



Public Notice is hereby given of a Regular Council Meeting for Public Hearings being held on:

**Public Hearing Agenda
Electronic Meeting**

Monday, July 18, 2022 – 7 p.m.

**Council Chambers, 1st Floor
Richmond City Hall
6911 No. 3 Road
Richmond, BC V6Y 2C1**

OPENING STATEMENT

Page

1. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 10379 (RZ 21-925460)**

(File Ref. No. RZ 21-925460; 12-8060-20-010379) (REDMS No. 6884760)

PH-6

See Page PH-6 for full report

Location: 9231 Kilby Street

Applicant: D.C. Ltd. (Dhinjal Construction Ltd. – Pardeep Dhinjal)

Purpose: To rezone the subject property from the “Single Detached (RS1/E)” zone to the “Single Detached (RS2/A)” zone to permit the property to be subdivided to create two single-family lots with vehicle access from the rear lane.

First Reading: June 13, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.

Page

3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 10379.

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2. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 10380 (RZ 21-934410)**

(File Ref. No. RZ 21-934410; 12-8060-20-010380) (REDMS No. 6886931)

PH-28

See Page PH-28 for full report

Location: 9271 Kilby Street

Applicant: Parm Dhinjal

Purpose: To rezone the subject property from the “Single Detached (RS1/E)” zone to the “Single Detached (RS2/A)” zone to permit the property to be subdivided to create two single-family lots with vehicle access from the rear lane.

First Reading: June 13, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.
3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 10380.

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3. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 10387 (RZ 21-940331)**

(File Ref. No. RZ 21-940331; 12-8060-20-10387) (REDMS No. 6905161)

PH-49

See Page PH-49 for full report

Location: 11460 Williams Road

Applicant: Jude Da Silva

Page

Purpose: To rezone the subject property from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone to permit the property to be subdivided to create two single-family lots with vehicle access from the rear lane.

First Reading: June 27, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.
3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 10387.



4. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 10336 (RZ 21-928623)**

(File Ref. No. RZ 21-928623) (REDMS No. 6797839)

PH-69

See Page PH-69 for full report

Location: 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No 9 Road and Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231) and a portion of Graybar Road

Applicant: Farrell Estates Ltd.

Purpose: To discharge Land Use Contract 127 from 6831 Graybar Road, and to rezone the subject properties from “Industrial and Marina (ZI17) – Graybar Road (East Richmond),” “Industrial Business Park (IB1),” and “Light Industrial (IL)” to “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond),” to permit a multi-phase light industrial development.

First Reading: June 27, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.
3. Submissions from the floor.

Page

Council Consideration:

1. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 10336.

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5. **OFFICIAL COMMUNITY PLAN BYLAW 7100, AMENDMENT BYLAW 10190**

(File Ref. NO. 08-4045-20-20) (REDMS NO. 6904985)

PH-116

See Page PH-116 for staff memorandum dated June 22, 2022

PH-118

See Page PH-118 for full report

Location: Spires Road Area

Applicant: City of Richmond

Purpose:

- To designate the Spires Road Market Rental Policy Area as “Urban Centre T5” and “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial”; and
- To establish a rental tenure overlay and supporting policies, which outline density increases associated with secured rental tenure for properties in and adjacent to Spires Road, as described in the report titled “Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases”.

First Reading: June 27, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.
3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Official Community Plan Bylaw 7100, Amendment Bylaw 10190.

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2. Adoption of Official Community Plan Bylaw 7100, Amendment Bylaw 10190.

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6. **RICHMOND OFFICIAL COMMUNITY PLAN BYLAW 7100, AMENDMENT BYLAW NO. 10364**
(File Ref. No. 10-6125-07-02) (REDMS No. 6898984)

PH-149

See Page PH-149 for full report

Location: City Wide

Applicant: City of Richmond

Purpose: To amend Development Permit Guidelines regarding the use of design approaches that improve the energy performance of buildings.

First Reading: June 13, 2022 (*refer to minute excerpt*)

Order of Business:

1. Presentation from the applicant.
2. Acknowledgement of written submissions received by the City Clerk since first reading.
3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Official Community Plan Bylaw 7100, Amendment Bylaw 10364.

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2. Adoption of Official Community Plan Bylaw 7100, Amendment Bylaw 10364.

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ADJOURNMENT

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City of Richmond

Report to Committee

To: Planning Committee

Date: May 25, 2022

From: Wayne Craig
Director, Development

File: RZ 21-925460

Re: Application by D.C. Ltd. (Dhinjal Construction Ltd.) for Rezoning at
9231 Kilby Street from the "Single Detached (RS1/E)" Zone to the "Single
Detached (RS2/A)" Zone

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10379, for the rezoning of
9231 Kilby Street from "Single Detached (RS1/E)" zone to "Single Detached (RS2/A)" zone, be
introduced and given first reading.

Wayne Craig
Director, Development
(604-247-4625)

WC/NA:js/blg
Att. 7

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Affordable Housing	<input checked="" type="checkbox"/>	

Staff Report

Origin

D.C. Ltd. (Dhinjal Construction Ltd. – Pardeep Dhinjal) has applied to the City of Richmond for permission to rezone 9231 Kilby Street from the “Single Detached (RS1/E)” zone to the “Single Detached (RS2/A)” zone in order to permit the property to be subdivided into two single-family residential lots each with vehicle access from the rear lane. A location map and aerial photo are provided in Attachment 1. A survey showing the proposed subdivision plan is provided in Attachment 2.

Findings of Fact

A Development Application Data Sheet providing details about the development proposal is provided in Attachment 3.

Subject Site Existing Housing Profile

The single-family home on the property is tenanted and does not contain a secondary suite.

Surrounding Development

Development immediately surrounding the subject site is as follows:

To the North: Across the lane, single-family dwellings on lots zoned “Single Detached (RS1/E)” fronting Walford Street.

To the South: Across Kilby Street, duplexes on lots zoned “Two-Unit Dwellings (RD1)” fronting Kilby Street.

To the East: A single-family dwelling on a lot zoned “Single Detached (RS1/E)” fronting Kilby Street which is the subject of a rezoning application for two single-family lots with vehicle access from the rear lane (RZ 21-934410). The proposed rezoning of that property is the subject of a separate staff report.

To the West: A single-family dwelling on a lot zoned “Single Detached (RS1/E)” fronting Kilby Street.

Related Policies & Studies

Official Community Plan/West Cambie Area Plan

The 2041 OCP Land Use Map designation for the subject site is “Neighbourhood Residential” and the West Cambie Area Plan land use designation for the subject site is “Residential (Single Family)” (Attachment 4). This redevelopment proposal is consistent with these designations.

Lot Size Policy 5446

The subject site is located within the area covered by Lot Size Policy 5446 (adopted by Council September 16, 1991, amended June 21, 1999) (Attachment 5). This Policy permits rezoning and subdivision of lots on the north side of Kilby Street in accordance with “Single Detached (RS2/A)”. This redevelopment proposal would enable the property to be subdivided into a maximum of two lots.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

OCP Aircraft Noise Sensitive Development (ANSD) Policy

The subject site is located within the “Moderate Aircraft Noise Area (Area 3)” of the OCP ANSD Policy. While all new aircraft noise sensitive land uses may be considered in this area, the applicant is required to register an Aircraft Noise Sensitive Use Covenant on title prior to final adoption of the rezoning bylaw to address public awareness and ensure that noise mitigation, mechanical ventilation, and central air conditioning capability is incorporated into building design and construction, consistent with CMHC interior noise standards and ASHRAE 55-2004 “Thermal Environmental Conditions for Human Occupancy” standards for interior living. The covenant requires the submission of acoustical and thermal reports prepared by qualified professionals prior to Building Permit issuance to confirm how noise mitigation measures will be incorporated into dwelling construction.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant first reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment. Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Analysis

This redevelopment proposes to rezone and subdivide one existing single-family property into two new single-family lots and vehicular access from the rear lane. Both of the new lots will provide a minimum one-bedroom secondary suite.

This rezoning and subdivision is consistent with the lot fabric and vehicular access of the adjacent lots on Kilby Street.

Existing Legal Encumbrances

There is currently a statutory right-of-way (SRW) registered on title of the subject property, at the northwest corner of the property for sanitary sewer connection (RD15917). The applicant is aware that encroachment into the SRW is not permitted.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report, which identifies on-site and off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses two bylaw-sized trees on the subject property. No trees were assessed on neighbouring or City property.

The City's Tree Preservation Coordinator has reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- One tree (tag# 121) located in the front yard is a 59 cm caliper Flowering Cherry in fair condition for a species of its size. A Tree Survival Security of \$10,000.00 will be required.
- One tree (tag# 122) located in the rear yard is a 70 cm caliper Western Red Cedar. This tree is in fair condition and should be retained and protected. A Tree Survival Security of \$10,000.00 will be required.
- With Lot A retaining two existing trees, at minimum, two new replacement trees (minimum 4 m high or 8 cm caliper) should be provided on Lot B (created as a result of subdivision) consistent with Zoning Bylaw 8500, as this new lot would have no existing trees on it.
- No neighbouring or City trees were identified to be retained and protected.

The existing low height hedge located in the front and west yards is proposed to be removed due to low landscape value, site circulation, and ditch infill purposes.

Tree Replacement

The applicant wishes to remove zero on-site trees. The applicant has agreed to plant a minimum of two new trees on Lot B proposed; for a total minimum of two new trees. The required replacement trees are to be of the following minimum sizes, based on the size of the trees being removed as per Tree Protection Bylaw No. 8057.

No. of Replacement Trees	Minimum Caliper of Deciduous Replacement Tree	Minimum Height of Coniferous Replacement Tree
2	8 cm	4 m

Tree Protection

Two on-site trees (tag# 121 and 122) are to be retained and protected. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 6). Further review of the Tree Protection Zones is required prior to Building Permit issuance. To ensure that the trees identified for retention are protected at development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission to the City of a contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the Arborist to submit a post-construction impact assessment to the City for review.
- Prior to final adoption of the rezoning bylaw, submission to the City of a Tree Survival Security in the amount of a total \$20,000.00 for the two on-site trees (tag# 121 (\$10,000.00) and 122 (\$10,000.00)) to be retained and protected.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

Affordable Housing Strategy

The City's Affordable Housing Strategy for single-family rezoning applications requires a secondary suite or coach house on 100% of new lots created through single-family rezoning and subdivision applications; a secondary suite or coach house on 50% of new lots created and a cash-in-lieu contribution to the City's Affordable Housing Reserve Fund of the total buildable area of the remaining lots; or a cash-in-lieu contribution of the total buildable area of all lots where a secondary suite cannot be accommodated in the development.

Consistent with the Affordable Housing Strategy, the applicant has proposed to provide a one-bedroom secondary suite of minimum 33 m² (355 ft²) in each of the dwellings to be constructed on the new lots, for a total of two suites. Prior to the adoption of the rezoning bylaw, the applicant must register a legal agreement on title to ensure that no Building Permit inspection is granted until a minimum one-bedroom secondary suite of approximately 33 m² (355 ft²) is constructed on each of the two future lots, to the satisfaction of the City in accordance with the BC Building Code and the City's Zoning Bylaw.

Ministry of Transportation and Infrastructure (MOTI) Approval

MOTI approval is a condition of final adoption of the rezoning bylaw. Preliminary approval has been granted by MOTI for one year.

Transportation and Site Access

Vehicular access is to be from the rear lane. Registration of a restrictive covenant on title will be required to ensure vehicle access to the site at future development stage is from the rear lane only, with no vehicular access permitted to or from Kilby Street. Ditch infill will provide for pedestrian access to each single-family dwelling from Kilby Street.

Site Servicing and Frontage Improvements

At future Subdivision stage, the applicant will be required to pay Development Cost Charges (City and GVS & DD), Engineering Improvement Charges for futures road improvements, School Site Acquisition Charge, Address Assignment Fee, and Servicing Costs. The applicant must also enter into a Servicing Agreement for the design and construction of the required site servicing and off-site improvements, including lane upgrades, as described in Attachment 7. Ditch infill and storm sewer works are required for frontage improvements. Furthermore, payment of a \$27,200.00 cash-in-lieu for transportation upgrades along road and lane frontage and payment of a \$14,000.00 cash-in-lieu for street light upgrades along road frontages will be required at the time of subdivision.

Financial Impact

The rezoning application results in an insignificant Operational Budget Impact (OBI) for off-site City infrastructure (such as roadworks, waterworks, storm sewers, sanitary sewers, street lights, street trees and traffic signals).

Conclusion

The purpose of this application is to rezone 9231 Kilby Street from the "Single Detached (RS1/E)" zone to the "Single Detached (RS2/A)" zone to permit the property to be subdivided to create two single detached lots with vehicle access from the rear lane. The proposal is consistent with Single-Family Lot Size Policy 5446 and all applicable policies and land use designations contained within the Official Community Plan (OCP). The proposal is consistent with the direction of redevelopment in the surrounding area.

The list of rezoning considerations is included as Attachment 7, which has been agreed to by the applicants (signed concurrence on file).

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10379 be introduced and given first reading.



Nathan Andrews
Planning Technician
(604-247-4911)

NA:js/blg

Attachments:

Attachment 1: Location Map

Attachment 2: Survey and Proposed Subdivision Plan

Attachment 3: Development Application Data Sheet

Attachment 4: West Cambie Area Land Use Map

Attachment 5: Lot Size Policy 5446

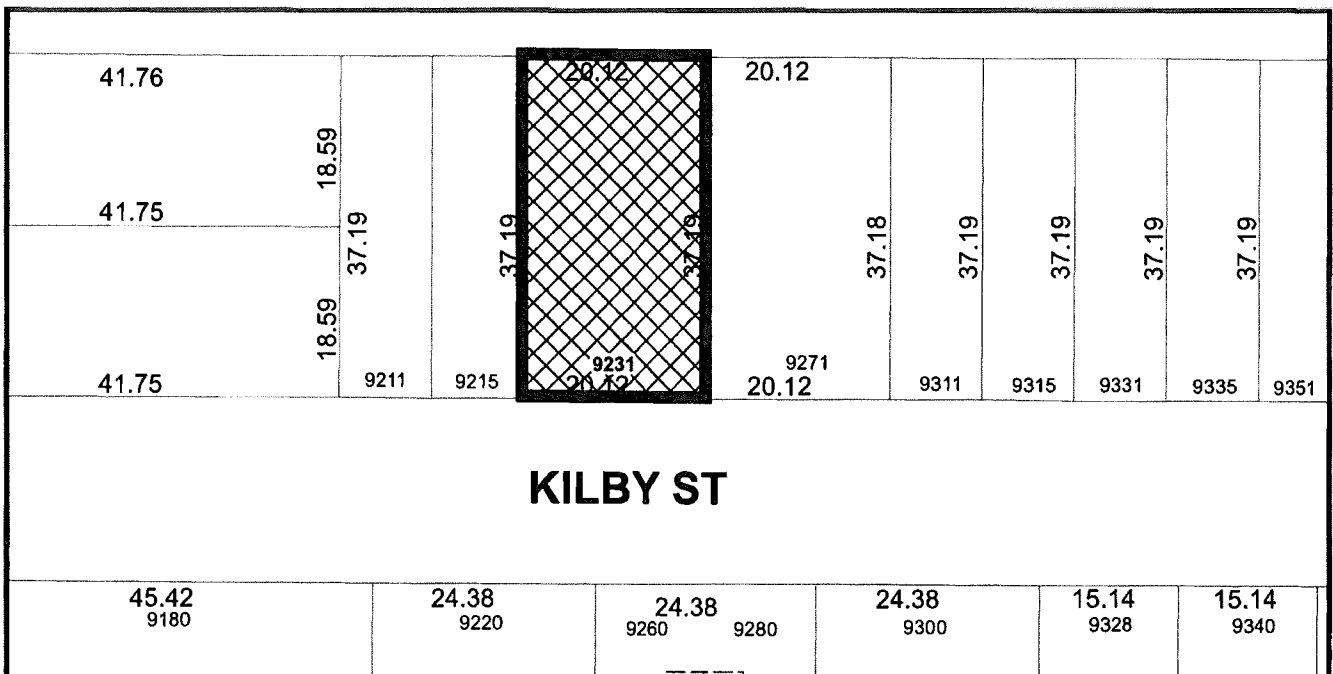
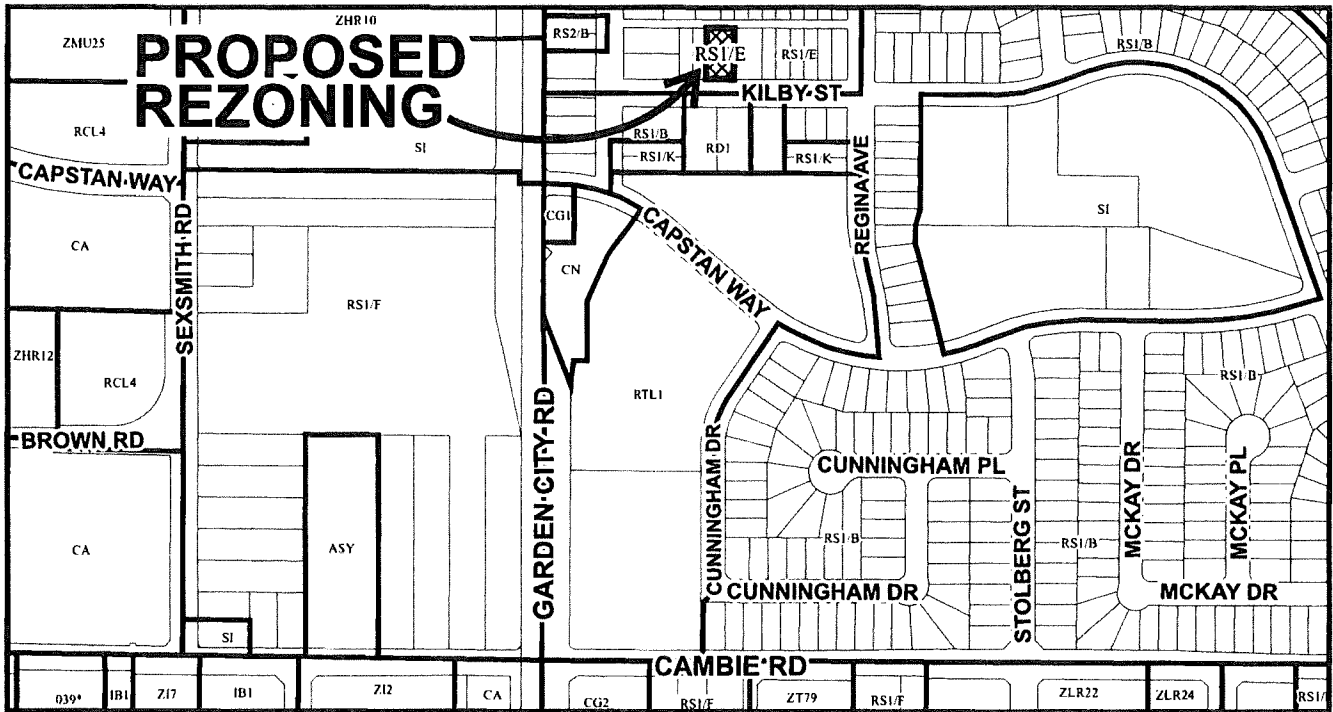
Attachment 6: Tree Retention Plan

Attachment 7: Rezoning Considerations



City of Richmond

ATTACHMENT 1



RZ 21-925460

Original Date: 03/08/21

Revision Date:

Note: Dimensions are in METRES



City of
Richmond

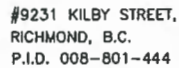


RZ 21-925460

Original Date: 03/08/21

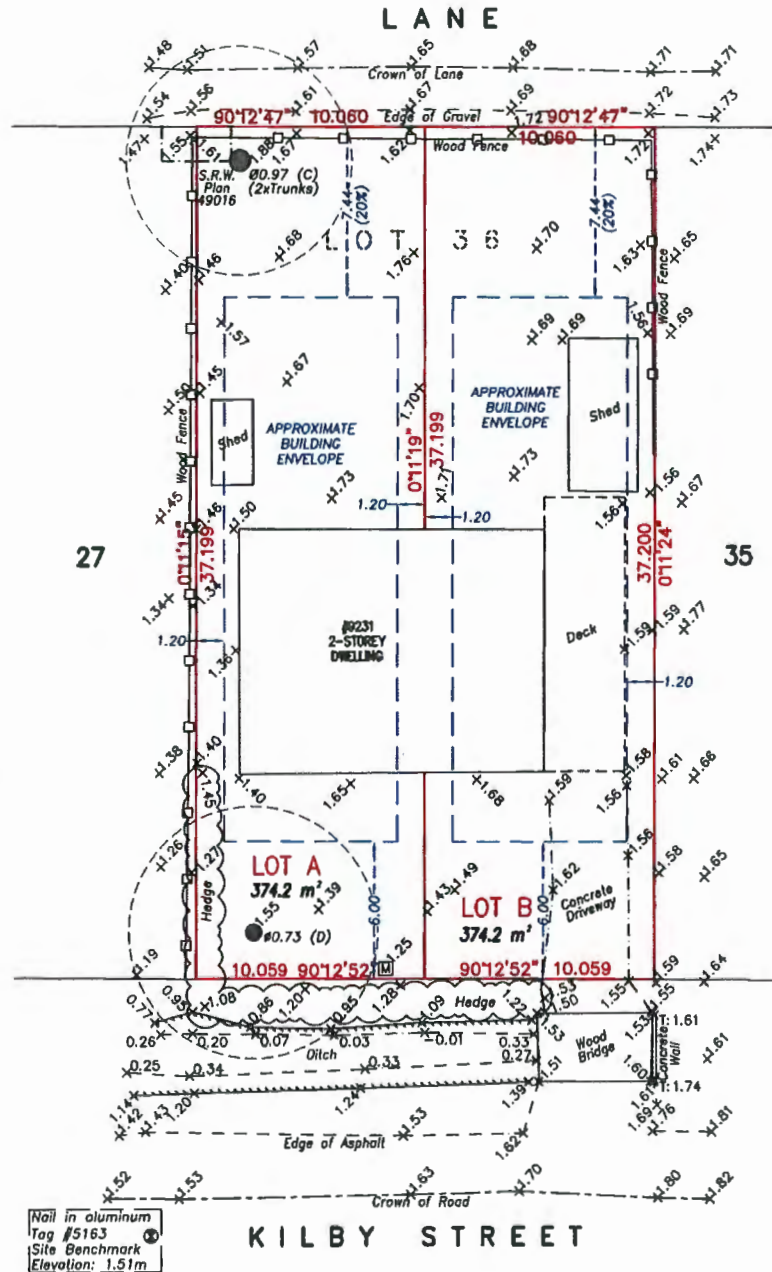
Revision Date:

Note: Dimensions are in METRES



NOTE:

Elevations shown are based on
City of Richmond HPN
Benchmark network.
Benchmark: HPN #190
Control Monument 94H1624
Elevation: 2.353m
Benchmark: HPN #234
Control Monument 77H4891
Elevation: 1.125m



LEGEND:

- (C) denotes conifer
(D) denotes deciduous
☒ (M) denotes water meter
T: denotes top of wall

Nail in aluminum
Tag #5163
Site Benchmark
Elevation: 1.51m

© copyright
J. C. Tam and Associates
Canada and B.C. Land Surveyor
115 - 8833 Odlin Crescent
Richmond, B.C. V6X 3Z7
Telephone: (604) 214-8928
Fax: (604) 214-8929
E-mail: office@jctam.com
Website: www.jctam.com
Job No. 7626
FB-395 P64-65
Drawn By: WK

SCALE: 1:200



ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED

NOTE:

Use site Benchmark Tag #5163 for construction elevation control.

CERTIFIED CORRECT:
LOT DIMENSION ACCORDING TO
FIELD SURVEY.

Johnson
Tam U8I4B9
JOHNSON C. TAM, B.C.L.S., C.L.S.
January 21st, 2012.



RZ 21-925460

Attachment 3

Address: 9231 Kilby Street

Applicant: Dhinjal Construction Ltd.

Planning Area(s): West Cambie

	Existing	Proposed
Owner:	Pardeep Singh Dhinjal	To be determined
Site Size (m²):	748.4 m ²	Lot A: 374.2 m ² Lot B: 374.2 m ²
Land Uses:	One single-family dwelling	Two single-family dwellings
OCP Designation:	Neighbourhood Residential	No change
Area Plan Designation:	Residential (Single-Family only)	No change
702 Policy Designation:	Policy 5446 permits subdivision to "Single Detached (RS2/A)"	No change
Zoning:	Single Detached (RS1/E)	Single Detached (RS2/A)
Number of Units:	1	2
Other Designations:	N/A	No change

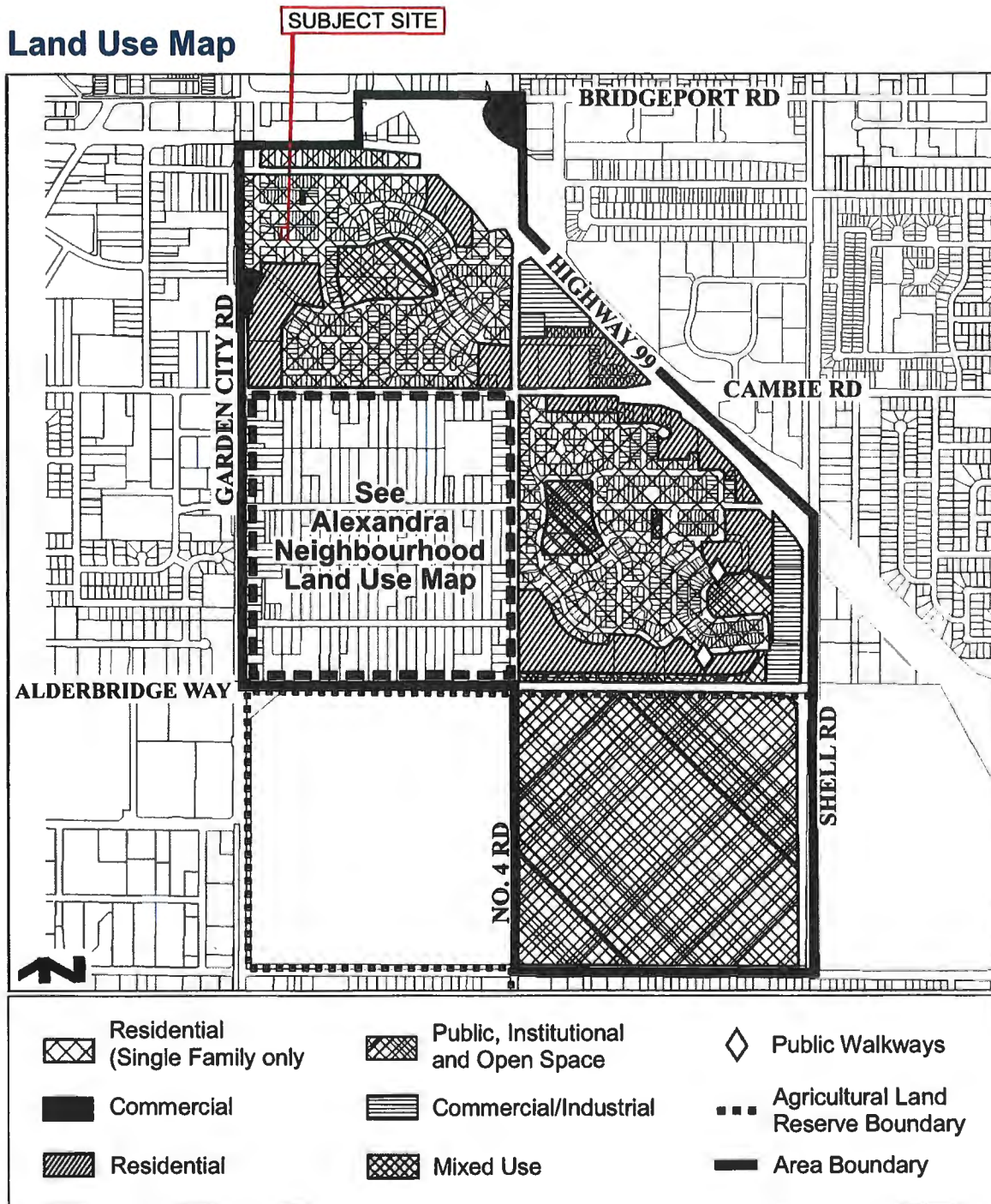
On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.55 for lot area up to 464.5 m ² plus 0.3 for area in excess of 464.5 m ²	Max. 0.55	none permitted
Buildable Floor Area (m ²):*	Lot A: Max. 205.81 m ² (2,215.3 ft ²) Lot B: Max. 205.81 m ² (2,215.3 ft ²)	Lot A: Max. 205.81 m ² (2,215.3 ft ²) Lot B: Max. 205.81 m ² (2,215.3 ft ²)	none permitted
Lot Coverage (% of lot area):	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	none
Lot Size:	Min. 270 m ²	Lot A: 374.2 m ² Lot B: 374.2 m ²	none
Lot Dimensions (m):	Width: Min. 9.0 m Depth: Min. 24.0 m	Width: 10.06 m Depth: 37.2 m	none

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Setbacks (m):	Front: Min. 6.0 m Rear: Greater of 6.0 m or 20% of total lot depth, for a maximum width of 60% of the rear wall of the first storey; and 25% of the total lot depth, for the remaining 40% of the rear wall of the first storey and any second storey, or half storey above, up to a max. required setback of 10.7 m Side: Min. 1.2 m Exterior Side: Min. 3.0 m	Front: Min. 6.0 m Rear: Min. 7.44 m for a maximum width of 60% of the rear wall of the first storey; and min. 9.3 m for the remaining 40% of the rear wall of the first storey and any second storey, or half storey above, up to a max. required setback of 10.7 m Side: Min. 1.2 m	none
Height (m):	Max. 2.5 storeys or 9.0 m	2.5 storeys or 9.0 m	none
Off-street Parking Spaces – Total:	2	2	none

Other: _____

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.

City of Richmond

Land Use Map

**City of Richmond****Policy Manual**

Page 1 of 2

Adopted by Council: September 16, 1991

POLICY 5446

Amended by Council: June 21, 1999

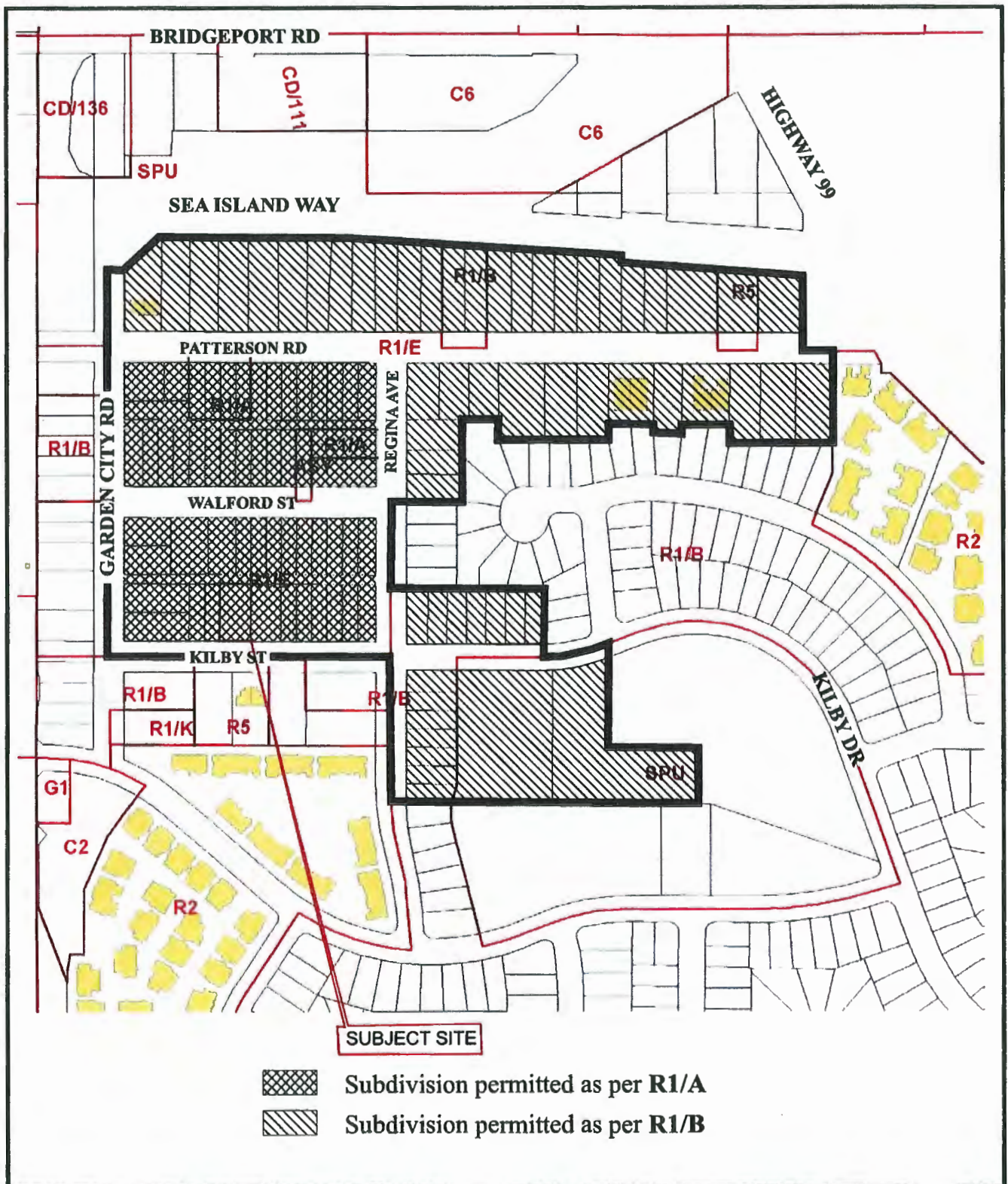
File Ref: 4430-00

SINGLE-FAMILY LOT SIZE POLICY IN QUARTER-SECTION 27-5-6**POLICY 5446:**

The following policy establishes lot sizes in a portion of Section 27-5-6, bounded by **Sea Island Way, Highway 99, east side of Garden City Road, east side of Regina Avenue and north side of Kilby Street:**

That properties within the area bounded by Sea Island Way, Highway 99 and the east side of Regina Avenue, in a portion of Section 27-5-6, be permitted to subdivide in accordance with the provisions of Single-Family Housing District, Subdivision Area B (R1/B) and further that properties within the area bounded by the east side of Garden City Road, the south side of Patterson Road, the west side of Regina Avenue and the north side of Kilby Street be permitted to subdivide in accordance with the provisions of Single-Family Housing District, Subdivision Area A (R1/A) in Zoning and Development Bylaw 5300.

That this policy, as shown on the accompanying plan, be used to determine the disposition of future single-family 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.



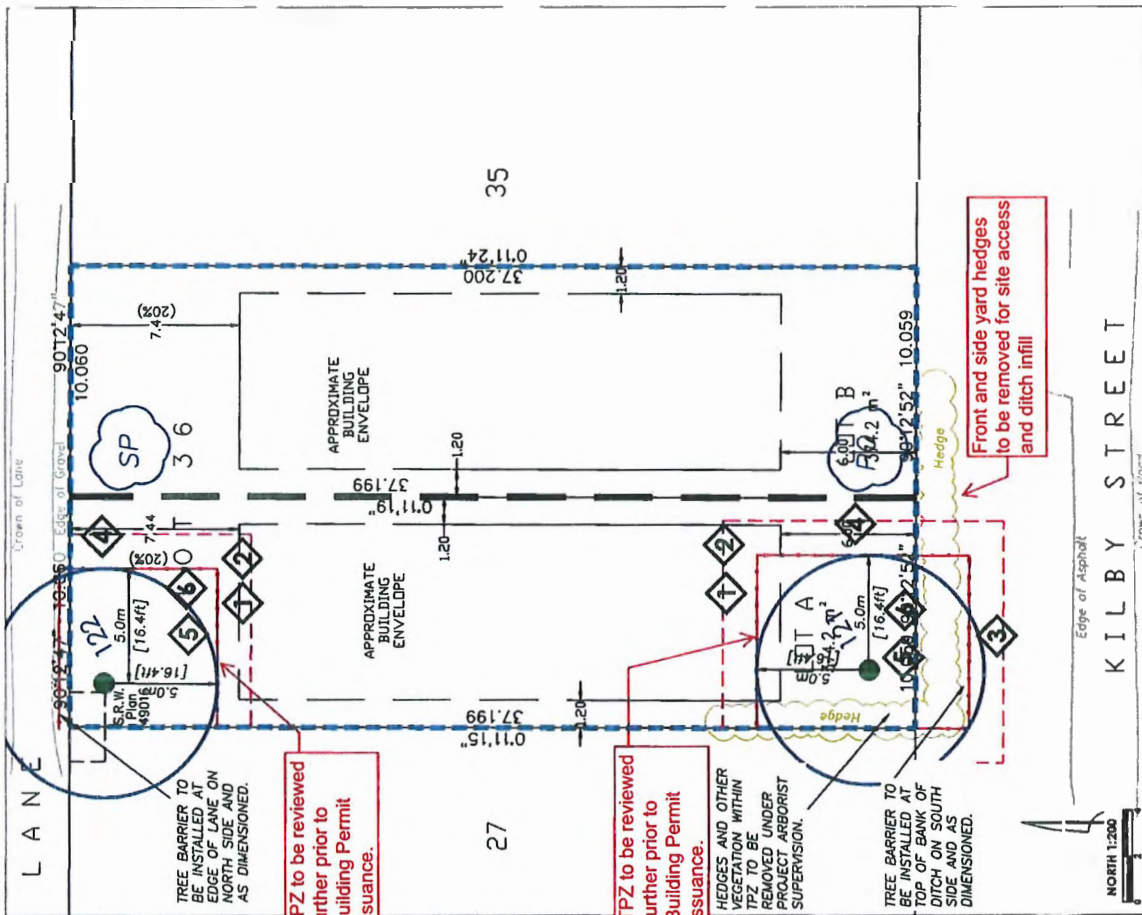
Policy 5446 Section 27-5-6

Adopted Date: 09/16/91

Amended Date: 06/21/99

Note: Dimensions are in METRES

TREE RETENTION AND PROTECTION DETAIL - PROJECT DESIGN BASE PRESCRIPTION FOR EXISTING TREES RELATED TO THE PROPOSED DEVELOPMENT



LEGEND-TREE RETENTION:
(See report and appendices for further details)
XXXXX: Approximate location of trees to be retained (see report and appendices for further details)
XXXXX: Approximate location of trees to be removed (see report and appendices for further details)
XXXXX: Approximate location of trees to be retained (see report and appendices for further details)
XXXXX: Approximate location of trees to be removed (see report and appendices for further details)

LEGEND-REPLACEMENT TREE PLANTING:
(See report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)

CODE	CITY	SIZE	BOTANICAL NAME	COMMON NAME
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

SUGGESTED PLANT LIST: REPLACEMENT TREES
(See report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
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QUANTIFYING LIFE AND COORDINATION:
(See report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
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QUANTIFYING LIFE AND COORDINATION:
(See report and appendices for further details)
XXXXX: Approximate location of trees to be replaced (see report and appendices for further details)
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Address: 9231 Kilby Street

File No.: RZ 21-925460

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10379, the developer is required to complete the following:

1. Provincial Ministry of Transportation & Infrastructure Approval.
2. Registration of a flood indemnity covenant on title (2.9 m GSC – Area A).
3. Registration of an aircraft noise sensitive use covenant on title (ANSI Area 3) to address public awareness and to ensure that noise mitigation, mechanical ventilation, and central air conditioning capability is incorporated into building design and construction (i.e., building components of the proposed development must be designed and constructed in a manner that mitigates potential aircraft noise to the proposed dwelling with doors and windows closed). Dwelling units must be designed and constructed to achieve:

a) CMHC guidelines for interior noise levels as indicated in the chart below:

Portions of Dwelling Units	Noise Levels (decibels)
Bedrooms	35 decibels
Living, dining, recreation rooms	40 decibels
Kitchen, bathrooms, hallways, and utility rooms	45 decibels

and;

- b) the ASHRAE 55-2004 “Thermal Environmental Conditions for Human Occupancy” standard (and subsequent updates as they may occur) for interior living spaces.
4. Registration of a restrictive covenant on Title to ensure vehicular access to the site at future development stage is from the rear lane only, with no access permitted to or from Kilby Street.
5. Registration of a legal agreement on Title to ensure that no final Building Permit inspection is granted until at minimum a 33 m² (355 ft²) one-bedroom secondary suite is constructed on both of the two future lots, to the satisfaction of the City in accordance with the BC Building Code and the City’s Zoning Bylaw.
6. Submission of a Landscape Security in the amount of \$1,500.00 (\$750/tree) to ensure that a total of two new trees are planted and maintained on Lot B; minimum 8 cm deciduous caliper or 4 m high conifers.
7. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any on-site works conducted within the tree protection zone of the trees to be retained. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the Arborist to submit a post-construction assessment report to the City for review.
8. Submission of a Tree Survival Security to the City in the amount of \$20,000.00 for the two trees (tag# 121 and 122) to be retained.

Prior to Demolition Permit Issuance, the developer must complete the following requirements:

1. Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.

At Subdivision* stage, the developer must complete the following requirements:

1. At future Subdivision stage, the applicant will be required to pay Development Cost Charges (City and GVS & DD), Engineering Improvement Charges for futures road improvements, School Site Acquisition Charge, Address Assignment Fee, and Servicing Costs.
2. Submission of a \$14,400.00 Cash-in-lieu contribution for street lighting upgrades.

3. Submission of a \$27,200.00 Cash-in-lieu contribution for future upgrades of Kilby Street and the lane.

Note: Cash-in-lieu rates are updated yearly to adjust for inflation and fluctuations in actual construction costs. The City will re-assess the required contribution when the cash-in-lieu is paid, based on the cash-in-lieu rate that is in effect at that time.

4. Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to:

Water Works:

- a) Using the OCP Model, there is 258.0 L/s of water available at a 20 psi residual at the Kilby St frontage. Based on your proposed development, your site requires a minimum fire flow of 95 L/s.
- b) At Developer's cost, the Developer is required to:
 - i) Cut and cap the existing water service connection along the 9231 Kilby St frontage and install a new 25mm water service connection complete with water meter and water meter box to service the west lot per City specifications.
 - ii) Install a new 25mm diameter water service connection complete with water meter and meter box for the east lot per standard City specifications.
- c) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Storm Sewer Works:

- d) At Developer's cost, the Developer is required to:
 - i) Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement design.
 - ii) Install a new 600mm storm sewer along the Kilby St frontage of the subject site with two manholes per City specifications. Tie-in the proposed storm sewer to the existing drainage system at approximately a 45 degree angle using manholes or headwalls as required. Confirm the condition of the drainage infrastructure at each tie-in point.
 - iii) Infill the existing ditch fronting the subject site with granular material and soil. A watercourse crossing permit is required for modifications to the ditch and culvert fronting 9231 Kilby St per the City's Watercourse Protection and Crossing Bylaw No. 8441.
 - iv) Install a new storm sewer service connection and IC at the common property line of the subject site with dual storm service connections to service the west lot and the east lot per City standards.
 - v) Install a new storm sewer along the lane frontage of 9231 Kilby St per City specifications. IC to be installed near the west property line of 9231 Kilby St.
 - vi) Collaborate with the adjacent development at 9271 Kilby St to install a new laneway storm sewer and IC between the east PL of 9271 Kilby St and STIC150580 per City specifications.
- e) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Sanitary Sewer Works:

- f) At Developer's cost, the Developer is required to:
 - i) Not start onsite excavation or foundation construction until completion of rear-yard sanitary works by City crews.
 - ii) Install a new 100mm sanitary service connection and IC with dual service leads at the common property line of the subject site per City specifications. Provide a 1.5mx1.5m wide SRW for the sanitary IC.
- g) At Developer's cost, the City will:

- i) Complete all tie-ins for the proposed works to existing City infrastructure.

Street Lighting:

- h) At Developer's cost, the Developer is required to:
 - i) Review street lighting levels along all road and lane frontages.

General Items:

- i) At Developer's cost, the Developer is required to:
 - i) Complete other frontage improvements as per Transportation requirements:
 - Vehicular access be off the lane, that is, no access off Kilby Street.
 - ii) Not encroach into City rights-of-ways with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into rights-of-ways must be reviewed by the City's Engineering Department.
 - iii) Provide a signed and sealed letter from the project engineer confirming that the development at 9231 Kilby Street is coordinated with the developments in 9271 Kilby Street and 9180 Kilby Street. The City's Engineering department will not begin review of the servicing agreement design drawings until the coordination letter is received.

The letter shall confirm that the following design components have been coordinated:

- Corridors for City utilities (existing and proposed water, storm sewer, sanitary sewer and private utilities).
- Pipe sizes, materials and slopes.
- Location of manholes and fire hydrants.
- Road grades.
- Proposed street light design.
- Design and construction of laneway drainage between the east property line of 9271 Kilby Street and STIC150580

Prior to Building Permit Issuance, the developer must complete the following requirements:

1. Submission of acoustical and thermal reports prepared by qualified professionals to confirm noise mitigation measures, mechanical ventilation, and central air conditioning capability will be incorporated into dwelling construction as per the legal agreement registered on title at rezoning stage.
2. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
3. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the

Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date



Regular Council
Monday, June 13, 2022

11. APPLICATION BY D.C. LTD. (DHINJAL CONSTRUCTION LTD.) FOR REZONING AT 9231 KILBY STREET FROM THE "SINGLE DETACHED (RS1/E)" ZONE TO THE "SINGLE DETACHED (RS2/A)" ZONE

(File Ref. No. RZ 21-925460; 12-8060-20-010379)(REDMS No. 6884760; 3186793, 280279, 6884771)

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10379, for the rezoning of 9231 Kilby Street from "Single Detached (RS 1 /E)" zone to "Single Detached (RS2/ A)" zone, be introduced and given first reading.

ADOPTED ON CONSENT



City of Richmond

Bylaw 10379

Richmond Zoning Bylaw 8500 Amendment Bylaw 10379 (RZ 21-925460) 9231 Kilby Street

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 Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **"SINGLE DETACHED (RS2/A)"**.

P.I.D. 008-801-444

Lot 36 Section 27 Block 5 North Range 6 West New Westminster District Plan 26153

2. This Bylaw may be cited as **"Richmond Zoning Bylaw 8500, Amendment Bylaw 10379"**.

FIRST READING

JUN 13 2022

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

MINISTRY OF TRANSPORTATION AND
INFRASTRUCTURE APPROVAL

ADOPTED

CITY OF RICHMOND
APPROVED by 
APPROVED by Director or Solicitor 

MAYOR

CORPORATE OFFICER



City of Richmond

Report to Committee

To: Planning Committee
From: Wayne Craig
Director, Development

Date: May 18, 2022
File: RZ 21-934410

Re: Application by Parm Dhinjal for Rezoning at 9271 Kilby Street from the
"Single Detached (RS1/E)" Zone to the "Single Detached (RS2/A)" Zone

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10380, for the rezoning of 9271 Kilby Street from the "Single Detached (RS1/E)" zone to the "Single Detached (RS2/A)" zone, be introduced and given first reading.

Wayne Craig
Director, Development
(604-247-4625)

WC/NA:js/blg
Att. 7

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Affordable Housing	<input checked="" type="checkbox"/>	

Staff Report

Origin

Parm Dhinjal has applied to the City of Richmond, on behalf of the owner Signature Living Inc. (Parm Dhinjal), for permission to rezone 9271 Kilby Street from the “Single Detached (RS1/E)” zone to the “Single Detached (RS2/A)” zone in order to permit the property to be subdivided into two single-family residential lots each with vehicle access from the rear lane. A location map and aerial photo are provided in Attachment 1. A survey showing the proposed subdivision plan is provided in Attachment 2.

Findings of Fact

A Development Application Data Sheet providing details about the development proposal is provided in Attachment 3.

Subject Site Existing Housing Profile

The two-storey single-family home on the property is tenanted and does not contain a secondary suite.

Surrounding Development

Development immediately surrounding the subject site is as follows:

To the North: Across the lane, single-family dwellings on lots zoned “Single Detached (RS1/E)” fronting Walford Street.

To the South: Across Kilby Street, duplexes on lots zoned “Two-Unit Dwellings (RD1)” and “Single Detached (RS1/E)” fronting Kilby Street.

To the East: A single-family dwelling on a lot zoned “Single Detached (RS1/E)” fronting Kilby Street.

