



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

Tuesday, September 2, 2014 – 7 p.m.

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

CALL TO ORDER

APPOINTMENT OF ACTING CORPORATE OFFICER

That Hanieh Berg be appointed as Acting Corporate Officer as provided under Section 148 of the Community Charter for the purposes of this meeting.



OPENING STATEMENT

Page

1. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 9146 (RZ 13-644887)**
(File Ref. No. 12-8060-20-009146; RZ 13-644887) (REDMS No. 4227183 v.2)

PH-5

[See Page PH-5 for full report](#)

Location: 8600 and 8620 No. 2 Road

Applicant: Balandra Development Inc.

Purpose: To rezone the subject property from “Single Detached (RS1/E)” to “Low Density Townhouses (RTL4)”, to permit development of nine (9) townhouse units.

First Reading: July 14, 2014

Order of Business:

1. Presentation from the applicant.

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2. Acknowledgement of written submissions received by the City Clerk since first reading.
- PH-39** (a) **Walter Xinlong Song**, 8628 No. 2 Road (Dated August 24, 2014)
- PH-40** (b) **Walter Xinlong Song**, 8628 No. 2 Road (Dated August 26, 2014)
3. Submissions from the floor.

Council Consideration:

1. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 9146.



2. **RICHMOND OFFICIAL COMMUNITY PLAN BYLAW 9000, AMENDMENT BYLAW 9147**

(File Ref. No. 12-8060-20-009147) (REDMS No. 4259204 v.5)

PH-41

See Page PH-41 for full report

Location: City-Wide

Applicant: City of Richmond

Purpose: To amend the Official Community Plan by including policies on requiring townhouses to meet specific energy efficiency measures (EnerGuide 82 and solar hot water-ready), or alternatively, to connect to a renewable energy system.

First Reading: July 14, 2014

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 9000, Amendment Bylaw 9147.



2. Adoption of Official Community Plan Bylaw 9000, Amendment Bylaw 9147.



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3. **RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 9159 (RZ 13-649641)**

(File Ref. No. 12-8060-20-009159; RZ 13-649641) (REDMS No. 4126857 v.7)

PH-50

See Page PH-50 for full report

Location: 9700 and 9740 Alexandra Road

Applicant: Polygon Development 296 Ltd.

Purpose: To create a new Site Specific Zone - “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)” for the intent of accommodating town house developments with a density bonus for a monetary contribution to the City’s capital Affordable Housing Reserve Fund, and;

To rezone the subject property from “Two-Unit Dwellings (RD1)” and “Single Detached (RS1/F)” to “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)”, to permit development of approximately 64 three-storey townhomes.

First Reading: July 28, 2014

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 9159.



4. **RICHMOND OFFICIAL COMMUNITY PLAN BYLAW 7100, AMENDMENT BYLAW 9164 AND RICHMOND ZONING BYLAW 8500, AMENDMENT BYLAW 9163 (RZ 14-656219)**

(File Ref. No. 12-8060-20-009163/009164; RZ 14-656219) (REDMS No. 4287209 v.2)

PH-198

See Page PH-198 for full report

Location: 9191 and 9231 Alexandra Road

Applicant: S-8135 Holdings Ltd.

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Purpose of Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 9164:

To amend the West Cambie Area Plan, Schedule 2.11A, to accommodate townhouses with live/work dwelling units on the subject site, by:

- i) amending the land use designation on the Alexandra Neighbourhood Land Use Map from “Mixed Use” to “Residential Mixed Use” for the subject properties; and
- ii) incorporating related text and map changes to Section 8.2 of Schedule 2.11A.

Purpose of Richmond Zoning Bylaw 8500, Amendment Bylaw 9163:

To create the “Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)” zone; and to rezone the subject property from “Single-Detached (RS1/F)” to “Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)”, to permit development of 49 town house units with 9 live/work dwellings.

