a tree.

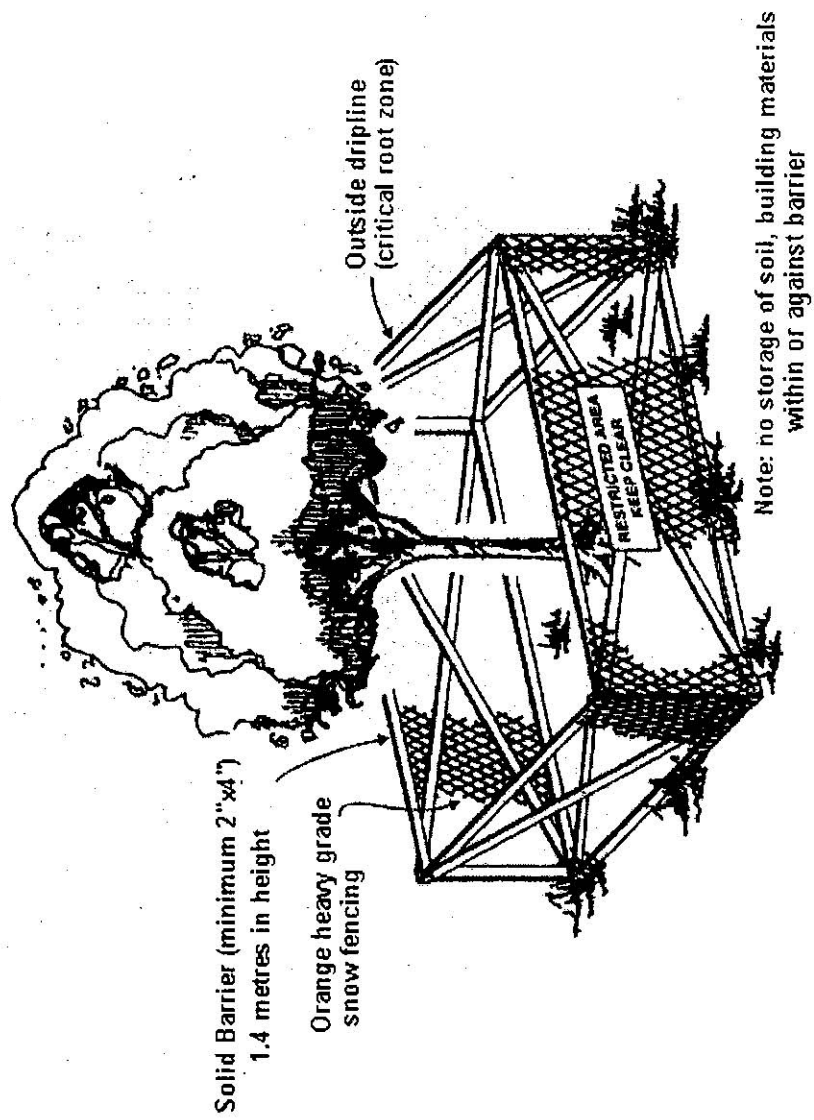
Appendix-1

Tree Inventory Table

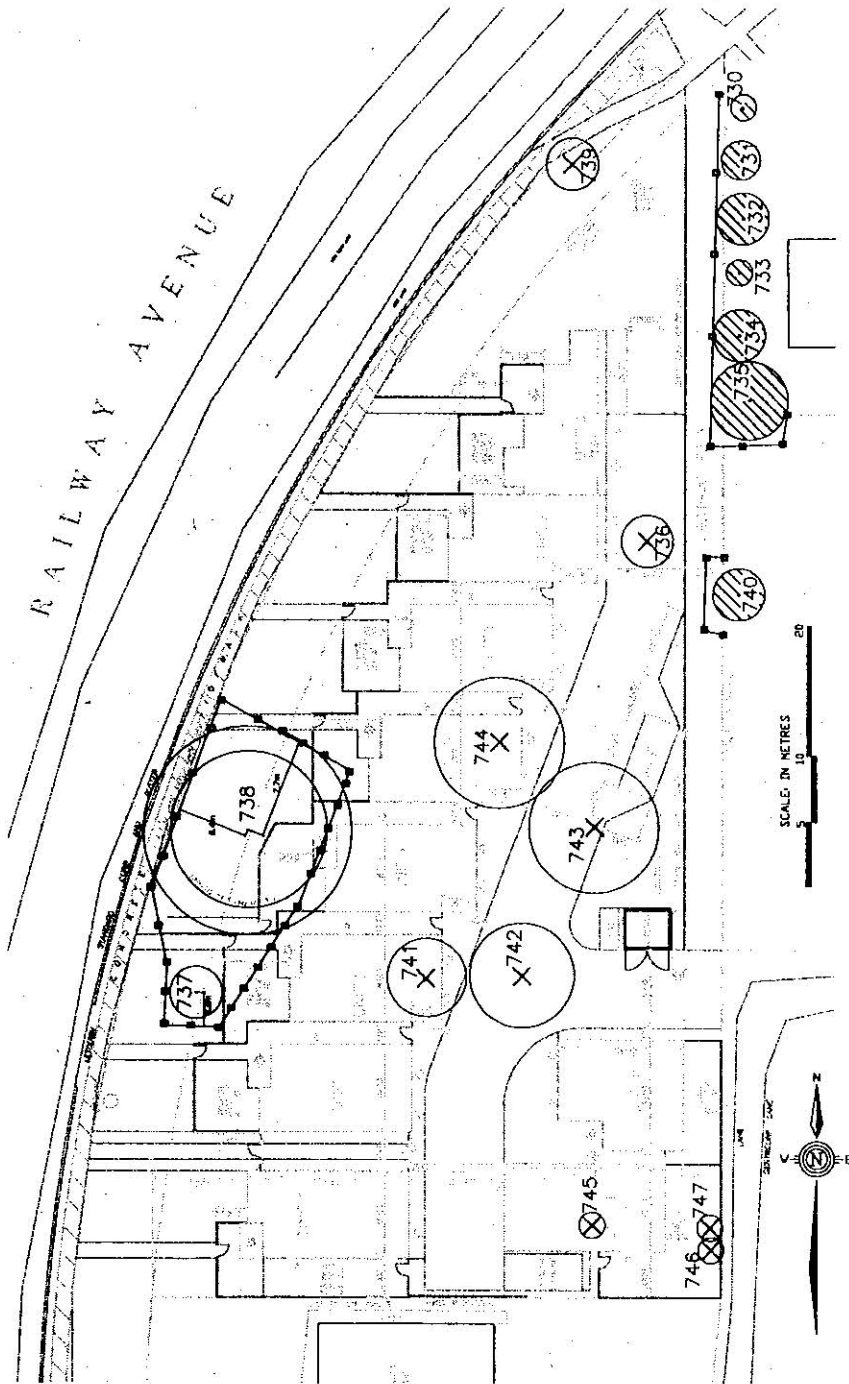
#	Type	Action	Rationale	Location	Stem Diameter (cm)	Canopy Radius (m)	Retention Value	Height (m)	Health	Structural Condition
730	Dawycck European Beech	Retain		Off-site	12	1	High	8	Good	No apparent defects
731	American Sweetgum	Retain		Off-site	10	1.5	High	5	Good	No apparent defects
732	Himalayan Birch	Retain		Off-site	13	2	High	6	Good	No apparent defects
733	Dawycck European Beech	Retain		Off-site	12	1	High	8	Good	No apparent defects
734	Himalayan Birch	Retain		Off-site	13	2	High	6	Good	No apparent defects
735	Austrian Pine	Retain		Off-site	20	3	High	8	Good	No apparent defects
736	Paper Birch	Remove	In the middle of parking area	On-site	12	2	Moderate	6	Good	No apparent defects
737	Red Oak	Retain		City Tree	18	2	High	5	Good	No apparent defects
738	English Oak	Retain		City Tree	60	8	Moderate	15	Good	Large area of decay at base and root flair.
739	Honeylocust	Remove	Too close to storm water excavation	City Tree	11	2	High	5	Good	No apparent defects
740	Cottonwood	Retain		Off-site	15	2	Moderate	8	Good	No apparent defects
741	Cherry	Remove	Poor Health and structure	On-site	49	3	Low	8	Poor	Poor, Decay in trunk
742	Plum	Remove	Poor Health and structure	On-site	37	4	Low	8	Poor	Poor, Decay in trunk
743	Western Hemlock	Remove	Inside building envelope	On-site	58	5	Moderate	14	Fair	Fair, Topped with multiple tops
744	Western Hemlock	Remove	Extremely hazardous	On-site	49	5	Low	18	Dead	Hazardous, rotten in side
745	English Holly	Remove	Poor Health and structure	On-site	18	1	Low	3	Poor	Poor, Topped
746	English Holly	Remove	Poor Health and structure	On-site	13	1	Low	3	Poor	Poor, Topped
747	English Holly	Remove	Poor Health and structure	On-site	10	1	Low	2	Poor	Poor, Topped