To the West: A single-family dwelling on a lot zoned “Single Detached (RS1/E)” fronting Kilby Street. The City has received a rezoning application 9231 Kilby Street to facilitate the subdivision of the property to provide for two single-family lots with vehicle access from the rear lane (RZ 21-925460). The proposed rezoning of 9231 Kilby Street is the subject of a separate staff report.

Related Policies & Studies

Official Community Plan/West Cambie Area Plan

The 2041 OCP Land Use Map designation for the subject site is “Neighbourhood Residential” and the West Cambie Area Plan land use designation for the subject site is “Residential (Single Family only)” (Attachment 4). This subdivision proposal is consistent with these designations.

Lot Size Policy 5446

The subject site is located within the area covered by Lot Size Policy 5446 (adopted by Council September 16, 1991, amended June 21, 1999) (Attachment 5). This Policy permits rezoning and subdivision of lots on the north side of Kilby Street in accordance with “Single Detached (RS2/A)”. This redevelopment proposal would enable the property to be subdivided into a maximum of two lots.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

OCP Aircraft Noise Sensitive Development (ANSD) Policy

The subject site is located within the “Moderate Aircraft Noise Area (Area 3)” of the OCP ANSD Policy. While all new aircraft noise sensitive land uses may be considered in this area, the applicant is required to register an Aircraft Noise Sensitive Use Covenant on title prior to final adoption of the rezoning bylaw to address public awareness and ensure that noise mitigation, mechanical ventilation, and central air conditioning capability is incorporated into building design and construction, consistent with CMHC interior noise standards and ASHRAE 55-2004 “Thermal Environmental Conditions for Human Occupancy” standards for interior living. The covenant requires the submission of acoustical and thermal reports prepared by qualified professionals prior to Building Permit issuance to confirm how noise mitigation measures will be incorporated into dwelling construction.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant first reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment. Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Analysis

This redevelopment proposes to rezone and subdivide one existing single-family property into two new single-family lots with vehicular access from the existing rear lane. Both of the new lots will provide a minimum one-bedroom secondary suite.

This rezoning and subdivision is consistent with the lot fabric and vehicular access of the adjacent lots on Kilby Street.

Existing Legal Encumbrances

There is currently a statutory right-of-way (SRW) registered on title of the subject property, at the north end of the property for sanitary sewer connection (RD15917). Removal of the SRW will be required to accommodate a future SRW at the common property line and will be reviewed as part of the Servicing Agreement works. The applicant is aware that encroachment into the SRW is not permitted.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report; which identifies on-site and off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses one bylaw-sized tree on the subject property and one tree on neighbouring property.

The City's Tree Preservation Coordinator has reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- One on-site tree (tag #43 a 25.5 cm caliper Ornamental False Cypress) exhibits a shrub-like form and is in moderate health but of low landscape value. Due to the tree being in conflict with the proposed building footprint and of low landscape value it should be removed and replaced.
- One tree (tag #A a 28 cm caliper Hedging Cedar) located on adjacent neighbouring property at 9311 Kilby Street is in moderate health and identified to be retained and protected. Provide tree protection as per City of Richmond Tree Protection Information Bulletin Tree-03.
- Replacement trees should be specified at 2:1 ratio as per the OCP.

Tree Replacement

The applicant wishes to remove one on-site tree (Tree tag #43). The 2:1 replacement ratio would require a total of two replacement trees. The applicant has agreed to plant two trees on each lot proposed consistent with Zoning Bylaw 8500; for a total of four trees. The required replacement trees are to be of the following minimum sizes, based on the size of the trees being removed as per Tree Protection Bylaw No. 8057.

No. of Replacement Trees	Minimum Caliper of Deciduous Replacement Tree	Minimum Height of Coniferous Replacement Tree
4	8 cm	4 m

Tree Protection

One tree (tag #A) on neighbouring properties is to be retained and protected. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 6). To ensure that the trees identified for retention are protected at development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission to the City of a contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the arborist to submit a post-construction impact assessment to the City for review.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

Affordable Housing Strategy

The City's Affordable Housing Strategy for single-family rezoning applications requires a secondary suite or coach house on 100% of new lots created through single-family rezoning and subdivision applications; a secondary suite or coach house on 50% of new lots created and a cash-in-lieu contribution to the City's Affordable Housing Reserve Fund of the total buildable area of the remaining lots; or a cash-in-lieu contribution of the total buildable area of all lots where a secondary suite cannot be accommodated in the development.

Consistent with the Affordable Housing Strategy, the applicant has proposed to provide a one-bedroom secondary suite of minimum 33 m² (355 ft²) in each of the dwellings to be constructed on the new lots, for a total of two suites. Prior to the adoption of the rezoning bylaw, the applicant must register a legal agreement on title to ensure that no Building Permit inspection is granted until a minimum one-bedroom secondary suite of approximately 33 m² (355 ft²) is constructed on each of the two future lots, to the satisfaction of the City in accordance with the BC Building Code and the City's Zoning Bylaw.

Ministry of Transportation and Infrastructure (MOTI) Approval

MOTI approval is a condition of final adoption of the rezoning bylaw. Preliminary approval has been granted by MOTI for one year.

Transportation and Site Access

Vehicular access is proposed to be from the rear lane. Registration of a restrictive covenant on title will be required to ensure vehicle access to the site at future development stage is from the rear lane only, with no vehicular access permitted to or from Kilby Street. Ditch infill along the property frontage will provide for pedestrian access to each single-family dwelling from Kilby Street.

Site Servicing and Frontage Improvements

At future subdivision stage, the applicant will be required to pay Development Cost Charges (City and GVS & DD), Engineering Improvement Charges for futures road improvements, School Site Acquisition Charge, Address Assignment Fee, and Servicing Costs. The applicant

must also enter into a Servicing Agreement for the design and construction of the required site servicing and off-site improvements, including lane upgrades, as described in Attachment 7. Ditch infill and storm sewer works are required for frontage improvements. Furthermore, payment of a \$27,200.00 cash-in-lieu for transportation upgrades along road and lane frontages and a \$14,400.00 cash-in-lieu payment for street light upgrades along road frontages will be required at the time of subdivision.

Financial Impact

The rezoning application results in an insignificant Operational Budget Impact (OBI) for off-site City infrastructure (such as roadworks, waterworks, storm sewers, sanitary sewers, street lights, street trees and traffic signals).

Conclusion

The purpose of this application is to rezone 9271 Kilby Street from the "Single Detached (RS1/E)" zone to the "Single Detached (RS2/A)" zone to permit the property to be subdivided to create two single detached lots with vehicle access from the rear lane. The proposal is consistent with Single-Family Lot Size Policy 5446 and all applicable policies and land use designations contained within the Official Community Plan (OCP). The proposal is consistent with the direction of redevelopment in the surrounding area.

The list of rezoning considerations is included as Attachment 7, which has been agreed to by the applicants (signed concurrence on file).

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10380 be introduced and given first reading.



Nathan Andrews
Planning Technician
(604-247-4911)

NA:js/blg

Attachments:

- Attachment 1: Location Map
- Attachment 2: Survey and Proposed Subdivision Plan
- Attachment 3: Development Application Data Sheet
- Attachment 4: West Cambie Area Land Use Map
- Attachment 5: Lot Size Policy 5446
- Attachment 6: Tree Retention Plan
- Attachment 7: Rezoning Considerations



City of
Richmond



RZ 21-934410

Original Date: 06/28/21

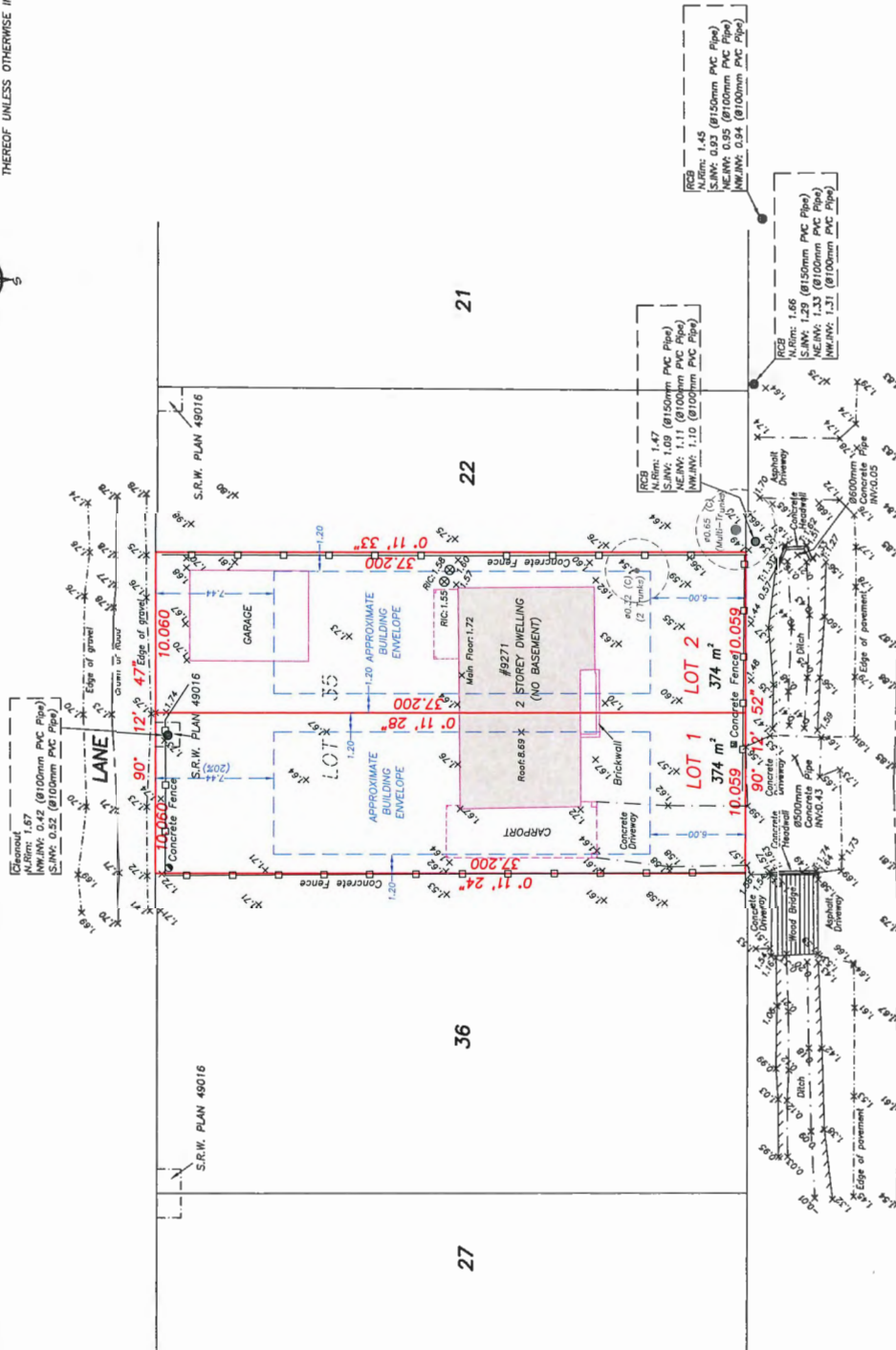
Revision Date:

Note: Dimensions are in METRES

TOPOGRAPHIC SURVEY AND PROPOSED SUBDIVISION OF LOT 35 SECTION 27
BLOCK 5 NORTH RANGE 6 WEST NEW WESTMINSTER DISTRICT PLAN 26092

#9271 KILBY STREET,
RICHMOND, B.C.
P.L.D. 008-896-844

SCALE: 1:200
0 5 10 15
ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED



KILBY STREET

Not in alignment
Tag #5421
Site Benchmark
Elevation: 1.77m

LEGEND:

- (c) denotes contour
- ca denotes easement
- denotes power pole
- denotes power pole
- denotes inspection chamber
- denotes water meter
- denotes manhole
- denotes invert
- T: denotes top of retaining wall

NOTE:
Elevations shown are based on
City of Richmond HPN
Benchmark: HPN #234
Control Monument 77H4891
Elevation: 1.125m
FB-393 P101-102; FB-401 P8
Control Monument 94H1624
Elevation: 2.353m

Copyright
J. C. Tam and Associates
Canada and B.C. Land Surveyor
115 - 8833 Odlin Crescent
Richmond, B.C. V6X 3T7
Telephone: 214-8928
Fax: 214-8929
E-mail: office@jctam.com
Website: www.jctam.com
Job No. 7673
FB-393 P101-102; FB-401 P8
Drawn By: KA
DWG No. 7673-TOP0-02

CERTIFIED CORRECT:
LOT DIMENSION ACCORDING TO
FIELD SURVEY.

JOHNSON C. TAM, B.C.L.S., C.L.S.
APRIL 7th, 2021.

NOTE:
Use site Benchmark Tag #5421 for
construction elevation control.



RZ 21-934410

Attachment 3

Address: 9271 Kilby Street

Applicant: Parm Dhinjal

Planning Area(s): West Cambie

	Existing	Proposed
Owner:	Signature Living Inc.	To be determined
Site Size (m²):	748 m ²	Lot 1: 374 m ² Lot 2: 374 m ²
Land Uses:	One single-family dwelling	Two single-family dwellings
OCP Designation:	Neighbourhood Residential	No change
Area Plan Designation:	Residential (Single Family only)	No change
702 Policy Designation:	Policy 5446 permits subdivision to "Single Detached (RS2/A)"	No change
Zoning:	Single Detached (RS1/E)	Single Detached (RS2/A)
Number of Units:	1	2
Other Designations:	N/A	No change

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.55 for lot area up to 464.5 m ² plus 0.3 for area in excess of 464.5 m ²	Max. 0.55	none permitted
Buildable Floor Area (m ²):*	Lot 1: Max. 205.7 m ² (2,214 ft ²) Lot 2: Max. 205.7 m ² (2,214 ft ²)	Lot 1: Max. 205.7 m ² (2,214 ft ²) Lot 2: Max. 205.7 m ² (2,214 ft ²)	none permitted
Lot Coverage (% of lot area):	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	none
Lot Size:	Min. 270 m ²	Lot 1: 374 m ² Lot 2: 374 m ²	none
Lot Dimensions (m):	Width: Min. 9.0 m Depth: Min. 24.0 m	Width: 10.06 m Depth: 37.2 m	none

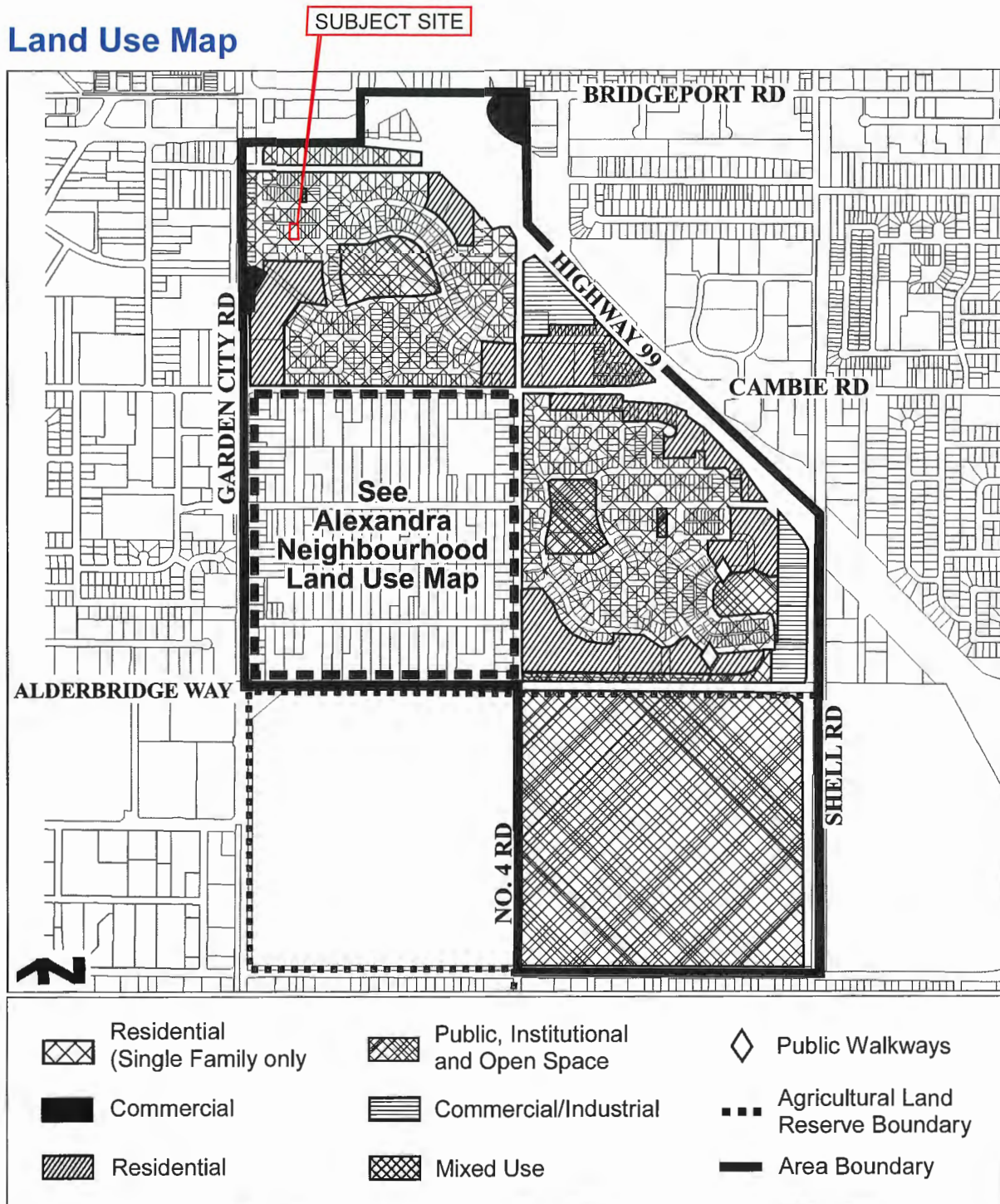
On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Setbacks (m):	Front: Min. 6.0 m Rear: Greater of 6.0 m or 20% of total lot depth, for a maximum width of 60% of the rear wall of the first storey; and 25% of the total lot depth, for the remaining 40% of the rear wall of the first storey and any second storey, or half storey above, up to a max. required setback of 10.7 m Side: Min. 1.2 m Exterior Side: Min. 3.0 m	Front: Min. 6.0 m Rear: Min. 7.44 m for a maximum width of 60% of the rear wall of the first storey; and min. 9.3 m for the remaining 40% of the rear wall of the first storey and any second storey, or half storey above, up to a max. required setback of 10.7 m Side: Min. 1.2 m	none
Height (m):	Max. 2.5 storeys or 9.0 m	2.5 storeys or 9.0 m	none
Off-street Parking Spaces – Total:	2	2	none

Other: _____

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.

City of Richmond

Land Use Map



**City of Richmond****Policy Manual**

Page 1 of 2

Adopted by Council: September 16, 1991

POLICY 5446

Amended by Council: June 21, 1999

File Ref: 4430-00

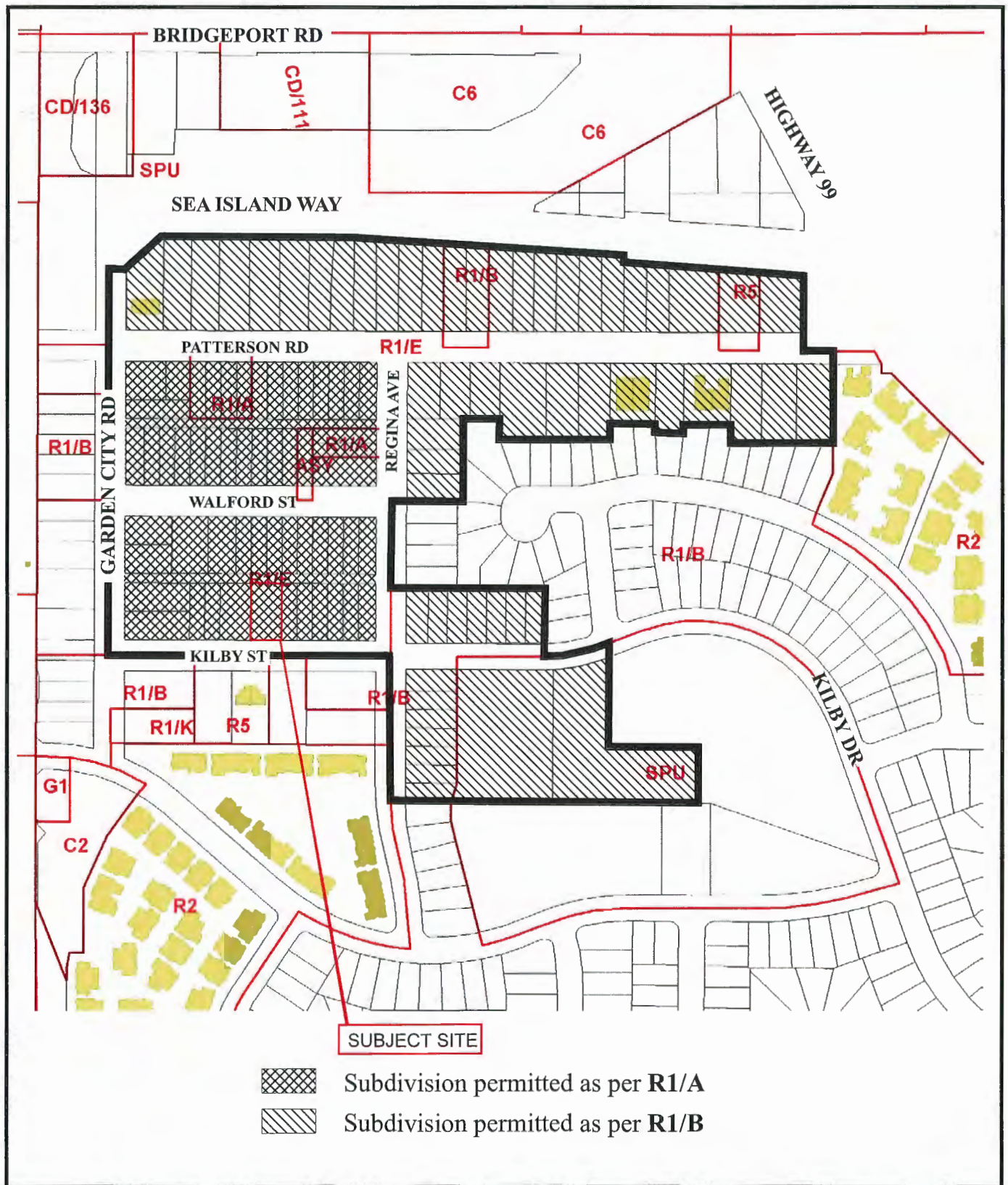
SINGLE-FAMILY LOT SIZE POLICY IN QUARTER-SECTION 27-5-6

POLICY 5446:

The following policy establishes lot sizes in a portion of Section 27-5-6, bounded by **Sea Island Way, Highway 99, east side of Garden City Road, east side of Regina Avenue and north side of Kilby Street:**

That properties within the area bounded by Sea Island Way, Highway 99 and the east side of Regina Avenue, in a portion of Section 27-5-6, be permitted to subdivide in accordance with the provisions of Single-Family Housing District, Subdivision Area B (R1/B) and further that properties within the area bounded by the east side of Garden City Road, the south side of Patterson Road, the west side of Regina Avenue and the north side of Kilby Street be permitted to subdivide in accordance with the provisions of Single-Family Housing District, Subdivision Area A (R1/A) in Zoning and Development Bylaw 5300.

That this policy, as shown on the accompanying plan, be used to determine the disposition of future single-family 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.

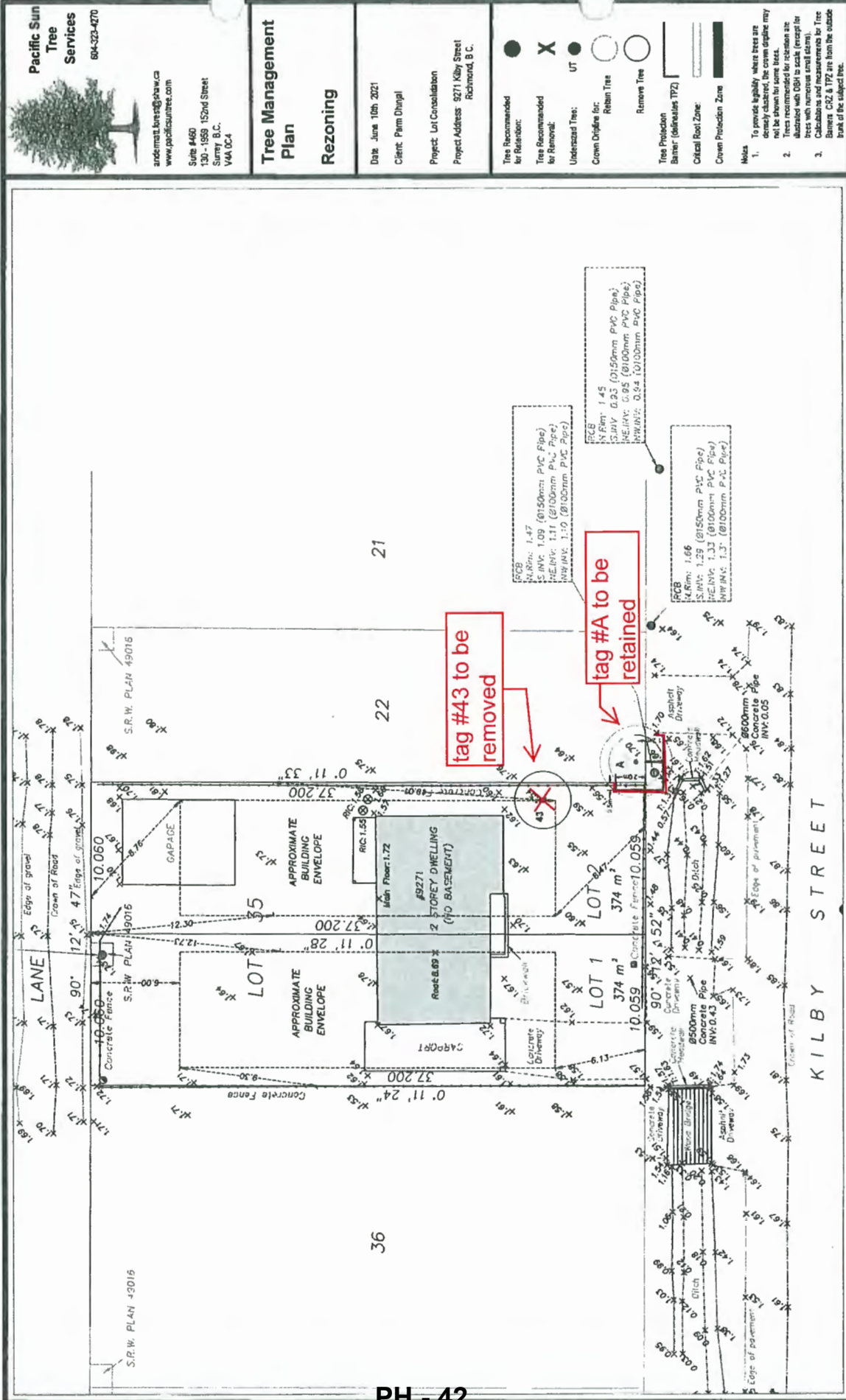


Policy 5446 Section 27-5-6

Adopted Date: 09/16/91

Amended Date: 06/21/99

Note: Dimensions are in METRES





Address: 9271 Kilby Street

File No.: RZ 21-934410

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10380, the developer is required to complete the following:

1. Provincial Ministry of Transportation & Infrastructure Approval.
2. Registration of a flood indemnity covenant on title (2.9 m GSC – Area A).
3. Registration of an aircraft noise sensitive use covenant on title (ANSI Area 3) to address public awareness and to ensure that noise mitigation, mechanical ventilation, and central air conditioning capability is incorporated into building design and construction (i.e., building components of the proposed development must be designed and constructed in a manner that mitigates potential aircraft noise to the proposed dwelling with doors and windows closed). Dwelling units must be designed and constructed to achieve:

a) CMHC guidelines for interior noise levels as indicated in the chart below:

Portions of Dwelling Units	Noise Levels (decibels)
Bedrooms	35 decibels
Living, dining, recreation rooms	40 decibels
Kitchen, bathrooms, hallways, and utility rooms	45 decibels

and;

- b) the ASHRAE 55-2004 “Thermal Environmental Conditions for Human Occupancy” standard (and subsequent updates as they may occur) for interior living spaces.
4. Registration of a restrictive covenant on Title to ensure vehicular access to the site at future development stage is from the rear lane only, with no access permitted to or from Kilby Street.
5. Registration of a legal agreement on Title to ensure that no final Building Permit inspection is granted until at minimum a 33 m² (355 ft²) one-bedroom secondary suite is constructed on both of the two future lots, to the satisfaction of the City in accordance with the BC Building Code and the City’s Zoning Bylaw.
6. Submission of a Landscape Security in the amount of \$3,000.00 (\$750/tree) to ensure that a total of two replacement trees are planted and maintained on each lot proposed (for a total of four trees); minimum 8 cm deciduous caliper or 4 m high conifers). **NOTE: minimum replacement size to be as per Tree Protection Bylaw No. 8057 Schedule A – 3.0 Replacement Trees.**

Prior to Demolition Permit Issuance, the developer must complete the following requirements:

1. Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.

At Subdivision* stage, the developer must complete the following requirements:

1. At future Subdivision stage, the applicant will be required to pay Development Cost Charges (City and GVS & DD), Engineering Improvement Charges for futures road improvements, School Site Acquisition Charge, Address Assignment Fee, and Servicing Costs.
2. Submission of a \$14,400.00 Cash-in-lieu contribution for street lighting upgrades.
3. Submission of a \$27,200.00 Cash-in-lieu contribution for future upgrades of Kilby Street and the lane.

Note: Cash-in-lieu rates are updated yearly to adjust for inflation and fluctuations in actual construction costs. The City will re-assess the required contribution when the cash-in-lieu is paid, based on the cash-in-lieu rate that is in effect at that time.

4. Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to:

Water Works:

- a) Using the OCP Model, there is 258.0 L/s of water available at a 20 psi residual at the Kilby St frontage. Based on your proposed development, your site requires a minimum fire flow of 95 L/s.
- b) At Developer's cost, the Developer is required to:
 - i) Cut and cap the existing water service connection along the 9271 Kilby St frontage and install a new 25mm water service connection complete with water meter and water meter box to service the west lot per City specifications.
 - ii) Install a new 25mm diameter water service connection complete with water meter and meter box for the east lot per standard City specifications.
- c) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Storm Sewer Works:

- a) At Developer's cost, the Developer is required to:
 - i) Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement design.
 - ii) Install a new 600mm storm sewer along the Kilby St frontage of the subject site with two manholes per City specifications. Tie-in the proposed storm sewer to the existing drainage system at approximately a 45 degree angle using manholes or headwalls as required. Confirm the condition of the drainage infrastructure at each tie-in point.
 - iii) Infill the existing ditch fronting the subject site with granular material and soil. A watercourse crossing permit is required for modifications to the ditch and culvert fronting 9271 Kilby St per the City's Watercourse Protection and Crossing Bylaw No. 8441.
 - iv) Install a new storm sewer service connection and IC at the common property line of the subject site with dual storm service connections to service the west lot and the east lot per City standards.
 - v) Install a new storm sewer along the lane frontage of 9271 Kilby St per City specifications. IC to be installed near the west property line of 9271 Kilby St.
 - vi) Collaborate with the adjacent development at 9231 Kilby St to install a new laneway storm sewer and IC between the east PL of 9271 Kilby St and STIC150580 per City specifications.
- b) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Sanitary Sewer Works:

- d) At Developer's cost, the Developer is required to:
 - i) Not start onsite excavation or foundation construction until completion of rear-yard sanitary works by City crews.
 - ii) Install a new 100mm sanitary service connection and IC with dual service leads at the common property line of the subject site per City specifications. Provide a 1.5mx1.5m wide SRW for the sanitary IC.
- e) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Street Lighting:

- f) At Developer's cost, the Developer is required to:
- i) Review street lighting levels along all road and lane frontages.

General Items:

- g) At Developer's cost, the Developer is required to:
- i) Complete other frontage improvements as per Transportation requirements:
 - Vehicular access be off the lane, that is, no access off Kilby Street.
 - ii) Not encroach into City rights-of-ways with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into rights-of-ways must be reviewed by the City's Engineering Department.
 - iii) Provide a signed and sealed letter from the project engineer confirming that the development at 9271 Kilby Street is coordinated with the developments in 9231 Kilby Street and 9180 Kilby Street. The City's Engineering department will not begin review of the servicing agreement design drawings until the coordination letter is received.

The letter shall confirm that the following design components have been coordinated:

- Corridors for City utilities (existing and proposed water, storm sewer, sanitary sewer and private utilities).
- Pipe sizes, materials and slopes.
- Location of manholes and fire hydrants.
- Road grades.
- Proposed street light design.
- Design and construction of laneway drainage between the east property line of 9271 Kilby Street and STIC150580

Prior to Building Permit Issuance, the developer must complete the following requirements:

1. Submission of acoustical and thermal reports prepared by qualified professionals to confirm noise mitigation measures, mechanical ventilation, and central air conditioning capability will be incorporated into dwelling construction as per the legal agreement registered on title at rezoning stage.
2. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
3. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed _____

Date _____



Regular Council
Monday, June 13, 2022

12. **APPLICATION BY PARM DHINJAL FOR REZONING AT 9271 KILBY STREET FROM THE "SINGLE DETACHED (RS1/E)" ZONE TO THE "SINGLE DETACHED (RS2/A)" ZONE**
(File Ref. No. RZ 21-934410; 12-8060-20-010380) (REDMS No. 6886931; 3186793, 6886935)

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10380, for the rezoning of 9271 Kilby Street from the "Single Detached (RS1/E)" zone to the "Single Detached (RS2/A)" zone, be introduced and given first reading.

ADOPTED ON CONSENT



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10380 (RZ 21-934410)
9271 Kilby Street**

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 Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **“SINGLE DETACHED (RS2/A)”**.

P.I.D. 008-896-844

Lot 35 Section 27 Block 5 North Range 6 West New Westminster District Plan 26092

2. This Bylaw may be cited as **“Richmond Zoning Bylaw 8500, Amendment Bylaw 10380”**.

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

MINISTRY OF TRANSPORTATION AND
INFRASTRUCTURE APPROVAL

ADOPTED

JUN 13 2022



MAYOR

CORPORATE OFFICER



City of Richmond

Report to Committee

To: Planning Committee
From: Wayne Craig
Director, Development

Date: June 2, 2022
File: RZ 21-940331

Re: **Application by Jude Da Silva for Rezoning at 11460 Williams Road from the
"Single Detached (RS1/E)" Zone to the "Compact Single Detached (RC2)" Zone**

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10387, for the rezoning of 11460 Williams Road from the "Single Detached (RS1/E)" zone to the "Compact Single Detached (RC2)" zone, be introduced and given first reading.

Wayne Craig
Director, Development
(604-247-4625)

WC/NA:blg
Att. 6

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Affordable Housing	<input checked="" type="checkbox"/>	

Staff Report

Origin

Jude Da Silva, property owner, has applied to the City of Richmond for permission to rezone 11460 Williams Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, to permit a subdivision to create two lots with vehicle access from the rear lane. A location map and aerial photo are provided in Attachment 1. A survey and proposed subdivision plan of the subject site is included in Attachment 2.

Findings of Fact

The subject site is located on the south side of Williams Road, between Seacote Road and No. 5 Road. The subject site is currently accessed via the existing lane.

A Development Application Data Sheet providing details about the development proposal is provided in Attachment 3.

Subject Site Existing Housing Profile

The subject site consists of a single lot containing a single-family dwelling that is occupied by the property owner. There are no secondary suites in the existing dwelling. The existing dwelling is proposed to be demolished at future development stage.

Surrounding Development

Existing development immediately surrounding the subject site is as follows:

To the North: Across Williams Road, are compact single-family lots zoned “Compact Single Detached (RC1)”.

To the South: Across a lane, is a duplex lot zoned “Two-Unit Dwellings (RD1)” fronting Seabrook Crescent with vehicle access via the lane.

To the East: Compact single-family lots zoned “Compact Single Detached (RC1)”.

To the West: Compact single-family lots zoned “Compact Single Detached (RC1)”.

Related Policies & Studies

Official Community Plan

The Official Community Plan (OCP) land use designation for the subject site is “Neighbourhood Residential”. This redevelopment proposal is consistent with this designation.

Arterial Road Land Use Policy

The Arterial Road Land Use Policy identifies the subject site for “Arterial Road Compact Lot Single Detached”, which allows single detached housing on lots greater than 9.0 m wide provided that there is rear lane access. This redevelopment proposal is consistent with the Arterial Road Land Use Policy designation.

Single-Family Lot Size Policy 5434

The subject site is located within the area governed by Single-Family Lot Size Policy 5434, which was adopted by Council on February 19, 1990, and subsequently amended in 1991 and 2006 (Attachment 4). This Policy permits rezoning and subdivision of lots along this section of Williams Road in accordance with the provisions of “Single-Family Housing District (R1-06)” or “Coach House District (R9)” provided there is access to an operational rear lane. These Districts are equivalent to the “Compact Single Detached (RC2)” and “Coach House (RCH)” zones of the current Zoning Bylaw 8500. This redevelopment proposal would allow for the creation of two lots, each approximately 9.1 m wide and 307 m² in area, which is consistent with the Lot Size Policy.

Affordable Housing Strategy

Consistent with the Affordable Housing Strategy, the applicant has proposed to construct a two-bedroom secondary suite of approximately 42.7 m² (460 ft²) in each of the new dwellings. Prior to final adoption of the rezoning bylaw, the applicant is required to register a legal agreement on title stating that no final Building Permit inspection will be granted until the two-bedroom secondary suites of minimum 42.7 m² (460 ft²) in size are constructed to the satisfaction of the City in accordance with the BC Building Code and the City’s Zoning Bylaw.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant first reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment. Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Analysis

Existing Legal Encumbrances

None.

Transportation and Site Access

The subject site currently has vehicular access from the rear lane only. In accordance with Residential Lot (Vehicular) Access Regulation Bylaw No. 7222, vehicle access from the proposed lots to Williams Road is not permitted, and vehicle access to/from the proposed lots is required to be from the rear lane.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report; which identifies off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses zero bylaw-sized trees on the subject property, two trees on neighbouring properties, and two street trees on City property.

The City's Tree Preservation Coordinator and the City's Parks Department have reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- Two City trees (tag #A (32.5 cm caliper Liquidambar Styraciflua) and tag #B (33.5 cm caliper Liquidambar Styraciflua)), are in good health and condition and should be retained and protected. A \$10,000.00 Tree Survival Security for each tree will be required.
- Two trees (tag #C and #D) located on adjacent neighbouring properties are identified to be retained and protected. Provide tree protection as per City of Richmond Tree Protection Information Bulletin Tree-03.
- Four new trees (two on each new lot) are to be planted on-site in accordance with Zoning Bylaw regulations and landscape guidelines for compact lots in the Arterial Road Land Use Policy.

Tree Protection

Four trees on City property (tag # A and B) and the neighbouring property (tag # C and D) are to be retained and protected. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 5). To ensure that the trees identified for retention are protected at development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission to the City of:
 - A contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the Arborist to submit a post-construction impact assessment to the City for review.

- A tree survival security in the amount of \$20,000.00 for the two trees located on City property (Tree tags # A and B). The security will be held until construction and landscaping on the subject site is completed and a landscape inspection has been passed by City staff.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

Tree Planting and Landscaping

Consistent with Zoning Bylaw regulations and the landscape guidelines for compact lots in the Arterial Road Land Use Policy, the applicant must plant and maintain two new trees per lot (a total of four trees). The City's Tree Preservation Coordinator has identified that the new trees must be a minimum 8 cm caliper for deciduous trees or 4 m high for coniferous trees.

To ensure that the two new required trees are planted and maintained on each lot proposed and that the front yards of the proposed lots are enhanced, the applicant is required to complete the following prior to final adoption of the rezoning bylaw:

- Submit a Landscaping Security in the amount of \$3,000.00 (\$750.00/tree).
- Submit a Landscape Plan for the front yards prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development. The Landscape Plan must comply with the guidelines of the Arterial Road Land Use Policy in the OCP.
- Submit a Landscaping Security based on 100% of a cost estimate for the proposed Landscape Plan works provided by the Landscape Architect (including materials, installation, and a 10% contingency). The security will be held until construction and landscaping on-site is completed and a site inspection is conducted. The City may retain a portion of the security for a one-year maintenance period to ensure that the landscaping survives. To accompany the landscaping security, a legal agreement that sets the terms for release of the security must be entered into between the applicant and the City.

Site Servicing and Frontage Improvements

At Subdivision stage, the applicant must enter into a Servicing Agreement for the design and construction of the required site servicing and off-site improvements as described in Attachment 6, including:

- Assessment of Williams Road sidewalk, curb, and gutter, and replacement of any damaged/uneven sections as required.
- Rear lane is to be upgraded with approximately 0.6 m lighting strip, 0.15 m wide roll-over curb, 5.1 m wide driving surface, and a 0.15 m wide roll-over curb (from north to south). Final design to be confirmed through the Servicing Agreement process.

At Subdivision stage, the applicant is required to pay:

- \$21,364.00 for cost recovery of rear lane upgrades previously constructed by the City as part of a City Capital Works Program in accordance with Works and Services Cost Recovery Bylaw 8752.
- Development Cost Charges (City and GVS & DD and TransLink), School Site Acquisition Charge, Address Assignment Fees, and other costs associated with completion of the water, storm, and sanitary servicing works as described in Attachment 6.

Financial Impact

This rezoning application results in an insignificant Operational Budget Impact (OBI) for off-site City infrastructure (such as roadworks, waterworks, storm sewers, sanitary sewers, street lights, street trees, and traffic signals).

Conclusion

This application is to rezone the property at 11460 Williams Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone to permit the property to be subdivided to create two lots, with vehicle access from the rear lane.

This rezoning application complies with the land use designations and applicable policies for the subject site that are contained within the OCP and it complies with Single-Family Lot Size Policy 5434.

The list of rezoning considerations is included in Attachment 6, which has been agreed to by the applicant (signed concurrence on file).

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10387 be introduced and given first reading.