First Reading: July 28, 2014

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 9164. ☐
2. Action on second and third readings of Richmond Zoning Bylaw 8500, Amendment Bylaw 9163. ☐

ADJOURNMENT

☐



City of Richmond

Report to Committee Planning and Development Department

To: Planning Committee
From: Wayne Craig
Director of Development

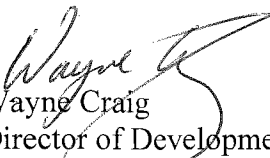
Date: June 27, 2014

File: RZ 13-644887

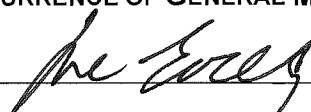
Re: **Application by Balandra Development Inc. for Rezoning at 8600 and 8620
No. 2 Road from Single Detached (RS1/E) to Low Density Townhouses (RTL4)**

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 9146, for the rezoning of 8600 and 8620 No. 2 Road from "Single Detached (RS1/E)" to "Low Density Townhouses (RTL4)", be introduced and given first reading.


Wayne Craig
Director of Development

WC:el

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

Staff Report

Origin

Balandra Development Inc. has applied to the City of Richmond for permission to rezone 8600 and 8620 No. 2 Road (Attachment 1) from “Single Detached (RS1/E)” zone to “Low Density Townhouses (RTL4)” zone in order to permit the development of nine (9) townhouse units.

Project Description

The two (2) properties, with a total combined frontage of 43.29 m, are proposed to be consolidated into one (1) development parcel containing a total of nine (9) townhouse units. The proposed density is 0.6 FAR. The layout of the townhouse units is oriented around one driveway providing access to the site from No. 2 Road and a north-south drive aisle providing access to the unit garages. The amenity area is situated in a central open courtyard at the rear of the site. A total of four (4) brownstone-style buildings are proposed: a triplex and a duplex with two (2) levels of habitable space plus inhabitable dormers in the roof structures, fronting No. 2 Road; and two (2) 2½-storey duplexes along the rear yard interface with single-family housing to the east. While the proposed rear yard setback complies with the Townhouse Development Requirements under the Arterial Road Policy and exceeds the RTL4 zoning bylaw requirements, a front yard setback variance is being requested. A preliminary site plan, building elevations, and landscape plan are contained in Attachment 2.

Findings of Fact

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

Surrounding Development

To the North: Single-family homes on large lots zoned “Single Detached (RS1/E)” and under Land Use Contract (LUC141); and then two (2) newer homes on compact lots with lane access, zoned “Compact Single Detached (RC1)”, at the corner of Danube Road and No. 2 Road.

To the South: Single-family homes on large lots zoned “Single Detached (RS1/E)”; and then a 10 unit two-storey townhouse development on a lot zoned “Low Density Townhouses (RTL1)” at the corner of Francis Road and No. 2 Road.

To the East: Single-family homes on smaller lots under Land Use Contract (LUC141), fronting Delaware Road.

To the West: Across No. 2 Road, a mix of single-family homes on larger and smaller lots zoned “Single Detached (RS1/E)” and a duplex on a lot zoned “Two-Unit Dwellings (RD2)” with accesses to No. 2 Road as well as newly developed dwellings with lane accesses on lots zoned “Coach Houses (RCH)”.

Related Policies & Studies

Arterial Road Policy

The Arterial Road Policy in the 2041 OCP, Bylaw 9000, directs appropriate townhouse development onto certain arterial roads outside the City Centre. The subject site is identified for “Arterial Road Town House Development” on the Arterial Road Development Map and meets most of the Townhouse Development Requirements under the Arterial Road Policy. However, the subject site has a lot frontage of 43.29 m which does not meet the minimum frontage requirement of 50 m for townhouse development on major arterial road such as No. 2 Road.

The applicant has been advised of the Townhouse Development Requirements and has been requested to acquire adjacent properties along No. 2 Road to create a larger land assembly that meets the guidelines related to minimum frontage. The applicant advised staff in writing that they have made attempts to acquire adjacent properties but the neighbouring property owners are not interested in selling their properties. This issue will be further discussed under the “Analysis” section below.