Appendix 2

Tree Protection Fencing Detail

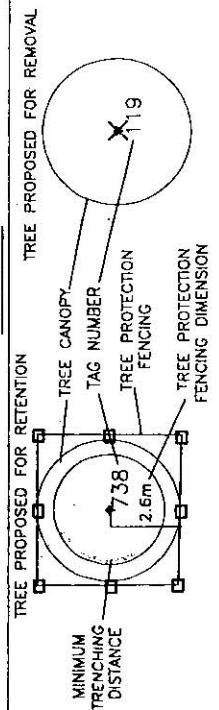


APPENDIX 3
REVISED TREE PROTECTION PLAN



#	Type	Action
730	Dawydck European Beech	Retain
731	American Sweetgum	Retain
732	Himalayan Birch	Retain
733	Dawydck European Beech	Retain
734	Himalayan Birch	Retain
735	Austrian Pine	Retain
736	Paper Birch	Remove
737	Red Oak	Retain
738	English Oak	Retain
739	Honeylocust	Remove
740	Cottonwood	Retain
741	Cherry	Remove
742	Plum	Remove
743	Western Hemlock	Remove
744	Western Hemlock	Remove
745	English Holly	Remove
746	English Holly	Remove
747	English Holly	Remove

LEGEND



NOTES:
1. ALL INFORMATION AND TREE SURVEY DATA ARE THE PROPERTY OF FROGGERS CREEK TREE CONSULTANTS LTD.
2. REFER TO ATTACHED TREE PROTECTION REPORT FOR INFORMATION CONCERNING TREE SPECIES, SIZE, AGE, HEALTH, CANOPY SPREAD AND CONDITION. BEFORE ANY REMOVAL OR PRUNING WORK BEGINS, CONSULT WITH FROGGERS CREEK TREE CONSULTANTS LTD. FOR FURTHER INFORMATION AND SERVICE.
3. ALL INFORMATION IS THE PROPERTY OF FROGGERS CREEK TREE CONSULTANTS LTD.

Froglers Creek
Tree Consultants Ltd

7783 McGeorge Avenue Burnaby BC V5J 4M4
Telephone: 604-751-0007 Fax: 604-437-0070

7140 BURNHAM AVENUE, RICHMOND BC

TREE PROTECTION PLAN DRAWING

Showing All Trees Proposed For Retention
In Relation to the Proposed Site Layout

ISSUED 02
DRAWN BY: M
DATE: JANUARY 21, 2008

Rezoning Considerations

7140 Railway Avenue ("the lands")

Prior to final adoption of Zoning Amendment Bylaw 8343, the developer is required to complete the following:

1. Installation and maintenance of protective tree fencing, including periodic inspection, during construction to the satisfaction of City Parks arborist staff.
2. Proof of a contract with a registered arborist (with a minimum of four (4) site visits through construction) to ensure proper protection of the two (2) boulevard Oak trees.
3. Registration of a 3 m PROP ROW along the east property line for a public pathway, which is to be built by the developer and maintained in the future by the City.
4. Registration of a flood indemnity covenant on title to the lands (0.9 m GSC).
5. Contribution of cash-in-lieu of on-site indoor amenity space, in compliance with the OCP (e.g. \$10,000 for 10 units).
6. Enter into a Servicing Agreement* for frontage and infrastructure works, including but not limited to, the design and construction of:
 - a. Watermain: As identified in the capacity analysis, upgrade the existing 100mmØ watermain to 200mmØ across the frontage complete with a 200mmØ road crossing connected to the existing 300mmØ watermain along the west side of Railway Ave at the south edge of the site.
 - b. Storm sewer: As identified in the capacity analysis, upgrade to 1050mmØ across the frontage, from existing MH654 to the south to existing MH652 to the north.
 - c. Railway Avenue: Retention of the two (2) existing Oak boulevard trees and improvements along the entire frontage to be reasonably designed around the retained trees. The ability to retain the trees will be investigated in detail as part of the Servicing Agreement. Works include, but are not limited to, removing the existing sidewalk and relocating it closer to the property line with a new 1.5 m concrete sidewalk located on the same alignment/offset as the existing sidewalk ending at the "bend" of Granville Avenue/Railway Avenue complete with street-lighting and a grass boulevard with trees.
 - d. Public Path: Construct a new 2 m wide concrete walkway complete with the required drainage and walkway lighting, from Granville Avenue southward to the lane.
 - e. Lane: Upgrade existing rear lane with works including, but not limited to, storm sewer, "roll over" curb/gutter (both sides), 5.1 m wide asphalt pavement and lane-lighting.

All the above works to current city standards and specifications and at the developer's cost.
7. The City's acceptance of the developer's voluntary offer of an amenity contribution for affordable housing in the amount of \$0.60 per buildable ft² towards the City's Affordable Housing Strategy.
8. The submission and processing of a Development Permit* completed to a level deemed acceptable by the Director of Development.

[Signed original on file]

Signed _____

Date _____

*Note: This requires a separate application.

Prior to future Development Permit* issuance, the developer is required to complete the following:

9. Receipt of a Letter of Credit for landscaping (amount to be determined at submission of final Development Permit drawings).

Prior to future Building Permit* issuance, the developer is required to complete the following:

10. Incorporation of accessibility measures for aging in place in Building Permit drawings for all units including lever handles for doors and faucets and blocking in all washroom walls to facilitate future potential installation of grab bars/handrails.
11. Submit a construction parking and traffic management plan* to the satisfaction of the Transportation Division (<http://www.richmond.ca/services/ttp/special.htm>).



City of Richmond

Bylaw 8343

**Richmond Zoning and Development Bylaw 5300
Amendment Bylaw 8343 (07-361266)
7140 RAILWAY AVENUE**

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

1. Richmond Zoning and Development Bylaw 5300 is amended by replacing section 291.54.3.01 with the following:

“01 **Townhouses** shall not be constructed on a **lot** which is less than 1,830 m² (19,698 ft²) in area.”

2. 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 **COMPREHENSIVE DEVELOPMENT DISTRICT (CD/54)**.

P.I.D. 012-165-085

Parcel "ONE" (Reference Plan 7713) Lot "A" Except: Parcel "A" (Reference Plan 12426); Section 13 Block 4 North Range 7 West New Westminster District Plan 1343

3. This Bylaw may be cited as “**Richmond Zoning and Development Bylaw 5300, Amendment Bylaw 8343**”.

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER REQUIREMENTS SATISFIED

ADOPTED

MAYOR

CORPORATE OFFICER

CITY OF RICHMOND
APPROVED by 
APPROVED by Director or Solicitor 