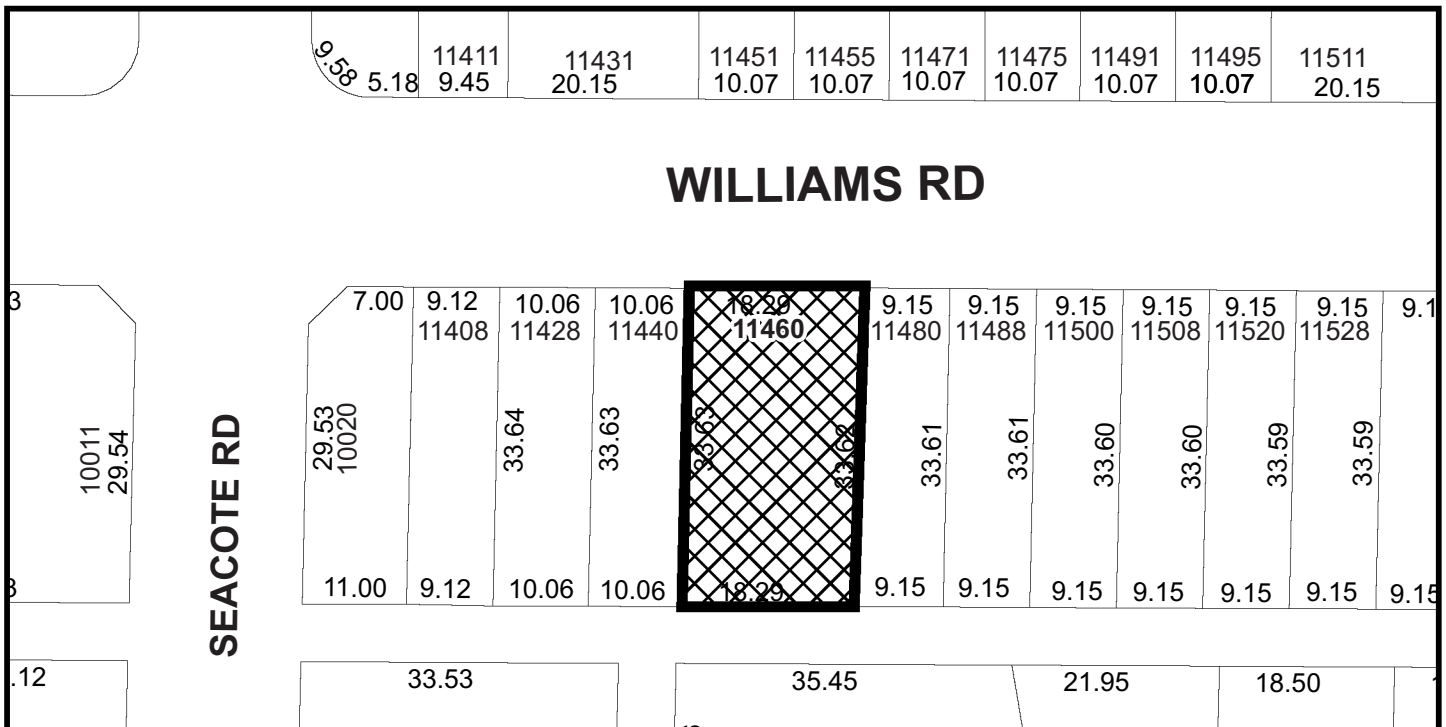
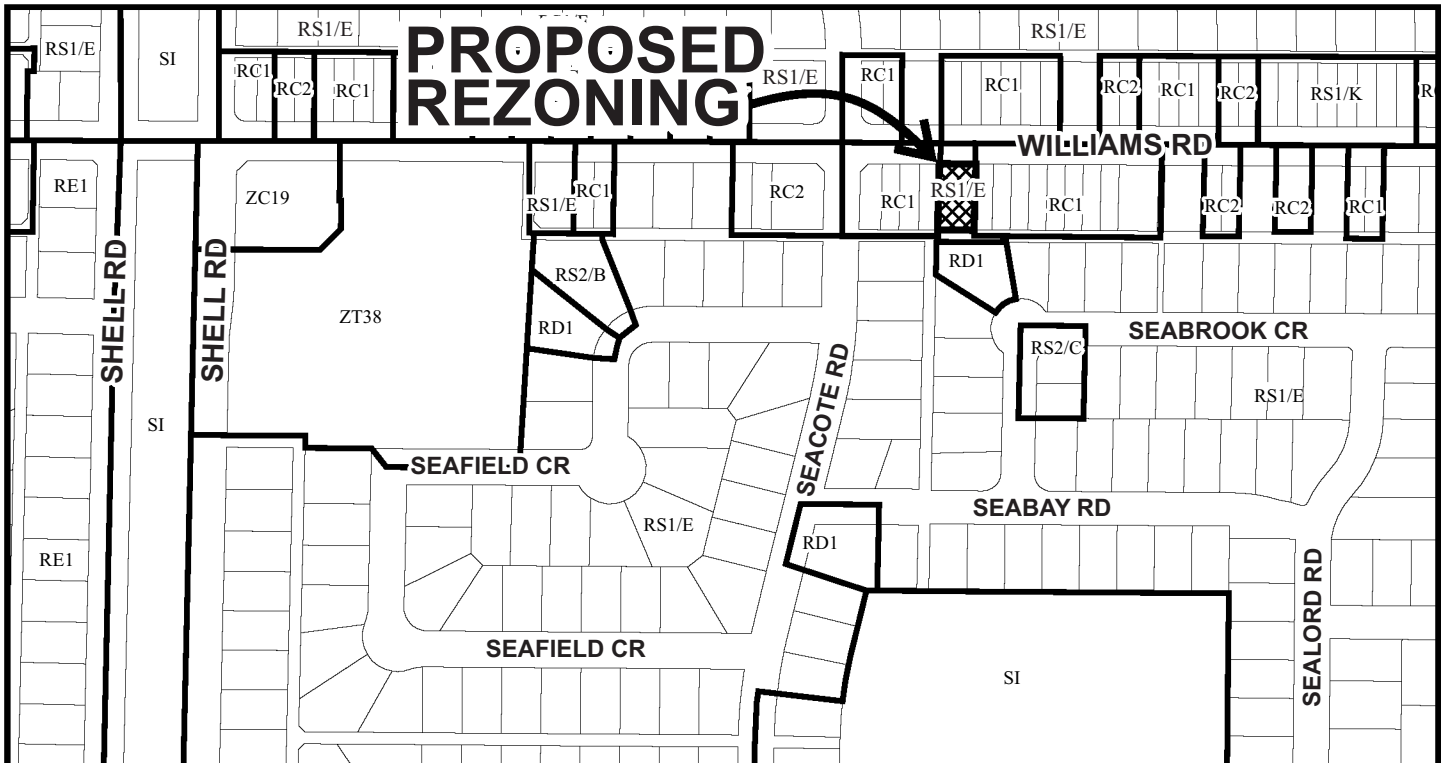


Nathan Andrews
Planning Technician
(604-247-4911)

NA:blg

Attachments:

- Attachment 1: Location Map/Aerial Photo
- Attachment 2: Site Survey and Proposed Subdivision Plan
- Attachment 3: Development Application Data Sheet
- Attachment 4: Single-Family Lot Size Policy 5434
- Attachment 5: Tree Retention Plan
- Attachment 6: Rezoning Considerations



RZ 21-940331

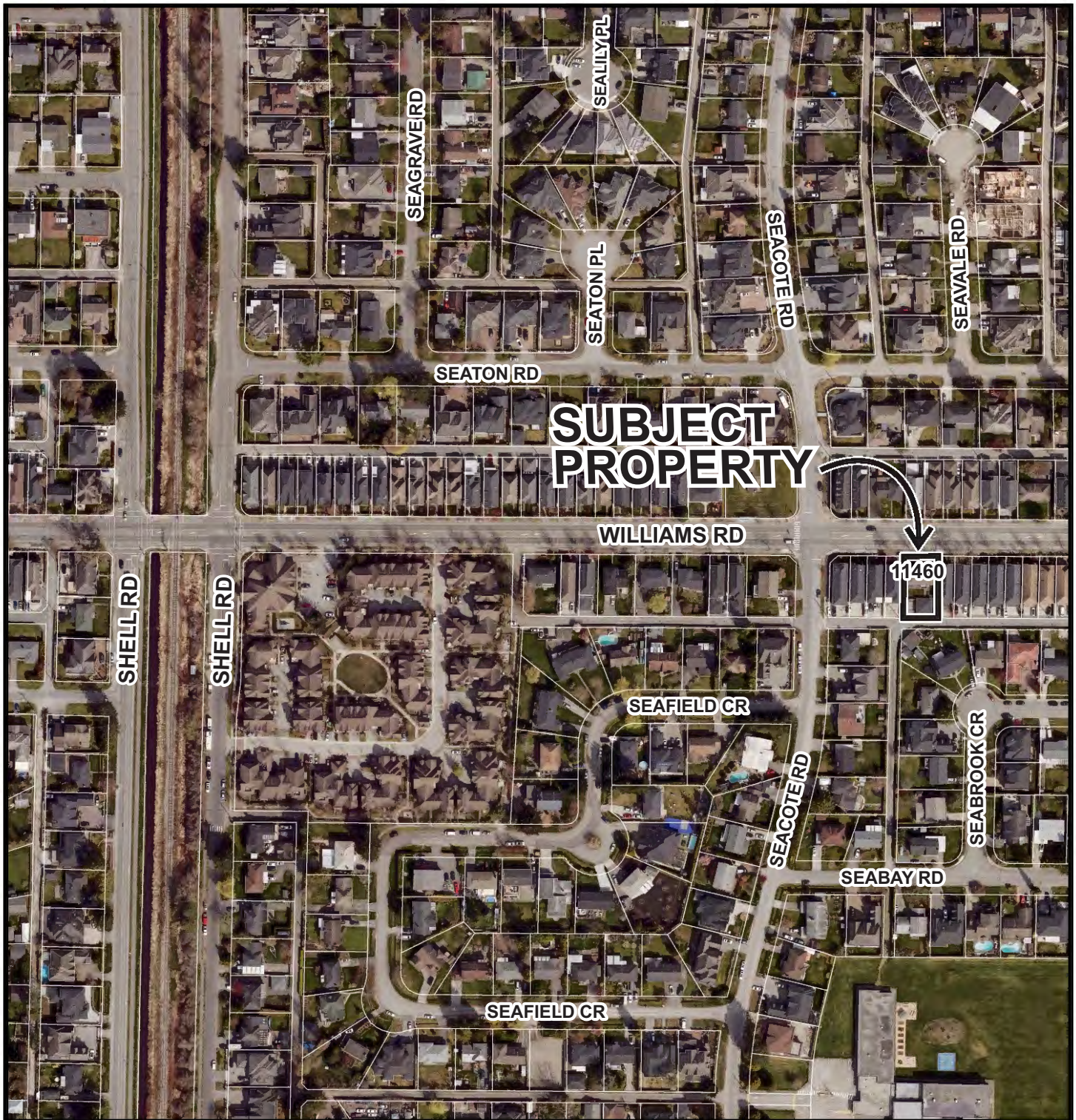
Original Date: 10/19/21

Revision Date:

Note: Dimensions are in METRES



City of Richmond



RZ 21-940331

Original Date: 10/19/21

Revision Date:

Note: Dimensions are in METRES

**TOPOGRAPHIC SURVEY AND PROPOSED SUBDIVISION OF
LOT 42 SECTION 36 BLOCK 4 NORTH RANGE 6 WEST
NEW WESTMINSTER DISTRICT PLAN 28788**

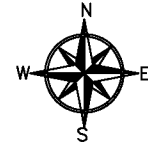
#11460 WILLIAMS ROAD,
RICHMOND, B.C.
P.I.D. 003-846-024

NOTE:

Elevations shown are based on
City of Richmond HPN
Benchmark network.
Benchmark: HPN #191
Control Monument 02H2453
Elevation: 1.664m
Benchmark: HPN #204
Control Monument 02H2452
Elevation: 1.559m

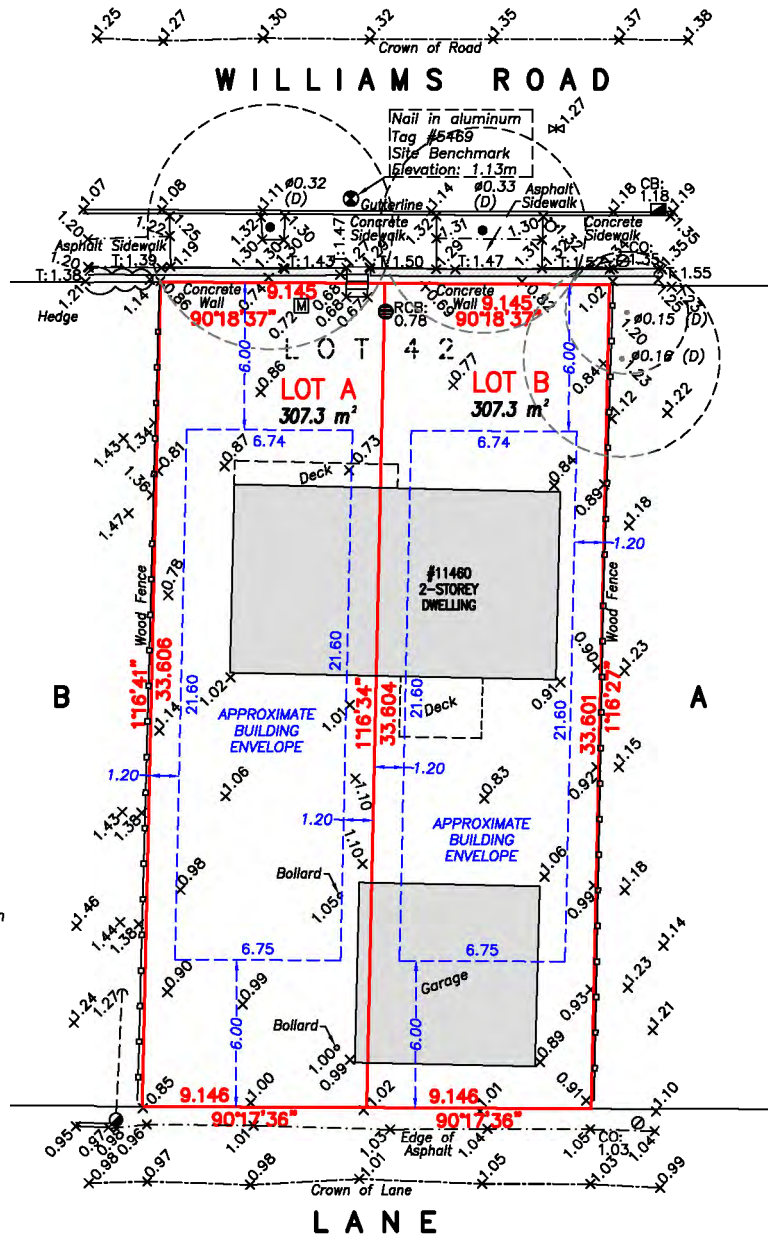
Current Zoning: RS1/E

Proposed Zoning: RC1



LEGEND:

- (D) denotes deciduous
- denotes catch basin
- denotes round catch basin
- ⊕ denotes water valve
- ⊞ denotes water meter
- denotes cleanout
- ⊙ denotes fire hydrant
- ⊙ denotes guy wire anchor
- denotes power post
- T: denotes top of wall



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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: (604) 214-8928
Fax: (604) 214-8929
E-mail: office@jctam.com
Website: www.jctam.com
Job No. 7754
FB-403 P108-110
Drawn By: WK

DWG No. 7754-Topo

SCALE: 1:200

0 5 10 15
ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED

NOTE:

Use site Benchmark Tag #5469 for
construction elevation control

PH - 57

CERTIFIED CORRECT:

LOT DIMENSION ACCORDING TO
FIELD SURVEY.

Johnson

Tam U814B9

Digitally signed by
Johnson Tam U814B9
Date: 2021.08.25
09:06:08 -0700

JOHNSON C. TAM, B.C.L.S., C.L.S.

August 6th, 2021.



RZ 21-940331

Attachment 3

Address: 11460 Williams Road

Applicant: Jude Da Silva

Planning Area(s): Shellmont

	Existing	Proposed
Owner:	Jude Da Silva	To be determined
Site Size (m²):	614.6 m ²	Lot A: 307.3 m ² Lot B: 307.3 m ²
Land Uses:	Single-family dwelling	Two single-family residential lots
OCP Designation:	Neighbourhood Residential	No change
Single-Family Lot Size Policy Designation:	Compact Single Detached (RC2) with rear lane access	No change
Zoning:	Single Detached (RS1/E)	Compact Single Detached (RC2)
Number of Units:	1	2
Other Designations:	The Arterial Road Land Use Policy designates the subject site for redevelopment to "Arterial Road Compact Lot Single Detached"	No change

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.60	Max. 0.60	none permitted
Buildable Floor Area (m ²):*	Lot A: Max. 184.38 m ² (1984.6 ft ²) Lot B: Max. 184.38 m ² (1984.6 ft ²)	Lot A: Max. 184.38 m ² (1984.6 ft ²) Lot B: Max. 184.38 m ² (1984.6 ft ²)	none permitted
Lot Coverage (% of lot area):	Building: Max. 50% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	Building: Max. 50% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	none
Lot Size:	Min. 270 m ²	Lot A: 307.3 m ² Lot B: 307.3 m ²	none
Lot Dimensions (m):	Width: Min. 9.0 m Depth: Min. 24.0 m	Width: 9.1 m Depth: 33.6 m	none
Setbacks (m):	Front: Min. 6.0 m Rear: Min. 6.0 m Side: Min. 1.2 m	Front: Min. 6.0 m Rear: Min. 6.0 m Side: Min. 1.2 m	none
Height (m):	2.5 storeys or 9.0 m	2.5 storeys or 9.0 m	none

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Off-street Parking Spaces – Regular (R) / Suite (S):	2 (R) and 1 (S) per unit	2 (R) and 1 (S) per unit	none

Other: _____

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.



City of Richmond

Policy Manual

Page 1 of 2

Adopted by Council: February 19, 1990
 Amended by Council: November 18, 1991
 Amended by Council: October 16, 2006

POLICY 5434

File Ref:

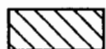
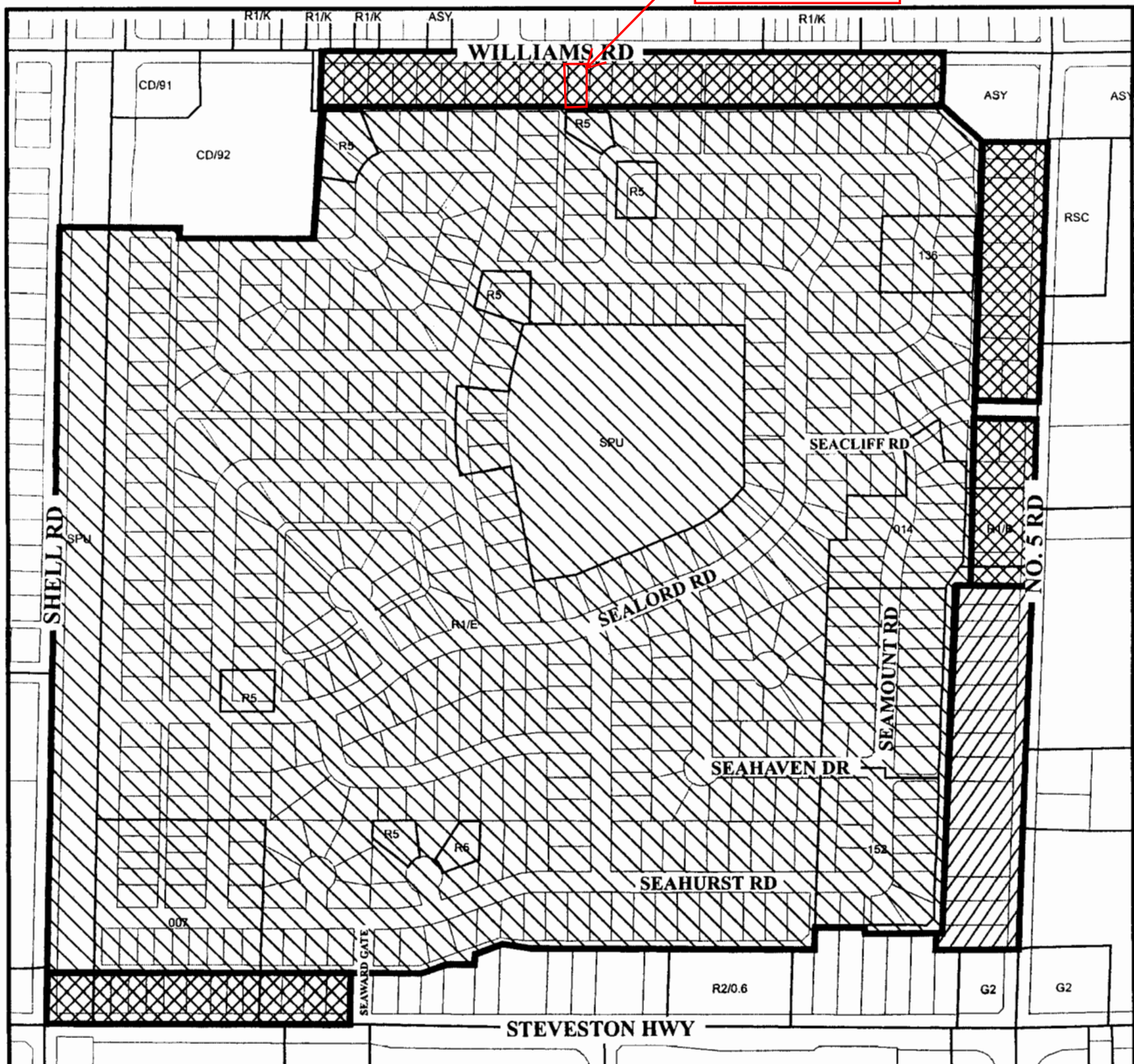
SINGLE-FAMILY LOT SIZE POLICY IN QUARTER-SECTION 36-4-6

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 SITE



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.



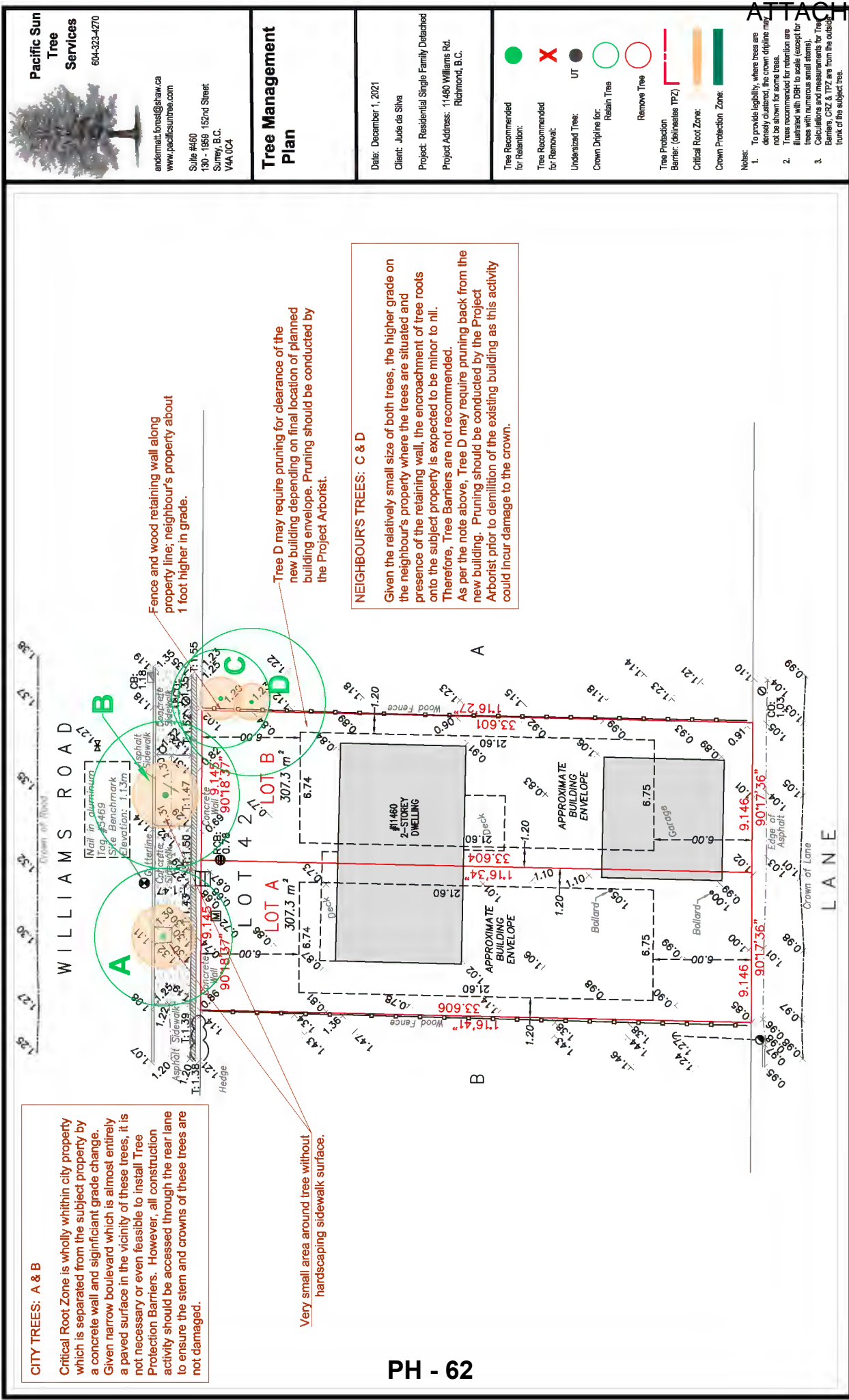
Subdivision permitted as per **R1/B**



Policy 5434 Section 36-4-6

Adopted Date: 02/19/1990

Amended Date: 11/18/1991
10/16/2006





Address: 11460 Williams Road

File No.: RZ 21-940331

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10387, the developer is required to complete the following:

1. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any off-site works conducted within the tree protection zone of the trees to be retained (Tree tag # A and B), including (but not limited to) the installation or removal of servicing infrastructure. The Contract should include the scope of work to be undertaken, the proposed number of site monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the Arborist to submit a post-construction impact assessment report to the City for review.
2. Submission of a Tree Survival Security to the City in the amount of \$20,000 for Tree tag # A and Tree tag # B to be retained. To accompany the tree survival security, a legal agreement that sets the terms for release of the security must be entered into between the Applicant and the City.
3. Submission of a Landscaping Security in the amount of \$3,000 (\$750/tree) to ensure that a total of two trees are planted and maintained on each lot proposed (for a total of 4 trees); minimum 8 cm deciduous caliper or 4.0 m high conifers. To accompany the landscaping security, a legal agreement that sets the terms for release of the security must be entered into between the Applicant and the City.
4. 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 estimate provided by the Landscape Architect (including materials, installation, and a 10% contingency). The Landscape Plan should:
 - comply with the guidelines of the OCP's Arterial Road Policy and should not include hedges along the front property line;
 - include a mix of coniferous and deciduous trees;
 - include the dimensions of tree protection fencing as illustrated on the Tree Retention Plan attached to this report; and
 - include the 2 required trees (minimum 8 cm deciduous caliper or 4.0 m high conifers) to be planted on each new lot.To accompany the landscaping security, a legal agreement that sets the terms for release of the security must be entered into between the Applicant and the City.
5. Registration of a flood indemnity covenant on title (2.9 m GSC – Area A).
6. Registration of a legal agreement on Title to ensure that no final Building Permit inspection is granted until a minimum two-bedroom secondary suite of minimum 42.7 m² (460 ft²) in size is constructed on each of the two lots proposed, to the satisfaction of the City in accordance with the BC Building Code and the City's Zoning Bylaw.

Prior to Demolition Permit* issuance, the following must be completed:

- Installation of tree protection fencing around all trees to be retained (Tree tags # A, B, C, and D). Tree protection fencing must be installed to City standard in accordance with the Arborist's Report recommendations and the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and must remain in place until construction and landscaping on-site is completed.

At Subdivision* stage, the following must be completed:

- pay \$21,364.00 for cost recovery of rear lane drainage upgrades constructed as part of a City Capital Works program in accordance with Works and Services Cost Recovery Bylaw 8752.

- pay Development Cost Charges (City and GVS & DD), School Site Acquisition Charge, Address Assignment Fees, and the costs associated with the completion of the required frontage works, and water, storm, and sanitary service connections.
- Enter into a Servicing Agreement at the developer's sole cost to complete the following works:

Water Works:

- Using the OCP Model, there is 737 L/s of water available at a 20 psi residual at the Williams Road frontage. Based on your proposed development, your site requires a minimum fire flow of 95 L/s.

At Developer's cost, the Developer is required to:

- Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage building designs.
- Install two new service connections complete with water meters per City standards on the Williams Road frontage to service Lot A and Lot B.
- Cut and cap at main the existing water connection and remove water meter on the Williams Road frontage.
- Provide a right-of-way for the water meter. Minimum right-of-way dimensions to be the size of the meter box (from the City of Richmond supplementary specifications) + any appurtenances (for example, the bypass on W2o-SD) + 0.5 m on all sides. Exact right-of-way dimensions to be finalized during the building permit process (or via the servicing agreement process, if one is required).

At Developer's cost, the City will:

- Complete all tie-ins for the proposed works to existing City infrastructure.

Storm Sewer Works:

At Developer's cost, the Developer is required to:

- Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement design.
- Inspect existing storm service connection near the northeast property line of Lot A. Reuse if in good condition to service Lot A.
- Inspect existing storm service connection near the northeast property line of Lot B. Reuse if in good condition to service Lot B.

At Developer's cost, the City will:

- Complete all tie-ins for the proposed works to existing City infrastructure.

Sanitary Sewer Works:

At Developer's cost, the Developer is required to:

- Not start onsite excavation or foundation construction until completion of rear-yard sanitary works by City crews.
- Install a new sanitary sewer service connection complete with inspection chamber near the south property line of Lot A to service Lot A.
- Inspect existing sanitary sewer service connection near the southeast property line of Lot B. Reuse if in good condition to service Lot B.

At Developer's cost, the City will:

- Complete all tie-ins for the proposed works to existing City infrastructure.

Street Lighting:

At Developer's cost, the Developer is required to:

- Review street lighting levels along all road and lane frontages, and upgrade as required.

General Items:

At Developer's cost, the Developer is required to:

- Complete other frontage improvements as per Transportation requirements.
 - Review condition of Williams Road sidewalk, curb, and gutter, and replace any damaged/uneven sections as required.
 - Rear lane is to be upgraded with approximately 0.6m lighting strip, 0.15m wide roll-over curb, 5.1m wide driving surface, and a 0.15m wide roll-over curb (from north to south).
- Not encroach into City rights-of-ways with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into rights-of-ways must be reviewed by the City's Engineering Department.

Prior to Building Permit* issuance, the following must be completed:

- Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. The Management Plan shall include location for parking for services, deliveries, workers, loading, application for any traffic lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
- If applicable, payment of latecomer agreement charges, plus applicable interest associated with eligible latecomer works.
- Obtain a Building Permit for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends

that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date



**Regular Council
Monday, June 27, 2022**

9. **APPLICATION BY JUDE DA SILVA FOR REZONING AT 11460 WILLIAMS ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE**
(File Ref. No. RZ 21-940331; 12-8060-20-10387) (REDMS No. 6905161; 2243859,6905693)

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10387, for the rezoning of 11460 Williams Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, be introduced and given first reading.

ADOPTED ON CONSENT



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10387 (RZ 21-940331)
11460 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 Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **"COMPACT SINGLE DETACHED (RC2)"**.

P.I.D. 003-846-024

Lot 42 Section 36 Block 4 North Range 6 West New Westminster District Plan 28788

2. This Bylaw may be cited as **"Richmond Zoning Bylaw 8500, Amendment Bylaw 10387"**.

FIRST READING

JUN 27 2022

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED



MAYOR

CORPORATE OFFICER



To: Planning Committee
From: Wayne Craig
Director, Development

Date: June 8, 2022
File: RZ 21-928623

Re: Application by Farrell Estates Ltd. for Rezoning at 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (031-553-231) and a portion of Graybar Road from the "Industrial and Marina (ZI17) – Graybar Road (East Richmond", "Industrial Business Park (IB1)", and "Light Industrial (IL)" Zones to the "Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)" Zone

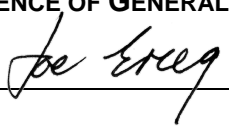
Staff Recommendation

1. That Richmond Zoning Bylaw 8500, Amendment Bylaw 10336 to:
 - a) create the "Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)" zone, and to rezone 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231), and a portion of Graybar Road from the "Industrial and Marina (ZI17) – Graybar Road (East Richmond)", "Industrial Business Park (IB1)", and "Light Industrial (IL)" zones to the "Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)" zone be introduced and given first reading; and,
 - b) discharge "Land Use Contract 127", entered in to pursuant to "Farrell Estates Ltd. Land Use Contract Bylaw No. 3613 (RD85962)", from the title of 6831 Graybar Road:

be introduced and given first reading.


Wayne Craig
Director, Development
(604-247-4625)

WC/JR:blg
Att. 6

REPORT CONCURRENCE		
ROUTED To:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Real Estate Services	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Transportation	<input checked="" type="checkbox"/>	

Staff Report

Origin

Farrell Estates Ltd. (Director: Terry McPhail) has applied to the City of Richmond to discharge Land Use Contract 127 from 6831 Graybar Road, and to rezone 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231) and a portion of Graybar Road from the “Industrial and Marina (ZI17) – Graybar Road (East Richmond)”, “Industrial Business Park (IB1)”, and “Light Industrial (IL)” zones to the new site-specific “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)” zone, to permit a light industrial development and boat yard. A location map and aerial photo are provided in Attachment 1. A site survey and draft subdivision plan is provided in Attachment 2.

The subject Land Use Contract (LUC) 127 was registered on 6831 Graybar Road and other properties on Graybar Road at the time of the subdivision of the area in 1979. The *Local Government Act* provides that all LUCs will expire on June 30, 2024 and requires municipalities to establish underlying zoning for LUC properties. The underlying zoning for this property is “Industrial and Marina (ZI17) – Graybar Road (East Richmond)”, which was established by the adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9993 on May 21, 2019.

The owner has applied to discharge LUC 127 from the subject site and rezone to a new site specific zone, so that the entire development site would be subject to the same zoning regulations. The applicant proposes to consolidate the properties into two lots and construct a multi-phase (5 phase) light industrial development consisting of two two-storey buildings (Phase 1 and 2), and three additional buildings in undetermined future phases (Phases 3-5) (see Attachment 3).

Findings of Fact

The subject site is currently operating as a boat yard/marina and contains an existing 1,551 m² (16,700 ft²) building and additional structures (including tents, and Quonset huts) which are proposed to be retained in the interim. A Development Application Data Sheet providing details about the development proposal is provided in Attachment 4.

Surrounding Development

Development immediately surrounding the subject is generally as follows:

- To the North: Two-storey light industrial buildings on a property governed by Land Use Contract 127 and with underlying zoning of “Industrial and Marina (ZI17) – Graybar Road (East Richmond)” at 6751/6753/6755 Graybar Road; two-storey light industrial buildings on a property zoned “Industrial Business Park (IB1)” at 6700 McMillan Way; the McMillan Way cul-de-sac; and a farm on a property zoned “Agriculture (AG1)” at 20500 Westminister Highway.
- To the South: Dyke Road and the south arm of the Fraser River, which includes a marina associated with the boat yard on the subject site.

- To the East: A two-storey building on a property governed by Land Use Contract 127 and with underlying zoning of “Industrial and Marina (ZI17) – Graybar Road (East Richmond)” at 6911 Graybar Road. Across Graybar Road, three-storey light industrial and office buildings on a property zoned “Industrial Business Park (IB1)”.
- To the West: An active rail right-of-way (ROW) and undeveloped properties zoned “Agriculture (AG1)” and “Light Industrial (IL)”.

Related Policies & Studies

Official Community Plan

The subject properties are located in the East Richmond planning area and have two land use designations in the Official Community Plan (OCP) as shown in Attachment 5.

- 7500 No. 9 Road, 20455 Dyke Road, and the west half of PID 031-553-231 are designated “Industrial”, which supports a range of industrial uses.
- 20911 Dyke Road, 6831 Graybar Road, the east half of PID 031-553-231 and a portion of Graybar Road are designated “Mixed Employment”, which would support a range of industrial and commercial uses.

The proposed site specific zone would restrict limited commercial uses to the east half of the site only, consistent with the OCP “Mixed Employment” land use designation.

Agricultural Land Reserve (ALR) Buffer Zone

The west portion of the subject site abuts property in the Agricultural Land Reserve (ALR). A Development Permit will be required to ensure an adequate landscape buffer is provided on the subject site to mitigate the impact of the development on adjacent farm properties. The applicant has proposed a 5.0 m buffer along the portion of the property adjacent to the lands within the ALR.

Prior to final adoption of the rezoning bylaw, the applicant will be required to register a legal agreement on title to identify the ALR buffer zone, ensure that the landscaping is not removed, and address public awareness of the potential impacts of agricultural activities such as noise, dust, and odour.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. The subject site is located in an area with a designated Flood Construction level of 3.5 GSC. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant first reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment.

Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Analysis

Proposed Road Closure

The subject site consists of four separate properties along the dike, a portion of the former CN Rail right-of-way (ROW), and an unopened road parcel located between the subject site and the property to the north (6751-6755 Graybar Road).

The applicant is required to enter into a purchase and sale agreement with the City for the purchase of the unopened road allowance of approximately 1,237 m² (13,300 ft²) in size. The primary business terms of the purchase and sales agreement for the unopened road allowance have been previously endorsed by Council; however, a separate road closure bylaw will be brought forward to Council in a separate report from the Director, Real Estate Services.

Land Use Contract 127

6831 Graybar Road is governed by Land Use Contract 127, which is set to automatically expire on June 30, 2024 and be replaced with the underlying “Industrial and Marina (ZI17) – Graybar Road (East Richmond)” zone. The underlying zoning for this property is “Industrial and Marina (ZI17) – Graybar Road (East Richmond)”, which was established by the adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9993 on May 21, 2019.

The owner has requested to discharge LUC 127 from the subject site and rezone to a new site specific zone, so that the new development site would be subject to the same site specific zoning regulations.

Existing Legal Encumbrances

There are various City and third party utility Statutory Right-of-Way (SRW) agreements registered on title, which include municipal water, sanitary sewer, and storm sewer lines. New and expanded SRWs are required for the municipal utilities, and are to be 6.0 m centered on the utility line. These SRWs will be secured prior to rezoning bylaw adoption.

A BC Hydro SRW containing overhead transmission lines runs the length of the site. The proposed drive aisle and parking would be in the SRW. The applicant has confirmed that the proposed development is consistent with the terms of the hydro SRW.

Proposed Zone

The proposed rezoning would result in a single zone for the entire subject site, which is currently governed by a Land Use Contract and three different industrial zones (IL, IB1 and ZI17). The rezoning would not result in any additional floor area ratio (FAR) over what is currently permitted (i.e. a maximum of 1.0 FAR).

A site-specific zone is proposed to address the unique location of the subject site along the waterfront and the two OCP land use designations. The proposed zone is based on the standard “Industrial Business Park (IB1)” zone, but includes land uses permitted in the site-specific “Industrial and Marina (ZI17) – Graybar Road (East Richmond)” zone. These additional uses would be marine-oriented to allow for the continued operation of the boat yard.

Certain land uses, including stand alone office, are proposed to be permitted only in the east portion of the site, which is designated “Mixed Employment” in the OCP, whereas the west portion of the site is proposed be limited to industrial land uses consistent with the “Industrial” OCP land use designation.

Development Phasing

The applicant proposes to redevelop the subject site in five phases. Phases 1 and 2 consist of two light industrial buildings totalling 18,448 m² (198,571 ft²) and are proposed on the former CN rail right-of-way and Graybar Road parcel. Phases 3-5 which would add additional light industrial uses, are proposed on the existing boat yard. Concept plans are provided in Attachment 3, which include both a phasing plan for the entire site and more detailed site plans for Phases 1 and 2. The phasing plan is provided as a concept only, as the applicant does not anticipate construction of Phases 3-5 in the near term. Further, there will be no change to the existing site condition along the southern limits of the property.

Prior to zoning bylaw adoption, the applicant is required to enter into an agreement, registered on title, to ensure that no new construction of buildings or structures which would generate new floor area, or changes to the existing site condition occurs within 50.0 m of the south property line abutting Dyke Road (i.e. Phases 3-5) until such time as:

- the applicant submits a Transportation Impact Assessment to the satisfaction of the Director, Transportation for approval;
- enters into a Servicing Agreement for site servicing works and frontage improvements, including watermain replacement along the Dyke Road frontage
- provision of a minimum 3.0 m wide pedestrian walkway between McMillan Way and the dike and secured through a statutory right of way providing public right-of-passage; and,
- completion of upgrades to the existing dike through a Servicing Agreement.

Built Form and Site Planning

The proposed light industrial development consists of five phases, however only two phases are planned for the immediate future. The first two phases would result in the construction of two buildings totalling 16,897 m² (181,871 ft²) on the north side of the subject site in addition to the existing 1,551 m² (16,700 ft²) existing building on the property, generally as shown in Attachment 3. Both new buildings (Phases 1 and 2) would contain two-storey light industrial units fronting the internal drive aisle and the proposed parking.

The applicant anticipates redevelopment of the south portion of the site (Phase 3-5) as part of a longer term vision for the property. Future phases of development would be organized around a widened central drive isle running east-west and providing access for larger vehicles and parking. This rezoning application would provide for continued operation of the existing boat yard in the interim.

Transportation and Site Access

Vehicle and pedestrian access is proposed from the McMillan Way cul-de-sac and Graybar Road. A single drive aisle would connect the McMillan Way and Graybar Road driveways, allowing access through the site to either street. Vehicular access to the existing boat yard is currently provided via Graybar Road and Dyke Road and is proposed to remain in place. Upon redevelopment of the south side of the subject site (Phases 3-5) additional access is proposed from Dyke Road. The applicant provided a Traffic Impact Assessment to support their application, the findings of which have been reviewed and accepted by the Transportation Department.

An informal pedestrian connection is currently located on the subject site (within the former CN Rail parcel). In recognition of this, the applicant has agreed to provide a formal access through their site as part of Phase 1 which would connect McMillan Way to Graybar Road and ultimately to the waterfront. This connection is secured through a statutory right-of-way providing public rights of passage for pedestrians over the walkway and sidewalk adjacent to the south side of Building 1.

A more direct connection from McMillan to Dyke Road would be formalized as part of the development of Phases 3-5 as a formal connection cannot be provided at this time while the boat yard is in operation due to security and public safety concerns. This direction connection will be designed to provide a 3.0 m wide defined pedestrian pathway connect McMillan Way to Dyke Road, and is to be secured through a statutory right-of-way providing public rights of passage for pedestrians. Design of the walkway will be completed as part of the Servicing Agreement works required for Phases 3-5.

Encroachments on Dyke Road

A number of the existing structures on the subject property have been found to extend beyond the developer's property boundary and are encroaching onto City property and Dyke Road. In addition, there are a number of parking stalls and loading facilities (including areas used to transporting boats between the subject site and the river) that are associated with the use of the subject property but which are located on City lands and Dyke Road.

City staff have reviewed the encroachments and the use of the parking located on City lands with the applicant. These encroachments do not impact the functionality or safe operation of vehicles on Dyke Road. Prior to rezoning bylaw adoption the owner shall enter into a License Agreement with the City for the use of any parking and loading facilities (including areas used for the operation of gantry cranes) located on City lands and the Dike Road right-of-way across the frontage of the subject site to the satisfaction of the City.

In addition, prior to zoning bylaw adoption, the owner shall obtain the City's acceptance and enter into an encroachment agreement for the portion of existing structures located on City lands and the Dike Road right-of-way to the satisfaction of the City. The primary business terms of such agreement, amongst other matters, shall include the removal of the encroaching structures at the City's request and at the expense of the owner, compensation to be provided to the City for the occupation of the portion of the structure encroaching on City property at fair market value to be paid to the City annually.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report; which identifies on-site and off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses 114 bylaw-sized trees on the subject property and 16 City trees on the portion of Graybar Road proposed to be acquired by the applicant, 31 trees located on neighbouring properties, and two (2) street trees on City property (McMillan Way).

The City's Tree Preservation Coordinator has reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- Four (4) trees located on site along the Graybar Road frontage, specifically (tag #7988, 7989, 7990 & 7991) are identified to be retained and protected.
- 110 trees located on site, within the former CN Rail parcel, are in conflict with the proposed development and identified to be removed and replaced. These trees are primary Cottonwood and Birch.
- A total of 16 trees (tag #City1-City16) on the portion of Graybar Road to be acquired by the developer have been identified as candidates for relocation. The applicant has proposed to relocate all of the 16 trees to other properties they control in the immediate area.
- A total of 17 trees located on the adjacent property at 6751 Graybar Road and five (5) trees located on 7920 No 9 Road are identified to be retained and protected. Provide tree protection as per City of Richmond Tree Protection Information Bulletin Tree-03.
- Seven (7) trees located on the adjacent property at 6751 Graybar Road (tag #OS1, OS2, OS4, OS8, OS9, OS11, OS13) are recommended for removal due to conflicts with the proposed Building 1. The neighbouring strata council has consented to the removal and planting plan provided by the applicant (attachment 6).
- Two (2) trees located on the adjacent property at 6751 Graybar Road (tag #OS16 and OS17) are recommended to be relocated to the frontage of the same property (See Attachment 7).
- Replacement trees should be specified at 2:1 ratio as per the OCP.

Two (2) trees on City property (tag #2103 and 2180) along the McMillan Way cul-de-sac frontage have been reviewed by Parks Department staff, with the following comments:

- Tag #2103 – Tree is in good health and condition. It is lifting up concrete sidewalk panels. Remedial action will be detrimental to the tree health. Conflicts with frontage works. Recommend removal. \$1500 required in compensation.
- Tag #2108 - Tree is in good health and condition. It is lifting up concrete sidewalk panels. Remedial action will be detrimental to the tree health. Conflicts with frontage works. Recommend removal. \$1500 required in compensation.

Tree Protection

Four (4) on-site trees (tag #7988-7991) and 17 trees located on the neighbouring property at 6751 Graybar Road (tag #OS3, 5-7, 10, 12, 14, 15, 18-26) and five (5) trees located on 7920 No 9 Road (tag #1542-1546) are to be retained and protected. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 7). To ensure that the trees identified for retention are protected at the development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission to the City of a contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the Arborist to submit a post-construction impact assessment to the City for review.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

Tree Replacement

The applicant wishes to remove 110 on-site trees which have been identified by the project arborist as being in high risk, poor or moderate health and in conflict with the proposed building envelope and associated ground densification works. The 2:1 replacement ratio for on-site tree replacement would require a total of 220 replacement trees. The applicant has submitted a preliminary landscape plan (Attachment 7) identifying 53 trees to be planted as part of Phase 1 and 46 trees as part of Phase 2 (including within the proposed ALR Buffer area). The required replacement trees are to be a minimum 8 cm caliper deciduous or 4 m tall coniferous species, as per Tree Protection Bylaw No. 8057.

To satisfy the 2:1 replacement ratio established in the OCP, the applicant will contribute \$96,000.00 to the City's Tree Compensation Fund in lieu of the remaining 128 ($220 + 7 - 53 - 46 = 128$) trees that have not been accommodated as part of the preliminary landscape design of Phase 1 and Phase 2.

Tree Relocation

The applicant wishes to relocate 16 trees (tag #City1-City16) located on the portion of Graybar Road proposed to be acquired by the developer to other properties the applicant controls in the immediate area. The proposed location is identified in their preliminary landscape plan (Attachment 3).

The applicant wishes to relocate two (2) Japanese Maple trees (tag #OS16 and OS17) and remove seven (7) Black Pine trees (tag #OS1, 2, 4, 8, 9, 11, 13) located on the neighbouring property at 6751 Graybar Road which conflict with the proposed development. The applicant has agreed to plant seven (7) new omorika spruce trees on the neighbouring property and provide an additional seven (7) replacement trees on the subject development site. The strata of the neighbouring property at 6751 Graybar Road has been consulted and provided their consent to the tree removal and replanting proposed for their property (Attachment 6).

Prior to rezoning bylaw adoption, the applicant is required to submit a Landscape Plan and cost estimate for Phase 1 which shall incorporate the 53 on-site replacement trees, the seven (7) replacement trees to be planted on the neighbouring property, relocation of the two (2) Japanese maple trees located on 6791 Graybar Road, and the relocation of the 16 trees located on the portion of Graybar Road which is proposed to be acquired by the developer.

Public Art

Consistent with the City's Public Art policy, as a rezoning consideration the applicant will be making a voluntary contribution of approximately \$49,105.17 for Buildings 1 and 2 to the City's Public Art Fund. Additional voluntary contributions for Buildings 3-5 will be provided prior to building permit issuance at the rate applicable at the time of building permit issuance.

Sustainability

The applicant proposes to incorporate a number of sustainability and building energy efficiency features into the proposed development including:

- a minimum of 12 EV charging stations to be provided for each building (60 stations in total across all five Phases);
- rooftop solar photovoltaic panels capable of powering all landlord/common area electrical needs, including exterior lighting and lighting in mechanical and service areas;
- pre-ducting/conduit rough-in within each unit for future rooftop solar photovoltaic infrastructure as an alternative energy source for individual tenants; and,
- buildings are proposed to be constructed to achieve a minimum 10% better energy efficiency than the base building code requirement.

Prior to rezoning bylaw adoption, the applicant is required to enter into one or more agreements to ensure that development of the subject site proceeds in accordance with the above commitments.

Site Servicing and Frontage Improvements

The City's Ewen Road Drainage Pump Station, outlet and intake structure are partially located on the subject property. As a consideration of rezoning the applicant is required to dedicate lands

to the City at 7500 No 9 Road to access, operate and maintain the watercourse upstream of the Ewen Road Drainage Pump Station and the Ewen Road Drainage Pump Station outlet and intake structure.

Prior to issuance of a Building Permit for Phase 1 or 2, the applicant is required to enter into a Servicing Agreement for the design and construction of the required site servicing and frontage works as required and as described in Attachment 8. There are extensive engineering and servicing requirements associated with the proposed development that are subject to additional study and design as part of the Servicing Agreement process. These requirements include, but are not limited to:

- New 1.5 m sidewalk and landscaped boulevard on Graybar Road.
- New 1.5 m sidewalk on the south side of the McMillan Way cul-de-sac between the driveways for the subject site and 6700 McMillan Way.
- New hydrants, watermain and rights of ways, as applicable.
- An assessment of the existing storm water system and retention of existing storm sewers and additional rights of way as required.
- Retain the existing sanitary main and further assessment and upgrades of existing sanitary and pump station infrastructure as required.
- Raise and replace the existing forcemain that crosses from the marina into the development site.

Prior to issuance of any Building Permit for Phases 3-5, the applicant is required to enter into a Servicing Agreement for the design and construction of the required site servicing and frontage works as described in Attachment 8. These include, but are not limited to:

- Site servicing connections for water, sanitary and storm water.
- Raise and replace existing watermain and hydrants along Dyke Road frontage.
- Design and construction of a walkway and statutory rights of way to provide for a minimum 3.0 m wide statutory right of way providing public right of passage for pedestrian access between McMillan Way and Dyke Road.
- Dike raising along the entire site frontage (approximately 730.0 m in length), together with ditch in-fill and replacement of approximately 225 m of the existing storm sewer, and the reconstruction of Dyke Road.

Development Permit Review

As previously noted, Phase 2 (Building 2) abuts the Agricultural Land Reserve. A Development Permit is required to ensure an adequate landscape buffer is provided on the subject site to mitigate the impact of the development on adjacent farm properties. Specific issues to be addressed through that review will include:

- Assessing compliance with the Official Community Plan Development Permit Guidelines.
- A review of the proposed landscape Plant/tree selection, sizes, location and rational
- Additional landscape securities will be calculated to address the landscaping additions.
- A review of the proposed landscaping within the proposed 5.0 m ALR buffer.

Financial Impact

The rezoning application results in an Operational Budget Impact of \$20,000.00 for off-site City Infrastructure (roadworks, waterworks, storm sewers and sanitary sewers upgrades, street lights and street trees).

To facilitate the proposed development, the applicant proposes to purchase a portion of Graybar Road for inclusion in the applicants' development site. The total approximate area of City lands proposed to be sold and included in the development site is 1,237 m² (13,300 ft²). As identified in the attached Rezoning Considerations (Attachment 8), the applicant is required to enter into a purchase and sales agreement with the City for the purchase of the lands, which is to be based on the business terms approved by Council.

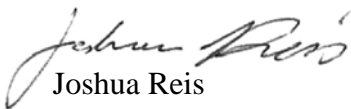
Conclusion

The purpose of this application is to discharge Land Use Contract 127 from 6831 Graybar Road, and to rezone 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231) and a portion of Graybar Road from the “Industrial and Marina (ZI17) – Graybar Road (East Richmond)”, “Industrial Business Park (IB1)”, and “Light Industrial (IL)” zones to the new site-specific “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)” zone, to permit a multi-phase light industrial development.

The proposed rezoning is generally consistent with the plans and policies affecting the subject site.

The list of rezoning considerations is provided in Attachment 8, which has been agreed to by the applicant (signed concurrence on file).

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10336 be introduced and given first reading.