Floodplain Management Implementation Strategy

The applicant is required to comply with the requirement of Richmond Flood Plain Designation and Protection Bylaw 8204. In accordance with the Flood Management Strategy, a Flood Indemnity Restrictive Covenant specifying the minimum flood construction level of 2.9 m GSC, or at least 0.3 m above the highest elevation of the crown of any road that is adjacent to the parcel is required prior to rezoning bylaw adoption.

Affordable Housing Strategy

The applicant proposes to make a cash contribution to the affordable housing reserve fund in accordance to the City’s Affordable Housing Strategy. As the proposal is for townhouses, the applicant will make a cash contribution of \$2.00 per buildable square foot as per the Strategy; for a contribution of \$25,608.60.

Public Art

The applicant has agreed to provide a voluntary contribution in the amount of \$0.77 per square foot of developable area for the development to the City’s Public Art fund. The amount of the contribution would be \$9,859.31.

Public Input

The applicant has forwarded confirmation that a development sign has been posted on the site. Due to the mid-block location and the non-conforming site frontage, the applicant has met with adjacent property owners to seek input on the project. The applicant approached owners of 12 properties located adjacent to and across the street (No. 2 Road) from the development site. They have successfully met with the owners of two (2) of the properties and presented them with the proposed architectural renderings. Owners at 8611 Delaware Road received the information but did not provide any comments. Owners of 8651 Delaware Road voiced their concerns to the proposal and have subsequently submitted a letter to the City (Attachment 4) opposing the

proposed rezoning application. No response was received from the owners of the other 10 properties.

A list of concerns raised by the neighbouring residents is provided below, along with developer's responses in *italics*:

1. Loss of privacy and sunlight.

The second floor of the rear units will be set back 6.0 m from the rear (east) property line; which is similar to the setback required from single-family homes. No window facing the rear yard will be proposed on the top floor of the rear units.

A shadow study (Attachment 5) demonstrates that the proposed buildings will not cast any shadow over on the neighbouring back yards to the east.

2. Non compliance with zoning requirements.

This is referring to the proposed front yard setback variance from 6.0 m to 5.4 m. The Arterial Road Guidelines for Townhouses in the OCP support reduced front yard setback where a larger rear yard setback is deemed necessary, provided that there is an appropriate interface with neighbouring properties. The proposed rear yard setbacks at 4.5 m to ground floor and 6.0 m to the second floor exceed the zoning requirement of 3.0 m under the "Low Density Townhouses (RTL4)" zone.

3. The project is far too big for the lots.

The project density at 0.60 FAR is on the low end of the expected density range for townhouse developments under the Arterial Road Policy in the OCP.

4. Prefer to see duplex units at same height as the surrounding houses.

Duplex units are proposed along the rear yard interface with single-family housing. The maximum building height of single family dwelling is 9.0 m. The proposed building height of the duplex unit along the rear property line is 10.65 m. Staff will work with the developer to develop options in order to bring the overall building height down, during the Development Permit process.

5. Prefer to see a cedar hedge along the common property line.

The developer has agreed to provide a minimum 2.75 m (9 ft.) tall hedge to address overlook concerns and provide screening.

Staff Comments

Tree Retention and Replacement

A Tree Survey and a Certified Arborist's Report were submitted in support of the application. The City's Tree Preservation Coordinator has reviewed the Arborist Report and has provided the following comments:

- 15 trees are identified on-site and all of these trees are low value fruit trees (i.e., Fig, Apple, Pear and Plum trees). Nine (9) of these trees are suitable for retention but are in conflict with the building envelope; five (5) of these trees are unsuitable for retention due to structural defects.

- One multi-branching fig tree was recommended for retention in the Arborist report; however, a site assessment noted there will be a required 1m (minimum) raising of existing grades around the tree to meet the Flood Protection bylaw requirements. Due to the low value nature of this tree and impact of raising the site grade, it is recommended that this tree be removed and replaced at 2:1 ratio.

A Tree Management Plan can be found in Attachment 6.