Joshua Reis
Program Manager, Development
(604-204-8653)

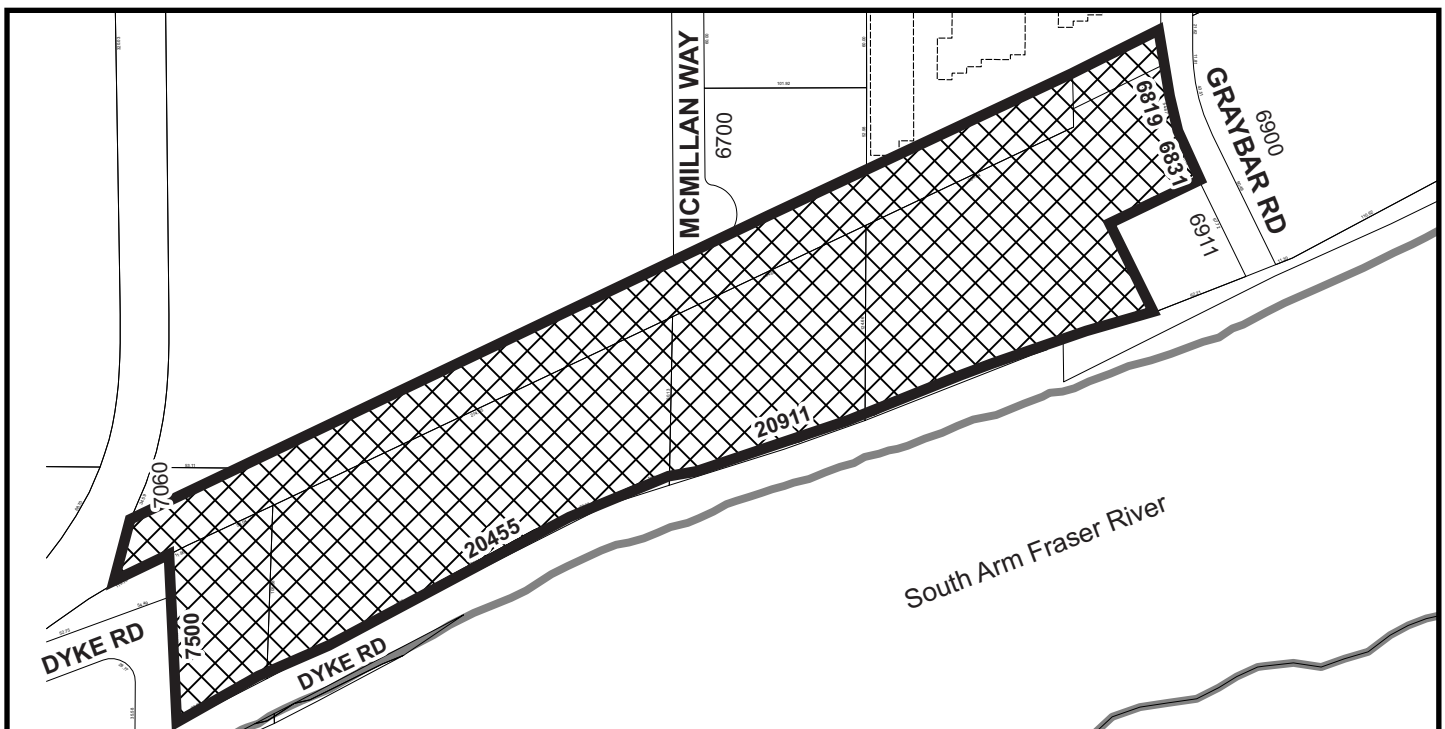
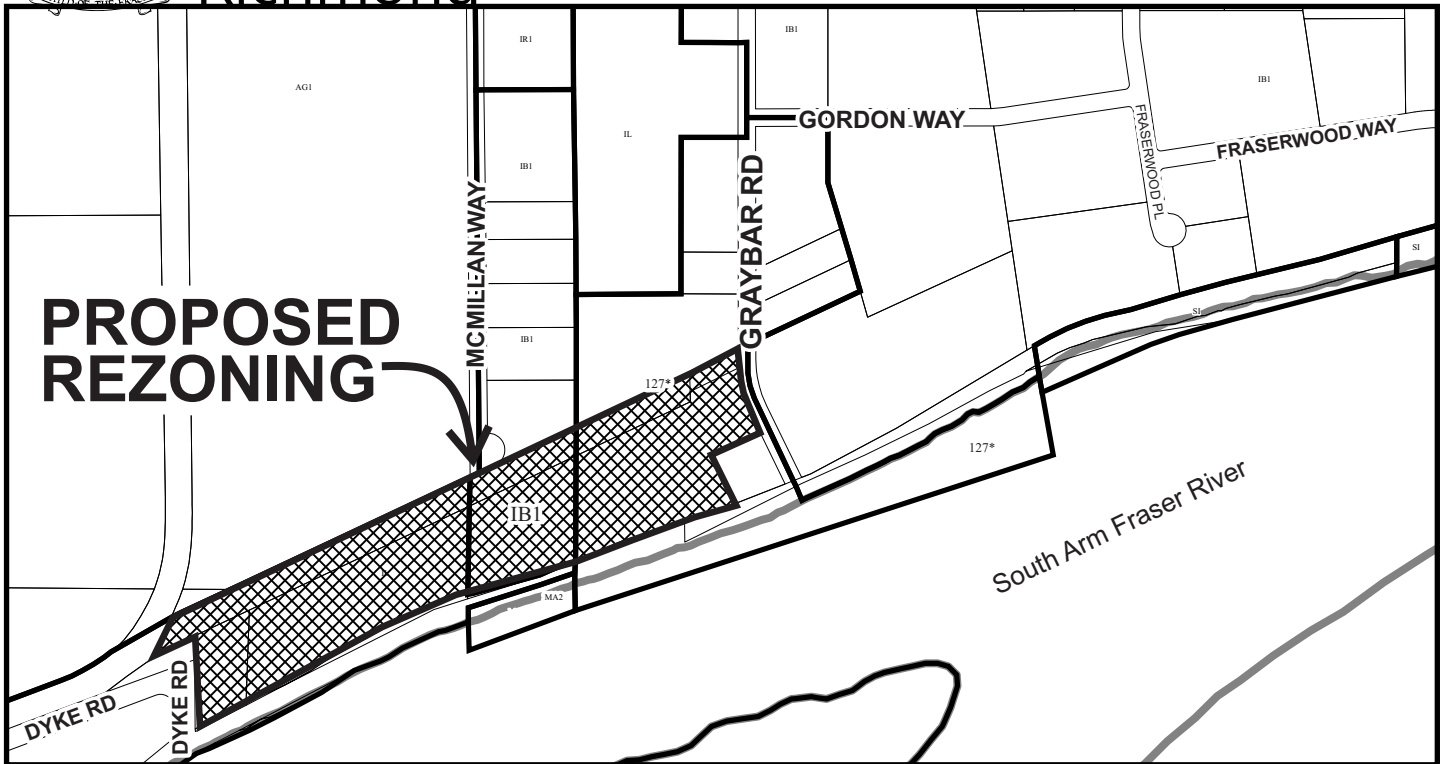
JR:blg

Attachments:

- Attachment 1: Location Map and Aerial Photo
- Attachment 2: Site Survey
- Attachment 3: Concept Development Plans
- Attachment 4: Development Application Data Sheet
- Attachment 5: East Richmond OCP Land Use Map
- Attachment 6: Letter of Support from Adjacent Property
- Attachment 7: Tree Retention Plan
- Attachment 8: Rezoning Considerations



City of Richmond



RZ 21-928623

Original Date: 04/27/21

Revision Date: 06/06/22

Note: Dimensions are in METRES



City of Richmond



RZ 21-928623

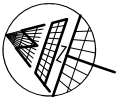
Original Date: 04/27/21

Revision Date: 06/06/22

Note: Dimensions are in METRES

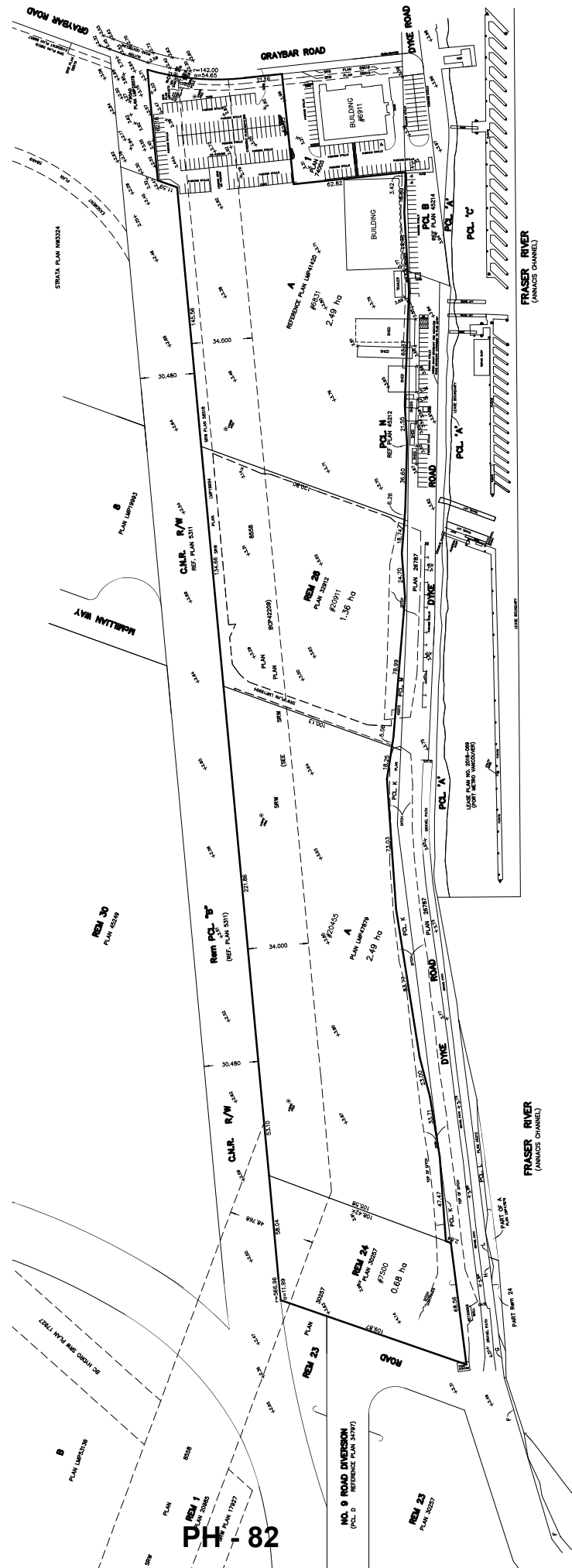
SITE SURVEY PLAN OF PORTIONS OF SECTIONS 9, 10, AND 16 BLOCK 4 NORTH RANGE 4 WEST NEW WESTMINSTER DISTRICT

LANDS DEALT WITH:
 LOT 24 EXCEPT: FIRSTLY: PARCEL "C" (REFERENCE PLAN 45212), SECONDLY: PARCEL "H" (REFERENCE PLAN 45212), SECTION 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN 30257
 PID: 003-571-157
 CIVIC ADDRESS: #7500 NO. 9 ROAD, RICHMOND, B.C.
 LOT A SECTIONS 9 AND 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN LMP47879
 PID: 024-886-327
 CIVIC ADDRESS: #20485 DYKE ROAD, RICHMOND, B.C.
 LOT 26 EXCEPT PARCEL "M" (REFERENCE PLAN 45212) SECTIONS 9 AND 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN 32912
 PID: 004-101-235
 CIVIC ADDRESS: #20911 DYKE ROAD, RICHMOND, B.C.
 LOT A SECTIONS 9 AND 10 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN LMP41420
 PID: 024-494-721
 CIVIC ADDRESS: #6831 GRAYBAR ROAD, RICHMOND, B.C.



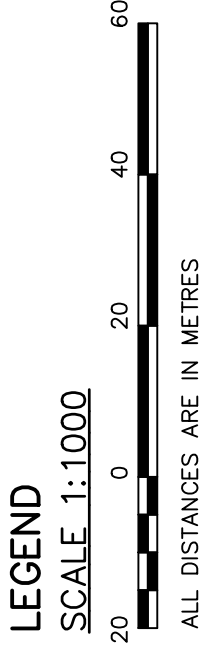
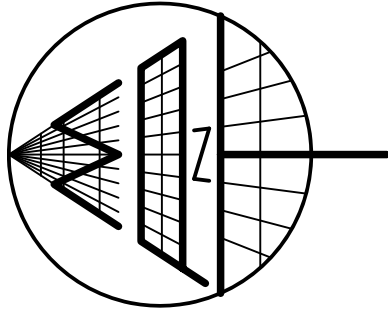
LEGEND
 SCALE 1:1000
 0 20 40 60
 ALL DISTANCES ARE IN METRES
 * INDICATES SPOT ELEVATION
 B/E INDICATES ELEVATION BOX
 C INDICATES INSPECTION CHAMBER
 MH INDICATES MANHOLE
 DWV INDICATES WATER VALVE

NOTES
 ELEVATIONS ARE IN METRES AND ARE DERIVED FROM
 AN ADJACENT SURVEY PLAN (PLAN 45212) WITH
 AN ELEVATION OF 4.56 METRES.
 THIS PLAN SHOWS PRELIMINARY LOT DIMENSIONS
 AND AREAS AND ARE SUBJECT TO REVISION
 FOLLOWING FULL LEGAL SURVEY OF LOT BOUNDARIES.

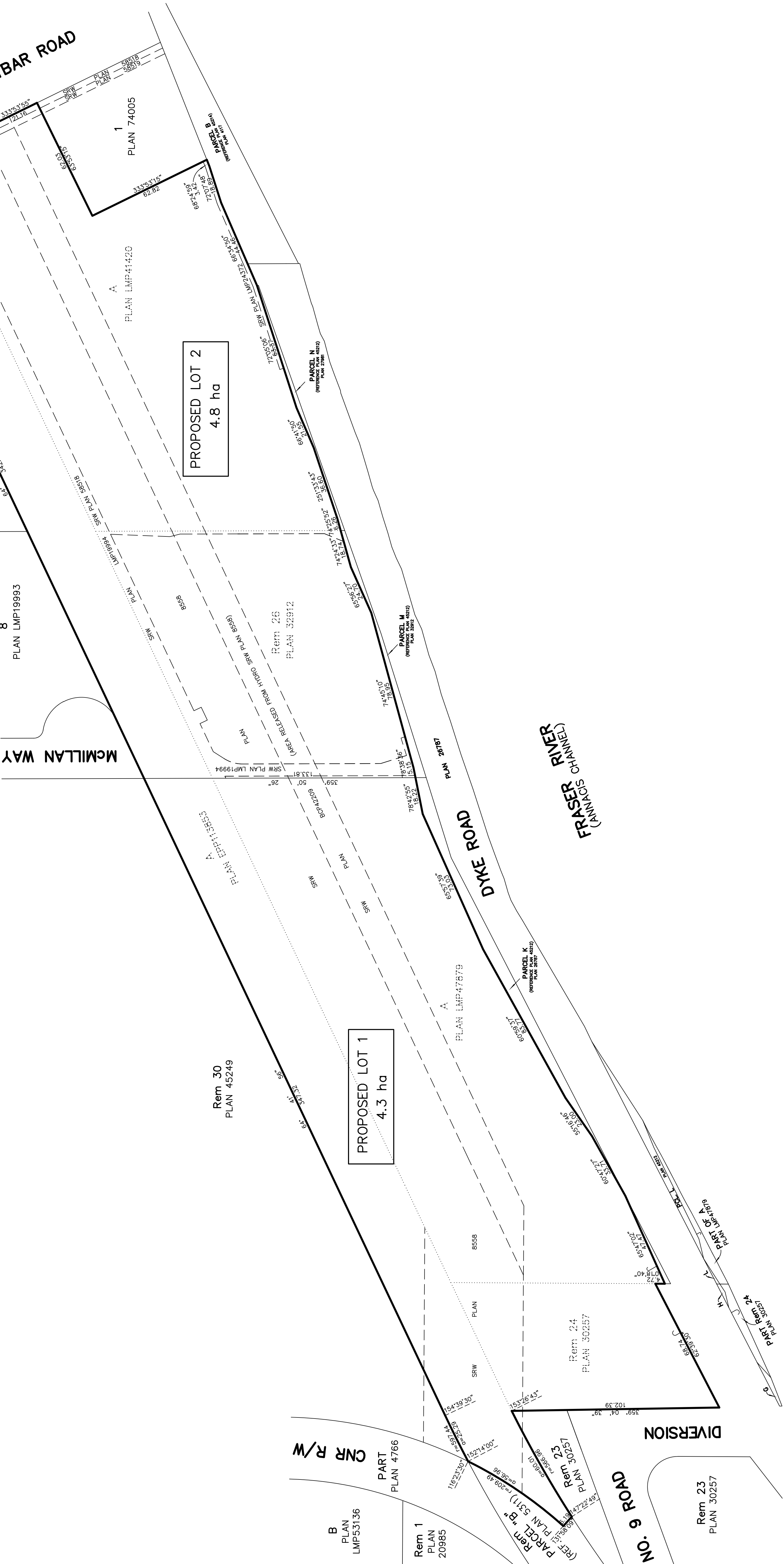


PROPOSED CONSOLIDATION AND SUBDIVISION PLAN OF:

- (1) PART OF LOT 24 EXCEPT: FIRSTLY: PARCEL "G" (REFERENCE PLAN 45212), SECONDLY: PARCEL "H" (REFERENCE PLAN 45212), SECTION 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN 30257
- (2) PART OF LOT A SECTIONS 9 AND 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN LMP47879
- (3) LOT 26 EXCEPT PARCEL "M" (REFERENCE PLAN 45212) SECTIONS 9 AND 16 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN 32912
- (4) LOT A SECTIONS 9 AND 10 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN LMP41420
- (5) PARCEL A SECTION 10 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN EPP121251 (CLOSED ROAD)
- (6) LOT A SECTIONS 9, 16, 17 AND 20 BLOCK 4 NORTH RANGE 4 WEST NWD PLAN EPP113853



NOTE:
ALL DIMENSIONS AND AREAS ON THIS PLAN
HAVE BEEN CHECKED AND FOUND TO BE
CORRECT AND TO BE IN ACCORDANCE
TO REVISION FOLLOWING LEGAL BOUNDARY SURVEY.



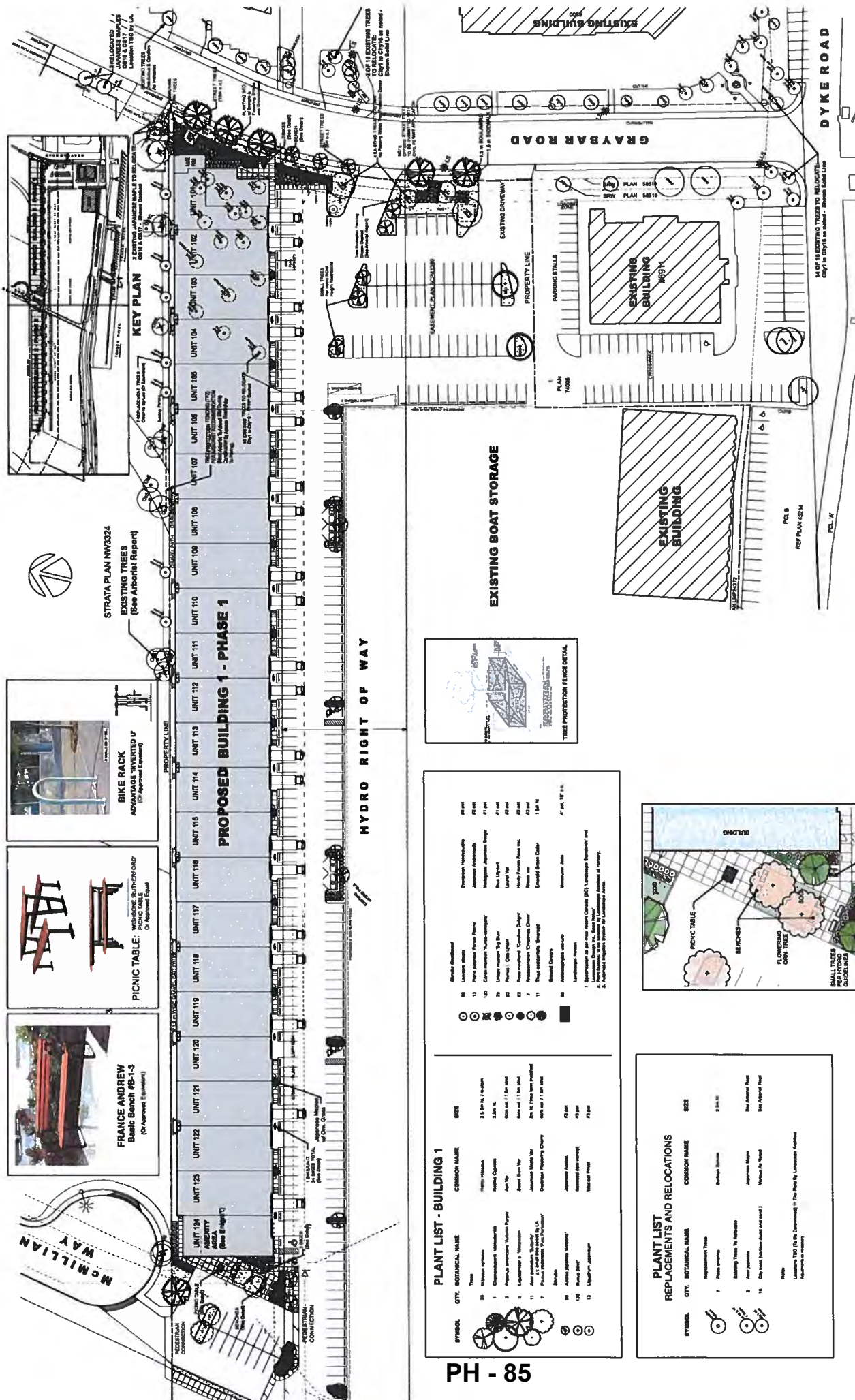
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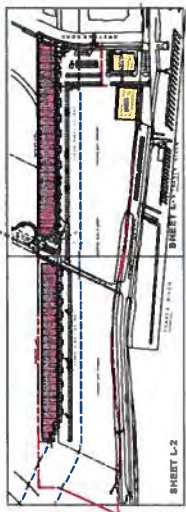
Farrell Estates LTD.

**SHELTER ISLAND
INDUSTRIAL
CENTRE 1**

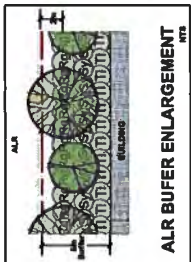
OVERALL AND ENLARGED SITE PLAN

A-1.0	14
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5M LANDSCAPE BUFFER
PER ALR EDGE GUIDELINES
Including Shade Tolerant - Trees &
Shrubs 'Inhibitors' / Screening / Evergreens
(SEE ENLARGEMENT)



ALR BUFFER ENLARGEMENT



BIKE RACK
ADVANTAGE INVERTED U
(© Approved Expansion)



PICNIC TABLE
BASIC
ADVANTAGE INVERTED U
(© Approved Expansion)

KEY PLAN

SHEET L-2

PROPOSED BUILDING 2 - PHASE 2

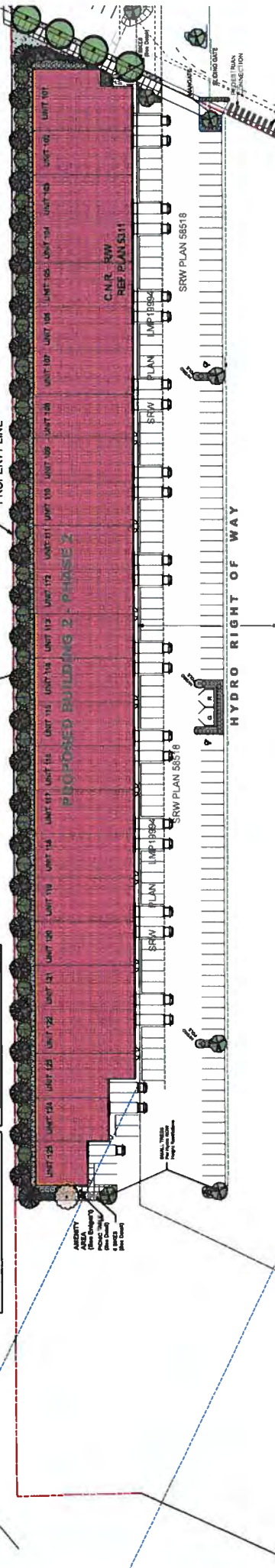
SRW PLAN 58518

SRW PLAN 58518

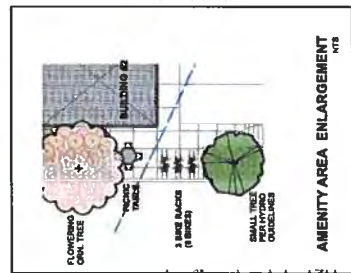
SRW PLAN 58518

SRW PLAN 58518

SRW PLAN 58518



EXISTING BOAT STORAGE



AMENITY AREA ENLARGEMENT

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
	27	Amelanchier alnifolia	Shadblow	2m H.
	1	Aster amurensis	Asian Aster	2m H.
	225	Hamamelis virginica	Witch Hazel	2m H.
	240	Thuja x 'Sunkist Wonder'	Sunkist Wonder	1.2m H.
	250	Empetrum nigrum	Black Raspberry	2m H.

Note: All Plants Are Shaded Tolerant

SYMBOL	QTY.	BOTANICAL NAME	COMMON NAME	SIZE
	1	Amelanchier alnifolia	Shadblow	2m H.
	1	Aster amurensis	Asian Aster	2m H.
	1	Hamamelis virginica	Witch Hazel	2m H.
	1	Thuja x 'Sunkist Wonder'	Sunkist Wonder	1.2m H.
	1	Empetrum nigrum	Black Raspberry	2m H.

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	1	Aster amurensis	Asian Aster	2m H.
	1	Hamamelis virginica	Witch Hazel	2m H.
	1	Thuja x 'Sunkist Wonder'	Sunkist Wonder	1.2m H.
	1	Empetrum nigrum	Black Raspberry	2m H.

Farrell Estates Ltd.

LANDSCAPE PLAN
BUILDING 2

PROPOSED:
SHELTER ISLAND INDUSTRIAL CENTRE 2
8111 GUYSON STREET, RICHMOND, B.C.

DATE: 10/10/2018

SCALE: 1:100

PROJECT: SHELTER ISLAND INDUSTRIAL CENTRE 2

CLIENT: FARRELL ESTATES LTD.

DESIGNER: FARRELL ESTATES LTD.

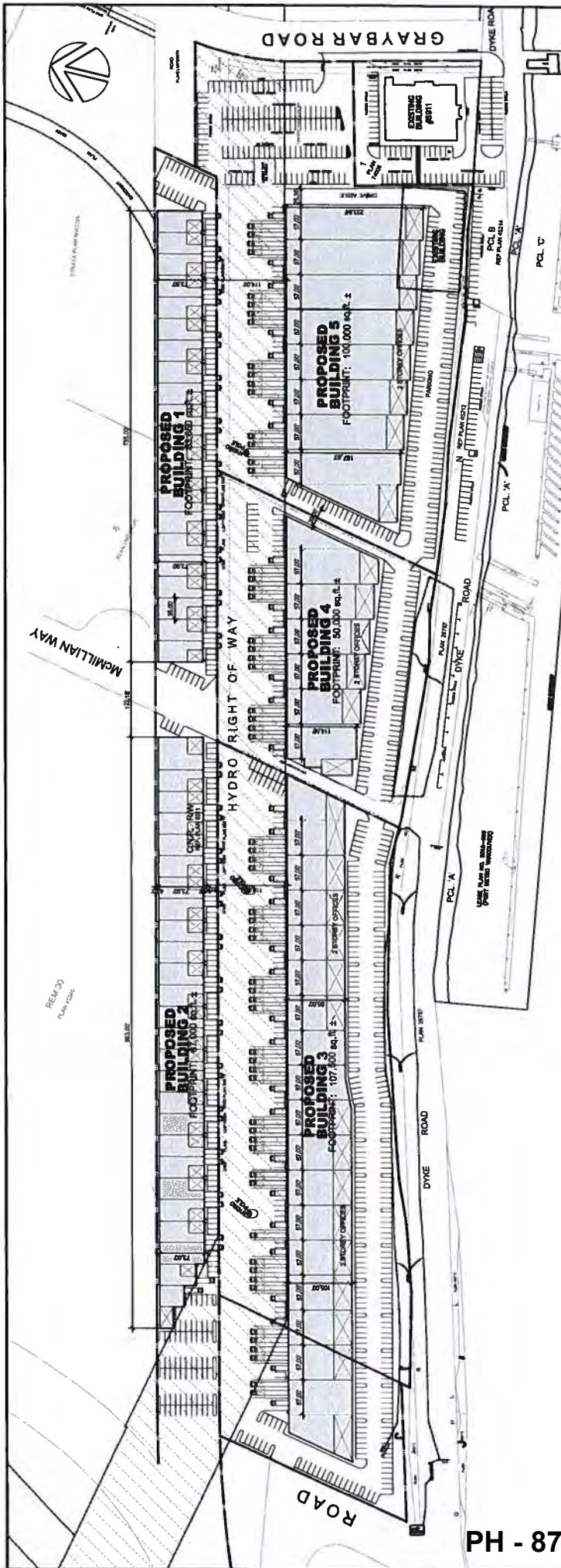
DATE: 10/10/2018

SCALE: 1:100

PROJECT: SHELTER ISLAND INDUSTRIAL CENTRE 2

CLIENT: FARRELL ESTATES LTD.

DESIGNER: FARRELL ESTATES LTD.



FEASIBILITY STUDY

NOT TO SCALE

1
SK1

FRASER RIVER
(ANNACIS CHANNEL)

Farrell Estates LTD.
A Division of the McPhail Group

CHIP BARRETT ARCHITECT
PH - 87
PH: 604-226-1226
FAX: 604-226-1227

D.FORCE DESIGN INC.
2625A ALLIANCE STREET, ABBOTSFORD, B.C. V2S 3J9
TEL: (604) 507-5555 EMAIL: DARC@DFORCE.CA

NO.	DATE	CLIENT REVIEW	DESCRIPTION
1	MAR.25.20		
2			
3			

PROPOSED MASTER PLANNING FOR:

FARRELL ESTATES BOAT YARD REDEVELOPMENT

Civic Address: 7500 No 9 Road, 20455 & 20911 Dyke Road, 8831 Graybar Road, Richmond BC

PLAN BASED ON INFO PROVIDED BY CLIENT & HAS NOT BEEN VERIFIED. FOR PRELIMINARY USE ONLY. VERIFY ALL INFORMATION

Building Areas	Bldg1	Bldg2	Bldg3	Bldg4	Bldg5	Combined
Footprint:	sq.ft.	sq.ft.	sq.ft.	sq.ft.	sq.ft.	sq.ft.
Footprint:	53,500	67,000	107,500	50,000	100,000	378,000
Upper floor area:	10,500	13,000	32,000	10,000	13,000	78,500
Total Area	64,000	80,000	139,500	60,000	113,000	456,500
Industrial	43,000	54,000	75,500	40,000	87,000	299,500
Office (1st Floor)	10,500	13,000	32,000	10,000	13,000	78,500
2nd floor offices	10,500	13,000	32,000	10,000	13,000	78,500
2nd floor storage						
Parking Stalls Required						
Warehouse - 1 stall per	1,076	40.0	50.2	37.2	80.9	308
Office - 1 stalls per	359	58.6	72.5	178.4	55.8	438
Total	98.5	122.7	278.3	92.9	153.3	746
Stalls provided	81	122	284	98	148	733



RZ 21-928623

Attachment 4

Address: 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, PID 031-553-231 and a portion of Graybar Road

Applicant: Farrell Estates Ltd.

Planning Area(s): East Richmond

	Existing	Proposed
Owner:	Farrell Estates Ltd.	No change
Site Size (m²):	90,245 m ² (22.3 Acres)	90,245 m ² (22.3 Acres)
Land Uses:	Boat yard and marina	Light industrial, boat yard, and marina
OCP Designation:	Industrial and Mixed Employment	No change
Zoning:	"Industrial and Marina (ZI17) – Graybar Road (East Richmond)" "Industrial Business Park (IB1)" "Light Industrial (IL)"	"Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)"
Land Use Contracts:	LUC 127	Discharge

	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 1.0 FAR	Max. 1.0 FAR	none permitted
Buildable Floor Area (m ²):*	Max.-Lot 1: 43,000 m ² (462,848 ft ²) Max Lot 2: 48,000 m ² (516,667 ft ²)	<u>Lot 1:</u> Existing Building: 1,551 m ² (16,8700 ft ²) Building 1: 9,380 m ² (100,966 ft ²) <u>Lot 2:</u> Building 2: 7,516 m ² (80,905 ft ²)	none permitted
Lot Coverage (% of lot area):	Building: Max. 75%	20.5%	None
Lot Size:	None	Lot 1: 4.3 ha (10.63 acres) Lot 2: 4.8 ha (1.86 acres)	None
Lot Dimensions (m):	None	Width: Varies Depth: Varies	None
Setbacks (m):	Graybar Rd: Min. 6.0 m McMillan Way: Min. 3.0 m ALR: Min. 5.0 m North PL: 1.5 m South PL: 3.0 m Interior side yard: No Minimum Rear yard: No minimum	Graybar Rd: 6.0 m McMillan Way: 3.0 m ALR: 5.0 m North PL: 1.5 m South PL: 72.3 m Interior side yard: complies Rear yard: complies	None

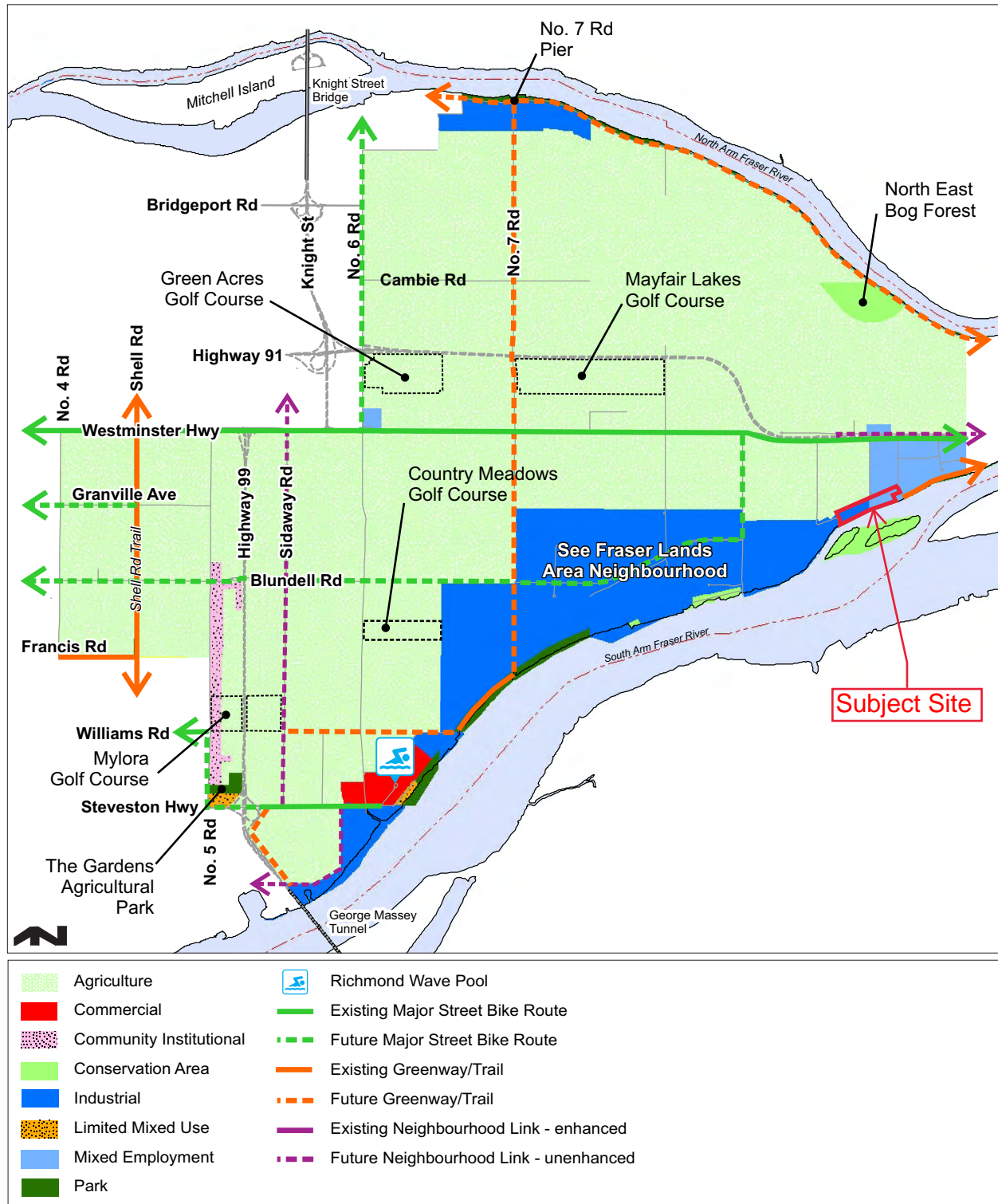
	Bylaw Requirement	Proposed	Variance
Height (m):	Max 16.0 m	Building 1: 10.25 m Building 2: 10.25 m	None
Off-street Parking Spaces:	Regular: Min. 50% Small: Max. 50% Accessible: Min. 2%	Regular: Min. 50% Small: Max. 50% Accessible: Min. 2%	None
Off-street Parking Spaces – Total:	0.75 spaces per 100 m ² leasable floor area (139)	389 spaces	None
Off-street Loading Spaces:	1 medium loading space per building	2 medium loading spaces	none
Bicycle Parking:	Class 1: Min, 0.27 per 100 m ² Class 2: Min. 0.27 per 100 m ²	Complies	None

Other: _____

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.



13. East Richmond





Strata, Residential & Commercial Property Management
604.685.3227 | www.awmalliance.com

April 11, 2022

Sent via e-mail: rmcphail@farrellestates.com

Farrell Estates Ltd.
6911 Graybar Road
Richmond, BC V6W 1H3

Attn: Ross McPhail, Project & Development Manager

**RE: Strata Plan NW3324 – Graybar South Complex [located at 6751 / 6753 / 6755 Graybar Road, Richmond]
Tree Removal & Relocation**

We write to you on behalf of the Strata Council of Strata Plan NW3324 – Graybar South Complex [the “Strata Corporation”] following recent discussions and site meetings between the parties regarding the removal of certain trees and relocation of others located on the property of the Strata Corporation.

The Strata Council has considered the matter and would like to inform you that it is in agreement with the following:

1. Removal of Black Pine trees labeled OS1, OS2, OS4, OS8, OS9, OS11, and OS13 and their replacement with “Sitka Spruce” trees, as noted in the attached *Arboricultural Tree Study* issued by Diamond Head, dated March 10, 2022, and attached *Landscape Plan* issued by LandScape Design Inc., dated March 31, 2022.
2. Relocation of Japanese Maple trees OS16 and OS17, as noted in the attached *Arboricultural Tree Study* issued by Diamond Head, dated March 10, 2022, and attached *Landscape Plan* issued by LandScape Design Inc., dated March 31, 2022.
3. The exact new locations of the trees are to be confirmed with the Strata Council closer to construction / in advance of their replacement and relocation, respectively.
4. The install of a black chain link fence on the boundary / property line between the Strata Corporation and Farrell Estates Ltd.
5. All of the direct & associated costs in relation to the above [trees removal, trees replacement, trees relocation, install of black chain link fence] are to be borne in their entirety by Farrell Estates Ltd.

Authorized
Representative: Eduard Lorincz

Title: Strata & Rental Manager
AWM-Alliance Real Estate Group Ltd.
Managing Agents for
Strata Plan NW3324

Signature:

Authorized
Representative: Ross McPhail

Title: Project & Development Manager
Farrell Estates Ltd.

Signature:

Vancouver Head Office
401-958 West 8th Avenue
Vancouver, BC V5Z 1E5

Fraser Valley Office
214-6820 188th Street.
Surrey, BC V4N 3G6

Whistler Office
212-1200 Alpha Lake Road
Whistler, BC V8E 0H6



REM 30

PLAN 45249

PLAN 45249

PLAN 45249

PLAN 45249

PLAN 45249

PLAN 45249

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PLAN 45249

PLAN 45249

PLAN 45249

PH - 93

LEGEND

- TREE PROTECTION ZONE
- TREE PROTECTION FENCE
- TREE TO BE RETAINED
- UN-SURVEYED TREE
- TREE TO BE REMOVED

NOTES

- The location of un-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.
- All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree.
- The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. The tree diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree.
- Any construction activities or grade changes within the Foot Protection Zone must be approved by the project arborist.
- This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provided by the owners' Engineer (P. Eng).
- This plan is provided for context only and is not certified as to the accuracy of the location of features or dimensions shown on this plan. Please refer to the original survey plan and engineering plans.

REFERENCE DRAWINGS

- Base Survey by: Underhill Geomatics Ltd. Engineers and Surveyors dated Nov. 3, 2020.

Drawing No: 001
Date: 2022/03/10
Drawn by: CL
Page Size: TABLOID 11"x17"

Page #
2 of 4

Drawing title: Tree Retention and Removal Plan
Project address: 6831 Graybar Road, Richmond
Client: Farrell Estates

3559 COMMERCIAL STREET
VANCOUVER BC V6N 4A8
T 604.733.4068 F 604.733.4079





- LEGEND
- TREE PROTECTION ZONE
 - TREE PROTECTION FENCE
 - TREE TO BE RETAINED
 - UN-SURVEYED TREE
 - TREE TO BE REMOVED

NOTES

1. The location of un-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.
2. All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree.
3. The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. The tree diameter was added to the graphical tree protection circle to accommodate the survey point being in the center of the tree.
4. Any construction activities or grade changes within the Foot Protection Zone must be approved by the project arborist.
5. This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provided by the owners' Engineer (P Eng).
6. This plan is provided for context only and is not certified as to the accuracy of the location of features or dimensions shown on this plan. Please refer to the original survey plan and engineering plans.

REFERENCE DRAWINGS

1. Base Survey by Underhill Geomatics Ltd. Engineers and Surveyors dated Nov. 3, 2020.

Drawing title: Tree Retention and Removal Plan
Project address: 6831 Graybar Road, Richmond
Client: Farrell Estates

3559 COMMERCIAL STREET
VANCOUVER BC V6N 4B8
TEL: 604.733.4068 | 1.866.733.4879





Address: 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, and 7500 No 9 Road
File No.: RZ 21-928623

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10336, the developer is required to complete the following:

1. Council approval of the road closure bylaw for the unopened portion of Graybar Road (approximately 1,237 m² in area) to be consolidated with the development site. The developer shall be required to enter into a purchase and sales agreement with the City for the purchase of the Land, which is to be based on the business terms approved by Council. All costs associated with the purchase and sales agreement shall be borne by the developer.
2. Consolidation of the 1,237 m² closed portion of Graybar Road with one or more of the lots subject to this rezoning application, to the satisfaction of the City's Approving Officer.
3. Dedication of land to the City, at 7500 No 9 Road to access, operate and maintain the watercourse upstream of the Ewen Road Drainage Pump Station and the Ewen Road Drainage Pump Station outlet and intake structure. Additional dedicated land will also be required around the Ewen Road Drainage Pump Station to accommodate future upgrades by the City. Detailed requirements for the dedicated lands shall be finalized during the servicing agreement design review for Phase 1.
4. Granting of a statutory right-of-way, approximately 3.0 m wide, between the southern edge of the proposed Building 1 foundation to the northern edge of the City right of way that contains the existing watermain.
5. City acceptance of the developer's offer to voluntarily contribute \$99,000.00 (\$96,000 for on-site tree replacement + \$3,000 for City Tree replacement) to the City's Tree Compensation Fund for the planting of replacement trees within the City.
6. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any on-site works conducted within the tree protection zone of the trees to be retained. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the Arborist to submit a post-construction assessment report to the City for review.
7. Submission of a Tree Survival Security to the City in the amount of \$40,000 for the four (4) trees to be retained on-site.
8. Submission of a Landscape Plan and cost estimate, prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development. The Landscape Plan should:
 - comply with all applicable guidelines of the OCP;
 - include a mix of coniferous and deciduous trees;
 - include the dimensions of tree protection fencing as illustrated on the Tree Retention Plan attached to this report;
 - include the cost of tree transplant/relocation for the 16 trees located on City property and the two (2) trees located on the adjacent property at 6751/6753 and 6755 Graybar Road;
 - include the cost of the seven (7) replacement trees to be provided on the adjacent property at 6751/6753 and 6755 Graybar Road and the 53 proposed on-site replacement trees with the following minimum sizes:

No. of Replacement Trees	Minimum Caliper of Deciduous Tree	or	Minimum Height of Coniferous Tree
60	8 cm		4 m

If required replacement trees cannot be accommodated on-site, a cash-in-lieu contribution in the amount of \$750/tree to the City's Tree Compensation Fund for off-site planting is required.

9. Registration of a flood plain covenant on title identifying a minimum habitable elevation of 3.5 m GSC (Not Area A).
10. Registration of an Electric Vehicle (EV) Charging Infrastructure covenant on Title, securing the owner's commitment to voluntarily provide, install, and maintain EV charging equipment for the use of the commercial tenants and others as determined to the satisfaction of the City through an approved Development Permit. More specifically, a minimum

of 12 of the required parking spaces per building (for a minimum of 60 spaces across all five phases of development) must be provided with Level 2 EV charging.

11. Registration of a legal agreement on Title ensuring the building energy use will be a minimum 10% less than current code (BC Building Code 2018). Compliance will be confirmed at Building Permit and Tenant Improvement stage through energy modelling to the satisfaction of the Director of Building Approvals.
12. Registration of a legal agreement on Title ensuring all units are pre-ducted for solar photovoltaic or other alternative energy systems to the satisfaction of the Director of Building Approvals.
13. Registration of a legal agreement on Title ensuring that solar panels capable of supporting all common area electrical needs (including but not limited to exterior lighting and lighting within servicing and mechanical areas) will be installed to the satisfaction of the Director of Building Approvals, maintained for the life of the building and will not be removed without City approval. The agreement will include provisions for alternative renewable technologies to replace the solar panel installations provided that equal or better performance is achievable to the satisfaction of the Director of Development and the Director of Building Approvals.
14. The granting of a statutory right-of-way for the area over the proposed 3.0 m wide walkway from McMillan Way to the southern limits of the area to be developed and along the sidewalk adjacent to Building 1 (being a min. of 1.5 m in width) to provide public pedestrian access between McMillan Way and Graybar Road with the developer and owner being responsible for liability, construction and maintenance.
15. Registration of a legal agreement on title to ensure that landscaping planted within the ALR buffer is not abandoned or removed. The legal agreement is to identify the ALR buffer area and indicate that the property is potentially subject to impacts of noise, dust and odour resulting from agricultural operations since it abuts a lot which is in the ALR.
16. City acceptance of the developer's offer to voluntarily contribute \$0.27 per buildable square foot (e.g. \$49,105.17) to the City's public art fund for Buildings 1 and 2. In the event that the contribution is not provided within one year of the application receiving third reading of Council (i.e. Public Hearing), the contribution rate shall be increased annually thereafter based on the Statistics Canada yearly quarter-to-quarter change for Vancouver, where the change is positive.
17. The submission and processing of a Development Permit* completed to a level deemed acceptable by the Director of Development for Phase 2 (Building 2).
18. Enter into a License Agreement with the City for the purpose and use of parking and loading facilities (including areas used for the operation of gantry cranes) located on City lands and the Dike Road right-of-way across the frontage of the subject site to the satisfaction of the City's Director, Real Estate Services, Director, Transportation, and Director, Engineering. The primary business terms of such agreement shall generally include a per stall rate to be paid monthly.
19. City's acceptance and entering into an encroachment agreement for the portion of existing structures located on City lands and the Dike Road right-of-way to the satisfaction of the City's Director, Real Estate Services, Director, Transportation, and Director, Engineering.. The primary business terms of such agreement, amongst other matters, shall include the removal of the encroaching structures at the City's request and at the expense of the owner, compensation to be provided to the City for the occupation of the portion of the structure encroaching on City property at fair market value to be paid to the City annually.
20. Registration of a legal agreement on title restricting issuance of a building permit which would result in the creation of new floor area or removal of any bylaw sized trees (without prior City consent) on the southerly 50.0 m of the consolidated property, roughly as shown in Appendix A, until the requirements identified in Appendix B have been completed. The agreement shall also provide that in the event that future diking improvements are constructed by the City, that the owner will dedicate all lands required to accommodate the full width of the Dike based on the City's detailed design.
21. Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to:

Water Works:

- a) Using the OCP Model with the water main upgrades identified below, there will be 272.9 L/s of water available at 20 psi residual at the Graybar Road frontage and 268.2 L/s of water available at 20 psi at the hydrant located at the north property line of 20911 Dyke Road. Based on the proposed development, the site requires a minimum fire flow of 220 L/s.
- b) At Developer's cost, the Developer is required to:
- i. Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage Building designs.
 - ii. Subject to a geotechnical assessment of the impact of the proposed Building 1 on the existing watermain along the north PL of 20911 Dyke Rd and 6831 Graybar Rd, retain the existing watermain and protect it during construction of the proposed building.
 - iii. Show on the site plan the clearance (approximately 3m wide) between the southern edge of the proposed Building 1 foundation to the northern edge of the City right of way that contains the existing watermain. This area shall be secured/registered as a right of way prior to rezoning adoption.
 - iv. Subject to the City's fire department review, provide new hydrants to service the proposed buildings. The new hydrants shall be along the proposed drive isle and spaced to service both proposed (i.e., Buildings 1 and 2) and the future buildings that will front Dyke Rd.
 - v. If the City's fire department requires hydrants in the drive aisle between the proposed and future buildings, the developer will be required to provide a new watermain that shall front the proposed Building 2. The new watermain shall be looped via new watermain along the common property line of 7500 No 9 Rd and 20455 Dyke Rd and the Dyke Rd frontage of 20455 Dyke Rd.
 - vi. The new watermain that fronts Building 2 and along the common property line of 7500 No 9 Rd and 20455 Dyke Rd shall be contained in a new 6m wide right of way. The details of the new watermain and the required rights of ways shall be finalized via the servicing agreement review.
 - vii. Monitor the settlement at the adjacent watermain during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.
 - viii. Install one new water service connection for each of the proposed Buildings 1 and 2. Meter to be located onsite (i.e. within the mechanical room).
- c) At Developer's cost, the City is to:
- i. Complete all tie-ins for the proposed works to existing City infrastructure.