Tree Replacement

Based on the 2:1 tree replacement ratio goal stated in the Official Community Plan (OCP), 32 replacement trees are required for the removal of 16 trees. According to the Preliminary Landscape Plan (Attachment 2), the developer is proposing to plant 23 new trees on-site; size and species of replacement trees and overall landscape design will be reviewed in detail at the Development Permit stage. The applicant has agreed to provide a voluntary contribution of \$4,500 to the City's Tree Compensation Fund in lieu of planting the remaining nine (9) replacement trees should they not be accommodated on the site.

Tree Protection

Two (2) cedar hedge rows located along the east and south property line are identified for retention. Tree protection fencing is required to be installed as per the Arborist Report recommendations prior to any construction activities (including demolition) occurring on-site. In addition, proof that the owner has entered into a contract with a Certified Arborist to monitor all works to be done near or within the tree protection zone will be required prior to final adoption of the rezoning bylaw.

In order to ensure that the hedge rows along the east and south property line will not be damaged during construction, a Tree Survival Security will be required as part of the Landscape Letter of Credit at Development Permit stage to ensure that these hedges will be protected. No Landscape Letter of Credit will be returned until the post-construction assessment report, prepared by the Arborist, confirming the protected hedge rows survived the construction, is reviewed by staff.

Should the applicant wish to begin site preparation work after third reading of the rezoning bylaw, but prior to final adoption of the rezoning bylaw and issuance of the Development Permit, the applicant will be required to obtain a Tree Permit, install tree protection around trees/hedge rows to be retained, and submit a landscape security in the amount of \$16,000 to ensure the replacement planting will be provided.

Site Servicing and Frontage Improvements

No capacity analysis and service upgrades are required. Prior to final rezoning bylaw adoption, the developer is required to:

- Consolidate the two (2) lots into one (1) development parcel;
- Replace the existing Sanitary SRW along the east property line (due to sub-standard dimensions and configurations) with a new 3.0 m wide SRW along the entire east property line of the development site; and

- Grant a 0.17 m Public Rights-of-Passage (PROP) Statutory Right-of-Way (SRW) along the entire frontage on No. 2 Road for frontage improvement works (i.e., a 1.5 m sidewalk and 1.5 m boulevard).

Prior to issuance of a Building Permit, the developer is required to:

- Enter into the City's standard Servicing Agreement for the design and construction of frontage improvements and service connections (see Attachment 7 for details); and
- Pay DCC's (City & GVS&DD), School Site Acquisition Charge, Address Assignment Fee, and servicing costs.

Vehicle Access

One (1) driveway from No. 2 Road is proposed. The long-term objective is for the driveway access established on No. 2 Road to be utilized by adjacent properties to the north and south if they apply to redevelop. A Public Right-of-Passage (PROP) Statutory Right-of-Way (SRW) over the entire area of the proposed driveway and the internal manoeuvring aisle will be secured as a condition of rezoning.

Indoor Amenity Space

The applicant is proposing a contribution in-lieu of on-site indoor amenity space in the amount of \$9,000 as per the Official Community Plan (OCP) and Council Policy.

Outdoor Amenity Space

Outdoor amenity space will be provided on-site. Based on the preliminary design, the size of the proposed outdoor amenity space complies with the Official Community Plan (OCP) requirements of 6 m² per unit. Staff will work with the applicant at the Development Permit stage to ensure the configuration and design of the outdoor amenity space meets the Development Permit Guidelines in the OCP.

Sustainability Features

The applicant has committed to achieving an EnerGuide rating of 82 and providing pre-ducting for solar hot water for the proposed development. City staff in the Sustainability Division has identified that the commitment to achieve an EnerGuide rating of 82 for the proposed development yields the following approximate per unit estimates of annual energy and greenhouse gas (GHG) savings (based on median amounts and averaged electric and natural gas units):

- Annual energy savings: 8.6 GJ (2,400 kWh) or 15% of annual energy costs; and
- Annual GHG savings: 0.20 tonnes of CO₂ emissions.

The details of construction requirements needed to achieve the rating will be resolved as part of the Development Permit Application review process.