Storm Sewer Works:

- a) At Developer's cost, the Developer is required to:
- i. Confirm the catchment of the existing ditches along the CNR corridor, subject to City approval. Ditches will need to be filled because they conflict with the proposed Building 1 and 2 and the drainage shall be redirected to the appropriate storm system. Remove the four culverts and headwalls that inlet the CNR ditches into the City's storm system that is contained in the City right of way along the west property line of 20911 Dyke Rd.
 - ii. Subject to a geotechnical assessment of the impact of the proposed Building 1 on the existing storm sewer that crosses the CNR corridor, retain the existing storm sewer and provide mitigation measures to protect it during construction of the proposed Building 1.
 - iii. Retain the existing storm sewers contained in the right of way along the north and west property lines of 20911 Dyke Rd. The existing 6m right of way along the west property line of 20911 Dyke Rd shall be increased to 9m. This is to facilitate access as the existing 900mm storm sewer is against the east edge of the existing 6m right of way.
 - iv. Retain the existing storm sewers along the Dyke Rd frontage of 6831 Graybar Rd
 - v. Details of the required service connections (e.g., location, size, etc.) for proposed Buildings 1 and 2 shall be finalized at the servicing agreement review stage.

- vi. Monitor the settlement at the adjacent drainage utilities and structures during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.
 - vii. Install one new storm service connection each for the proposed Buildings 1 and 2. From the City's storm service connection, the proposed Buildings 1 and 2 may have to be serviced by private storm sewers that will run along the drive aisles fronting Buildings 1 and 2. As the drive aisles are located within a BC Hydro right of way which contains overhead transmission lines and poles, consultation with BC Hydro is required. BC Hydro's approval of the required private underground lines within the drive aisles shall be included in the development process design review. If Shaw and Telus and other private utility companies have existing infrastructures and rights of ways in the drive aisle then written approval from them are required also.
 - viii. Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement.
- b) At Developer's cost, the City is to:
- i. Cut and cap all existing storm service connections and remove inspection chambers.
 - ii. Complete all tie-ins for the proposed works to existing City infrastructure, including re-connections of existing services to the new mains.

Sanitary Sewer Works:

- c) At Developer's cost, the Developer is required to:
- i. The west edge of proposed Building 1 Shall be a minimum of six metres away from the existing sanitary sewer that crosses the former CN Rail property.
 - ii. Subject to a geotechnical assessment of the impact of the proposed Building 1 on the existing sanitary main along the north PL of 20911 Dyke Rd and 6831 Graybar Rd and subject to capacity analyses to confirm that the existing sanitary main and existing Graybar sanitary pump station are adequate to service the proposed Buildings 1 and 2 and the future buildings, retain the existing sanitary main that fronts proposed Building 1 and protect it during construction of the proposed building. If the capacity analyses indicate that the existing sanitary line and pump station are inadequate to service the proposed and future buildings then the existing sanitary line and pump station shall be upgraded. The pump station upgrade may include replacement of the pumps, kiosks, antenna and provision of a BC Hydro PMT.
 - iii. Provide additional right of way around the Graybar sanitary pump station to accommodate future upgrades by the City. The details of the additional right of way shall be finalized in the servicing agreement design review.
 - iv. Show on the site plan the clearance (approximately 3m wide) between the southern edge of the proposed Building 1 foundation to the northern edge of the City right of way that contains the existing sanitary main. This area shall be secured/registered as a right of way prior to rezoning adoption.
 - v. Monitor the settlement at the adjacent sanitary main and pump station during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.
 - vi. Install one new sanitary service connection each for the proposed Buildings 1 and 2. From the City's sanitary service connection, the proposed Buildings 1 and 2 may have to be serviced by private sanitary sewers that will run along the drive aisles fronting buildings 1 and 2. As the drive aisles are located within a BC Hydro right of way which contains overhead transmission lines and poles, consultation with BC Hydro is required. BC Hydro's approval of the required private underground lines within the drive aisles shall be included in the development process design review. If Shaw and Telus and other private utility companies have existing infrastructures and rights of ways in the drive aisle then written approval from them are required also.
 - vii. Raise and replace the existing forcemain that crosses from the marina into the development site for City review. The elevation and alignment of the replacement forcemain shall be finalized via the servicing

agreement review. After review of the new forcemain, additional requirements such as legal agreements, relocation of services, and transfer of ownership of the City-owned portion of the forcemain to the developer (with accompanying license agreement to permit it to encroach into City property) are required. These legal agreements are required prior to approval of the servicing agreement design.

- d) At Developer's cost, the City is to:
- i. Cut and cap all existing service connections to the development site, and remove inspection chambers.
 - ii. Complete all tie-ins for the proposed works to existing City infrastructure including re-connections of existing services to the new mains.

Frontage Improvements

- e) At the Developer's cost, the Developer is required to:
- i. Review street lighting along the Graybar Road and McMillan Way frontages, and provide additional street lighting if required.
 - ii. Upgrade the Graybar Road frontage to include:
 - 1.5 m wide boulevard and 1.5 m wide sidewalk along the Graybar frontage where there isn't an existing sidewalk; and
 - Removal and/or replacement of driveway crossings to meet City of Richmond Engineering Design Specifications.
 - iii. Upgrade the McMillan Way frontage to include:
 - 1.5 m wide boulevard and 1.5 m wide sidewalk along the cul-de-sac between the driveways for the subject site and 6700 McMillan Way; and
 - New driveway crossing to meet City of Richmond Engineering Design Specifications.

General Items:

- f) The Developer is required to:
- i. Locate/relocate all above ground utility cabinets and kiosks required to service the proposed development, and all above ground utility cabinets and kiosks located along the development's frontages, within the developments site (see list below for examples). A functional plan showing conceptual locations for such infrastructure shall be included in the development process design review. Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the requirements (e.g., statutory right-of-way dimensions) and the locations for the aboveground structures. If a private utility company does not require an aboveground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of statutory right-of-ways that shall be shown on the functional plan and registered prior to SA design approval:
 - BC Hydro PMT – 4.0 x 5.0 m
 - BC Hydro LPT – 3.5 x 3.5 m
 - Street light kiosk – 1.5 x 1.5 m
 - Traffic signal kiosk – 1.0 x 1.0 m
 - Traffic signal UPS – 2.0 x 1.5 m
 - Shaw cable kiosk – 1.0 x 1.0 m
 - Telus FDH cabinet – 1.1 x 1.0 m
 - ii. Coordinate with BC Hydro, Telus and other private communication service providers:
 - To underground, the overhead lines and poles along Lysander Lane. All required above-ground boxes to facilitate the undergrounding works shall be located within the development site; all below-ground boxes shall be located outside of sidewalks and bike paths.
 - To pre-duct for future hydro, telephone and cable utilities along all road frontages.

- When relocating/modifying any of the existing power poles and/or guy wires within the property frontages.
- iii. Provide, prior to site preparation works (e.g., preloading, soil densification, DSM wall installation, etc.) or within the first servicing agreement submission, whichever comes first, a geotechnical assessment of pre-load and soil preparation impacts on the existing utilities fronting the development site (e.g., existing sanitary sewers and storm sewers and existing Graybar sanitary pump station, drainage pump station, etc.) and provide mitigation recommendations.
- iv. Provide a video inspection report of the existing storm sewers and sanitary sewers along the development's frontages prior to start of site preparation works or within the first servicing agreement submission, whichever comes first. Provide a follow-up video inspection after site preparation works are complete (i.e. pre-load removal, completion of dewatering, etc.) to assess the condition of the existing utilities is required. Any utilities damaged by the pre-load, de-watering, or other ground preparation shall be replaced at the Developer's cost.
- v. Monitor the settlement at the adjacent utilities and structures during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts to the City for approval.
- vi. Enter into, if required, additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

At Subdivision* stage, the developer must complete the following requirements:

1. Subdivision of the property shall be such that no building is located on more than one parcel of land.
2. Registration of a cross-access easement, statutory right-of-way, and/or other legal agreement or measures as determined to the satisfaction of the Director of Development, over the internal drive-aisles in favour of Lot 1 including the installation of way-finding and other appropriate signage on the subject property.

Prior to a Development Permit* being forwarded to the Development Permit Panel for consideration for Phase 2, the developer is required to:

1. Submission of a Landscape Plan, prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development, together with a cost estimate provided by the Landscape Architect, including installation costs. The Landscape Plan should:
 - comply with the guidelines of the OCP's for Industrial and ALR-adjacent developments;
 - include a mix of coniferous and deciduous trees;
 - include the dimensions of tree protection fencing as illustrated on the Tree Retention Plan attached to this report; and
 - include the 46 required replacement trees.

If required replacement trees cannot be accommodated on-site, a cash-in-lieu contribution in the amount of \$750/tree to the City's Tree Compensation Fund for off-site planting is required

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

1. Deposit of a Landscape Security based on 100% of the cost estimate provided by the Landscape Architect plus a 10% contingency. Up to 90% of the Landscape Security will be refunded after a Landscape Inspection, with the remainder held for up to one year to ensure the agreed upon landscaping survives.

Prior to Demolition Permit* Issuance, the developer must complete the following requirements:

1. Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.

Prior to Building Permit* Issuance, the developer must complete the following requirements:

1. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
2. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

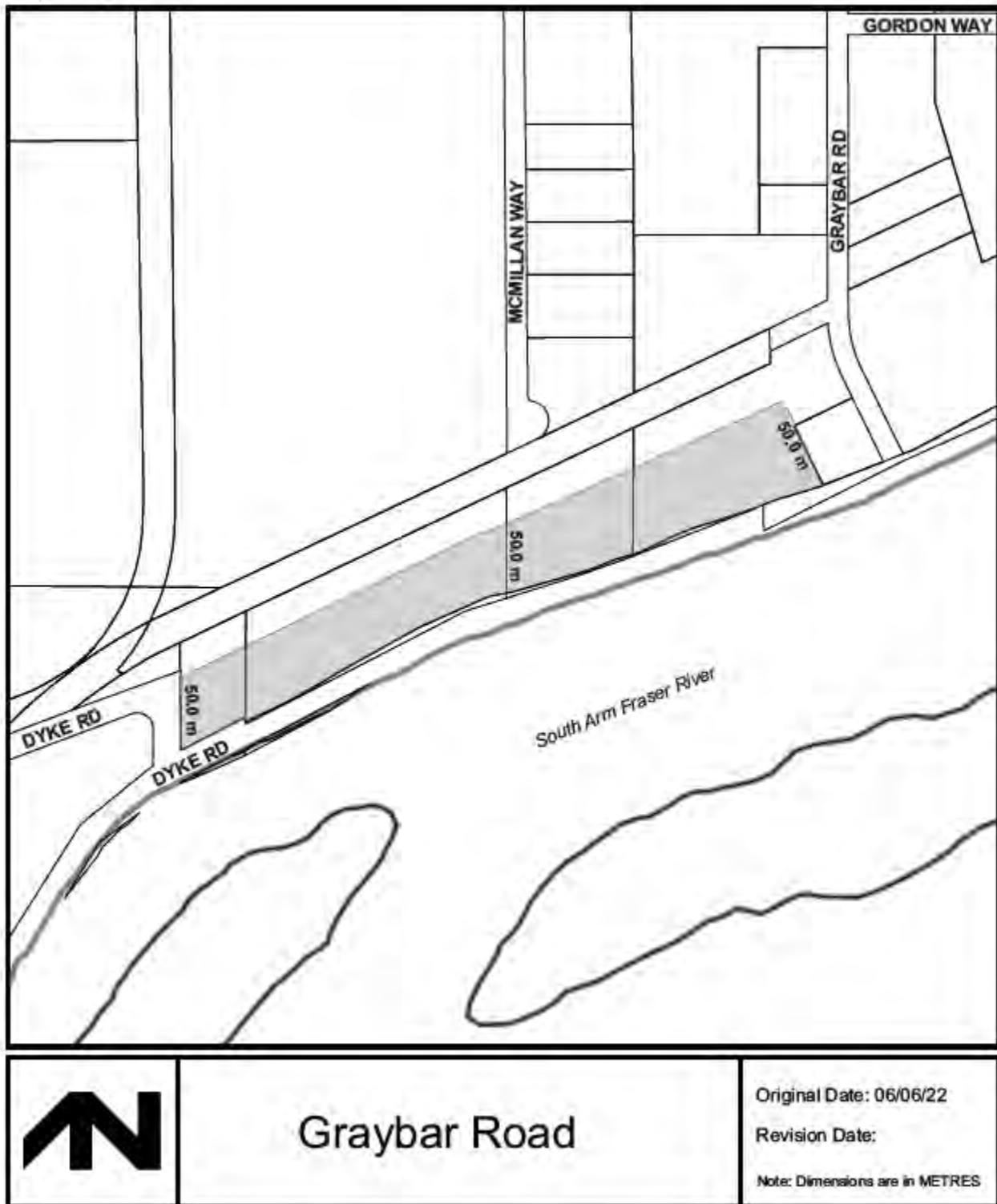
The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date

APPENDIX A



APPENDIX B

Prior to a Building Permit being issued for any building on the southerly portion (50.0 m) of the consolidated lot, the developer is required to:

1. City acceptance of the developer's offer to voluntarily contribute \$0.27 per buildable square foot to the City's Public Art Fund. The contribution rate should be revised to reflect the applicable rate at the time a Building Permit application is received.
2. The granting of a statutory right-of-way for the area over the proposed 3.0 m wide walkway from McMillan Way to Dyke Road to provide public pedestrian access between McMillan Way and Dyke Road, with the developer and owner being responsible for liability, construction and maintenance.
3. Dedication of land for dike
4. Submit a Traffic Impact Analysis, to the satisfaction of the Director, Transportation for the portion of development located within the future phase.
5. Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to:

Water Works

a) At Developer's cost, the Developer is required to:

- i. Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage Building designs.
- ii. Confirm with the City's fire department whether the existing hydrants along the Dyke Rd frontage of the site can be decommissioned if there are new hydrants in the drive aisle between proposed Buildings 1-2 and future buildings.
- iii. If the existing hydrants along the Dyke Rd frontage of the site cannot be decommissioned, raise and replace the approximately 400 m of existing water main and hydrants along the Dyke Road frontage to locate it out of the proposed dike core. Additional right of ways may be required. The details (e.g., alignment, etc.) of the required replacement watermain and new rights of ways along the Dyke Rd frontages of the site shall be finalized via the servicing agreement design review.
- iv. Monitor the settlement at the adjacent watermain during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.
- v. Install one new water service connection for each of the proposed buildings. Meter to be located onsite (i.e. within the mechanical room).

b) At Developer's cost, the City is to:

- i. Complete all tie-ins for the proposed works to existing City infrastructure

Storm Sewer Works

a) At Developer's cost, the Developer is required to:

- i. Remove the existing perforated pipe along the east PL of 20911 Dyke Rd – subject to a review by a professional engineer confirming that the pipe is no longer in use.
- ii. Monitor the settlement at the adjacent drainage utilities and structures during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.

- iii. Install one new storm service connection for each of the proposed buildings.
 - iv. Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement.
- b) If the application for Phases 3-5 precedes the raising of the dike fronting the development, the Developer, at Developer's cost, is required to:
- i. Fill in the existing ditches along the Dyke Road frontages of 20911 Dyke Rd, 20455 Dyke Rd and 7500 No 9 Rd and replace with approximately 475 m of culvert. Provide capacity analyses under the existing and OCP scenarios to confirm the size of the required culvert. The developer's civil consultant shall confirm with the City's Engineering Department the drainage catchment boundary prior to start of the capacity analyses works. The culverts shall be located so they do not encroach in the proposed dike core.
 - ii. Replace and relocate approximately 225 m of existing storm sewer so they do not encroach in the proposed dike core.
- c) At Developer's cost, the City is to:
- i. Cut and cap all existing storm service connections and remove inspection chambers.
 - ii. Complete all tie-ins for the proposed works to existing City infrastructure, including re-connections of existing services to the new mains.

Sanitary Sewer Works:

- a) At Developer's cost, the Developer is required to:
- i. Monitor the settlement at the adjacent sanitary main and pump station during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts and mitigation measures to the City for approval.
 - ii. Install one new sanitary service connection for each of the proposed buildings.
- b) At Developer's cost, the City is to:
- i. Cut and cap all existing service connections to the development site, and remove inspection chambers.
 - ii. Complete all tie-ins for the proposed works to existing City infrastructure including re-connections of existing services to the new mains.

Dike Works

- a) If the application for Phases 3-5 precedes the raising of the dike fronting the development, the Developer, at Developer's cost, is required to:
- i. Construct approximately 730 m of dike upgrades, from the west property line of 7500 No 9 Rd to the eastern most property line of 6831 Graybar Rd (i.e. at Graybar Rd). The dike shall be a standard "superdike" trapezoidal configuration with a minimum crest elevation of 4.9 m geodetic with the ability to accommodate the future elevation of 5.9 geodetic. The dike shall include a retaining structure or sloped transition back to existing grade at the east and west end of the dike.
 - ii. Fill in the existing ditches along the Dyke Road frontages of 20911 Dyke Rd, 20455 Dyke Rd and 7500 No 9 Rd and replace with approximately 475 m of culvert. Provide capacity analyses under the existing and OCP scenarios to confirm the size of the required culvert. The developer's civil consultant shall confirm with the City's Engineering Department the drainage catchment boundary prior to start of the capacity analyses works. The culverts shall be located so they do not encroach in the proposed dike core.

Frontage Works

- a) The Developer, at Developer's cost, is required to:
 - i. Complete frontage improvements on Dyke Road to the satisfaction of the Director of Transportation. These should generally include sidewalk, landscaped boulevard, and street lighting. Exact frontage works to be determined at the time a Servicing Agreement application is received.
 - ii. Complete other road works at the discretion of the Director of Transportation based on the findings and recommendations of the Traffic Impact Analysis.
- b) If the application for Phases 3-5 precedes the raising of the dike fronting the development, the Developer, at Developer's cost, is required to:
 - i. Reconstruct Dyke Road to the satisfaction of the Director of Transportation. Exact road works to be determined at the time a Servicing Agreement application is received.

General Items:

- a) The Developer is required to:
 - i. Locate/relocate all above ground utility cabinets and kiosks required to service the proposed development, and all above ground utility cabinets and kiosks located along the development's frontages, within the developments site (see list below for examples). A functional plan showing conceptual locations for such infrastructure shall be included in the development process design review. Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the requirements (e.g., statutory right-of-way dimensions) and the locations for the aboveground structures. If a private utility company does not require an aboveground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of statutory right-of-ways that shall be shown on the functional plan and registered prior to SA design approval:
 - a. BC Hydro PMT – 4.0 x 5.0 m
 - b. BC Hydro LPT – 3.5 x 3.5 m
 - c. Street light kiosk – 1.5 x 1.5 m
 - d. Traffic signal kiosk – 1.0 x 1.0 m
 - e. Traffic signal UPS – 2.0 x 1.5 m
 - f. Shaw cable kiosk – 1.0 x 1.0 m
 - g. Telus FDH cabinet – 1.1 x 1.0 m
 - ii. Coordinate with BC Hydro, Telus and other private communication service providers:
 - a. To underground, the overhead lines and poles along all road frontages. All required above-ground boxes to facilitate the undergrounding works shall be located within the development site; all below-ground boxes shall be located outside of sidewalks and bike paths.
 - b. To pre-duct for future hydro, telephone and cable utilities along all road frontages.
 - c. When relocating/modifying any of the existing power poles and/or guy wires within the property frontages.
 - iii. Provide, prior to site preparation works (e.g., preloading, soil densification, DSM wall installation, etc.) or within the first servicing agreement submission, whichever comes first, a geotechnical assessment of preload and soil preparation impacts on the existing utilities fronting the development site (e.g., existing sanitary sewers and storm sewers and existing Graybar sanitary pump station, drainage pump station, etc.) and provide mitigation recommendations.
 - iv. Provide a video inspection report of the existing storm sewers and sanitary sewers along the development's frontages prior to start of site preparation works or within the first servicing agreement

submission, whichever comes first. Provide a follow-up video inspection after site preparation works are complete (i.e. pre-load removal, completion of dewatering, etc.) to assess the condition of the existing utilities is required. Any utilities damaged by the pre-load, de-watering, or other ground preparation shall be replaced at the Developer's cost.

- v. Monitor the settlement at the adjacent utilities and structures during pre-loading, dewatering, and soil preparation works per a geotechnical engineer's recommendations, and report the settlement amounts to the City for approval.
- vi. Enter into, if required, additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.



Regular Council
Monday, June 27, 2022

18. **APPLICATION BY FARRELL ESTATES LTD. FOR REZONING AT 6831 GRAYBAR ROAD, 20455 DYKE ROAD, 20911 DYKE ROAD, 7500 NO. 9 ROAD, LOT A BLOCK 4N PLAN EPP113853 SECTION 9 RANGE 4W NEW WESTMINSTER LAND DISTRICT & SEC 16, 17, 20 (031-553-231) AND A PORTION OF GRAYBAR ROAD FROM THE “INDUSTRIAL AND MARINA (ZI17) – GRAYBAR ROAD (EAST RICHMOND)”, “INDUSTRIAL BUSINESS PARK (IB1)”, AND “LIGHT INDUSTRIAL (IL)” ZONES TO THE “INDUSTRIAL BUSINESS PARK AND MARINA (ZI20) – GRAYBAR ROAD (EAST RICHMOND)” ZONE**

(File Ref. No. RZ 21-928623, 12-8060-010336, 12-8060-20-00361) (REDMS No. 6797839, 6797990)

R22/12-9

It was moved and seconded

(1) That Richmond Zoning Bylaw 8500, Amendment Bylaw 10336 to:

- (a) create the “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)” zone, and to rezone 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231), and a portion of Graybar Road from the “Industrial and Marina (ZI17) – Graybar Road (East Richmond)”, “Industrial Business Park (IB1)”, and “Light Industrial (IL)” zones to the “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)” zone be introduced and given first reading; and**
- (b) discharge “Land Use Contract 127”, entered in to pursuant to “Farrell Estates Ltd. Land Use Contract Bylaw No. 3613 (RD85962)”, from the title of 6831 Graybar Road:**

be introduced and given first reading.



Regular Council
Monday, June 27, 2022

The question on the motion was not called as discussion ensued regarding (i) the proposed buildings to be 10% more energy efficient than the standard Building Code, (ii) the application does not change the current use of the site as a boat yard, (iii) businesses on the north side of the property will be relocated on to the existing site, (iv) the proposed redevelopment will not affect the operations of the boatyard, (v) 99 trees will be planted, (vi) a 3 m pedestrian walkway will be added to connect McMillan Way and Dyke Road, (vii) this proposal fits in with the growth strategy for 2050, and (viii) the need to protect the supply and enhance the efficient use of industrial land.

As a result of the discussion the following **referral** motion was introduced:

R22/12-10

It was moved and seconded

That the staff Report Titled “Application by Farrell Estates Ltd. for Rezoning at 6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No. 9 Road, Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (031-553-231) and a portion of Graybar Road from the “Industrial and Marina (ZI17) – Graybar Road (East Richmond”, “Industrial Business Park (IB1)”, and “Light Industrial (IL)” Zones to the “Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)”Zone” by the director of Development dated June 8, 2022, be referred back to staff to find options that would maintain the marina industry and boat yard as it is.

Question on the referral motion was not called as discussion ensued regarding the existing boat yard, increased traffic concerns for business on Graybar Road and construction effecting businesses.

The question on the referral motion was then called and **DEFEATED** with Mayor Brodie and Cllrs. Au, Hobbs, Loo, McNulty, and Steves opposed.

The question on the main motion was then called and **CARRIED** with Cllrs. Day and Wolfe opposed.



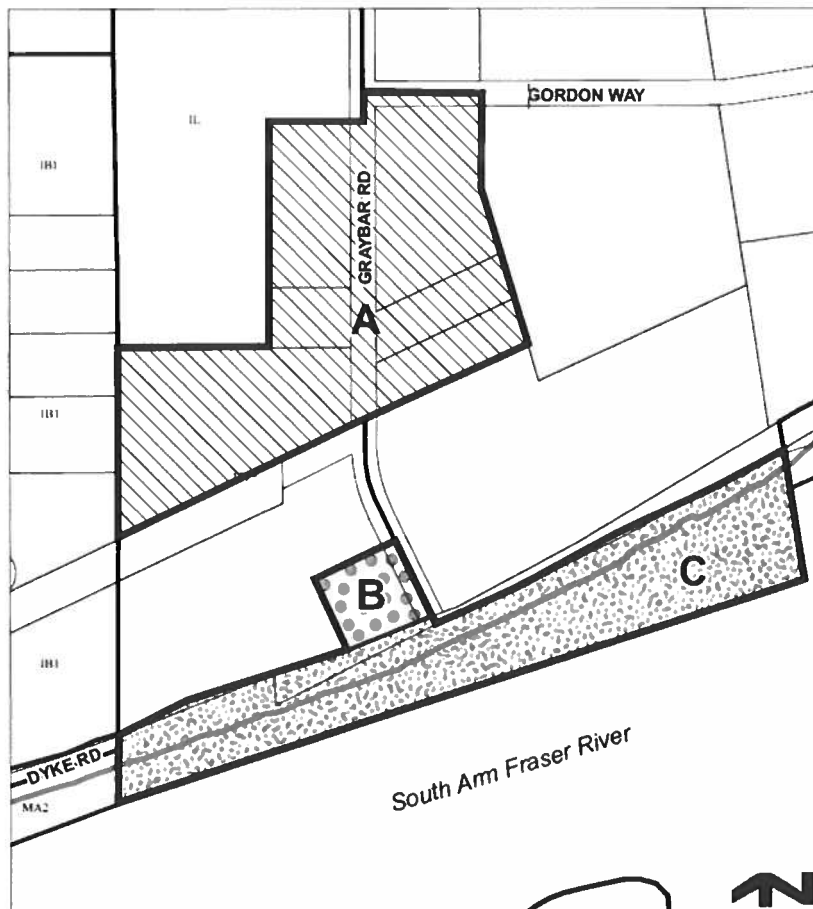
Richmond Zoning Bylaw 8500

Amendment Bylaw 10336 (RZ 21-928623)

6831 Graybar Road, 20455 Dyke Road, 20911 Dyke Road, 7500 No 9 Road and Lot A Block 4N Plan EPP113853 Section 9 Range 4W New Westminster Land District & SEC 16, 17, 20 (PID 031-553-231) and a portion of Graybar Road

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

1. Richmond Zoning Bylaw 8500, as amended, is further amended by replacing Section 23.17.4.3 Diagram 1 with the following:
3. Diagram 1



2. Richmond Zoning Bylaw 8500, as amended, is further amended by inserting the following into Section 23 (Site Specific Industrial Zones), in numerical order:

23.20	Industrial Business Park and Marina (ZI20) – Graybar Road (East Richmond)		
23.20.1	Purpose		
	This zone provides for a range of general industrial , stand-alone office , and maritime uses , with a limited range of compatible uses .		
23.20.2	Permitted Uses	23.20.3	Secondary Uses
	<ul style="list-style-type: none"> • animal daycare • animal grooming • auction, minor • boat shelter • broadcasting studio • car or truck wash • child care • commercial storage • commercial vehicle parking and storage • contractor service • education, commercial • emergency service • equipment, minor • fleet service • government service • health service, minor • industrial, general • industrial, manufacturing • industrial, warehouse • library and exhibit • manufacturing, custom indoor • marina • marine sales & rentals • marine sales and repair • microbrewery, winery, and distillery • office • recreation, indoor • recycling depot • recycling drop-off • restaurant • utility, minor • vehicle body repair or paint shop • vehicle repair 		
		<ul style="list-style-type: none"> • outdoor storage • residential security/operator unit 	

23.20.4 Permitted Density

1. The maximum **floor area ratio** is 1.0, together with an additional 0.1 **floor area ratio** provided that it is entirely used to accommodate **community amenity space**.

23.20.5 Permitted Lot Coverage

1. The maximum **lot coverage** is 75% for **buildings**.

23.20.6 Yards & Setbacks

1. The minimum **setback** to Graybar Road is 6.0 m.
2. The minimum **setback** to the north **property line** is 1.5 m.
3. Notwithstanding section 23.20.6.2, the minimum **setback** to the north **property line** for any portion of a **building** abutting McMillan Way is 3.0 m.
4. Where the **property line** abuts the **Agricultural Land Reserve** the minimum **setback** is 5.0 m.
5. The minimum **setback** to the south **property line** is 3.0 m.
6. There is no minimum **interior side yard** or **rear yard**.
7. A **restaurant** shall not be located closer than 20.0 m to the high water mark.

23.20.7 Permitted Heights

1. The maximum **height** for **buildings** is 16.0 m. Additional **building height** may be permitted through the development permit or development variance permit process to a maximum **height** for **buildings** of 35.0 m.
2. The maximum **height** for **accessory structures** is 20.0 m.

23.20.8 Subdivision Provisions/Minimum Lot Size

1. There is no minimum **lot width**, **lot depth**, or **lot area** requirement.

23.20.9 Landscaping & Screening

1. **Landscaping** and **screening** shall be provided according to the provisions of Section 6.0.

23.20.10 On-Site Parking and Loading

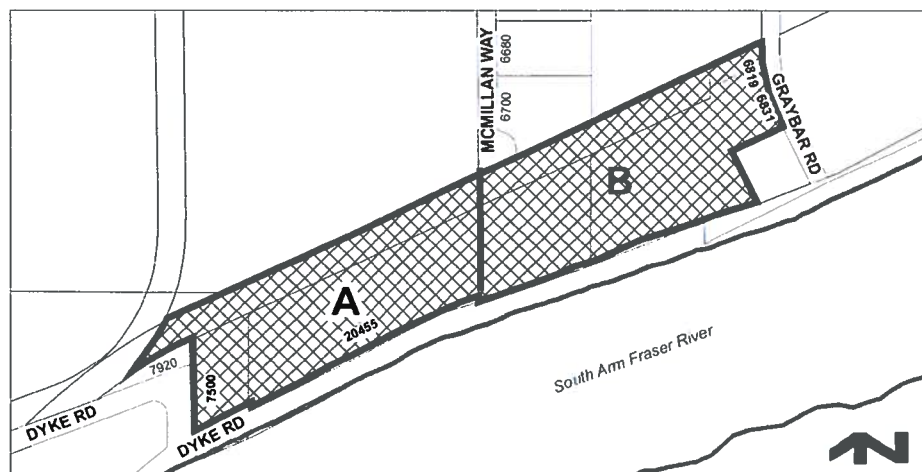
1. On-site **vehicle** and bicycle parking and loading shall be provided according to the standards set out in Section 7.0.

2. On-site loading shall be provided according to the provisions of Section 7.0, except that the minimum number of **loading spaces** shall be: 1 medium **loading space** and 0 large **loading spaces** per building.

23.20.11 Other Regulations

1. The following **permitted uses** are subject to the restrictions in 23.20.11.2:
 - a) **broadcasting studio**
 - b) **education, commercial**
 - c) **emergency services**
 - d) **equipment, minor**
 - e) **government service**
 - f) **health service, minor**
 - g) **library and exhibit**
 - h) **microbrewery, winery and distillery**
 - h) **office**
2. **Permitted uses** listed in 23.20.11.1 are only permitted in the area shown as "B" on Diagram 1, below.

Diagram 1



3. The sale of products or manufactured items to the general public is a permitted **secondary use** for **industrial, manufacturing uses** only, and is limited to 15% of the total **gross floor area**, up to a maximum **floor area** of 500 m², of the **business**.

4. The following are prohibited from occurring on **sites** where **outdoor storage** is a **secondary use**:
 - a) **Outdoor storage** of wrecked or salvaged goods or materials;
 - b) **Outdoor storage** of food products;
 - c) **Outdoor storage** of goods or materials that are capable of being transmitted above, across, or below a land or water surface due to the effects of weather;
 - d) **Outdoor storage** of goods or materials that constitute a health, fire, explosion, or safety hazard;
 - e) Producing, discharging, or emitting odiferous, toxic, noxious matter or vapours, effluent, heat, glare, radiation, noise, electrical interference, or vibrations; or
 - f) Outdoor servicing of **vehicles** or equipment.
5. **Commercial vehicle parking and storage** and **outdoor storage uses** are not permitted to be stored, stacked, or piled in any manner that exceed 4.5 m in height.
6. In addition to the regulations listed above, the General Development Regulations in Section 4.0 and Specific Use Regulations in Section 5.0 apply.
3. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by designating that portion outlined in bold and shown on "Schedule A attached to and forming part of Bylaw 10336" as **"INDUSTRIAL BUSINESS PARK AND MARINA (ZI20) – GRAYBAR ROAD (EAST RICHMOND)."**
4. That the Mayor and Clerk are hereby authorized to execute any documents necessary to discharge "Land Use Contract 127", having charge number RD85962, including all amendments, modifications and extensions to charge number RD85962 from the following area:

Lot A Sections 9 and 10 Block 4 North Range 4 West
 New Westminster District Plan LMP41420
 PID 024-494-721

5. This Bylaw may be cited as "Richmond Zoning Bylaw 8500, Amendment Bylaw 10336".

FIRST READING

JUN 27 2022

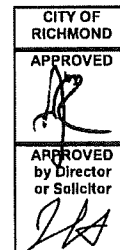
A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED



MAYOR

CORPORATE OFFICER



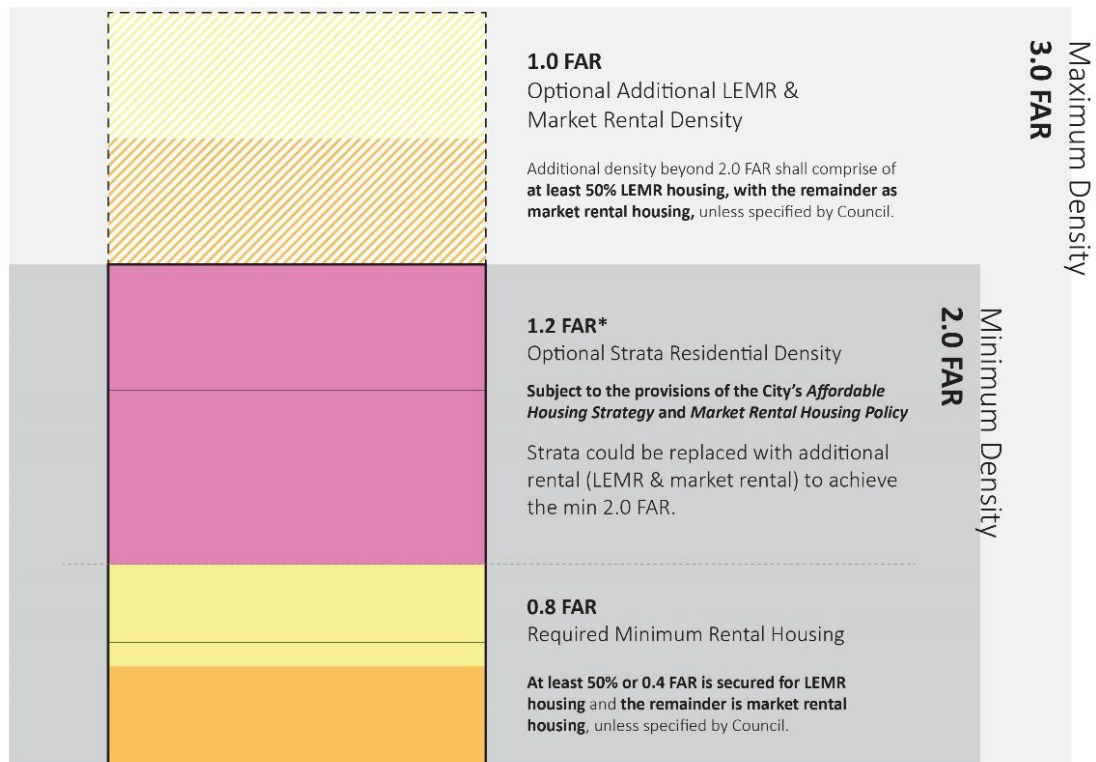
To: Mayor and Councillors
From: John Hopkins
Director, Policy Planning
Date: June 22, 2022
File:
Re: Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases - Density & Tenure Graphic

This memorandum is intended to provide supplementary information for the report titled “Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases” from the Director, Policy Planning, which was presented to Planning Committee on June 21, 2022.

The purpose of the memorandum is to provide Council with a visual graphic of the Proposed Spires Road Rental Tenure Policy to illustrate the tenure and density mix outlined in the proposed policy.

Proposed Spires Road Rental Tenure Policy Graphic

June 20, 2022



* The 1.2 FAR is in line with the existing entitlement under the high density townhouse designation for the area in the current CCAP.

As shown on the above graphic, the proposed policy approach introduces a minimum 2.0 FAR for the Spires Road area provided that:

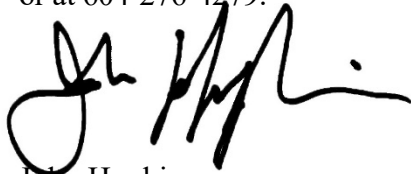
- the maximum residential strata is 1.2 FAR subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy. The 1.2 FAR for strata is in line with the existing entailment under the high density townhouse designation for the area in the current City Centre Area Plan; and
- the minimum rental housing secured is 0.8 FAR with the condition that at least 50% is secured for LEMR housing and the remainder is market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits.

The proposed policy also permits densities up to a maximum of 3.0 FAR provided that the density beyond 2.0 FAR is comprised of at least 50% LEMR housing with the remainder as market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits.

Pilot Project & Monitoring

The Proposed Spires Road Rental Tenure Policy is being initiated early in the process of updating the Official Community Plan. As a result, the proposed policy is intended to serve as a pilot project for the affordable housing component of the OCP targeted update. If approved by Council, staff will monitor the implementation of the policy and report back to Council one year after its adoption.

If you have any questions related to this memorandum, please contact me at jhopkins@richmond.ca or at 604-276-4279.



John Hopkins
Director, Policy Planning

JH:cas



To:	Planning Committee	Date:	June 3, 2022
From:	John Hopkins Director, Policy Planning	File:	08-4045-20-20/2022-Vol01
Re:	Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases		

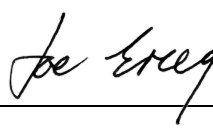
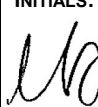
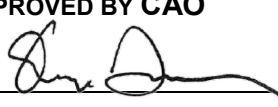
Staff Recommendation

1. That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, which proposes to amend Schedule 2.10 (City Centre Area Plan) by:
 - designating the area bounded by Westminster Hwy, Garden City Road, Cook Road and Cooney Road as “Urban Centre T5” and “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial”; and
 - establishing a rental tenure overlay and supporting policies, which outline density increases associated with secured rental tenure for properties in and adjacent to Spires Road, as described in the attached report titled “Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases”;be introduced and given first reading;
2. That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, having been considered in conjunction with:
 - the City’s Financial Plan and Capital Program;
 - the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans;is hereby found to be consistent with said program and plans, in accordance with Section 477(3)(a) of the *Local Government Act*.
3. That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby found not to require further consultation.
4. That instream rezoning applications that are received prior to adoption of Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, may be exempt from the Spires Road Area Market Rental Policy provided the application achieves first reading within one year of the amendment bylaw being adopted and final adoption and issuance of a Development Permit within one year following the associated Public Hearing.
5. That staff report back to Council regarding key findings related to the implementation of updates to the City Centre Area Plan for the Spires Road area after the policy provisions are in place for one year.

6. That staff be directed, on an interim basis, to consider development applications within the Arterial Road Land Use Policy that would allow higher densities provided that all of the additional density is used for rental housing, and that this interim measure becomes a foundation for the overall policy review of the Arterial Road Land Use Policy as part of the Official Community Plan targeted review to secure more rental along designated Arterial Road, in particular near Neighbourhood Service Centres and frequent transit routes.



John Hopkins
Director, Policy Planning
(604-276-4279)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Affordable Housing	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Transportation	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS:	APPROVED BY CAO
		

Staff Report

Origin

The following referral motion was carried at the October 20, 2021 Planning Committee meeting:

- *That staff examine a combination of all density scenarios in the staff report on Spires Road (Option 5) of the aforementioned, including consideration of prescribing the component of development in terms of market condos, market rental and income controlled rental for higher density development, and that staff undertake neighborhood consultation on all of these options and bring back to Committee.*

This report responds to the October 20, 2021 referral above by proposing a rental tenure policy and supporting amendments to the City Centre Area Plan (CCAP) for the Spires Road area that dramatically increases the provision of rental housing in the Spires Road area above the Low End Market Rental (LEMR) program and Official Community Plan's Market Rental Housing Policy. The proposed approach can be summarized as follows:

- Introduce a minimum 2.0 Floor Area Ratio (FAR) for the Spires Road area provided that:
 - the maximum residential strata is 1.2 FAR subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy; and
 - the minimum rental housing secured is 0.8 FAR with the condition that at least 50% is secured for LEMR housing and the remainder is market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits; and
- Permit densities up to a maximum of 3.0 FAR provided that the density beyond 2.0 FAR is comprised of at least 50% LEMR housing with the remainder as market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits.

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

6.1 Ensure an effective OCP and ensure development aligns with it.

6.5 Ensure diverse housing options are available and accessible across the housing continuum.

Background & Context

Background

A targeted review of the Official Community Plan (OCP) is underway and includes exploring creative solutions and utilizing new tools to improve housing supply and affordability in Richmond. While a systematic work plan has been endorsed by Council, where feasible, staff are bringing forward policy options for Council's consideration in advance of the targeted OCP review timeline.

Consistent with this approach, affordable housing policies for the Spires Road area proposed in this report are being brought forward, and are consistent with the two key objectives for the OCP housing affordability update: fostering housing affordability through innovation and promoting affordable living.

Context

The Spires Road area is located in the northeast portion of Brighthouse Village in City Centre (Attachment 1) and is currently designated “General Urban T4” in the City Centre Area Plan (CCAP). This designation is to permit High-Density Townhouse use in the Sub-Area Guidelines (Sub-Area B.1) of the CCAP. As a result, the area is currently in the process of transitioning from a predominately single-family neighbourhood to a neighbourhood of High-Density Townhouses.

Over the last several years, Council has approved four development applications for High-Density Townhouses in the Spires Road area. Attachment 2 shows the location of the four development projects, in addition to a newly received development application for High-Density Townhouses. The status of these projects are as follows:

File Numbers	Status
RZ 17-766525 / DP 18-829140	Approved by Council in October 2019 and is under construction
RZ 17-790301 / DP 19-875938	Approved by Council in July 2021
RZ 18-818420 / DP 21- 932383	Rezoning Bylaw at 3 rd Reading and DP application in circulation
RZ 19-870807 / DP 22-013081	Rezoning Bylaw at 3 rd Reading and DP application in circulation
RZ 22-012904	Rezoning application in circulation

As part of a November 2, 2020 referral, General Purposes Committee directed staff to undertake an assessment of the density proposed in the CCAP for the Spires Road area. In response, a report titled “Referral Response: Spires Road Area (City Centre Area Plan)” from the Director, Policy Planning, was presented to the Planning Committee on October 20, 2021. The report provided an assessment of four density scenarios for the area:

1. Low-Rise Residential - High-Density Townhouses (current land use designation);
2. Mid-Rise Residential - 4-Storey Apartments;
3. Mid-Rise Residential - 6-Storey Apartments; and
4. High-Rise Residential.

In response to the report, Planning Committee passed the October 20, 2021 referral noted in the Origin section of this report, requesting a further review of density tied to rental tenure in the Spires Road Area.

Analysis

Proposed Spires Road Rental Tenure Policy

The preparation of the Proposed Spires Road Rental Tenure Policy included a variety of technical and data inputs:

1. **Land Use and Density Analysis:** This was included as part of a report titled “Referral Response: Spires Road Area (City Centre Area Plan)” from the Director, Policy Planning, which was presented to the Planning Committee on October 20, 2021. The analysis examined the impacts of four density scenarios for the Spires Road area from the perspectives of neighbourhood character, the provision and capacity of utilities; as well as transportation considerations related to traffic flow, internal road capacity, access/egress to/from the area, parking and loading.
2. **Housing Needs Report:** Richmond’s Housing Needs Report, which was endorsed by Council in December 2021, monitors key trends related to housing in the community. The report identifies a strong demand for market rental, in particular affordable rental, within the city.
3. **Economic Feasibility Analysis:** An analysis prepared by an experienced economic development consultant, G.P. Rollo & Associates, reviewed several density and tenure mixes in order to assess what is financially feasible in the Spires Road area. Along with density and tenure, the analysis considered construction methods (wood frame vs concrete) as well as land values. Under current economic conditions, as shown in Attachment 3, the analysis found that low rise wood frame apartments had the most economic resiliency to absorb increased components of rental housing, whether that be market rental or low end market rental (LEMR) housing.
4. **Public Consultation:** As part of this density and tenure review, staff consulted Spires Road area property owners and residents. One hundred and sixty two letters were mailed out seeking feedback on increasing the density, and the introduction of rental and non-market housing in the area (Attachment 4). Thirteen property owners (representing 17 properties, including 16 single family dwellings and one duplex, see Attachment 5) provided written feedback to the City. In summary, representatives from 16 properties in the area support the proposal to increase density and allow for mid/high rise development. There appears to be a general understanding that rental and affordable housing will accompany higher densities; however, a few respondents cautioned about the overconcentration of one form of housing over another. A consultation summary is presented in Attachment 6.

The proposed Spires Road Rental Tenure Policy pulls together key findings of the above noted inputs, and outlines a density and tenure structure to address the October 20, 2021 referral.

The proposed policy permits a mix of building forms (low-, mid-, high-rise) at higher densities than what is currently permitted under the CCAP for the Spires Road area, while facilitating a mix of strata and rental units.

The components of the proposed Spires Road Rental Tenure Policy include:

1.	Minimum Overall Density	2.0 FAR	Required
2.	Strata Residential	1.2 FAR (subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy)	Optional
3.	Minimum Rental Housing	0.8 FAR (with the condition that at least 50%, or 0.4 FAR, is secured for LEMR housing and the remainder is market rental housing, unless specified by Council)	Required
4.	Maximum Density	3.0 FAR provided that strata is no more than 1.2 FAR (subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy) and the remainder FAR is rental.	Optional
5.	Additional market rental & LEMR	The additional density beyond 2.0 FAR shall comprise of at least 50% LEMR housing with the remainder as market rental housing, unless specified by Council)	Optional

The primary intention of the proposed policy is to dramatically increase the number of rental units within the Spires Road area by increasing residential density. As noted above, under current economic conditions, the financial feasibility analysis found that low rise wood frame apartments had the most economic resiliency to absorb increased components of rental housing, whether that be market rental or LEMR. Based on these findings, a minimum residential density of 2.0 FAR is proposed. Of this minimum 2.0 FAR, 0.8 FAR is proposed to be designated for rental housing with the objective of achieving an even split between LEMR & market rental units. As securing rental housing is a primary objective of the City, the proposed policy builds in the flexibility of considering other income controlled rental unit mixes on a case-by-case basis.

The financial feasibility analysis also found that under current market conditions the provision of strata units supported the creation of rental units. To support the creation of rental units, a maximum 1.2 FAR for strata (including the City's Affordable Housing Strategy and Market Rental Housing Policy) is included in the proposed policy. The provision of strata units is optional, and can be substituted with additional rental units on a case-by-case basis. This could result in in a 100% rental development.