Analysis

Official Community Plan (OCP) Compliance

The proposed development is generally consistent with the Neighbourhood Residential land use designation in the 2041 OCP and satisfies the OCP location criteria and development requirements for arterial road townhouse developments. The frontage of the development site is 43.29 m, which does not comply with the minimum frontage requirement of 50.0 m on a major arterial road. In support to the application, the applicant has developed a concept plan showing how the rest of the block could be redeveloped (on file).

Staff support the proposed development based on the following:

- The subject site is specifically identified for townhouse development in the Official Community Plan (OCP).
- The subject proposal is not the first townhouse development on the block as townhouses already exist at the corner of No. 2 Road and Francis Road.
- The adjacent property owners are not interested in redeveloping their properties at this time.
- The subject proposal will not restrict future development of lands to the north or south of the subject site.
- A Public Rights of Passage (PROP) Statutory Right of Way (SRW) on the subject site will be secured to provide vehicle access to future developments to the north and south along No. 2 Road.
- The project density at 0.60 FAR is within the density range for townhouse developments under the Arterial Road Policy in the OCP.
- The streetscape and rhythm created by the proposal (i.e., duplex and triplex along No. 2 Road) respect existing developments along both sides of No. 2 Road.

Requested Variances

The proposed development is generally in compliance with the Low Density Townhouses (RTL4) zone. Based on the review of the current site plan for the project, the following variances are being requested:

1. Reduce the minimum lot width on major arterial road from 50.0 m to 43.29 m.
Staff support the proposed variances based on the discussion above in the OCP Compliance section.
2. Reduce the front yard setback from 6.0 m to 5.4 m.
The Arterial Road Guidelines for Townhouses in the OCP support reduced front yard setback where a larger rear yard setback is deemed necessary, provided that there is an appropriate interface with neighbouring properties. The proposed rear yard setbacks at 4.5 m to ground floor and 6.0 m to the second floor exceed the zoning requirement of 3.0 m under the "Low Density Townhouses (RTL4)" zone. This variance will be

reviewed in the context of the required PROP SRW along the No. 2 Road frontage, at the Development Permit stage.

3. Replace seven (7) standard residential parking stalls with small car stalls, one (1) in each of the side-by-side double car garages.

Current Zoning Bylaw only allows small car parking stalls when more than 31 parking stalls are proposed on site. Transportation staff support the proposed variances to allow one (1) small car stall in each of the side-by-side double car garages.

The variances above will be reviewed in the context of the overall detailed design of the project, including architectural form, site design and landscaping at the Development Permit stage.

Design Review and Future Development Permit Considerations

A Development Permit will be required to ensure that the proposed development is sensitively integrated with adjacent developments. The rezoning conditions will not be considered satisfied until a Development Permit application is processed to a satisfactory level. In association with the Development Permit, the following issues are to be further examined in relation to the site:

- Compliance with Development Permit Guidelines for multiple-family projects contained in Section 14 of the 2041 Official Community Plan Bylaw 9000.
- Building form and architectural character:
 - Refine the proposed brownstone style row house character; while staff appreciate new design languages being introduced to Richmond, how the proposed design complements the existing surrounding developments and how the design complies with the Development Permit Design Guidelines in the OCP should be clearly identified.
 - While the proposed street fronting buildings are 2-storey plus dormers with no habitable space, in the roof structures, the buildings appear to be 3-storeys in height. Massing and articulation should be further developed to reduce the apparent building height at the edges of the site adjacent to existing single-family developments.
 - Revisit the design and apparent height of the duplex buildings along the rear property line. The massing of these duplex buildings should complement the adjacent small single family homes. While the proposed 3rd floor is contained within the main roof slope, the proposed building height is taller than the typical height of similar buildings in other arterial road townhouse developments; impact created by the extra half storey will be further examined.
- Installation of suitable hedging material along the east property line in order to provide a minimum 2.75 m (9 ft.) tall vertical screening to address overlook concerns.
- Site grading requirements to ensure the survival of protected trees.
- Landscaping design and enhancement of the outdoor amenity area.
- Opportunities to maximize permeable surface areas and better articulate hard surface treatment.