For projects that create less than 60 strata units, cash-in-lieu would be collected as part of the LEMR contribution. For projects that have more than 60 strata units, there would the standard

15% LEMR floor area and 15% market rental floor area, with additional rental be secured through higher densities.

To be responsive to the provision of rental housing in the community, and to changing market conditions, the proposed Spires Road rental tenure policy would permit an additional 1.0 FAR beyond the minimum required of 2.0 FAR for the provision of additional market rental and LEMR units up to a maximum of 3.0 FAR for the Spires Road area. For this additional 1.0 FAR, the objective is to have an even split between market rental and LEMR units. The economic analysis does indicate that the financial feasibility could be challenging if the building were to be concrete construction rather than wood frame. As a result, Council would have the opportunity to consider, on a case-by-case basis, a different mix of market rental and income controlled units.

All market rental units noted above would be secured through residential rental tenure zoning (secured in perpetuity through a legal agreement), and market rental units would not be subject to rental rates or household income thresholds.

Density & Tenure Options

Staff has undertaken a review of density and tenure in the Spires Road area. Based on the lessons learned from this review, coupled with the fact that the area has started to transition to a neighbourhood of High-Density Townhouses, two options are presented for Council's consideration:

Option 1 – Proposed Spires Road Rental Tenure Policy (Recommended)

Merits of this approach include:

- Substantially increasing rental opportunities (market and LEMR) in the Spires Road area, by securing 40% to 70% of the total floor area for rental housing within a residential development.
- Increasing density in the area would increase the residential population in proximity to the Richmond-Brighouse Canada Line station by potentially 1000 residents over High-Density Townhouse developments.
- Providing opportunities for a mix of low-, mid-, and high-rise building forms at varying densities in proximity to the Richmond-Brighouse Canada Line station.
- Opportunities for parking reductions for secured market rental in close proximity to the Canada Line.

To further support the provision of affordable housing in the City Centre, residential developments comprising of 100% market rental would be encouraged as outlined above. In addition, to address transportation impacts associated with the higher densities, these impacts can be evaluated during the rezoning process for each development project. Council is also considering OCP bylaw amendments that could reduce parking requirements by 50% for rental units, or further, on a case-by-case basis.

As density (FAR) could vary throughout the area, Option 1 would produce an estimated 1600-2100 units that would be home to an estimated population of 3400-4200 residents.

Spires Road Area Boundary Expansion

The Spires Road area currently consists of single-family homes and a few duplexes, along with some recent development sites for High-Density Townhouses. Adjacent to the area, on properties along Cook Road, Cooney Road and Westminster Highway, there are a number of multi-family developments (up to four storeys including the parking structure) and a 10-storey building located at the corner of Cooney Road and Westminster Highway.

The entire neighbourhood bounded by Garden City Road, Cook Road, Cooney Road and Westminster Highway is designated for High-Density Townhouse uses under the CCAP, except for the southeast corner of Cooney Road and Westminster Highway, which is designated for Mid-Rise Residential (4-8 storeys). A CCAP Land Use Designations Map for the immediate area is presented as Attachment 7.

If Council moves forward with Option 1, staff recommend that the “Urban Centre T5” designation allowing for Mid-Rise Residential (4-8 storeys) be expanded to the entire neighbourhood bounded by Garden City Road, Cook Road, Cooney Road and Westminster Highway. This land use designation would be consistent with the land use designation for properties located across Garden City Road to the east and properties located across Cooney Road to the west (except for the area by the southwest corner of Cooney Road and Westminster Highway, which is designated for High-Rise Residential). This land use designation would also serve as an appropriate land use transition (massing and scale) between the High-Rise Residential allowed to the northwest of the neighborhood and the High-Density Townhouse allowed to the south of the neighbourhood.

If Council moves forward with Option 1, to expedite the process for the delivery of affordable housing in the Spires Road area, bylaw amendments to the CCAP are proposed below.

Should Council choose not to proceed with Option 1, a second option provides direction to maintain the existing designation.

Option 2 – Maintain High-Density Townhouse/General Urban T4 Designation

Merits of this approach include:

- the High-Density Townhouse building form allows for smaller scale developments, which provides opportunities for additional public walkways to be developed throughout the neighbourhood;
- High-Density Townhouses would allow for more flexibility in site planning than other higher density housing typologies (due to the large building footprints/parking requirements of mid- and high-rise developments), potentially facilitating more tree preservation opportunities;
- the existing lot and block configuration, and landownership pattern more readily accommodate High-Density Townhouse developments; and,
- significantly larger private outdoor space is required for High-Density Townhouse developments than other higher density housing typologies, which make it well suited to provide housing for families.

Maintaining the High-Density Townhouse designation would produce an estimated 700-800 units that would accommodate an estimated 2000-2400 residents. A full assessment of the pros, cons, and feasibility of High-Density Townhouse development in the Spires Road area is provided in a report titled “Referral Response: Spires Road Area (City Centre Area Plan)” from the Director, Policy Planning, which was presented to the Planning Committee on October 20, 2021.

If Council moves forward with Option 2, the City would continue to process development applications for High-Density Townhouses in the Spires Road area. In addition, to support the provision of affordable housing in City Centre, apartment building forms would continue to be considered, on a case-by-case basis, in the Spires Road area, where additional density is for rental housing and is tied to income thresholds. A recent example of this type of approval is the 149 purpose-built market rental housing units at 8108 Lansdowne Road (formerly 5500 No. 3 Road). These units are secured in perpetuity with a market rental agreement registered on Title. Rental rate and household income restrictions are subject to the BC Housing’s Housing Hub Provincial Rental Supply Program

To address form and character issues raised regarding recent High-Density Townhouse development applications (e.g., pitched roofs), staff would also bring forward Special Precinct Development Permit Guidelines for the area for Council consideration. Staff would require direction from Planning Committee to bring the associated bylaws forward if Option 2 were preferred.

Proposed Bylaw Amendments to the City Centre Area Plan

In response to Council’s prioritization of affordable housing, staff have prepared bylaw amendments as part of the recommended Option 1 to allow an increase in density provided that it is tied to rental housing. The proposed Amendment Bylaw 10190 includes an overlay and supporting policies that prioritize affordable housing in the Spires Road area.

The proposed bylaw amendments have been structured to give Council the ability to consider adjustments to the density and tenures outlined above, on a case-by-case basis, in order to further advance affordable housing objectives in the Spires Road area.

To further support the delivery of affordable housing, Amendment Bylaw 10190 also:

1. defines the Spires Road Area as the area generally bounded by Westminster Hwy., Garden City Road, Cook Road and Cooney Road, and excluding 6180 Cooney Road (as this site has already been redeveloped around 10 year ago under the current CCAP); and
2. designates the Spires Road Area as “Urban Centre T5” and “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial”.

The “Urban Centre T5” land use designation would allow for multi-family developments within the Brighthouse Village. Specific density and development requirements for future development proposals within the Spires Road area are proposed to be added to the Detailed Transect Description for the Brighthouse Village. The minimum residential density of 2.0 FAR would include a base density of 0.6 FAR, an Affordable Housing Bonus of 0.6 FAR, and a market

rental component no less than 0.8 FAR. All additional density, where applicable, would be for residential rental tenure housing only.

As higher density and different forms of housing (i.e., low-, mid-, and high-rise) are proposed for the Spires Road Area, design guidelines under “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial” would be more appropriate for this neighbourhood. Sub-Area B2 is intended primarily for medium- density, mid-rise (4-8 storeys) housing up to 2.0 FAR and 25 m building height. For developments with permitted density exceeding 2.0 FAR, they may be considered under “Sub-Area B3 – High-Rise Residential, Commercial & Mixed Use”. A text amendment to the Sub-Area B2 guidelines is also being proposed to reflect this. Staff also propose to add new provisions in the implementation section and definition section of the CCAP to clarify that no rezoning will be supported in the Spires Road area unless rental housing is provided and secured with residential rental tenure zoning. The proposed additions to the CCAP would also ensure that additional density would result in a community benefit to the satisfaction of the City and the scale, form, and character of development are complementary to that intended for neighbouring properties under the Area Plan.

Provisions for instream applications

In-stream applications are recommended to be grandfathered as follows:

- For development projects with associated rezoning bylaws that have received third reading prior to the date of Council adoption of Bylaw 10190, the developments would be subject to the former land use designation and sub-area guidelines at Development Permit stage; and
- For in-stream rezoning applications that have not received third reading prior to the date of Council adoption of Bylaw 10190, the associated developments will be subject to the former land use designation and sub-area guidelines if the rezoning bylaw is granted first reading by Council within one (1) year of Council adoption of Bylaw 10190, and final adoption and issuance of a Development Permit within one year following the associated Public Hearing.

For applications that are unable to receive final adoption within one year following public hearing, a report would be brought forward for consideration by Council. The report would provide the following options:

- Allow additional time for the project to be completed based on circumstances that have affected the timeline for a project that has been actively working to advance and achieve final adoption of the rezoning bylaw and issuance of the Development Permit; or
- Rescind third reading of the rezoning bylaw and require the project to be redesigned to include the required market rental housing.

Consultation

Attachment 8 includes a summary of consultation with respect to the *Local Government Act* and the City’s OCP Bylaw Preparation Consultation Policy No. 5043 requirements. Should Planning Committee endorse the amendment bylaws, the bylaws will be forwarded to the next open Council meeting for consideration by City Council. Should Council grant first reading to the proposed amendments to the City Centre Area Plan, further to the protocol of a Public Hearing

(i.e., item to be published in the *Richmond News* and on the City website in advance of the Public Hearing), a Public Hearing notice will also be forwarded to all owners and residents of properties affected by the proposed amendments (Attachment 9).

Arterial Road Land Use Policy

With the recent interest in securing more rental housing through increased density along the City's arterial roads, staff recommend, on an interim basis, to consider development applications within the Arterial Road Land Use Policy that would allow higher densities provided that all of the additional density is used for rental housing, preferably a mix of affordable rental and market rental. This interim measure would then become a foundation for the overall policy review of the Arterial Road Land Use Policy as part of the OCP targeted review to secure more rental along designated Arterial Road, in particular near Neighbourhood Service Centres and frequent transit routes. Considerations will need to be made to OCP land use designations, density minimums and maximums, building and site design guidelines, and adjacency to single-family neighbourhoods. Further, public and stakeholder consultation would be required. A revised policy framework, with appropriate bylaw amendments, would be brought forward to Council at a later date as part of the OCP review.

Financial Impact

None

Conclusion

This report responds to the October 20, 2021 referral by proposing a rental tenure policy and supporting amendments to the City Centre Area Plan (CCAP) for the Spires Road area that dramatically increases the provision of rental housing in the Spires Road area above the LEMR program and OCP's Market Rental Housing Policy. The proposed approach can be summarized as follows:

- Introduce a minimum 2.0 Floor Area Ratio (FAR) for the Spires Road area provided that:
 - the maximum residential strata is 1.2 FAR subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy; and
 - the minimum rental housing secured is 0.8 FAR with the condition that at least 50% is secured for LEMR housing and the remainder is market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits; and
- Permit densities up to a maximum of 3.0 FAR provided that the density beyond 2.0 FAR is comprised of at least 50% LEMR housing with the remainder as market rental housing, unless specified by Council to have a different mix of market rental and affordable rental geared towards specific income limits.

To minimize risks and unintended outcomes associated with implementation (e.g., impacts of inflation and higher interest rates, appreciative decline in development activity, etc.), staff recommend that implementation of the Spires Road Rental Tenure Policy be monitored and that staff report back to Council regarding key findings after the proposed bylaw amendments are in

place for one year. It is recommended that Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, be introduced and given first reading.

Steve Gauley

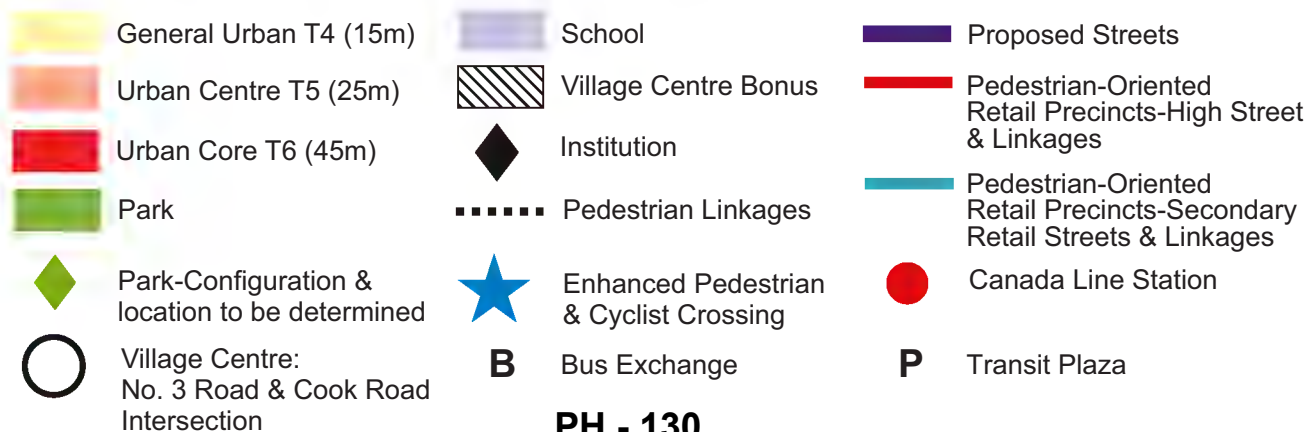
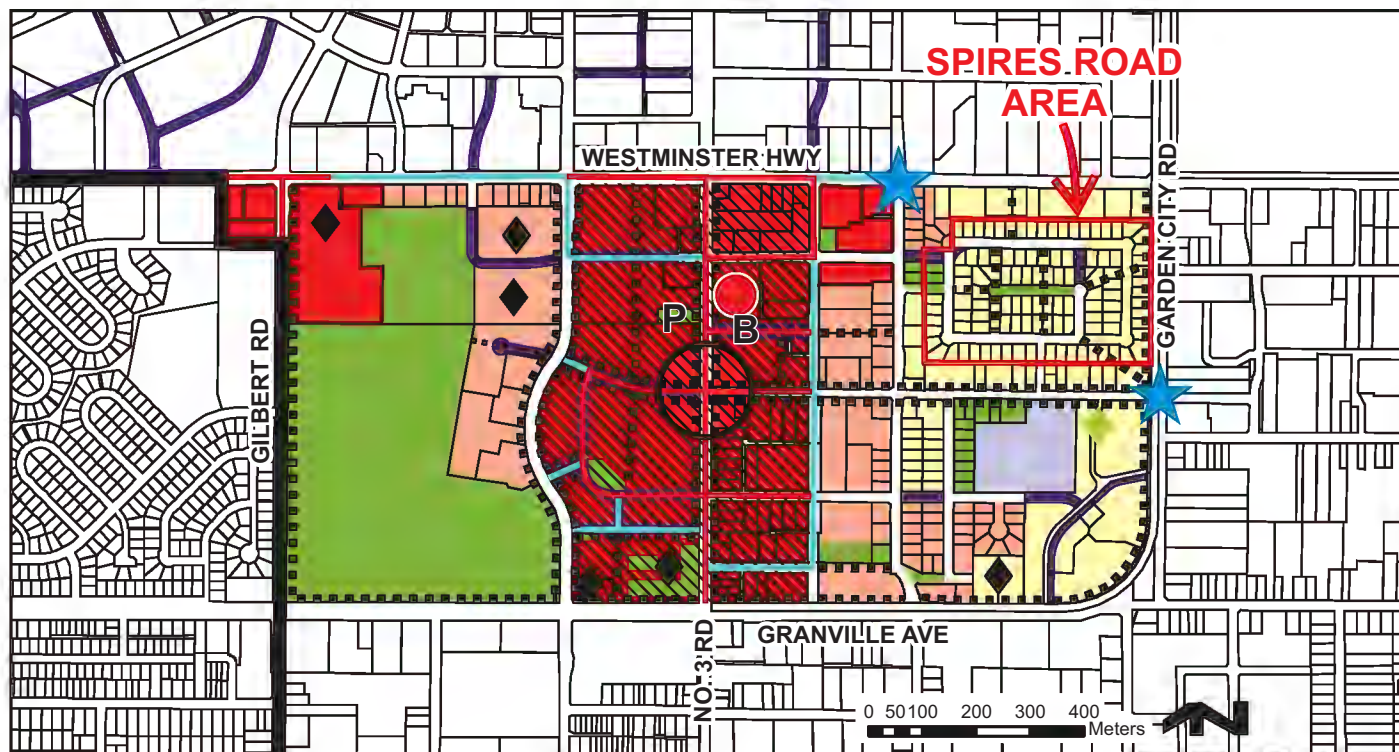
Steve Gauley
Program Manager, Policy Planning
(604-276-4164)

SG:cas

Attachments:

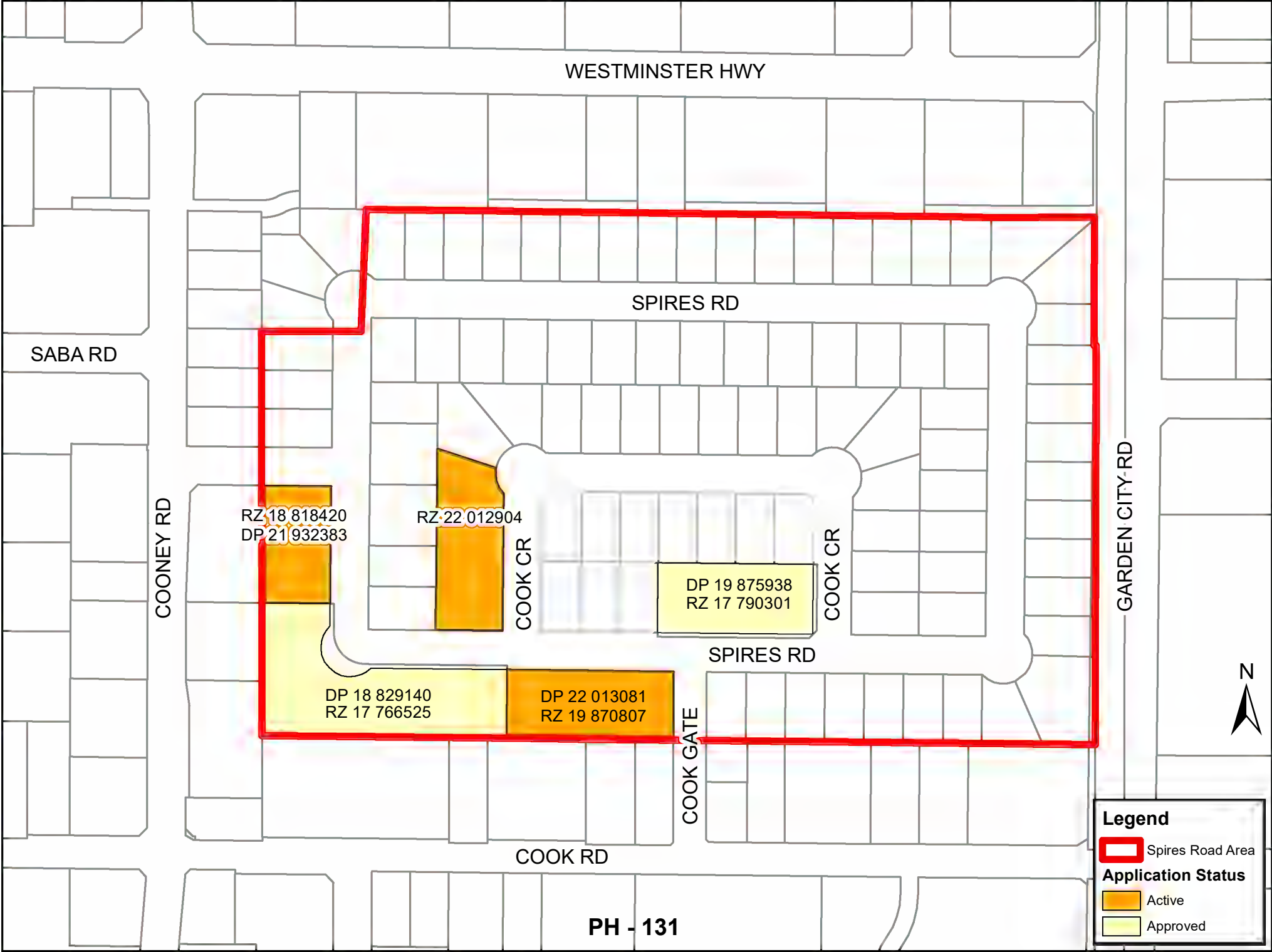
- Attachment 1: Specific Land Use Plan Brighthouse Village (2031) – Spires Road Area
- Attachment 2: Active and Approved High Density Townhouse Applications – Spires Road Area
- Attachment 3: Economic Feasibility Analysis – Executive Summary
- Attachment 4: Sample Consultation letter
- Attachment 5: Consultation Feedback – Map
- Attachment 6: Consultation Feedback – Summary
- Attachment 7: CCAP Sub-Area Land Use Designations – Spires Road and Surrounding Area
- Attachment 8: OCP Consultation Policy & Summary of Consultation with Key Stakeholders
- Attachment 9: Notification Area Map

Specific Land Use Map: Brighthouse Village (2031)



PH - 130

Active and Approved High Density Townhouse Applications - Spires Road Area



June 6, 2022

Re: Richmond Spire Road Area Financial Analysis Executive Summary

G. P. Rollo & Associates (GPRA) was retained to prepare a financial analysis to evaluate the financial feasibility of a potential policy to provide incentives for developers to include market rental and income controlled rental units in all new residential developments in the Spires Road Area. GPRA has the following to report:

- Townhouses don't have the ability to remain financially feasible while increasing the portions of rental in the project. A variety of factors play into this, including lower rents being required for larger unit sizes to remain affordable, and the fact that increased density over 1.2 FAR likely necessitates a switch to apartments;
- Low rise wood frame apartments had the most economic resiliency to absorb increased components of rental housing, whether that be market rental, HILs rental, or LEMR;
- Concrete mid-rise apartments demonstrate little ability to absorb increased requirements for any rental;
- All 100% rental scenarios that include a mix of non-market units generally would require a subsidy of some sort for a developer to undertake such a project;
- A number of density and tenure mixes were assessed to determine what is financially feasible in the Spires Road area
- Through this, it was determined that 60% strata (1.2 FAR)/20% market rental (0.4 FAR)/20% Richmond's LEMR (0.4 FAR) rate would be feasible at a density of 2.0 FAR provided that construction is wood frame.;
- If the density increases beyond 2.0 FAR while the strata proportion (1.2 FAR) remains the same, the project will become less financially feasible as the project would likely switch to concrete construction;
- Parking reductions for rental components will help, but the cost for parking for low rise projects is a relatively small part of the overall cost but may help as part of a slate of tools to make rental housing more feasible. In the mid-rise form similar principles hold true regarding the ratio of costs for parking to the overall unit cost, but here the greater gap is between the cost of construction overall compared to rents that can be achieved.
- Generally if developers are expected to pay for non-market units a value similar to LEMR units the minimum rent they could charge would be around LEMR rates, or a blended average of \$1.81 per square foot in order to break even while servicing their debt.
- The lowest rents a non-profit housing operator could offer would be roughly \$1.05 per square foot per month, but this would require units be provided free of charge.

January 26, 2022
File: 08-4105-20-AMANDA #/2021-Vol 01

Planning and Development Division
Policy Planning
Fax: 604-276-4052

Dear Owner/Resident:

Re: Consultation regarding future re-development in the Spires Road Area

The purpose of this letter is to inform you of a planning study that the City of Richmond is undertaking in your neighbourhood and to provide you with an opportunity to provide input.

Background

The Spires Road Area (Attachment 1) is currently identified in the City Centre Area Plan (CCAP) as an area intended to transition from a predominately single-family neighbourhood to a neighbourhood of urban-style townhouses with dedicated parking structures. The maximum density allowed under this land use designation is 1.2 FAR¹. Inline with this vision, over the last several years, two urban-style townhouse developments have been approved in the area and are currently being developed.

Due to the neighbourhood's close proximity to the Brighthouse Skytrain Station, and to provide more affordable housing options in Richmond, Council's Planning Committee has directed City Planning staff to study the feasibility of providing more multiple family housing in the form of low rise and high rise apartments in the Spires Road Area. Higher densities would only be considered where there would be income controlled rental housing and/or non-market housing as part of the proposal.

Approach

Staff are preparing to update the CCAP in order to:

- develop a policy to provide incentives for new residential developments in the Spires Road Area to include market rental, income controlled rental, and non-market housing/social housing units;
- consider allowing higher densities (for examples, low-rise or high-rise residential buildings instead of townhouses only) in the Spires Road Area for projects that provide non-market housing and/or income controlled rental housing units;

¹ Floor Area Ratio (FAR) is the ratio of the building's floor area to the size of lot/parcel that the building is located on. For example, if a 1,000 square foot building stands on a 1,000 square foot of land, the floor area ratio is 1.0.

THIS IS AN IMPORTANT NOTICE. PLEASE
HAVE SOMEONE TRANSLATE IT FOR YOU.

這通告很重要，請找人為您翻譯解說。
这通告很重要，请找人為您翻譯解說。

INFORMATION IMPORTANTE:
TRADUISEZ S'IL VOUS PLAÎT.

ਇਹ ਇੱਕ ਜ਼ਰੂਰੀ ਸੂਚਨਾ ਹੈ। ਕਿਰਪਾ ਕਰਕੇ ਕਿਸੇ
ਤੋਂ ਇਸ ਦਾ ਆਪਣੇ ਲਈ ਅਨੁਵਾਦ ਕਰਵਾਉ।

- update the road circulation network within the Spires Road Area to accommodate the additional density, if required; and to enhance pedestrian connectivity; and
- include a set of Special Precinct Development Permit Guidelines to establish a consistent neighbourhood character within the Spires Road Area.

What this means to you

As a property owner and resident in this area, your opinion is important to us. Your participation in this consultation process will assist the Planning and Development Department in accurately reflecting your views when making a recommendation to Council on the future of your neighbourhood.

City Planners are seeking all stakeholder comments to be submitted prior to **Thursday, February 10, 2022.**

Please kindly submit your written comments, including suggestions and concerns for future developments in the Spires Road Area:

- by email to elee@richmond.ca
- by mail to Edwin Lee, Planner 2 at 6911 No. 3 Road, Richmond, V6Y 2C1.

If you have any specific questions or require clarification on this consultation process, please feel free to contact the undersigned directly at 604-276-4121.

Process

Upon completion of this consultation process, City Planners will report back to Planning Committee with further recommendations. If Planning Committee and Council wish to advance the proposed updates to the CCAP for the Spires Road Area, a Public Hearing would be required in accordance with the *BC Local Government Act*.

At the Public Hearing, all persons who believe that their interest in property is affected by the proposed bylaw will be given an opportunity to be heard or to present written submissions. A notice for a future Public Hearing will be mailed to the owners and residents in the Spires Road Area, and placed in the local newspaper.

Additional Information

If you have concerns related to current construction activities in the Spires Road Area, please be advised that:

- The City's Noise Regulation Bylaw 8856 regulates construction noise, including demolition. Provided the day is not a Sunday or Statutory holiday, construction noise not exceeding 85 decibels "dBA" is permitted Monday to Friday from 7 a.m. to 8 p.m. and Saturdays from 10 a.m. to 8 p.m.
- The City's Unsightly Premises Regulation Bylaw 7162 contains requirements for proper clean-up of properties.
- Tree Protection Bylaw 8057 regulates the removal and retention of trees 20 cm in diameter or greater located on private property

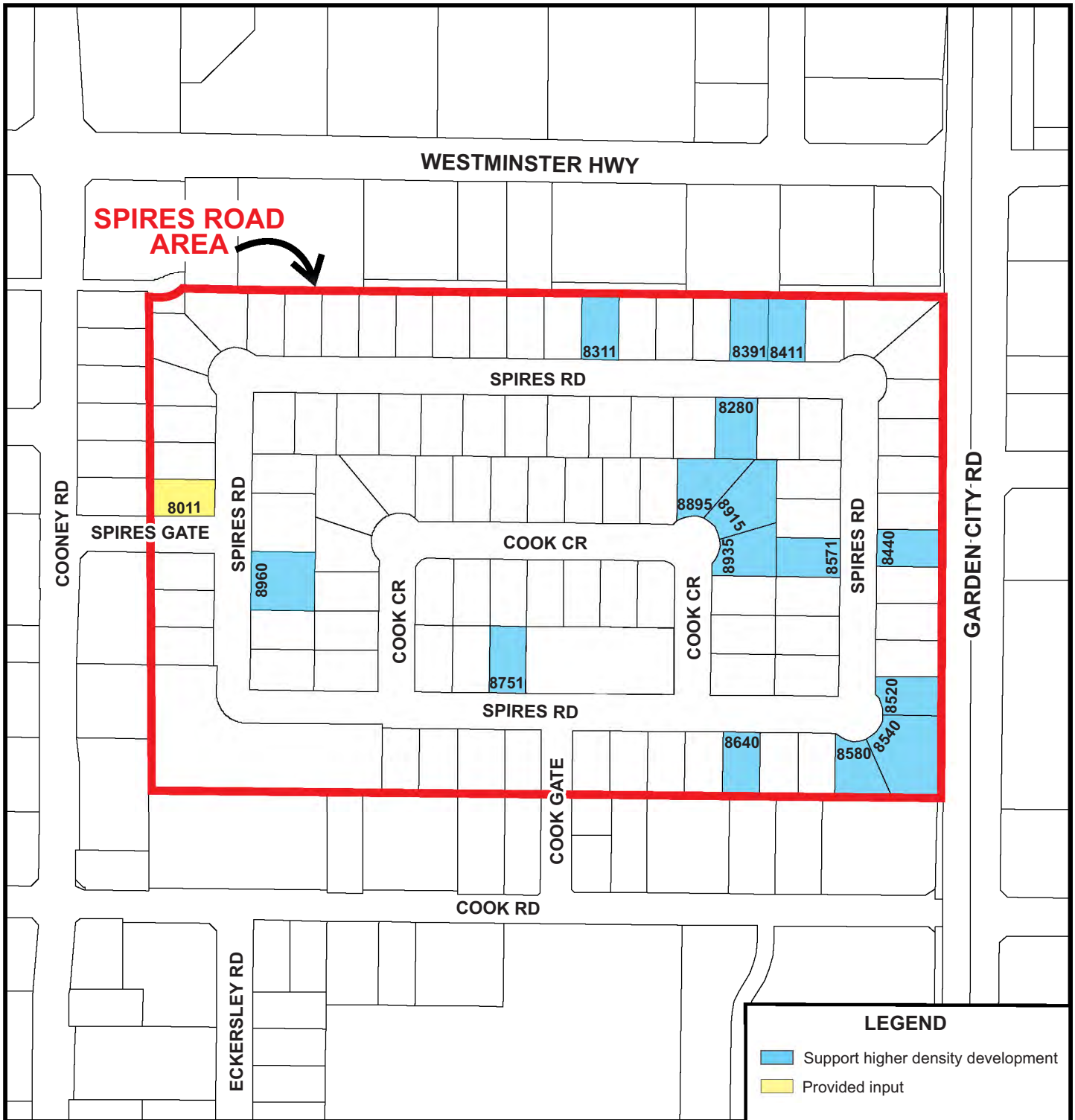
- For urgent matters such as water and sewer problems, road obstructions, downed trees or other problems, please contact Public Works at 604-270-8721.
- For construction activity noise, dispersion of rodents during construction, health hazards related to air and water or sewage disposal problems, please contact Vancouver Coastal Health – Richmond Health Services at 604-233-3147 or RCMP non-emergency line (after hours) at 604-278-1212.
- For building permit enquiries, construction vibration, neighbouring fencing and property line encroachment, and tree protection during construction, please contact Building Approvals at 604-276-4285, or Tree Protection at 604-247-4684, or City Street Trees at 604-244-1208.
- For unsightly or excessive accumulation of construction debris, and parking enquiries at construction site, please contact Community Bylaws at 604-276-4345.
- For soil on roadway or sidewalk, pollution impact on drainage ditches or storm sewers, please contact Engineering at 604-276-4289.

Yours truly,



Edwin Lee
Planner 2
City of Richmond

EL:cas



Consultation - Higher Density in the Spires Road Area

Original Date: 05/24/22

Revision Date:

Note: Dimensions are in METRES

Consultation Feedback – Summary (Spires Road)

Letters sent out: 162 letters mailed out

Response Rate: 13 property owners (representing 17 properties/including 16 single family dwellings and one duplex)

Summary of Consultation Feedback:

- 1 comment on the “overabundance of income controlled rentals and non-market housing/social housing units could negatively impact property values”.
- 1 comment on the fact that an overabundance of non-market housing may cause the neighbourhood to deteriorate if adequate social support services are not available.
- 1 suggestion that non-market or affordable housing should not be mixed with strata or market rental units in the same building; they should be provided in a stand-alone building.
- 1 disagreement with higher density being linked to non-market housing; affordable housing for family who are not qualified for subsidized housing should be provided instead.
- 1 request that the city find a way to provide more “more affordable”/starter-home units for ownership.
- 1 concern with potential on-street parking shortage caused by new developments and higher density.
- 1 request to keep the existing road network and not to close the eastern section of Spires Road as per the current area plan.
- 1 suggestion that the City should stop issuing building permits for new single family construction in the area to avoid further delaying higher density developments.
- 1 recommendation to maximize building footprint on the ground and provide outdoor spaces on the top of the podium or building instead.
- 2 comments that it takes so long for the City to review the area plan and allow for higher density.

There were also 3 comments related to parking, which were forwarded to Transportation and Community Bylaws for response:

- 2 comments related to the fact that construction parking is destroying the lawn area within the city boulevard and leaving a mess.
- 1 comment on the lack of enforcement on parking restrictions in the area.

CCAP Land Use Designations Map - Spires Road and Surrounding Area



- Spires Road Area
- Sub Area B1 - High Density Townhouses 1.2 FAR 15m Max Height
- Sub Area B2 - Mid-Rise Residential (4-8 storeys) 2.0 FAR 25 m Max Height
- Sub Area B3 - High Rise Residential 3.0 FAR 45 m Max Height
- Sub Area B4 - High-Rise Commercial & Mixed Use 4.0 FAR 45 m Max Height
- Park
- School
- Proposed Streets

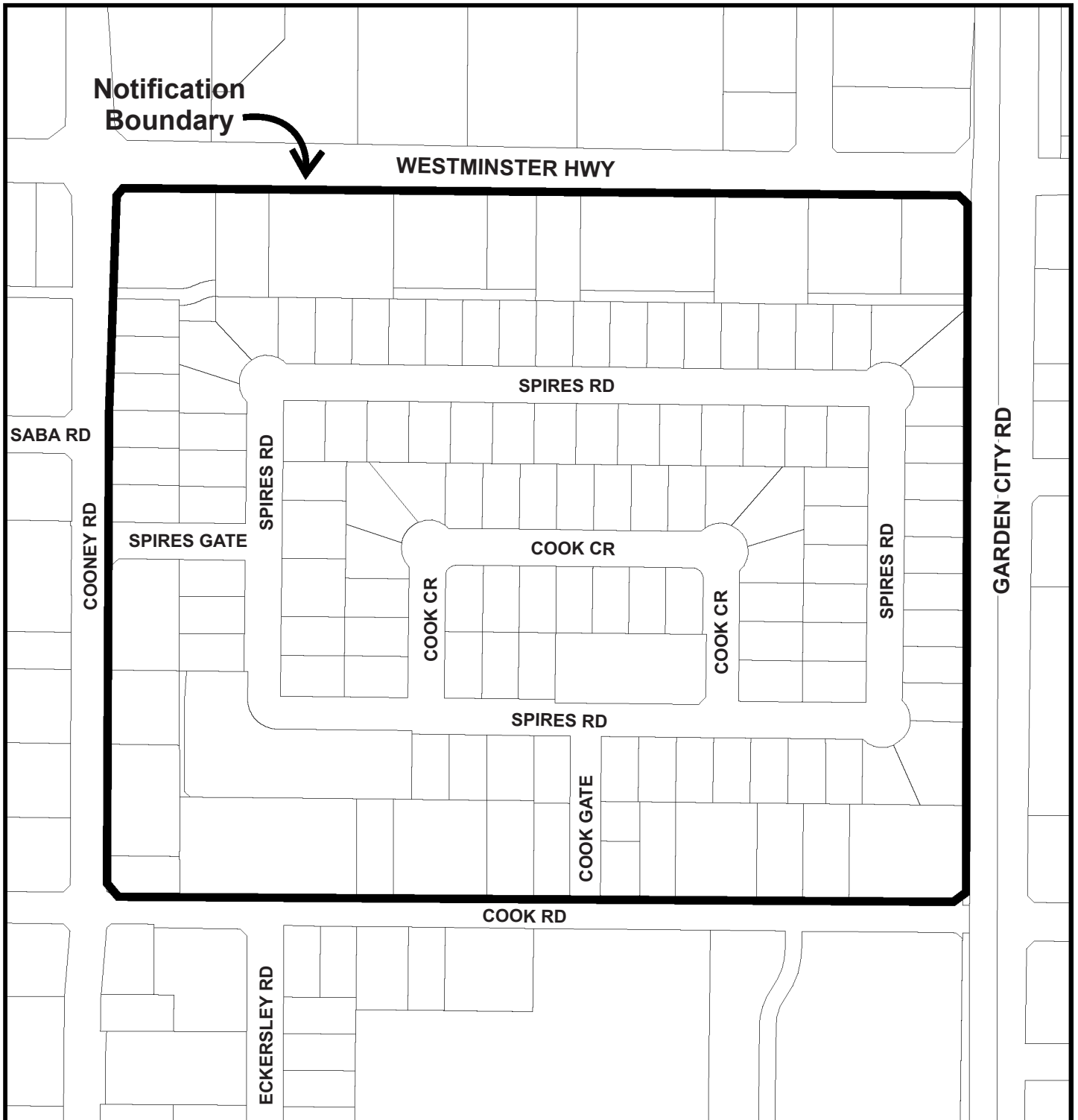
OCP Consultation Policy

Staff have reviewed the proposed OCP amendments, with respect to the *Local Government Act* and the City's OCP Bylaw Preparation Consultation Policy No. 5043 requirements and recommend that this report does not require referral to external stakeholders. The table below clarifies this recommendation as it relates to the proposed OCP amendment.

Stakeholder	Referral Comment (No Referral necessary)
Agricultural Land Commission (ALC)	No referral necessary because the Land Reserve is not affected.
Richmond School Board	Will be referred to the Board of Education of School District No. 38 (Richmond) for comment and response by July 18, 2022.
The Board of Metro Vancouver	No referral necessary because the Regional District is not affected.
The Councils of adjacent Municipalities	No referral necessary because adjacent municipalities are not affected.
First Nations (e.g. Sto:lo, Tsawwassen, Musqueam)	No referral necessary because First Nations are not affected.
TransLink	No referral necessary because the proposed amendments will not result in significant road network changes.
Port Authorities (Vancouver Port Authority and Steveston Harbour Authority)	No referral necessary because the Port is not affected.
Vancouver International Airport Authority (VIAA) (Federal Government Agency)	No referral necessary because the proposed amendments do not affect Transport Canada's maximum permitted building height or the OCP Aircraft Noise Sensitive Development (ANSO) Policy.
Richmond Coastal Health Authority	No referral necessary because the Health Authority is not affected.
Community Groups and Neighbours	A Public Hearing notice will be sent to all owners and residents in the Spires Road area to comment on the proposed OCP amendment at a Public Hearing.
All relevant Federal and Provincial Government Agencies	No referral necessary because Federal and Provincial Government Agencies are not affected.



City of Richmond



Spires Road Area Market Rental Policy - Notification Area Map

Original Date: 05/25/22

Revision Date:

Note: Dimensions are in METRES



Regular Council
Monday, June 27, 2022

11. REFERRAL RESPONSE: SPIRES ROAD AREA PROPOSED RENTAL TENURE & DENSITY INCREASES

(File Ref. No. 12-8060-20-010190, 08-4045-20-10) (REDMS NO. 6904985, 6923828, 6822160, 6907728, 6905889, 6905567)

R22/12-7

It was moved and seconded

(1) That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, which proposes to amend Schedule 2.10 (City Centre Area Plan) by:

- *designating the area bounded by Westminster Hwy, Garden City Road, Cook Road and Cooney Road as “Urban Centre T5” and “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial”; and*
- *establishing a rental tenure overlay and supporting policies, which outline density increases associated with secured rental tenure for properties in and adjacent to Spires Road, as described in the attached report titled “Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases”;*

be introduced and given first reading;

(2) That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, having been considered in conjunction with:

- *the City’s Financial Plan and Capital Program;*
- *the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans;*

is hereby found to be consistent with said program and plans, in accordance with Section 477(3)(a) of the Local Government Act;

(3) That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby found not to require further consultation;



Regular Council
Monday, June 27, 2022

- (4) *That instream rezoning applications that are received prior to adoption of Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190, may be exempt from the Spires Road Area Market Rental Policy provided the application achieves first reading within one year of the amendment bylaw being adopted and final adoption and issuance of a Development Permit within one year following the associated Public Hearing;*
- (5) *That staff report back to Council regarding key findings related to the implementation of updates to the City Centre Area Plan for the Spires Road area after the policy provisions are in place for one year; and*
- (6) *That staff be directed, on an interim basis, to consider development applications within the Arterial Road Land Use Policy that would allow higher densities provided that all of the additional density is used for rental housing, and that this interim measure becomes a foundation for the overall policy review of the Arterial Road Land Use Policy as part of the Official Community Plan targeted review to secure more rental along designated Arterial Road, in particular near Neighbourhood Service Centres and frequent transit routes.*

The question on the motion was not called as discussion ensued regarding (i) providing more incentives to developers, (ii) staff will report back to council in one year, (iii) the proposed Spires Road policy could become a template for other areas, (iv) the school district is aware of the policy and staff will address the impact with them with each application, (v) the need for public consultation of the Spires area residents impacted by this policy, (vi) the requirement for additional green space, (vii) reviewing this policy in the context of the Official Community Plan (OCP), (viii) the impact of the economic climate on development, and (ix) the lack of commercial services in the immediate planned area.

In response to queries from Council staff advised that the OCP review is in its first phase of context analysis and research and that staff anticipate bringing forward a first draft of the OCP for Council review at the end of 2023. Staff also advised that they will be presenting this policy to the Urban Development Institute this week. As a result of the discussion the following **referral** motion was introduced:



Regular Council
Monday, June 27, 2022

R22/12-8

It was moved and seconded

That the staff Report Titled Referral Response: Spires Road Area Proposed Rental Tenure & Density Increases by the Director of Policy Planning, dated June 3, 2022 be referred back to staff to be reviewed in the context of the Official Community Plan review.

Question on the referral motion was not called as discussion ensued regarding (i) the need for a plan for green space, (ii) community consultation of the area, and (iii) options for a comprehensive plan for all of Richmond, not just one area.

The question on the referral motion was then called and **DEFEATED** with Mayor Brodie and Cllrs: Au, Day, Loo, McNulty, Steves and Wolfe opposed.

The question on the main motion was then called and **CARRIED** with Cllr. McPhail opposed.



**Richmond Official Community Plan Bylaw 7100
Amendment Bylaw 10190**

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

1. Richmond Official Community Plan Bylaw 7100, Schedule 2.10 (City Centre Area Plan), is amended by:
 - a) On page 3-3, in the Development Permit Sub-Area Key Map, extending “B2 Mixed Use – Mid-Rise Residential & Limited Commercial” to include the area bounded by Westminster Highway, Garden City Road, Cook Road and Cooney Road and identified as “Urban Centre T5 (25m)” and “Spires Road Area” on “Schedule A attached to and forming part of Bylaw 10190”;
 - b) On page 3-44, in Section 3.2.5 Sub-Area B.1, removing the area bounded by Westminster Highway, Garden City Road, Cook Road and Cooney Road from “Sub-Area B.1 Mixed Use – Low-Rise Residential & Limited Commercial”;
 - c) On page 3-46, in Section 3.2.6 Sub-Area B.2, designating the area bounded by Westminster Highway, Garden City Road, Cook Road and Cooney Road and identified as “Urban Centre T5 (25m)” and “Spires Road Area” on “Schedule A attached to and forming part of Bylaw 10190” as “Sub-Area B2 Mixed Use – Mid-Rise Residential & Limited Commercial” and “Spires Road Area”;
 - d) On page 3-46, in Section 3.2.6 Sub-Area B.2, repealing the following reference to the boundary in the map legend:

“Capstan Station Bonus

Development sites for which net density is permitted to exceed 2.0 FAR in the Capstan Station Bonus area may be considered under 3.2.7 Sub-Area B.3.”; and

Replacing it with:

“Capstan Station Bonus and Spires Road Area

Development sites in these areas for which net density is permitted to exceed 2.0 FAR may be considered under 3.2.7 Sub-Area B.3.”

- e) On page 4-3, inserting policy 4.1.m) as follows:

“Residential Rental Tenure – Spires Road Area

No rezoning of development sites will be supported in the Spires Road Area (Brighthouse Village) unless the owner provides rental housing on the

development site, secured with residential rental tenure zoning, as determined to the satisfaction of the City.”

- f) On the “Generalized Land Use Map (2031)”, designating the area bounded by Westminster Highway, Garden City Road, Cook Road and Cooney Road and identified as “Urban Centre T5 (25m)” and “Spires Road Area” on “Schedule A attached to and forming part of Bylaw 10190” as “Urban Centre T5” and “Spires Road Area”;
- g) In the Land Use Maps section of the bylaw, inserting “Overlay Boundary – Rental Housing Area Map (2031)” as shown in “Schedule B attached to and forming part of Bylaw 10190”.
- h) Replacing the Specific Land Use Map: Brighthouse Village (2031) with “Schedule A attached to and forming part of Bylaw 10190”;
- i) Repealing the existing text in the “Specific Land Use Map: Brighthouse Village – Detailed Transect Descriptions” with regard to “Maximum Average Net Development Site Density” for “Urban Centre T5 (25m)” and replacing it with the following:

- For Non-Residential Uses: 2.0.

- For Residential and Mixed Uses including Residential:

- Within the Spires Road Area: 2.0 minimum comprising:

- a) base: 1.2, subject to the provisions of the City’s Affordable Housing Strategy and Market Rental Housing Policy, except as specifically provided for in the Spires Road Area; and
- b) residential rental tenure housing: 0.8, provided that at least 50% is secured for low end market rental housing and the balance is market rental housing, unless otherwise approved by Council.

- Elsewhere:

- a) base: 1.2;
- b) Affordable Housing Bonus: 0.8.

Additional density, where applicable:

- Institution: To be determined on a site specific basis via City development application processes.
- Specifically for 6331 and 6351 Cooney Road: 2.67.
- Spires Road Area rental tenure housing bonus: 1.0, provided that at least 50% is secured for low end market rental housing and the balance is market rental housing, unless otherwise approved by Council.”

- j) On page A-1, inserting into Appendix 1 – Definition, under the sub-heading Overlays, the following:

“Spires Road Area

An area that:

- comprises the Spires Road Area (Brighthouse Village);
- requires a minimum density of 2.0 FAR comprising:

- a) base: 1.2, subject to the provisions of the City's Affordable Housing Strategy and Market Rental Housing Policy, except that the OCP Market Rental Housing Policy density bonus shall not apply.
 - b) residential rental tenure housing: 0.8, provided that at least 50% is secured for low end market rental housing and the balance is market rental housing, unless otherwise approved by Council.
- on a site specific basis via City development application processes, may provide for additional density for residential rental tenure housing only, provided that the following conditions apply:
 - a) the maximum additional density shall not exceed 1.0 FAR;
 - b) the maximum total density on the net development site shall not exceed 3.0 FAR;
 - c) at least 50% of the additional density is constructed as low end market rental housing and the balance is constructed as market rental housing, unless otherwise approved by Council;
 - d) the additional density shall result in a community benefit to the satisfaction of the City;
 - e) the scale, form, and character of development shall be complementary to that intended for neighbouring properties under the Area Plan to the satisfaction of the City; and
 - f) the minimum net development site size is 4,000 m² (1.0 ac)."
- k) Making various text and graphic amendments to accommodate the identified bylaw amendments and to ensure consistency with the Generalized Land Use Map (2031) and Specific Land Use map: Brighthouse Village (2031), as amended.