Additional issues may be identified as part of the Development Permit application review process.

Financial Impact or Economic Impact

None.

Conclusion

The proposed nine (9) unit townhouse development is consistent with the Official Community Plan (OCP) regarding developments within the Arterial Road Policy area. Further review of the project design is required to ensure a high quality project and design consistency with the existing neighbourhood context, and this will be completed as part of the Development Permit application review process. The list of rezoning considerations is included as Attachment 7, which has been agreed to by the applicants (signed concurrence on file). On this basis, staff recommend support of the application.

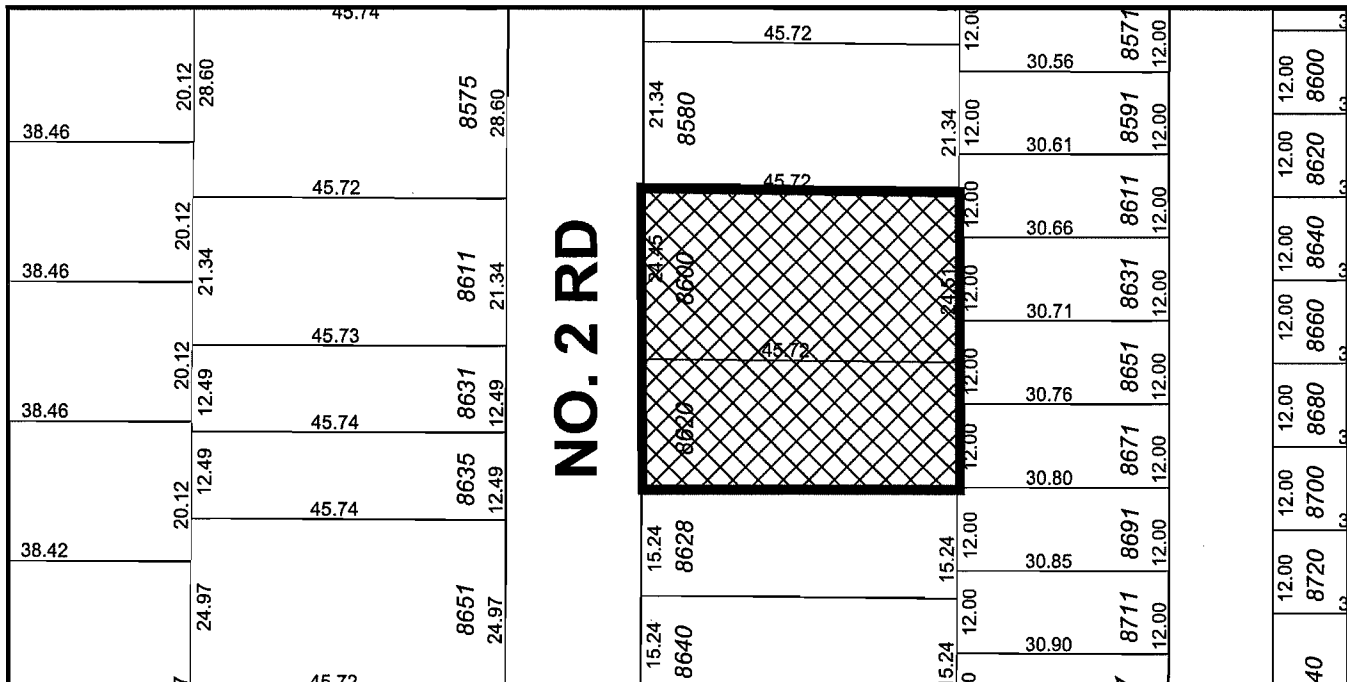
It is recommended that Richmond Zoning Bylaw 8500 Amendment Bylaw 9146 be introduced and given first reading.