2. This Bylaw may be cited as **"Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 10190"**.

FIRST READING


PUBLIC HEARING

SECOND READING

THIRD READING

ADOPTED

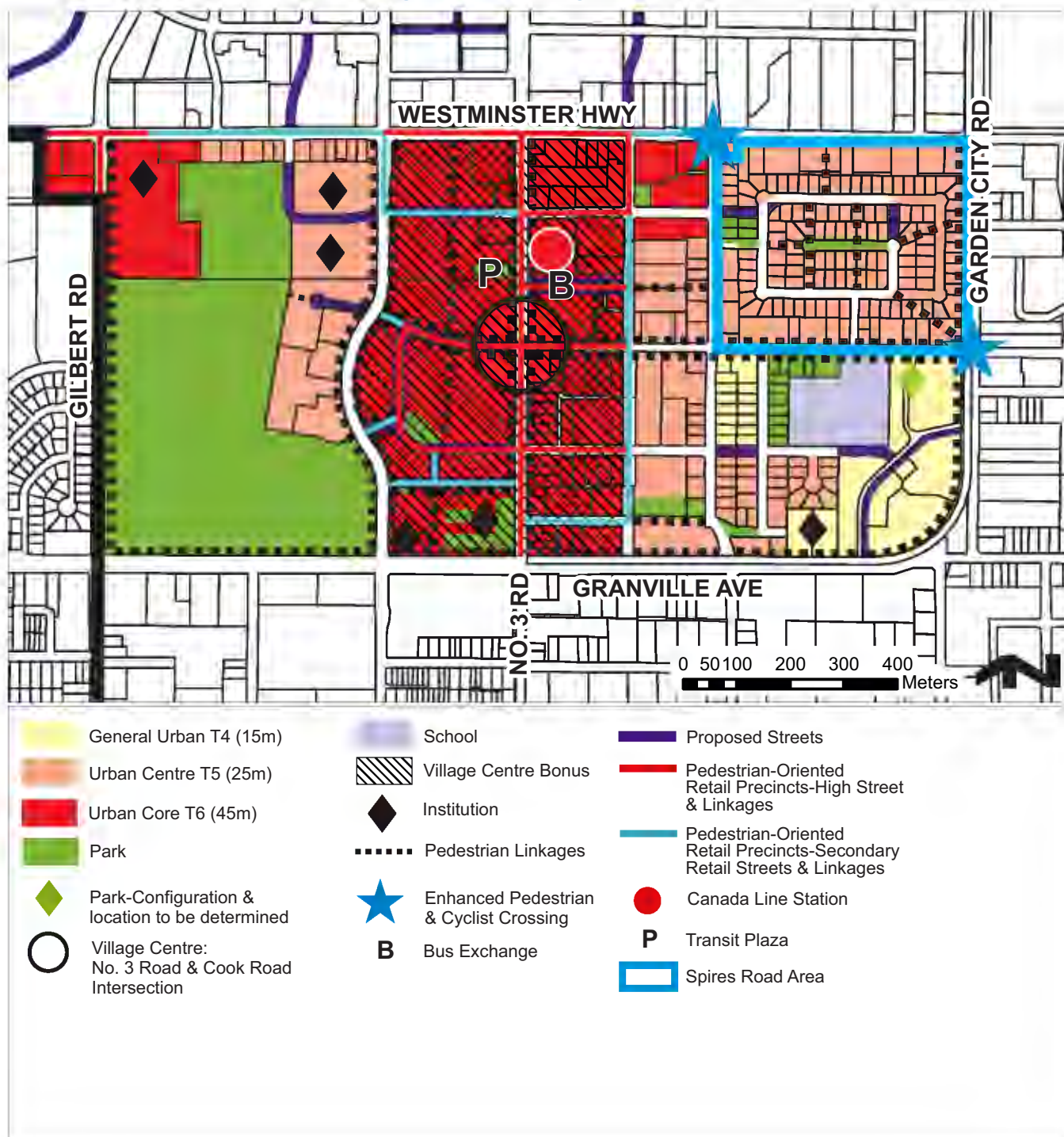
JUN 27 2022

CITY OF RICHMOND
APPROVED by SG
APPROVED by Manager or Solicitor 

MAYOR

CORPORATE OFFICER

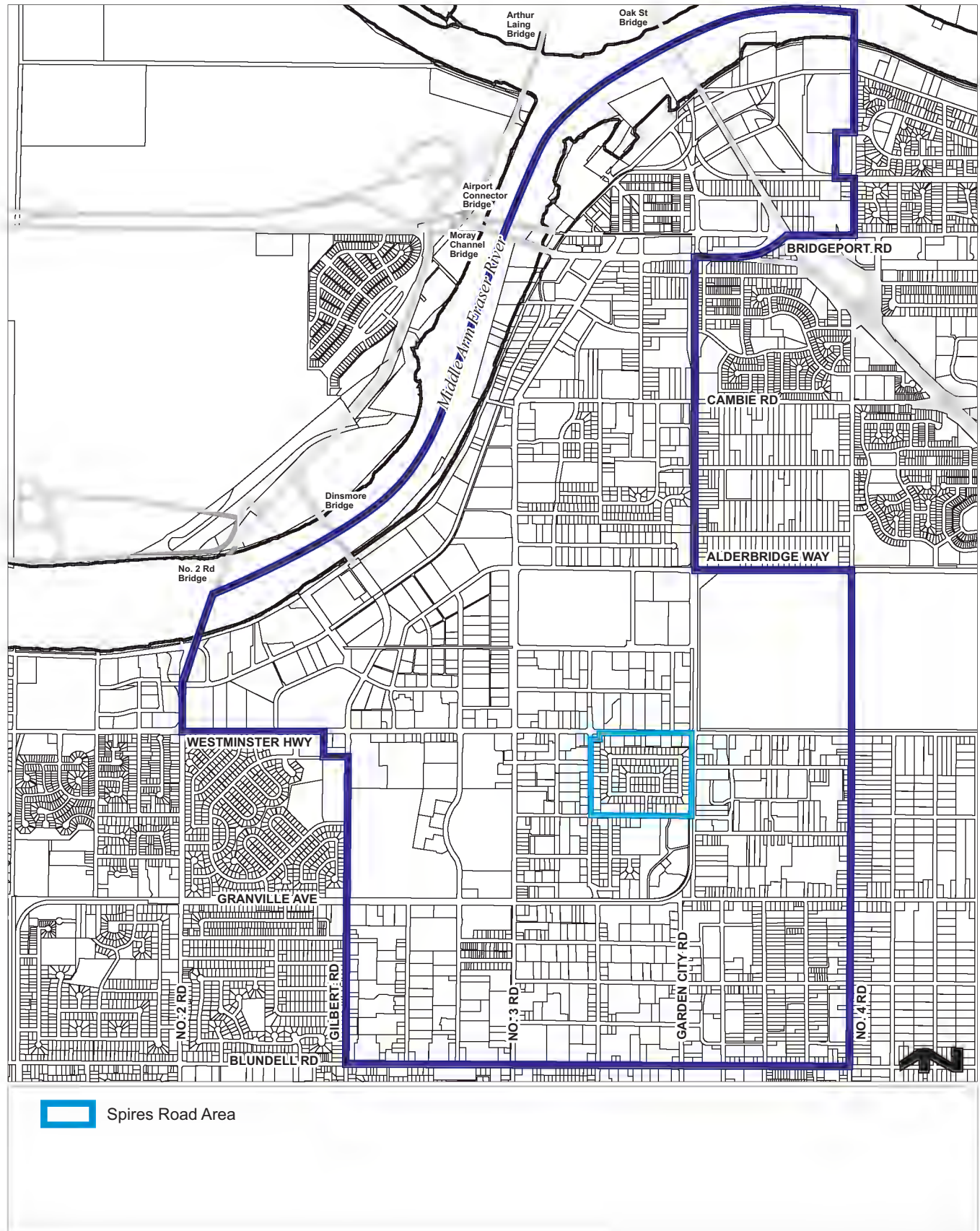
Specific Land Use Map: Brighthouse Village (2031)



Bylaw 10020
2019/05/21

Maximum building height may be subject to established Airport Zoning Regulations in certain areas.

Overlay Boundary – Rental Housing Area Map (2031)





To:	General Purposes Committee	Date:	May 9, 2022
From:	Peter Russell, Director, Sustainability and District Energy	File:	10-6125-07-02/2022-Vol 01
Re:	2022 BC Energy Step Code and GHG Requirements for New Buildings		

Staff Recommendation

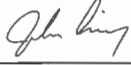


1. That Building Regulation Bylaw 7230, Amendment Bylaw 10365, which amends Sections 10.1.1 and 16.1 regarding updates to existing BC Energy Step Code and greenhouse gas intensity (GHGI) requirements for Part 9 residential buildings and Part 3 residential, hotel, commercial and office buildings, be introduced and given first reading;
2. That for buildings requiring a Development Permit, notwithstanding the adoption of Building Regulation Bylaw 7230, Amendment Bylaw 10365:
 - (a) If a Development Permit is issued prior to July 1, 2022, the owner may, while their Development Permit remains valid, apply for a Building Permit in compliance with energy efficiency requirements applicable prior to the adoption of Bylaw 10365; or
 - (b) If an acceptable Development Permit application has been submitted to the City prior to adoption of Bylaw 10365, is considered and endorsed by the Development Permit Panel prior to July 1, 2023, and has a complete Building Permit application acceptable to the City submitted prior to July 1, 2023, the owner may apply for a Building Permit in compliance with energy efficiency requirements applicable prior to adoption of Bylaw 10365.
3. That Official Community Plan Bylaw 9000, Amendment Bylaw 10364, which amends Section 14.2.10 to Schedule 1 (Development Permit Guidelines) regarding the use of design approaches that improve the energy performance of buildings, be introduced and given first reading;
4. That Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364, having been considered in conjunction with:
 - a. the City's Financial Plan and Capital Program; and
 - b. the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans;is hereby found to be consistent with said program and plans, in accordance with Section 477(3)(a) of the Local Government Act; and
5. That Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364, having been considered in accordance with Section 475 of the Local Government Act and the City's Official Community Plan Bylaw Preparation Consultation Policy 5043, is found not to require further consultation.

Peter Russell, MCIP RPP
Director, Sustainability and District Energy
(604-276-4130)

May 9, 2022

- 2 -

Att. 4

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Law	<input checked="" type="checkbox"/>	
Building Approvals	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

This report includes a proposed amendment to the Building Regulation Bylaw 7230 to achieve Step Code requirements for new Part 9 residential buildings and Part 3 buildings, including multi-unit residential buildings and hotels/motels, offices and commercial uses as well as retail uses. The proposed amendment continues to expand the two-option approach, under which builders and developers have the choice to build to the prescribed Step Code performance requirement or request a one-Step relaxation if the new building will be installed with, or connected to, or connected to a District Energy Utility owned by the City (LCES). More information can be found in Attachment 1 regarding Richmond's implementation of the Step Code to date.

This report also includes a proposed amendment to the City's Official Community Plan (OCP) with respect to Development Permit (DP) Guidelines encouraging design approaches and technologies that improve the energy performance of buildings. This amendment addresses the expected influence of higher levels of energy performance on building design and clarifies that compliance with a given Step of the BC Energy Step Code shall not compromise the intent of the City's well-established form and character guidelines.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

This report supports the implementation of Richmond's Community Energy and Emissions Plan 2050, and OCP emission reduction policies through:

Strategic Direction 3: Carbon Neutral New Buildings

Action Categories:

- ☒ Accelerate Transition to the Top Level of Building Performance
- ☒ Support Continuous Improvement to the BC Energy Step Code
- ☒ Advance Implementation of Low Carbon Energy Systems

Analysis

The following section details proposed changes to the Building Regulation Bylaw for Part 9 and Part 3 buildings in Richmond. Attachment 1 has more information on implementation of the Step Code in Richmond to date. Part 9 buildings include single family dwellings, duplexes and multiplexes including townhomes, small apartments whereas Part 3 buildings include large wood frame and concrete residential buildings, offices and hotels. Anticipated provincial opt-in greenhouse gas (GHG) emission requirements are also considered for future bylaw changes for both Part 9 and Part 3 buildings; based on developer feedback, providing advance notice of future proposed bylaw changes is essential for project planning. Recommended changes to form and character guidelines, as set out in the DP Guidelines within the City's OCP, that support a transition to higher levels of the Step Code are also outlined below.

Proposed Building Regulation Bylaw Amendment for Part 9 Residential Buildings

The proposed Bylaw Amendment for July 1, 2022 (Table 1) uniformly raises minimum BC Energy Step Code performance requirements for all Part 9 residential buildings. Staff engaged Richmond's design and construction community on these proposed changes at a series of virtual Builder Breakfast workshops held from mid-2021 to early 2022. The proposed amendment would include an administrative requirement limiting the use of the Percent Better than Reference House metric only to buildings reaching the highest Step Code level (Step 5), consistent with Council direction. This approach is consistent with the City's ability to administratively set special performance conditions at various stages of Step Code implementation, if at each stage there is at least one option with no such condition.

Table 1 shows current and proposed requirements for Part 9 residential buildings for July 2022, as well as current thinking about timing of future increases from 2023 to 2027. As a first step in transitioning to the Province's forthcoming greenhouse gas intensity (GHGI) requirements, staff recommend that for all applications accepted on or after July 1, 2022, the City implement a new LCES definition identical to the Province's forthcoming "Low" GHGI standard. Attachment 2 has more details on the Province's proposed opt-in GHGI requirements.

Table 1: Current, Proposed and Future Step Code Requirements for Part 9 Residential Buildings

	Current Bylaw	Proposed Bylaw	Future Bylaw Amendments Subject to Council Approval		
	<i>Dec. 2020</i>	<i>July 2022</i>	<i>July 2023</i>	<i>Jan. 2025</i>	<i>Jan. 2027</i>
Single Family Dwellings, Duplexes and Multiplexes including Townhomes & Apartments	Step 3 -or- Step 2 + LCES <6 kg/m ²	Step 5 -or- Step 4 -or- Step 3 + LCES <2.5 kg/m ²	Step 5 + BC GHGI: Mid Carbon -or- Step 4 + BC GHGI: Low Carbon -or- Step 3 + BC GHGI: Zero Carbon Ready	Step 5 + BC GHGI: Low Carbon -or- Step 4 + BC GHGI: Zero Carbon Ready	Step 5 + BC GHGI: Zero Carbon Ready

Consultation

Staff undertook extensive online consultation with Part 9 homebuilders, designers and energy advisors, starting with an information session in May 2021, followed by two workshops (September 8, 2021 and March 3, 2022) to assess and review proposed 2022 Building Regulation Bylaw changes. This engaged 200 participants in total, with live polling on three potential options for proposed 2022 residential requirements.

Proposed Building Regulation Bylaw Amendment for Part 3 Buildings

The proposed Bylaw Amendment for July 2022 also sets requirements for all Part 3 buildings in Richmond regulated by the BC Energy Step Code. These changes are in general agreement with

proposed future Step Code requirements signalled in a Report to General Purposes Committee on October 19, 2020. These requirements include an optional one-Step relaxation in Step Code levels available to applicants that install an on-site renewable energy system providing a minimum 70% of the building's annual heating, cooling and domestic hot water energy demand, or that connect to a low carbon energy system, including the City's district energy utility. With approval of the proposed amendment, this relaxation option would be available to all Part 3 Step Code regulated buildings.

Table 2 shows proposed July 1, 2022 requirements for Part 3 buildings and current thinking about future energy and GHG emission requirements for each building type from 2023 to 2027.

Table 2: Current, Proposed and Future Step Code Requirements for Part 3 Buildings

	Current Bylaw	Proposed Bylaw	Future Bylaw Amendments Subject to Council Approval		
	<i>Dec. 2020</i>	<i>July 2022</i>	<i>July 2023</i>	<i>Jan. 2025</i>	<i>Jan. 2027</i>
Office and Retail	Step 2	Step 3 -or- Step 2 + LCES	Step 3 + BC GHGI -or- Step 2 + BC GHGI	Step 3 + BC GHGI	Step 3 + BC GHGI
Residential: Wood Frame (mid-rise)	Step 3	Step 4 -or- Step 3 + LCES	Step 4 + BC GHGI -or- Step 3 + BC GHGI	Step 4 + BC GHGI	Step 4 + BC GHGI
Residential: Concrete Frame	Step 3 -or- Step 2 + LCES	Step 3 -or- Step 2 + LCES	Step 3 + BC GHGI -or- Step 2 + BC GHGI	Step 4 + BC GHGI -or- Step 3 + BC GHGI	Step 4 + BC GHGI
Hotels and Motels	Step 3 -or- Step 2 + LCES	Step 3 -or- Step 2 + LCES	Step 4 + BC GHGI -or- Step 3 + BC GHGI	Step 4 + BC GHGI -or- Step 3 + BC GHGI	Step 4 + BC GHGI

Consultation

For Part 3 developers, staff provided updates on proposed 2022 Energy Step Code requirements and relaxations for low carbon energy systems at UDI-Richmond Liaison Committee meetings on September 28, 2021 and January 19, 2022. These bylaw requirements were covered again during a 90-minute workshop with UDI members on March 8, 2022, which included a review of

findings from Richmond's building form and character review, as well as expected timing of adoption of the GHGI framework in 2023. Presentations for feedback were also made to Richmond's Advisory Design Panel on August 18, 2021 and on March 23, 2022.

In-Stream Provisions for Development Permit Applications

When Richmond introduced new BC Energy Step Code requirements in September 2018, and December 2020, Council approved in-stream provisions for buildings requiring a Development Permit (DP). Staff recommend similar in-stream provisions with respect to the proposed bylaw amendment, such that an owner would be permitted to submit a Building Permit application in compliance with prior requirements if:

- a) a DP was issued prior to July 1, 2022, and remains valid; or
- b) an acceptable DP application is submitted prior to adoption of Amendment Bylaw No. 10365, and, prior to July 1, 2023, the DP is considered and endorsed by the Development Permit Panel and an acceptable Building Permit application is submitted to the City. The Building Permit application must include architectural drawings showing envelope details and schedule of mechanical systems in compliance with Part 10 (Step Code section) of the BC Building Code (BCBC).

High-Performance Building Standards and Richmond's Development Permit Guidelines

As the City implements higher Step Code levels, building design is expected to increasingly favour simpler massing, lower window-to-wall ratios, increased use of sun shades, increased attention to solar orientation, better insulated wall and window systems, and thermally-broken balconies. This design shift will affect building types differently. For example:

- Townhouses already achieve the lower window-to-wall ratio encouraged by Step Code, but often have highly articulated building envelopes (e.g., dormers and bay windows) that can negatively impact energy performance; and
- High-rise and mid-rise buildings typically have the simpler massing encouraged by Step Code, but office buildings often have high-window-to-wall ratios and multi-family residential buildings have balconies, both of which can pose challenges for efficient heating and cooling.

Staff compared current form and character guidelines with high-performance building standards such as Passive House, Net Zero Energy Ready. Potential conflicts between high-performance building standards and the City's guidelines are negligible but staff recommend amending the guidelines to better support development proponents and general public as the City transitions to higher levels of the Step Code. Like the Step Code, Richmond's form and character DP Guidelines are generally performance-based and not prescriptive, which provides opportunities to explore alternative ways of satisfying energy requirements without compromising other City objectives. For example:

- Townhouses may choose between bay windows and dormers (rather than including both) and/or may choose to include decorative porches, changes in materials or colour, or other means of articulation that do not compromise energy performance;
- Office buildings may choose to use better insulated window systems rather than reducing their window-to-wall ratio; and

- Larger residential buildings may choose balcony designs that limit heat loss through the envelope by using thermally-broken concrete slabs, hung, pinned or self-supported balconies.

Attachment 3 provides further insight into potential built form changes, which staff have summarized into a table of possible friction points and design trends for each building type subject to the Step Code. In addition, resource sheets have been developed highlighting the range of potential design and technology options for achieving high performance in typical new buildings in Richmond (see Attachment 4).

Proposed OCP (Schedule 1) DP Guidelines Amendment Bylaw

To help clarify the City's intent, staff recommend that sub-section 14.2.10 (Green Buildings and Sustainable Infrastructure) within Section 14 (Development Permit Guidelines), of the OCP be amended by:

- Removing wording qualifying "green building and sustainable infrastructure" as a "voluntary undertaking, where feasible";
- Stating that "applicable new buildings will be designed and constructed to meet the BC Energy Step Code" and including a reference table of high-performance building design considerations;
- Strengthening existing language on the need to integrate energy performance considerations at the start of the building design process, stating that "through rezoning, Development Permit and other permit approval processes, proposed buildings shall demonstrate compliance with the applicable requirements of the BC Energy Step Code to the satisfaction of the City (e.g. by providing energy modelling outputs)"; and,
- Clarifying that compliance with the Step Code will not compromise the intent of any of the Development Permit Guidelines contained in Schedules 1 or 2 of the OCP, and that any remedial actions taken during construction to achieve compliance with the Step Code shall not compromise the intent of the Development Permit Guidelines applicable to the building.

OCP Consultation Policy

Should Council grant first reading to the amendment bylaws, the amendment bylaws will be forwarded to a Public Hearing where any resident or interested party will have an opportunity to comment. The public will have the opportunity to comment further on all proposed bylaw amendments at the Public Hearing. Public notification for the Public Hearing will be provided in accord with the *Local Government Act*.

Staff have reviewed the proposed OCP amendments with respect to the *Local Government Act* and the City's OCP Bylaw Preparation Consultation Policy 5043 requirements, and recommend that this report does not require referral to external stakeholders. Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby found to not require further consultation.

Next Steps

Staff will monitor compliance with new Step Code and forthcoming GHGI requirements to understand the impact on permitting procedures and address any building performance, market or regulatory issues that may arise during the construction phase. Staff will also monitor the affects of high performance standards on the form and character of buildings. The Province of BC has indicated that an opt-in framework for Provincial greenhouse gas emissions limits should be available for use by local governments in 2023. To support the transition toward high performance, low-emissions new buildings, staff will continue to offer knowledge and capacity-building opportunities through virtual Builder Breakfast events, UDI-Richmond developer webinars, and other educational opportunities.

Finally, staff will update the following bulletins to include the July 1, 2022 Energy Step Code requirements: Building-37 Energy Step Code: Part 9 Buildings Overview; and Building-40 Energy Step Code: Part 3 Buildings. Staff will also create a new bulletin regarding revisions to Development Permit Guidelines (Section 14.2.10) on form and character consideration for low carbon, highly energy efficient new buildings using materials found in Attachment 4.

Financial Impact

None.

Conclusion

Implementing new BC Energy Step Code requirements for Part 9 and Part 3 buildings in July 2022 will advance the City's policy objectives for higher energy efficiency and reduce greenhouse gas emissions in new construction. The proposed Building Regulation Bylaw amendments provide a platform to integrate anticipated Provincial GHGI standards when they become available.

Council policy direction is for Richmond to reach the top performance level of the Energy Step Code, and achieve near zero emissions several years ahead of the Provincial target in the CleanBC Roadmap. To support a successful transition to high-performance buildings, staff recommend that the existing Green Buildings and Sustainable Infrastructure subsection of the General Considerations be amended within the form and character section of the Development Permit Guidelines in the Official Community Plan Bylaw No. 9000, included in this report.



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- Att. 1: Step Code Implementation in Richmond
2: Proposed Provincial Opt-in Greenhouse Gas Emissions Intensity (GHGI) Standards
3: Step Code / Possible Development Trends / February 14, 2022
4: Key Considerations for High Performance Buildings

Step Code Implementation in Richmond

The City's implementation of the BC Energy Step Code is nested within Provincial policy initiated by the 2018 CleanBC Plan signaling that a "net zero energy-ready" level of efficiency would be required for all new buildings in the 2032 BC Building Code, specifically:

Compared to the current base BC Building Code, new buildings will be:

- 20 per cent more energy efficient by 2022,
- 40 per cent more energy efficient by 2027, and
- 80 per cent more energy efficient by 2032, the net-zero energy ready standard.

Richmond was one of the first municipalities to adopt the BC Energy Step Code into local regulation. In July 2018, Council amended Building Regulation Bylaw 7230 to implement energy efficiency requirements of the BC Energy Step Code for new Part 9 residential buildings that included single detached houses, townhouses and small apartment buildings, and Part 3 multi-unit residential, office and commercial buildings. Council also approved amendments to the Official Community Plan (Schedule 1, Section 12.4, Energy) that included a schedule of future Building Regulation Bylaw amendments for 2020, 2022 and 2025, subject to future Council approvals, signaling the expected timing of higher BC Energy Step Code requirements and the City's greenhouse gas (GHG) reduction targets.

Richmond pioneered a two-option approach for Step Code implementation, under which builders and developers have the choice to build to the prescribed Step Code performance requirement or request a one-Step relaxation if the new building will be installed with, or connected to, a low-carbon energy system (LCES). This approach was first introduced for residential concrete towers in 2018, extended to Part 9 residential buildings and hotels/motels in 2020, and with Council approval, would be extended to mid-rise, wood-frame multi-unit residential buildings, commercial office and retail buildings on July 1, 2022.

In December 2020, Council approved amendments to Building Regulation Bylaw 7230 to implement incrementally higher Step Code requirements for new Part 9 residential buildings (per OCP direction), and added hotel and motel uses to Richmond's Step Code regulation.

Builders and developers have been regularly consulted with regarding the proposed timing of Step Code requirements in Richmond. Staff continue to receive positive feedback on Richmond's innovative options approach to Step Code regulation, which offers a relaxation in the default Step requirement to help drive installation of, or connection to, a low carbon energy system.

In 2022, City Council endorsed deeper GHG emission reduction targets for 2030 and 2050, through the renewed Community Energy and Emissions Plan 2050, and adopted the Official Community Plan Amendment Bylaw 10328, with a commitment to reduce citywide carbon emissions to 50% below 2007 levels by 2030, and achieve net zero GHG emissions by 2050.

Proposed Provincial Opt-in Greenhouse Gas Emissions Intensity (GHGI) Standards

In November 2020, a mandate letter from Premier John Horgan directed the Minister Responsible for Housing, David Eby, to “*build on our government's work to require new buildings and retrofits to be more energy efficient and cleaner by supporting local governments to set their own carbon pollution performance standards for new buildings.*” Correspondingly, the Province has been developing opt-in standards limiting GHG emissions in new buildings that would be included in a forthcoming revision to the BC Building Code in December 2022.

In 2021, the Province of BC brought forward a plan to accelerate climate action at the provincial scale through the CleanBC Roadmap to 2030. The following target was set for new buildings:

By 2030, all new buildings will be zero carbon, and all new space and water heating equipment will meet the highest standards for efficiency.

The 2022 BC Building Code update is expected to enter into force in mid-December 2022. The 20% more energy efficient Code requirement will apply to all Building Permit applications submitted after the in-force date, and will apply to all new buildings. For Step Code regulated Part 9 residential buildings, Step 3 is 20% more efficient, while for Part 3 buildings, Step 2 achieves 20% more energy efficiency across all building types.

Orderly transition to mandatory GHGI limits for new buildings

The Provincial process to introduce an opt-in framework of GHGI requirements for new buildings has been slower than expected. Staff understand that the proposed framework will be available for use by local governments in early 2023.

Having both BC Energy Step Code and a GHGI framework in the BC Building Code enables local governments to set both energy performance levels and carbon emission limits for most new buildings, eliminating the need to offer a Step Code relaxation as an incentive. Accordingly, Tables 1 and 2 and Figure 1 show how the City will integrate forthcoming Provincial greenhouse gas emission limits with Step Code requirements for new buildings, starting in 2023.

The GHGI framework uses a stepped approach similar to the BC Energy Step Code, providing local governments with flexibility to phase the transition to near zero emission buildings, with easier GHGI performance levels set initially, followed by incrementally higher performance requirements over time. This framework also allows local governments to set both energy performance levels via the BC Energy Step Code, as well as carbon emission limits for new buildings using the new GHGI framework.

A summary of the framework is included below, with three GHGI levels and the performance range (kilograms of CO₂e emitted per square meter annually) indicated for each level:

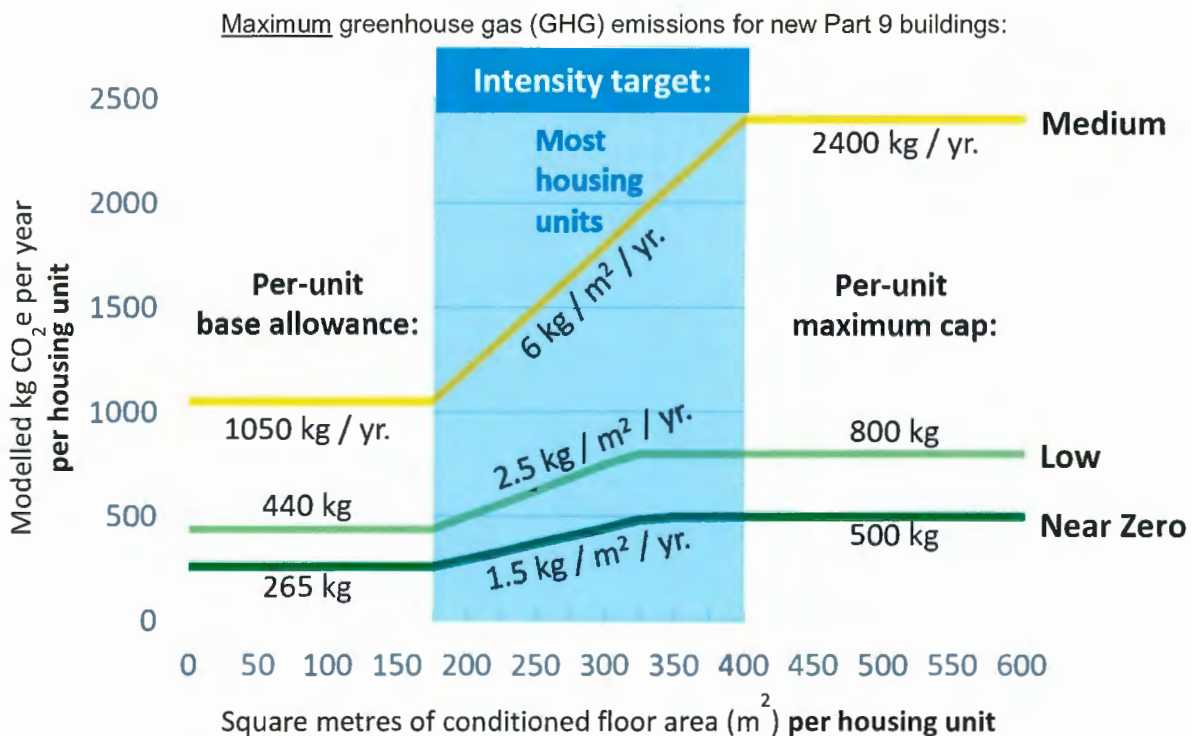
Table A-1: Proposed BC GHGI Framework – Intended Outcomes

Medium Carbon Emissions (‘Mid Carbon’)	Low Carbon Emissions (‘Low Carbon’)	Near Zero Carbon Emissions (‘Zero Carbon Ready’)
At least one major heating system is fully decarbonized; domestic hot water <u>or</u> space heating.	Both domestic hot water <u>and</u> space heating are fully decarbonized; natural gas may be used for cooking or peak heating.	All electric building; no natural gas uses.

Table A-2: Proposed BC GHGI Framework - Performance Requirements for Part 3 Buildings

Medium Carbon Emissions (‘Mid Carbon’)	Low Carbon Emissions (‘Low Carbon’)	Near Zero Carbon Emissions (‘Zero Carbon Ready’)
5 kg to 9 kg CO ₂ e / m ² / year (depending upon archetype)	2.5 kg to 4 kg CO ₂ e / m ² / year (depending upon archetype)	1.5 kg to 2 kg CO ₂ e / m ² / year (depending upon archetype)

Figure A-1: Proposed BC GHGI Framework - Performance Requirements for Part 9 Buildings



Per-unit base allowance: Even when their per-resident and total GHG emissions are relatively low, the limited floor space of small housing units means they often have higher GHG emissions *per square metre of conditioned floor space* than larger homes. Having a modest base allowance of GHG emissions for housing units levels the playing field for more-affordable small homes while ensuring overall GHG emissions remain low.

Intensity target: Larger housing units tend to have higher GHG emissions; there is more space to heat and cool, and they often have additional energy-consuming bathrooms. An intensity target based on the conditioned floor area (i.e. excluding unheated indoor spaces like garages) ensures a wide range of homes achieve comparable levels of GHG reductions performance.

Per-unit maximum cap: Experience shows that it is easier for very large housing units to meet a given GHG intensity target than mid-sized units, and even low per-metre intensity targets can produce large homes with high total and per-resident GHG emissions. Adding a maximum cap to GHG emissions per housing unit limits total and per capita GHGs from large homes without increasing compliance costs relative to smaller housing units.

STEP CODE / POSSIBLE DEVELOPMENT TRENDS / FEBRUARY 14 2022

GENERAL (COMMERCIAL & RESIDENTIAL)				
Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> More compact massing to reduce the overall size of the thermal envelope Simpler building and roof forms to enhance thermal performance Fewer architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> Varied forms (e.g., more complex residential and simpler commercial forms) Massing is visually broken up with recesses, stepping, and decorative projections 	<ul style="list-style-type: none"> Complex massing and projections can cause heat loss due to thermal bridging and/or increased wall area 	<ul style="list-style-type: none"> Move away from complex massing to simpler forms and strategic/limited use of stepping, recesses, and projections
Orientation & Shading	<ul style="list-style-type: none"> Strategic building and window orientation for more effective winter solar heat gain and summer shading External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) Operable windows for natural ventilation 	<ul style="list-style-type: none"> Street oriented uses at grade and lower floors Tower form/orientation considers site-specific factors Tower separation protects sun, views, and privacy Window treatments vary with use, ranging from towers with floor-to-ceiling glass to multi-pane and smaller windows in traditional-character housing 	<ul style="list-style-type: none"> No OCP conflict, BUT typical building layouts and shading may not optimize heating and cooling for all tenants No OCP conflict, BUT 40% WWR and higher sills may be contrary to accepted market norms Multi-pane and smaller windows may increase heat loss due to more frame area Balconies and complex deck designs can cause heat loss due to thermal bridging 	<ul style="list-style-type: none"> Increased distinction between sunny and shady building facades Increased use of shading devices for shading and visual interest More strategic window use to better balance heating, cooling, livability, views, and daylighting Decreased use of multi-pane and smaller windows Higher WWR as needed to satisfy market demands Thermally-broken, projecting and stacked balconies will provide required open space and add visual interest
Windows & Daylighting	<ul style="list-style-type: none"> Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) Higher sills to reduce window size without compromising daylighting 			
Balconies & Roof Decks	<ul style="list-style-type: none"> Thermally broken designs (e.g., modified slab, pinned, hanging, and self-supported) to reduce heat loss at balcony connection points Fewer and/or stacked recessed balconies to reduce the heat loss associated with this balcony type (due to more wall area, corners, and connection points) Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> Residential units must have balconies, decks, patios, and/or gardens 		
Envelope Materials & Design	<ul style="list-style-type: none"> Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) Reduced use of lower performing window/wall systems (e.g., curtain wall) Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> Light, glassy towers Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> No OCP conflict, BUT typical curtain/window wall and spandrel systems perform poorly compared to alternative window/wall designs 	<ul style="list-style-type: none"> Less curtain/window wall Use of panel systems may lead to more colourful, patterned buildings Use of materials/detailing in lieu of complex forms (particularly in traditional-character housing areas)

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FORM AND CHARACTER IMPLICATIONS FOR HIGH PERFORMANCE BUILDINGS – CITY STAFF SUMMARY

(PART 3) COMMERCIAL BUILDINGS

Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> • More compact massing to reduce the overall size of the thermal envelope • Simpler building and roof forms to enhance thermal performance • Fewer architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> • Varied building types (e.g., low, mid, and high-rise retail, office, and hotel) • Typically simple forms with limited recesses, stepping, and decorative projections 	<ul style="list-style-type: none"> • No OCP conflict 	<ul style="list-style-type: none"> • No specific change
Orientation & Shading	<ul style="list-style-type: none"> • Strategic building and window orientation for more effective winter solar heat gain and summer shading • External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) • Operable windows for natural ventilation 	<ul style="list-style-type: none"> • Street oriented uses at grade and lower floors • Tower form/orientation considers site-specific factors • Tower separation protects sun, views, and privacy 	<ul style="list-style-type: none"> • No OCP conflict, BUT street orientation plus typical building layouts and shading may not optimize heating and cooling for all tenants 	<ul style="list-style-type: none"> • Increased distinction between sunny and shady building facades • Increased use of shading devices for shading and visual interest
Windows & Daylighting	<ul style="list-style-type: none"> • Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) • A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) • Higher sills to reduce window size without compromising daylighting 	<ul style="list-style-type: none"> • Transparency required at grade on street frontages • Window treatment must enhance appearance • Operable windows 	<ul style="list-style-type: none"> • No OCP conflict, BUT 40% WWR and higher sills may be contrary to accepted market norms (e.g., flexible multi-tenant space) 	<ul style="list-style-type: none"> • More strategic window use to better balance heating, cooling, livability, views, and daylighting • Higher than 40% WWR to as needed to meet market demand, combined with mitigating measures (e.g., tinted/coated glass and more shading devices)
Balconies & Roof Decks	<ul style="list-style-type: none"> • Thermally broken designs (e.g., modified slab, pinned, hanging, and self-supported) to reduce heat loss at balcony connection points • Fewer and/or stacked recessed balconies to reduce the heat loss associated with this balcony type (due to more wall area, corners, and connection points) • Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> • Not required 	<ul style="list-style-type: none"> • No OCP conflict 	<ul style="list-style-type: none"> • No specific change
Envelope Materials & Design	<ul style="list-style-type: none"> • Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) • Reduced use of lower performing window/wall systems (e.g., curtain wall) • Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> • Light, glassy towers • Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> • Typical curtain/window wall and spandrel systems perform poorly compared to alternative window/wall designs 	<ul style="list-style-type: none"> • Less curtain/window wall • Use of panel systems may lead to more colourful, patterned buildings

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FORM AND CHARACTER IMPLICATIONS FOR HIGH PERFORMANCE BUILDINGS – CITY STAFF SUMMARY

(PART 3) HIGH-RISE MIXED-USE/RESIDENTIAL

Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> More compact massing to reduce the overall size of the thermal envelope Simpler building and roof forms to enhance thermal performance Few architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> Small floorplate towers (650 m²), landscaped podiums, and low/mid-rise streetwalls Massing is visually broken up with recesses, stepping, and decorative projections 	<ul style="list-style-type: none"> Complex massing and projections can cause heat loss due to thermal bridging and/or increased wall area 	<ul style="list-style-type: none"> Move away from complex massing to simpler forms and strategic/limited use of stepping, recesses, bay windows, and projections
Orientation & Shading	<ul style="list-style-type: none"> Strategic building and window orientation for more effective winter solar heat gain and summer shading External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) 	<ul style="list-style-type: none"> Street oriented uses at grade and lower floors Tower form/orientation considers site-specific factors Tower separation protects sun, views, and privacy 	<ul style="list-style-type: none"> No OCP conflict, BUT street orientation plus typical building layouts and shading may not optimize heating and cooling for all tenants 	<ul style="list-style-type: none"> Increased distinction between sunny and shady tower facades Increased use of shading devices for shading and visual interest
Windows & Daylighting	<ul style="list-style-type: none"> Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) Higher sills to reduce window size without compromising daylighting Operable windows for natural ventilation 	<ul style="list-style-type: none"> Transparency required at grade along street frontages Window treatment must enhance appearance Operable windows 	<ul style="list-style-type: none"> No OCP conflict, BUT 40% WWR and higher sills may be contrary to accepted market norms (e.g., floor-to-ceiling windows) 	<ul style="list-style-type: none"> More strategic window use to better balance heating, cooling, livability, views, and daylighting Use of tinted/coated glass to reduce solar heat gain
Balconies & Roof Decks	<ul style="list-style-type: none"> Thermally broken designs (e.g., modified slab, pinned, hanging, and self-supported) to reduce heat loss at balcony connection points Fewer and/or stacked recessed balconies to reduce the heat loss associated with this balcony type (due to more wall area, corners, and connection points) Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> Units must have balconies, decks, and/or patios (i.e. min. 6 – 9 m² /apartment) 	<ul style="list-style-type: none"> Balconies can cause heat loss due to thermal bridging 	<ul style="list-style-type: none"> Hung and pinned balconies likely preferred Projecting and stacked recessed balconies may give visual interest in lieu of massing articulation
Envelope Materials & Design	<ul style="list-style-type: none"> Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) Reduced use of lower performing window/wall systems (e.g., curtain wall) Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> Light, glassy towers Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> Typical curtain/window wall and spandrel systems perform poorly compared to alternative window/wall designs 	<ul style="list-style-type: none"> Less curtain/window wall Use of panel systems may lead to more colourful, patterned buildings

FORM AND CHARACTER IMPLICATIONS FOR HIGH PERFORMANCE BUILDINGS – CITY STAFF SUMMARY

(PART 3) MID-RISE RESIDENTIAL

Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> • More compact massing to reduce the overall size of the thermal envelope • Simpler building and roof forms to enhance thermal performance • Few architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> • Typically, block-like forms with flat roofs (3 – 6 storeys) • Massing is visually broken up with recesses, stepping, bay windows, and decorative projections 	<ul style="list-style-type: none"> • Complex massing and projections can cause heat loss due to thermal bridging and/or increased wall area 	<ul style="list-style-type: none"> • Move away from complex massing to simpler forms and strategic/limited use of stepping, recesses, bay windows, and projections
Orientation & Shading	<ul style="list-style-type: none"> • Strategic building and window orientation for more effective winter solar heat gain and summer shading • External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) 	<ul style="list-style-type: none"> • Street orientation preferred • Roof overhangs, decorative projections (e.g., frames and fins), and trees provide weather protection and enhance character 	<ul style="list-style-type: none"> • No OCP conflict, BUT street orientation plus typical building layouts and shading may not optimize heating and cooling for all tenants 	<ul style="list-style-type: none"> • Increased distinction between sunny and shady building facades • Increased use of shading devices for shading and visual interest
Windows & Daylighting	<ul style="list-style-type: none"> • Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) • A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) • Higher sills to reduce window size without compromising daylighting • Operable windows for natural ventilation 	<ul style="list-style-type: none"> • Residential window patterns (i.e. varied shapes and sizes), including multi-pane and smaller windows in traditional-character areas • Operable windows 	<ul style="list-style-type: none"> • No OCP conflict, BUT multi-pane and smaller windows may increase heat loss due to more frame area 	<ul style="list-style-type: none"> • More strategic window use to better balance heating, cooling, livability, views, and daylighting
Balconies & Roof Decks	<ul style="list-style-type: none"> • Thermally broken designs (e.g., modified slab, hanging, and self-supported) to reduce heat loss at balcony connection points • Fewer and/or stacked recessed balconies to reduce the heat loss associated with this balcony type (due to more wall area, corners, and connection points) • Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> • Units must have balconies, decks, and/or patios (i.e. min. 6 – 9 m² /apartment) 	<ul style="list-style-type: none"> • Balconies and complex deck designs can cause heat loss due to thermal bridging 	<ul style="list-style-type: none"> • Self-supported balconies likely preferred (possibly creating opportunities for larger/deeper balconies) • Stacked recessed balconies may give visual interest in lieu of massing articulation
Envelope Materials & Design	<ul style="list-style-type: none"> • Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) • Reduced use of lower performing window/wall systems (e.g., curtain wall) • Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> • Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> • No OCP conflict 	<ul style="list-style-type: none"> • Particularly in traditional-character areas, increased use of materials/detailing to achieve desired character (in lieu of complex forms)

FORM AND CHARACTER IMPLICATIONS FOR HIGH PERFORMANCE BUILDINGS – CITY STAFF SUMMARY

(PART 9) TOWNHOUSES				
Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> • More compact massing to reduce the overall size of the thermal envelope • Simpler building and roof forms to enhance thermal performance • Few architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> • House-like forms that may be articulated (particularly in traditional-character areas) with complex roofs, dormers, bay windows, and decorative projections • Generally, 2-3 storey buildings (2-6 units each) with the larger buildings along street frontages 	<ul style="list-style-type: none"> • Complex massing and projections can cause heat loss due to thermal bridging and/or increased wall area • Larger buildings (e.g., 6 units) preferred for energy efficiency 	<ul style="list-style-type: none"> • Move away from complex massing to simpler forms and strategic/limited use of stepping, recesses, bay windows, and projections • Decreasing acceptance of smaller (2 unit) buildings
Orientation & Shading	<ul style="list-style-type: none"> • Strategic building and window orientation for more effective winter solar heat gain and summer shading • External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) 	<ul style="list-style-type: none"> • Street orientation preferred • Roof overhangs, decorative projections, and trees provide weather protection and enhance character 	<ul style="list-style-type: none"> • No OCP conflict, BUT street orientation plus typical building layouts and shading may not optimize heating and cooling for all tenants 	<ul style="list-style-type: none"> • Increased distinction between sunny and shady building facades • Increased use of shading devices for shading and visual interest
Windows & Daylighting	<ul style="list-style-type: none"> • Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) • A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) • Higher sills to reduce window size without compromising daylighting • Operable windows for natural ventilation 	<ul style="list-style-type: none"> • House-like window patterns, including multi-pane and smaller windows in traditional-character areas • Operable windows 	<ul style="list-style-type: none"> • Multi-pane and smaller windows may increase heat loss due to more frame area 	<ul style="list-style-type: none"> • Decreased use of multi-pane and smaller windows in favour of alternative traditional-character and modern window styles
Balconies & Roof Decks	<ul style="list-style-type: none"> • Thermally broken designs (e.g., modified slab, hanging, and self-supported) to reduce heat loss at balcony connection points • Fewer and/or stacked recessed balconies to reduce heat loss associated with this balcony type (due to more wall area, corners, and connection points) • Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> • Units must have balconies, decks, and/or gardens (i.e. min. 30 – 37 m² /unit) • Inward site orientation preferred (i.e. away from neighbours and street noise) 	<ul style="list-style-type: none"> • Balconies and complex deck designs can cause heat loss due to thermal bridging 	<ul style="list-style-type: none"> • Self-supported balconies and roof decks preferred • Street-fronting balconies (e.g., porches) may give visual interest in lieu of massing articulation
Envelope Materials & Design	<ul style="list-style-type: none"> • Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) • Reduced use of lower performing window/wall systems (e.g., curtain wall) • Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> • Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> • No OCP conflict 	<ul style="list-style-type: none"> • Use of materials/detailing in lieu of complex forms (particularly in traditional-character housing areas)

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FORM AND CHARACTER IMPLICATIONS FOR HIGH PERFORMANCE BUILDINGS – CITY STAFF SUMMARY

(PART 9) DUPLEXES				
Features	High Performance (HP) Building Directions	OCP Form/Character Objectives	Friction with HP Directions	Possible Trends
Massing & Roofs	<ul style="list-style-type: none"> More compact massing to reduce the overall size of the thermal envelope Simpler building and roof forms to enhance thermal performance Few architectural features with complex junctions that can contribute to heat loss (e.g., less bay windows, dormers, recesses, and stepping) 	<ul style="list-style-type: none"> House-like form (2 storeys) Massing/roof variations mitigate adjacency issues (e.g., scale and overlook) Traditional SF features (e.g., bay windows) enhance neighbourhood fit 	<ul style="list-style-type: none"> Complex massing and projections can cause heat loss due to thermal bridging and/or increased wall area 	<ul style="list-style-type: none"> Move away from complex massing to simpler forms and strategic/limited use of stepping, recesses, bay windows, and projections
Orientation & Shading	<ul style="list-style-type: none"> Strategic building and window orientation for more effective winter solar heat gain and summer shading External shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees) 	<ul style="list-style-type: none"> Street orientation preferred Roof overhangs, decorative projections, and trees provide weather protection and enhance character 	<ul style="list-style-type: none"> No OCP conflict, BUT street orientation plus typical building layouts and shading may not optimize heating and cooling for all tenants 	<ul style="list-style-type: none"> Increased distinction between sunny and shady building facades Increased use of shading devices for shading and visual interest
Windows & Daylighting	<ul style="list-style-type: none"> Lower window-to-wall-ratio (WWR) to lessen heat gain (i.e. 40% encouraged) A few larger windows (rather than more smaller or multi-pane windows) to minimize heat loss through window frames (e.g., mullions, muntins, etc.) Higher sills to reduce window size without compromising daylighting Operable windows for natural ventilation 	<ul style="list-style-type: none"> House-like window patterns Operable windows 	<ul style="list-style-type: none"> No OCP conflict, BUT multi-pane and smaller windows may cause heat loss due to more frame area 	<ul style="list-style-type: none"> Decreased use of multi-pane and smaller windows in favour of alternative traditional-character and modern window styles
Balconies & Roof Decks	<ul style="list-style-type: none"> Thermally broken designs (e.g., modified slab, hanging, and self-supported) to reduce heat loss at balcony connection points Fewer and/or stacked recessed balconies to reduce the heat loss associated with this balcony type (due to more wall area, corners, and connection points) Where appropriate, use of roof decks in place of balconies 	<ul style="list-style-type: none"> Units must have gardens Balconies/decks must not overlook neighbours 	<ul style="list-style-type: none"> Balconies and complex deck designs can cause heat loss due to thermal bridging 	<ul style="list-style-type: none"> Move away from balconies and complex deck designs where adequate open space can be provided at grade
Envelope Materials & Design	<ul style="list-style-type: none"> Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR) Reduced use of lower performing window/wall systems (e.g., curtain wall) Increased variation in colour, materials, and pattern in place of other building articulation (i.e. instead of more complex massing or architectural features) 	<ul style="list-style-type: none"> Colour/material/pattern variation visually breaks up massing and enhances building features 	<ul style="list-style-type: none"> No OCP conflict 	<ul style="list-style-type: none"> No specific change

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KEY CONSIDERATIONS FOR HIGH PERFORMANCE BUILDINGS

The following design strategies, which relate to building form and character, are considered **best practice** and the most cost-effective way to achieve the higher steps of the BC Energy Step Code. Following these best practices closely may not always be feasible due to project-specific context, such as site constraints and regulations. Similar performance outcomes can be achieved with various combinations of high performance strategies. For example, a building with a somewhat more complex massing may achieve the same energy target as a building with simple massing, if the wall and/or window performance is increased. Designers can use energy models to explore different trade-offs and validate the appropriate set of strategies to meet multiple project objectives and balance various considerations, including form and character guidelines. Energy models help inform design decision making including cost-benefit considerations, and best-value options.

MASSING AND ARTICULATION

Focus on creating a

compact building with

simple massing. This

approach helps to reduce

thermal losses through the

building envelope. Simpler

massing with fewer details

and complex junctions

reduce the number of

points at which thermal

bridging often occurs, and

make it easier to achieve a

continuous air barrier.



Challenging to accommodate



Easy to accommodate



Tip: As an alternative to building forms requiring a complex building envelope, consider using colours, textures and/or building elements external to the thermal envelope to articulate the facade with minimal impact on thermal performance.

GLAZING

Use **triple glazing** in a high performance frame, vertically centered on the insulation layer in order to maximize continuity of the building's thermal envelope. The frame is the weakest point of a window assembly so it is important to minimize the number of framing elements. Avoid intermediate mullions where not required, and opt for fewer larger windows rather than more smaller ones.

Even high-performance windows have a much lower thermal resistance than opaque walls. To minimize heat losses, consider targeting an overall **window-to-wall ratio** of 40%.



Tip: Consider raising window sills to a least 2' (600mm) above the floor. This will reduce the heat losses through the glazing, reduce risk of glare and improve comfort without compromising daylighting and views.

ORIENTATION AND SHADING

Orient buildings and distribute fenestration to maximize solar gains in winter and maximize daylighting, while allowing for natural ventilation. Consider the shading effect of adjacent buildings or trees on the building's solar gains.

Maximize **glazing area** on the south to benefit from the best potential for solar gains in the winter. Windows on the south can be shaded effectively to manage the potential for overheating during the summer months, with minimal impact on winter heat gains. This approach is key to addressing increased summer temperatures in future climate conditions. Consider reducing excess window area on north-facing building elevations as available solar gains are limited for this orientation, while balancing the benefit of daylighting in reducing artificial lighting energy consumption.

Ensure **shading strategies** are implemented on the south and west orientations. **Deciduous trees**, for example, can provide shading in the summer, when it is most useful, and minimize shading in the winter when additional light and heat is of maximum benefit. **Operable windows** on multiple facades can also contribute to natural ventilation, reducing the energy used by the active ventilation system.

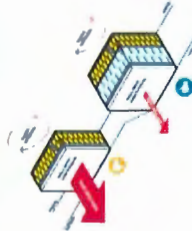
Tip: Solar shading devices can take many forms and help articulate the building, including fixed horizontal overhangs, vertical fins, sliding or folding louvers, motorized blinds, dynamic glass, and/or deciduous trees.

BUILDING ENVELOPE MATERIALS AND DESIGN

Increase insulation levels and consider building designs with thicker envelope assemblies, as there is no loss of total calculated floor space when doing so.

Reduce **thermal bridging** from design elements like exposed slab balconies. Where thermal bridging cannot be avoided, use lower thermal conductivity materials to help reduce heat transfer.

Design the building envelope to facilitate installation of a continuous air barrier; this not only minimizes air leakage (improving indoor air quality and occupant comfort), but also reduces thermal losses. Limiting the number of junctions, intersections and recesses in the envelope will make a continuous airtight layer easier to build.

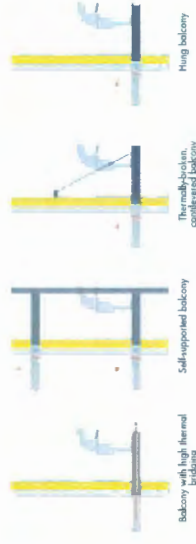


Tip: Use materials with low thermal conductivity (such as wood, fiberglass, etc.) for any elements penetrating the insulation layer. For example, using wood studs in an exterior wall with insulated stud cavities will greatly reduce thermal bridging relative to using steel studs.

SPECIFIC CONSIDERATIONS FOR BALCONIES

Conventional balconies created from concrete floor slabs penetrating through the thermal envelope of the building create significant **thermal bridges** between the conditioned space of the building and the exterior. This approach allows large amounts of heat to be conducted between the exterior and interior, even through well-insulated building envelopes.

Use thermally broken balconies, hung balconies, or self-supported structures to minimize unwanted heat losses/gains through the building envelope. These strategies will have an impact on project cost and may affect the building aesthetic.



Recessed balconies may pose an additional challenge for efficient envelope performance, compared to extended balconies; they increase building envelope area, and often create complex junctions and corners all of which lead to more heat losses through the envelope. Stacking recessed balconies to reduce the number of complex junctions in the building envelope, can minimize those impacts.

BUILDING SCALE AND DENSITY

Larger buildings tend to be more compact, with a smaller ratio of building envelope surface to floor area. This helps to reduce the impact of envelope heat losses on overall building performance.

Buildings with a higher density of occupants and/or other heat-emitting features (kitchen, server room, etc) can benefit from the additional "free heat" provided by people and equipment. These buildings may find it easier to meet the envelope performance requirements (TEDI target) of the BC Energy Step Code, since heat losses through the envelope are typically less critical where more internal gains are available. For example, a MURB with a more complex massing may achieve the same level of energy performance as a single family home with a simple massing, as the MURB's high internal gains can compensate for some of the additional heat losses through the envelope.

However, buildings with higher internal gains may face additional cooling loads to be considered in the project design, in order to ensure thermal comfort in summer.

PART 3 MIXED-USE / RESIDENTIAL HIGH-RISE BUILDINGS

The purpose of this page is to describe the main potential tension points between high performance design strategies and form and character objectives for **Part 3 mixed-use / residential high-rise buildings**. For each potential tension point, issues are summarized, and strategies to consider are presented which balance high performance design and form and character objectives.

BALCONIES AND THERMAL BRIDGING

Conventional balconies are created by extending the concrete floor slab through the thermal envelope. As reinforced concrete is a good thermal conductor, the slab penetrating the insulation layer functions like a radiator fin, transferring heat from the building interior to the outdoors. When designing balconies, consider the following strategies to limit heat losses:

CANTILEVERED BALCONIES (CONCRETE AND METAL CLIP-ON STRUCTURES)

A thermal break is used to separate the building and balcony structures. The thermal break should be placed in line with the insulation layer in the wall assembly. While thermally broken concrete balconies appear the same as typical cantilevered balconies, metal clip-on balconies can have a different aesthetic.



HUNG BALCONIES

Steel tension cables and rods are used to suspend the balcony and greatly reduce the total area of the thermal connections passing through the thermal envelope to the building structure. These have a different look than typical cantilevered balconies and may have limitations on size.



SELF-SUPPORTED BALCONIES

An external structure extending to the ground supports the balcony (instead of the building's structure), thus limiting thermal envelope penetrations. While this approach is more commonly used on mid-rise buildings, some high-rise buildings have also been built with self-supported balconies.



COMPACT MASSING AND ARTICULATION

Compact massing is key to limiting heat losses from the envelope since the complex corners and detailing resulting from a more complex building envelope is often a significant source of thermal bridging. Although simple shifts in massing can often be accommodated in high performance buildings, the following strategies create articulation and visual interest with no or minimal impact on energy performance:

COLOUR, MATERIALS AND TEXTURES

Changes in exterior cladding material, colour or textures can create architectural interest while maintaining simple building volume.



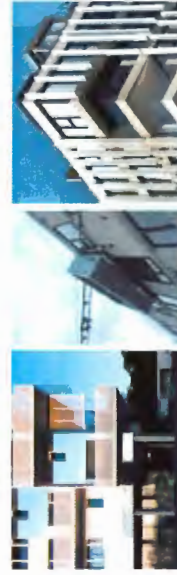
SHADING DEVICES

Shading is critical to avoid overheating in summer, on the south and west elevations. Shading devices can provide interest by providing external detailing and enabling the creation and varying of patterns across the elevation.



ELEMENTS OUTSIDE THE THERMAL ENVELOPE

A simple, efficient thermal envelope can be independent of the outer appearance of the building. Elements such as balconies, shading devices, and cladding with various depths or materials can create visual interest with minimal impact on the building thermal envelope, if carefully detailed.



GLAZING AND HEAT LOSS

Even the most efficient triple-glazed windows have much less thermal resistance than insulated solid walls. It is therefore important to limit the overall glazing area and distribute it where it is most needed, to allow for views, daylighting, connection to the street, etc. The following solutions can be adopted to reduce heat losses through windows and window frames:

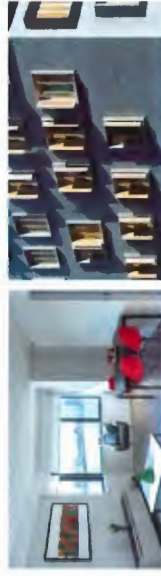
TRANSPARENCY AT GRADE, LESS GLAZING ON UPPER FLOORS

High-performance buildings can achieve an active/transparent facade at grade while achieving a lower overall window-to-wall ratio by reducing glazing on the upper floors. The increased heat losses from the ground floor glazing are compensated for with less heat losses from the upper floors.



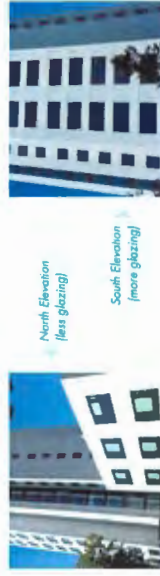
RAISE WINDOW SILLS

Although floor to ceiling windows are popular, the lower part of the glazing does not contribute to views or daylighting. Consider raising the height of the window sill to at least 2' (600mm) to benefit from reduced glazing area without impacting daylighting or access to views by occupants.



CONSIDER SOLAR ORIENTATION FOR WINDOWS

Glazing area on the south orientation can be increased to maximize solar gains, with appropriate shading to mitigate the summertime overheating risks (now and in the future, as the local climate warms). Optimize glazing on the north orientation to maximize daylighting for occupants while minimizing heat losses.



PART 3 MIXED-USE/RESIDENTIAL HIGH-RISE CASE STUDIES

CONVENTIONAL STRATEGIES

These projects demonstrate conventional design approaches (listed below) that would be challenging to accommodate in high-performance buildings.



West Hall, Washington - US

Architect: ODA New York

1. Very high window-to-wall ratio
2. Complex massing with large amount of thermal bridging
3. Minimal shading relative to the amount of glass, increasing overheating risk in summer.



6900 Pearson Way, Richmond - Canada

1. Very high window-to-wall ratio
2. Similar window-to-wall ratio on all orientations
3. Minimal shading provided
4. Extensive use of inefficient curtain wall and spandrels
5. Recessed balconies increases building envelope area

HIGH PERFORMANCE STRATEGIES

Although these projects have not reached high levels of energy performance, the following features demonstrate design practices aligned with high performance.



Couch9, Portland - US

Architect: Vollaster Cori Architects

1. Overall simple and compact massing, although the recessed balconies would affect building energy performance.
2. Self-supported balconies on the west, and clip-on balconies on the east limit thermal bridging
3. West-oriented glazing shaded by balconies
4. Higher window-to-wall ratio on the south
5. Higher transparency at grade



ZAC Bourcail, Paris - France

Architect: MG-AU

1. Simple and compact massing
2. Folding shutters and deep window frames provide visual interest with minimal impact on performance
3. Low window-to-wall ratio
4. Large windows with minimal framing
5. Highly glazed ground floor

HIGH PERFORMANCE ACHIEVED

These projects demonstrate design approaches (listed below) that have been used to achieve high performance.



Buggi 50, Freiburg - Germany

Architect: Deimele Oelschlaeger

1. Compact and simple massing
2. Coniferous thermally-broken balconies
3. Low window-to-wall ratio
4. Largest windows shaded by balconies
5. Large windows with minimal framing

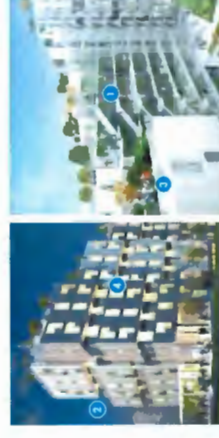


Boyen Street, Berlin - Germany

Architect: Deimele Oelschlaeger

PASSIVE HOUSE, ZERO EMISSIONS

1. Low window-to-wall ratio
2. Simple and compact massing overall (note that the building envelope is sufficiently high-performance to allow for several bump-outs on the north elevation)
3. Self-supported balconies on the south, to limit thermal bridging
4. South-facing windows shaded by folding shutters on balconies and retractable shades on upper floor



Corvette Landing, Admirals Road & Constance Avenue, Victoria - Canada

Architect: LVPAC

PASSIVE HOUSE

1. Conditioned area of the building reduced by pushing the hallways and stairways outdoors
2. Relatively complex massing is offset by the large scale of the project, which reduces the surface-area-to-volume ratio
3. Outdoor amenity space provided on the rooftop to avoid thermal bridging impact of balconies (note that balconies for all units are required in Richmond)
4. Fairly low window-to-wall ratio



Solis Passive House, Seattle - US

Architect: Weber Thompson

PASSIVE HOUSE PHIUS CERTIFIED

1. Simple massing
2. Low window-to-wall ratio
3. Thermally broken balconies
4. Lobby, stair and elevator shaft are located outside of thermal envelope
5. Ground floor windows shaded by canopy with building integrated PV's
6. Higher transparency at grade to create visual connection to the street

PART 3 MID-RISE RESIDENTIAL BUILDINGS

The purpose of this page is to describe the main potential tension points between high performance design strategies and form and character objectives for **Part 3 mid-rise residential buildings**. For each potential tension point, issues are summarized, and strategies to achieve both high performance design and form and character objectives are presented for consideration.

BALCONIES AND THERMAL BRIDGES

Conventional balconies are created by extending the concrete floor slab through the thermal envelope. As reinforced concrete is a good thermal conductor, the slab penetrating the insulation layer functions like a radiator fin, transferring heat from the building interior to the outdoors. When designing balconies, consider the following strategies to limit heat losses:

SELF-SUPPORTED BALCONIES

An external structure extending to the ground supports the balcony (instead of the building's structure), thus limiting thermal envelope penetrations. These types of balconies work well on mid-rise buildings.



CANTILEVERED BALCONIES (CONCRETE AND METAL CLIP-ON STRUCTURES)

A thermal break is used to separate the building and balcony structures. The thermal break should be placed in line with the insulation layer in the wall assembly. While thermally broken concrete balconies appear the same as typical cantilevered balconies, metal clip-on balconies can have a different aesthetic.



HUNG BALCONIES

Steel tension cables and rods are used to suspend the balcony and greatly reduce the total area of the thermal connections passing through the thermal envelope to the building structure. These have a different look than typical cantilevered balconies and may have limitations on size.



COMPACT MASSING AND ARTICULATION

Compact massing is key to limiting heat losses from the envelope and helps to avoid complex detailing which can be a source of thermal bridging and air leakage. Although simple shifts in massing can often be accommodated in high performance buildings, the following strategies create articulation and visual interest with no or minimal impact on energy performance:

COLOUR, MATERIALS AND TEXTURES

Changes in exterior cladding material, colour or textures can create architectural interest while maintaining simple building volume.



SHADING DEVICES

Shading is critical to avoid overheating in summer, on the south and west elevations. Shading devices can provide interest by providing external detailing and enabling the creation and varying of patterns across the elevation.



ELEMENTS OUTSIDE THE THERMAL ENVELOPE

A simple, efficient thermal envelope can be independent of the outer appearance of the building. Elements such as balconies, shading devices, and cladding with various depths or materials can create visual interest with minimal impact on the building thermal envelope, if carefully detailed.



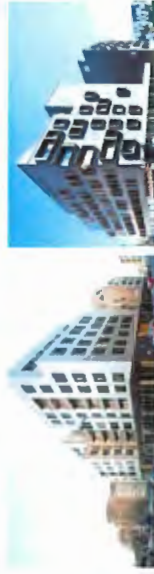
GLAZING AND HEAT LOSS

Even the most efficient triple-glazed windows have much less thermal resistance than insulated solid walls. It is therefore important to limit the overall glazing area and distribute it where it is most needed, to allow for views, daylighting, connection to the street, etc.

The following solutions can be adopted to reduce heat losses through windows and window frames:

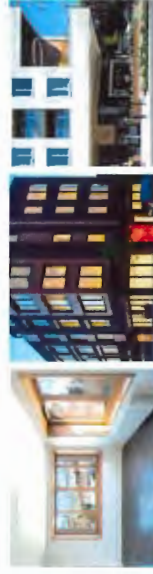
TRANSPARENCY AT GRADE, LESS GLAZING ON UPPER FLOORS

High-performance buildings can achieve an active/transparent facade at grade while achieving a lower overall window-to-wall ratio by reducing glazing on the upper floors. The increased heat losses from the ground floor glazing are compensated for with less heat losses from the upper floors.



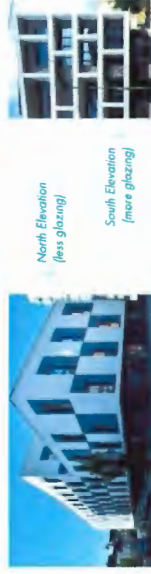
RAISE WINDOW SILLS

Although floor to ceiling windows are popular, the lower part of the glazing does not contribute to views or daylighting. Consider raising the height of the window sill to at least 2' (600mm) to benefit from reduced glazing area without impacting daylighting or access to views by occupants.



CONSIDER SOLAR ORIENTATION FOR WINDOWS

Glazing area on the south orientation can be increased to maximize solar gains, with appropriate shading to mitigate the summertime overheating risks (now and in the future, as the local climate warms). Optimize glazing on the north orientation to maximize daylighting for occupants while minimizing heat losses.



PART 3 MID-RISE RESIDENTIAL BUILDINGS CASE STUDIES

CONVENTIONAL STRATEGIES

These projects demonstrate conventional design approaches (listed below) that would be challenging to accommodate in high-performance buildings.



The Village, 4211 Bayview Street, Richmond - Canada
Architect: Yamamoto Architecture Inc.

1. Compact massing, roof forms and building articulations
2. High window-to-wall ratio
3. Extensive use of non-thermally-broken concrete balconies increases thermal bridging.



Mandaley, 9371 Hemlock Drive, Richmond - Canada

1. High window-to-wall ratio on all orientations maximizes thermal losses in winter and overheating in summer.
2. Extensive use of non-thermally-broken concrete balconies increases thermal bridging.
3. Multiple window mullions increase transmission heat losses.

HIGH PERFORMANCE STRATEGIES

Although these projects have not reached high levels of energy performance, the following features demonstrate design practices aligned with high performance.



The Black and White, 1033 Cook Street, Victoria - Canada
Architect: Architects

1. Compact and simple massing
2. Low window-to-wall ratio on upper floors
3. Large windows with limited framing
4. Color and materials used to emphasize building articulation with no impact on building performance.
5. Highly glazed ground floor allows connection to the street.



Mercy, 2239 West 7th Ave, Vancouver - Canada

1. Low window-to-wall ratio. Large windows with minimal framing
 2. Relatively simple massing
 3. Windows shaded by roof overhang and balconies
 4. Exterior front canopy minimizes thermal bridging.
- Other form and character objectives:
5. Balconies or private outdoor space provided for each unit

HIGH PERFORMANCE ACHIEVED

These projects demonstrate design approaches (listed below) that have been used to achieve high performance.



Residence Andee, rue v. Brussels, Belgium
Architect: AZM
PASSIVE HOUSE

1. South oriented windows shaded by balconies
2. Self-supported balconies
3. Thermal envelope with a very simple volumetry, with all elements contributing to articulation located outdoors
4. High window-to-wall ratio on the south (this building has a lower window-to-wall ratio on its north elevation)

Other form and character objectives:

5. Generous south-oriented balconies or private outdoor space for every unit



Dubruucq Escart, Brussels, Belgium
Architect: RTD?

PASSIVE HOUSE CERTIFIED

1. Compact massing
 2. Visual interest from pattern variation in the wood cladding, thus with no or minimal impact on thermal performance
 3. Limited window-to-wall ratio on upper floors
 4. Windows shaded by balconies and wood slats
 5. Large windows with minimal framing
- Other form and character objectives:

6. Balconies or rooftop terrace provided for each unit
7. Higher transparency at grade to create visual connection to the street

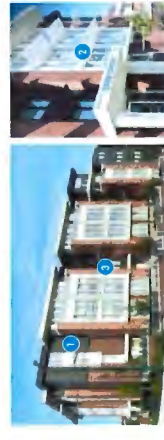


Orient, Brussels, Belgium
Architect: RTD?

PASSIVE HOUSE

1. Compact massing
 2. Lower window-to-wall ratio on the north
 3. Higher window-to-wall ratio on the south
 4. Large windows with minimal framing
 5. Use of colour and materials provides articulation with no impact on energy performance.
- Other form and character objectives:

6. Balconies or rooftop terrace provided for all units



Spire Landing, 7065 57th Ave, Vancouver - Canada
Architect: Cornerstone Architecture

PASSIVE HOUSE CERTIFIED

1. Relatively simple massing for a building of this scale
2. Fixed horizontal sunshades on the south facing windows
3. Use of various materials, shading devices and some volumetric shifts create articulation, with minimal impact on thermal envelope.

PART 3 COMMERCIAL BUILDINGS

The purpose of this page is to describe the main potential tension points between high performance design strategies and form and character objectives for **Part 3 commercial buildings**. For each potential tension point, issues are summarized, and strategies to consider are presented which balance high performance design and form and character objectives.

GLAZING AND HEAT LOSS

Even the most efficient triple-glazed windows have much less thermal resistance than insulated solid walls. It is therefore important to limit the overall glazing area and distribute it where it is most needed, to allow for views, daylighting, connection to the street, etc. The following solutions can be adopted to reduce heat losses through windows and window frames:

TRANSPARENCY AT GRADE, LESS GLAZING ON UPPER FLOORS

High-performance buildings can achieve an active/transparent frontage at grade while achieving a lower overall window-to-wall ratio by reducing glazing on the upper floors. The increased heat losses from the ground floor can be balanced with less heat losses from the upper floors.



RAISE WINDOW SILLS

Although floor to ceiling windows are popular, the lower part of the glazing does not contribute to views or daylighting. Consider raising the height of the window sill to at least 2' (600mm) to benefit from reduced glazing area without impacting daylighting or access to views by occupants.



CONSIDER SOLAR ORIENTATION FOR WINDOWS

Glazing area on the south orientation can be increased to maximize solar gains, with appropriate shading to mitigate the summertime overheating risks (now and in the future, as the local climate warms). Optimize glazing on the north orientation to maximize daylighting for occupants while minimizing heat losses.



COMPACT MASSING AND ARTICULATION

Compact massing is key to limiting heat losses from the envelope and helps to avoid complex detailing which can be a source of thermal bridging and air leakage. Although simple shifts in massing can often be accommodated in high performance buildings, the following strategies create articulation and visual interest with no or minimal impact on energy performance:

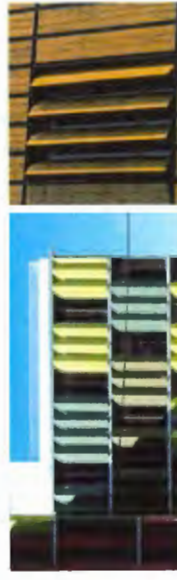
COLOUR, MATERIALS AND TEXTURES

Shading is critical to avoid overheating in summer, on the south and west elevations. Shading devices can provide interest by providing external detailing and enabling the creation and varying of patterns across the elevation.



SHADING DEVICES

Shading is critical to avoid overheating in summer, on the south and west elevations. Shading devices can provide interest by varying patterns across the elevation.



ELEMENTS OUTSIDE THE THERMAL ENVELOPE

A simple, efficient thermal envelope can be independent of the outer appearance of the building. Elements such as balconies, shading devices, and cladding with various depths or materials can create visual interest with minimal impact on the building thermal envelope, if carefully detailed.



CURTAIN WALLS AND SPANDRELS

While used on several building types, curtain wall systems are commonly used as the building envelope on commercial office buildings. These systems consist of floor to ceiling glass with opaque panels at floor slabs or other service spaces.

Curtain walls perform relatively poorly compared to other window wall systems, and spandrel panels perform significantly worse than a well-insulated opaque wall. Selecting a building envelope that can deliver the performance required is a critical choice for achieving overall energy efficiency targets.

If the building will incorporate a curtain wall system, a second key determinant of energy performance is optimizing the window-to-wall ratio in order to limit heat transfer.

Consider limiting the amount of spandrel panels in the envelope, and using insulated walls where transparency is not required.



AUST 1 No 3 Rd Richmond office building with extensive curtain wall and spandrels



Capitol Park, office building, Victoria BC
Appropriate window-to-wall ratio with punched windows and less curtain wall areas

PART 3 COMMERCIAL BUILDINGS CASE STUDIES

CONVENTIONAL STRATEGIES

These projects demonstrate conventional design approaches (listed below) that would be challenging to accommodate in high-performance buildings.



3820 Cessna Drive, Richmond - Canada

1. Building fully glazed on all facades
2. Building oriented on the north-south axis (main elevations on the east and west) with no shading, increasing the risk of overheating in summer
3. Exterior concrete columns supporting the overhang produce significant thermal bridging



5951 No. 3 Road, Richmond, Canada

1. High window-to-wall ratio on all elevations, including on the north orientation
2. Exterior glazing flush with face of cladding is not in line with the mid-point of the insulation layer, increasing thermal bridging at window perimeters.

HIGH PERFORMANCE STRATEGIES

Although these projects have not reached high levels of energy performance, the following features demonstrate design practices aligned with high performance.



1515 Douglas Street & 750 Pandora Avenue, Victoria, Canada

1. Limited window-to-wall ratio on upper floors
2. Compact massing
3. Use of different colours and cladding materials to create articulation with no impact on energy performance
4. Shading and weather protection provided by exterior canopy at grade, fully outside the thermal envelope
5. Higher transparency at grade to create visual connection to the street.

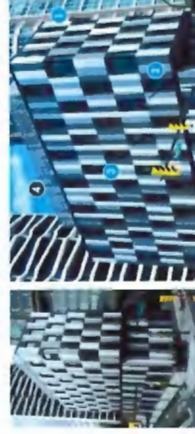


111 East Grand and St. Kilda Surf & Surf, Des Moines, US

1. Simple massing
2. Articulation created by the use of different colours and materials, with no impact on energy performance.
3. Thermal bridging minimized by the use of wood exterior columns, rather than a concrete or steel structure with increased heat transfer
4. Limited window to wall ratio on upper floors
5. Balconies appear to be recessed, but are strategically stacked at the corner so that they do not increase the total surface area of the building envelope
6. Large overhang provides shading to the large windows.
7. Higher transparency at grade to create visual connection to the street.

HIGH PERFORMANCE ACHIEVED

These projects demonstrate design approaches (listed below) that have been used to achieve high performance.



825 Pacific Street, Vancouver - Canada

Architect: IBI Group

PASSIVE HOUSE

1. Compact massing
 2. Use of various colours of cladding to create visual interest with no impact on thermal performance
 3. Limited window-to-wall ratio, with a few large glazed units
- Other form and character objectives:
4. Architectural screens concealing rooftop mechanical equipment

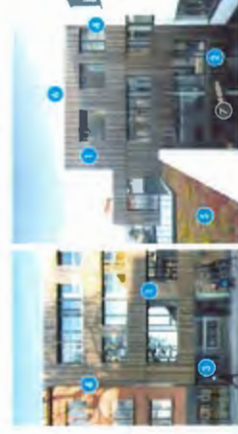


Lonsdale Avenue Commercial Building, Vancouver, Canada

Architect: Hensworth Architecture

PASSIVE HOUSE

1. Compact and simple massing
 2. Limited window-to-wall ratio on upper floors
 3. Most glazing is south facing. No glazing on the north
 4. Exterior canopy hung from the exterior wall and independent of the thermal envelope, provides shading for the glazed ground floor with minimal thermal bridging.
- Other form and character objectives:
5. Higher transparency at grade to create visual connection to the street



Maison de l'Emploi, Brussels, Belgium

Architect: A2M

PASSIVE HOUSE

1. Limited window-to-wall ratio. Glazing with a raised sill.
2. Simple volumetry with interior courtyard to maximize daylighting
3. More glazing at street level, placed strategically where most beneficial
4. Varied cladding materials create articulation with no impact on massing.
5. Green roofs provide additional insulation on the roofs
6. Rooftop PV array

Other form and character objectives:

7. Rooftop and interior courtyard offer exterior common amenity space for occupants



The Genesis, Braine-l'Alleud, Belgium

Architect: A2M

PASSIVE DESIGN, BREEAM CERTIFIED: EXCELLENT

1. Two compact boxes connected by an atrium
2. Glazed atrium height is maximized on the [south facing] entrance side, but reduced to a single story on the [north facing] rear elevation to limit heat losses.
3. Wood fins outside the thermal envelope create articulation with no impact on the building enclosure.

Other form and character objectives:

4. Large overhang at main entrance creates protected outdoor space.

PART 9 TOWNHOUSES AND DUPLEXES

The purpose of this page is to describe the main potential tension points between high performance design strategies and form and character objectives for **Part 9 townhouses and duplexes**. These are included together because they have similar considerations. For each potential tension point, issues are summarized, and strategies to consider are presented which balance high performance design and form and character objectives.

COMPACT MASSING AND ARTICULATION

Compact massing is key to limiting the heat losses from the envelope since the complex corners and increased surface area resulting from a detailed building envelope is often a significant source of thermal bridging and air leakage. Dormers, pitched roofs and bay windows typically add complex junctions and increase the overall surface area of the building envelope, increasing heat transfer. The following strategies allow for articulation and visual interest with minimal impact on energy performance:

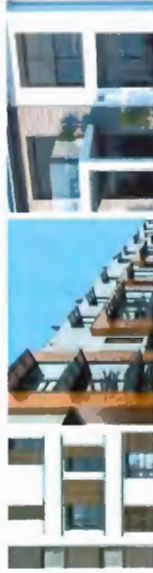
COLOUR, MATERIALS AND TEXTURES

Changes in exterior cladding material, colour or textures can create architectural interest while maintaining simple building volume.



SHADING DEVICES

Shading is critical to avoid overheating in summer, on the south and west elevations. Shading devices can provide interest by varying patterns across the elevation.



ELEMENTS OUTSIDE THE THERMAL ENVELOPE

A simple, efficient thermal envelope can be independent of the outer appearance of the building. Elements such as balconies, shading devices, and cladding with various depths or materials can create visual interest with minimal impact on the building thermal envelope, if carefully detailed.



BALCONIES AND THERMAL BRIDGING

Conventional balconies are created by extending the concrete floor slab outside the thermal envelope. As reinforced concrete is a good thermal conductor, the slab penetrating the insulation layer function as radiator fins, transferring heat from the building interior to the outdoors. When designing balconies, consider the following strategies to limit heat losses:

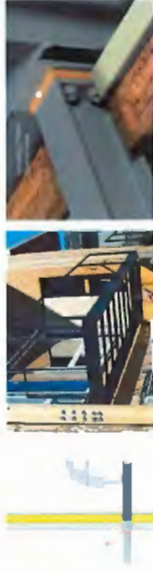
SELF-SUPPORTED BALCONIES

An external structure extending to the ground supports the balcony (instead of the building's structure), thus limiting thermal envelope penetrations. These types of balconies work well on low-rise buildings.



CANTILEVERED BALCONIES (METAL CLIP-ON STRUCTURES)

A thermal break is used to separate the building and balcony structures. The thermal break should be placed in line with the insulation layer in the wall assembly. Metal clip-on balconies are more common than concrete balconies for Part 9 buildings.



HUNG BALCONIES

Steel tension cables and rods are used to suspend the balcony and greatly reduce the total area of the thermal connections passing through the thermal envelope to the building structure. These have a different look than typical cantilevered balconies and may have limitations on size.



OTHER HIGH PERFORMANCE DESIGN CONSIDERATIONS UNIQUE TO SMALL RESIDENTIAL BUILDINGS

Townhouses are small buildings with a relatively high ratio of building envelope to gross floor area. In smaller buildings, complex geometries can significantly decrease the building performance. Although achieving an energy efficient design with a complex volumetry is technically feasible, these designs tend to cost more and use more materials than a simpler building. Complex massing also results in increased numbers of complex junctions, making thermal bridging and airtightness difficult to manage and optimize. A simple thermal envelope volume is key for success. Designers should be strategic about trade-offs between different design elements.

BAY WINDOWS AND DORMERS

The addition of bay windows and dormers add envelope area and increase heat losses. It is also typical that these features necessitate more small windows increasing heat losses through the additional window frames.



PITCHED ROOFS

Pitched roofs tend to increase the surface area of the thermal envelope compared to a flat roof when the attic space is conditioned. If the attic space is not heated, it may be more challenging to maintain a continuous air barrier and continuous insulation between the exterior wall and the attic floor. Careful detailing can help minimize heat losses and air leakage.



SHARED WALLS

Maximizing the contact surface between adjacent units helps to reduce heat losses where shared walls between townhouses separate two conditioned spaces. Keeping the townhouses aligned at the front and back minimizes the building envelope area exposed to the outside. Adjacent units can be differentiated by materials or texture rather than relying on modulation of the building facade.



PART 9 TOWNHOUSES - CASE STUDIES

CONVENTIONAL STRATEGIES

These projects demonstrate conventional design approaches (listed below) that would be challenging to accommodate in high-performance buildings.



Tigris Garden, 7471 No 4 Road, Richmond - Canada

1. Complex massing created by dormers, bay windows and canopies increases heat losses through the increased surface area of the building envelope
2. Numerous complex junctions introduce additional thermal bridging



22888 Windsor Court, Richmond - Canada

1. Complex massing with bay windows and multiple roof shapes increases heat losses through the increased surface area of the building envelope
2. Recessed balconies create more opportunities for thermal bridging
3. Many small windows increase amount of window framing and associated heat losses

HIGH PERFORMANCE STRATEGIES

Although these projects have not reached high levels of energy performance, the following features demonstrate design practices aligned with high performance.



19159 Walkins Drive, Surrey - Canada

Builder: Mosaic

1. Compact massing and simple thermal envelope
2. Visual interest created by the use of various colours and cladding treatments, with no impact on energy performance
3. Limited window-to-wall ratio

4. Externally supported balconies to minimize thermal bridging
5. Exterior canopies with minimal thermal bridging

Other form and character objectives:

6. Pitched roofs create a visual separation between units.



Tilley Row Homes, Austin - US

Architect: Michael Hu

1. Compact massing
2. Small size balconies minimize thermal bridging
3. Deep grey window frames and wood elements provide articulation and contrast with the white cladding, with no impact on energy performance.
4. Limited window-to-wall ratio

Other form and character objectives:

5. Small recesses highlight the entrances, provide weather protection and private outdoor spaces. Townhouses facing the street
6. Pitched roofs create a visual separation between units.

HIGH PERFORMANCE ACHIEVED

These projects demonstrate design approaches (listed below) that have been used to achieve high performance.



The Walk, Bainbridge Island - US

Architect: Davis Studio Architecture + Design

NET ZERO ENERGY

1. Compact massing
2. Limited window-to-wall ratio, with a few large glazed units
3. Visual interest created by the use of different materials and colours with no impact on thermal performance

Other form and character objectives:

4. Entrances facing the street, with weather protection



Tillamook Row, Portland - US

Architect: Green Hammer

ZERO ENERGY, PASSIVE HOUSE

1. Fixed horizontal sunshades and roof overhangs for shading on the south elevation
2. Sliding shutters on east and west elevations for shading and visual interest
3. Individual units have a compact massing.
4. Balconies and canopies with self-supported structure to reduce thermal bridging.
5. Articulation created by the use of different materials, colours and patterns, with no impact on thermal performance.
6. Limited window-to-wall ratio with minimal window framing
7. Rooftop PV array

Ankeny Row Cohousing, Portland - US

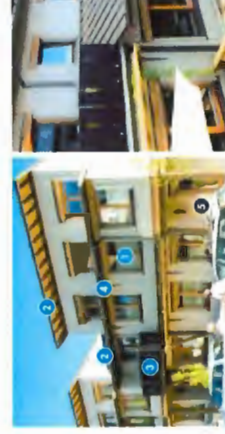
Architect: Green Hammer

PASSIVE HOUSE

1. Limited window-to-wall ratio
2. Roof overhangs provide shading
3. Balconies with structure braced back to the exterior wall to minimize thermal bridging.
4. Articulation provided by elements outside of the thermal envelope.

Other form and character objectives:

5. Entrances facing the street, with weather protection



Stagen, 606 Foster Avenue, Coquitlam - Canada

Architect: Cornerstone Architecture

PASSIVE HOUSE

1. Compact massing
2. Limited window-to-wall ratio
3. Use of various colours and cladding materials to create articulation with no impact on thermal performance
4. Front canopy outside the thermal envelope
5. Fixed horizontal sunshades on south and west elevations

Other form and character objectives:

6. Entrances facing the street, with weather protection



PART 9 DUPLEXES - CASE STUDIES

CONVENTIONAL STRATEGIES

These projects demonstrate conventional design approaches (listed below) that would be challenging to accommodate in high-performance buildings.



The Bridge Lynn Valley Homes, 1163 Harold Road, North Vancouver - Canada

1. Very complex roof lines and overall massing increase heat losses through the additional building envelope area
2. Numerous complex junctions introduce additional thermal bridging and make it more challenging to achieve a high level of airtightness
3. Window-to-wall ratio similar for all orientations
4. Small windows increase heat losses through window frames



310 11th Street East, North Vancouver - Canada

1. Complex massing and roof lines increase heat losses through the additional building envelope area
2. Numerous complex junctions introduce additional thermal bridging and make it more challenging to achieve a high level of airtightness

HIGH PERFORMANCE STRATEGIES

Although these projects have not reached high levels of energy performance, the following features demonstrate design practices aligned with high performance.



4236 Inverness Street, Vancouver - Canada

1. Simple and compact massing
 2. Exterior canopy outside of thermal envelope, minimizing thermal bridging
 3. Low window to wall ratio
- Other form and character objectives:
4. Entrances facing the street, with weather protection



Dickens, 1041 East 16th Avenue, Vancouver - Canada

Architect: Evolve International Design

1. Simple and compact 'box' massing
2. Porches and canopies supported by external structure to limit thermal bridging
3. Overall low window-to-wall ratio
4. Higher window-to-wall ratio on the south, lower on the north
5. Deep frame around upper south windows provide summertime shading

Other form and character objectives:

6. Entrances facing the street, with weather protection

HIGH PERFORMANCE ACHIEVED

These projects demonstrate design approaches (listed below) that have been used to achieve high performance.

Mary Street Duplex, Victoria - Canada

Architect: hcma

PASSIVE HOUSE CERTIFIED

1. Compact massing
 2. South-facing clerestory glazing provides solar gains and daylighting on north side of building
 3. Use of different cladding materials and colours to create articulation with no impact on thermal performance
 4. Large overhang on south elevation provides summertime shading
 5. East and west facades shaded with exterior blinds and vegetated structure
 6. Balcony supported by exterior structure
- Other form and character objectives:
7. Entrances facing the street



Furhaus, 1152 East 13th Avenue, Vancouver - Canada

Architect: b Squared Architecture

PASSIVE HOUSE

1. Roof overhang and fixed horizontal sunshades over south-facing windows provide summertime shading
2. Exterior canopies outside the thermal envelope provide shading
3. Limited window-to-wall ratio
4. Compact volumetry
5. Large windows with minimal framing



South Deerfield Net Zero Energy Duplex, South Deerfield - US

Architect: Fitch Architecture & Community Design

NET ZERO ENERGY, TIER 3 ENERGY STAR

1. Simple and compact massing
 2. Limited window-to-wall ratio
 3. Front canopy outside the thermal envelope with minimal thermal bridging
 4. Rooftop PV array
- Other form and character objectives:
5. Entrances facing the street, with weather protection



Rainbow Passive House Duplex, Whistler - Canada

Architect: Marika Design + Consulting

PASSIVE HOUSE

1. Low window-to-wall ratio
 2. Balconies and canopies supported by external structure limit thermal bridging
 3. Fixed horizontal sunshades over windows
 4. Exterior blinds on the south
 5. Rooftop solar thermal array
- Other form and character objectives:
6. Entrances facing the street, with weather protection





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10. **2022 BC ENERGY STEP CODE AND GHG REQUIREMENTS FOR NEW BUILDINGS**

(File Ref. No. 10-6125-07-02, 12-8060-20-010365/10364) (REDMS No. 6898984, 6895944, 6900256, 6836452, 6846449, 6846377)

- (1) *That Building Regulation Bylaw 7230, Amendment Bylaw 10365, which amends Sections 10.1.1 and 16.1 regarding updates to existing BC Energy Step Code and greenhouse gas intensity (GHGI) requirements for Part 9 residential buildings and Part 3 residential, hotel, commercial and office buildings, be introduced and given first reading;*
- (2) *That for buildings requiring a Development Permit, notwithstanding the adoption of Building Regulation Bylaw 7230, Amendment Bylaw 10365:*
 - (a) *If a Development Permit is issued prior to July 1, 2022, the owner may, while their Development Permit remains valid, apply for a Building Permit in compliance with energy efficiency requirements applicable prior to the adoption of Bylaw 10365; or*
 - (b) *If an acceptable Development Permit application has been submitted to the City prior to adoption of Bylaw 10365, is considered and endorsed by the Development Permit Panel prior to July 1, 2023, and has a complete Building Permit application acceptable to the City submitted prior to July 1, 2023, the owner may apply for a Building Permit in compliance with energy efficiency requirements applicable prior to adoption of Bylaw 10365.*
- (3) *That Official Community Plan Bylaw 9000, Amendment Bylaw 10364, which amends Section 14.2.10 to Schedule 1 (Development Permit Guidelines) regarding the use of design approaches and technologies that improve the energy performance of buildings, be introduced and given first reading;*



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- (4) *That Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364, having been considered in conjunction with:*
- (a) *the City's Financial Plan and Capital Program; and*
 - (b) *the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans;*

is hereby found to be consistent with said program and plans, in accordance with Section 477(3)(a) of the Local Government Act; and

- (5) *That Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364, having been considered in accordance with Section 475 of the Local Government Act and the City's Official Community Plan Bylaw Preparation Consultation Policy 5043, is found not to require further consultation.*

ADOPTED ON CONSENT



**Richmond Official Community Plan Bylaw 9000, Amendment Bylaw
10364 (Development Permit Guidelines for Low Carbon, Energy
Efficient Buildings)**

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

- 1) Richmond Official Community Plan Bylaw 9000, as amended, is further amended at Section 14.2.10 Green Buildings and Sustainable Infrastructure, by deleting the words:

"The intent is to provide general direction in regards to the voluntary undertaking, where feasible, of green building and sustainable infrastructure to support City of Richmond sustainability objectives and help reduce the demand for energy and resources."

and replacing them with:

"The intent is to provide general direction in regards to the undertaking of green building and sustainable infrastructure to support City of Richmond greenhouse gas (GHG) emission reduction and sustainability objectives and help reduce the demand for energy and resources."

- 2) Richmond Official Community Plan Bylaw 9000, as amended, is further amended at Section 14.2.10 Green Buildings and Sustainable Infrastructure, by deleting the text of subsection 14.2.10.A Low Carbon, Energy Efficient Buildings in its entirety and replacing it with the following:

14.2.10.A Low Carbon, Energy Efficient Buildings

- a) New buildings are encouraged to be designed to achieve low or zero GHG emissions in their operations.
- b) As required in the Building Regulation Bylaw, applicable new buildings will be designed and constructed to meet the BC Energy Step Code to support more energy efficient development, which may include, but may not be limited to, the high-performance building considerations set out in the table below.
 - Through rezoning, Development Permit and other permit approval processes, proposed buildings shall demonstrate compliance with the applicable requirements of the BC Energy Step Code to the satisfaction of the City (for example, by providing energy modelling outputs).

- Compliance with a given Step of the BC Energy Step Code shall not compromise the intent of any of the Development Permit Guidelines contained in Schedule 1 or Schedule 2 of the OCP.
- In the event that, during the Building Permit process, a new building subject to an approved Development Permit requires remedial actions to achieve compliance with the applicable step of the BC Energy Step Code, any such remedial actions shall not compromise the intent of the Development Permit Guidelines applicable to the building.

Features	High-Performance Building Considerations
Massing & Roofs	<ul style="list-style-type: none"> • Consider compact massing to reduce the overall size of the building envelope¹. • Consider simple building and roof forms to enhance thermal performance. • Use fewer architectural features with complex junctions that may contribute to heat loss due to thermal bridges² and/or increased building envelope area (e.g., bay windows, dormers, recesses, and stepping).
Orientation & Shading	<ul style="list-style-type: none"> • Consider strategic building and window orientations that enhance opportunities for winter solar heat gain and summer shading. • Provide external shading devices on key south and west facades (e.g., balconies, fins, blinds, shutters, and deciduous trees). • Include operable windows to enable natural ventilation.
Windows & Daylighting	<ul style="list-style-type: none"> • Limit the window-to-wall-ratio (WWR)³ to reduce solar heat gain (i.e. typically 40% or less, as applicable). • Consider fewer, larger windows (rather than more smaller or multi-pane windows) to minimize thermal bridging through window frames, mullions, and muntins. • Raise window sills to reduce window size without compromising daylighting.
Balconies & Roof Decks	<ul style="list-style-type: none"> • Use thermally-broken⁴ balcony designs (e.g., modified slab, pinned, hanging, and self-supported) to reduce thermal bridging at building connection points. • Avoid recessed balconies and/or consider stacking recessed balconies to reduce thermal bridging due to increased wall area, corners, and connection points. • Where appropriate, consider using roof decks in place of balconies.

Envelope Materials & Design	<ul style="list-style-type: none"> • Increase insulation (e.g., thicker exterior wall assemblies and triple glazing), especially where heat loss is unavoidable (e.g., due to a high WWR). • Reduce use of lower-performing window/wall systems (e.g., curtain wall). • Where appropriate, consider enhancing thermal performance of the building envelope by utilizing variation in colour, materials, and pattern as building articulation strategies in lieu of complex massing and architectural features.
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¹ “Building envelope” means the connected system of foundations, floors, windows, walls, ceilings and/or roofs, which provide an air, moisture and heat insulation barrier separating the conditioned interior spaces of a building from unconditioned interior spaces (for example, an unheated garage or attic) and/or the outdoors.

² “Thermal bridge” means a building component or system that permits a greater heat transfer through the building envelope than surrounding materials.

³ “Window-to-wall ratio (WWR)” means, for a given building, the total surface area of windows, divided by the total wall area (including windows).

⁴ “Thermally-broken” means use of a building component or system to minimize heat transfer through the building envelope by mitigating potential thermal bridges.

3) This Bylaw is cited as “**Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10364**”.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

ADOPTED

Ready for

JUN 13 2022



MAYOR

CORPORATE OFFICER