Edwin Lee
Planning Technician-Design

EL:rg

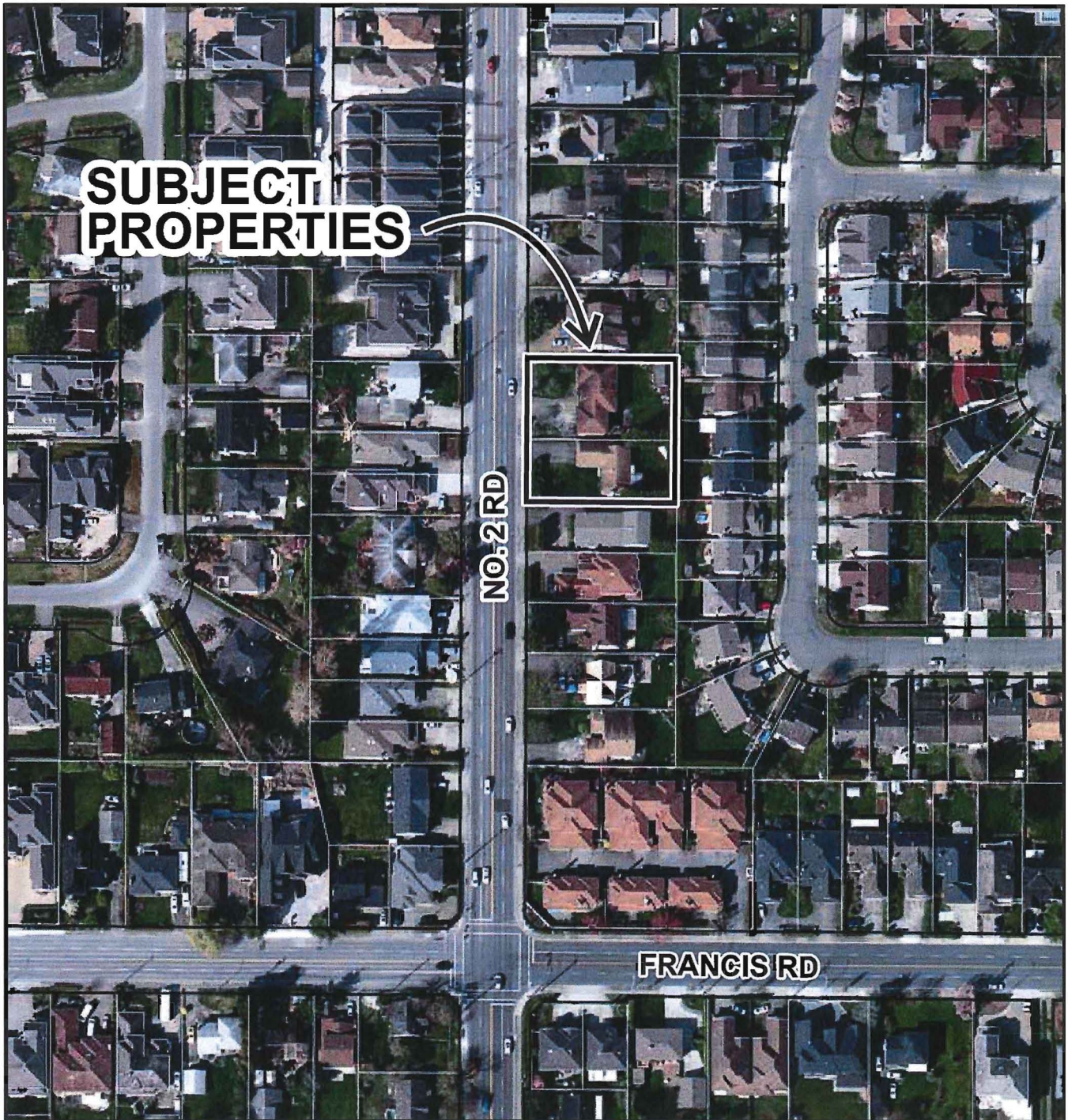
- Attachment 1: Location Map
- Attachment 2: Conceptual Development Plans
- Attachment 3: Development Application Data Sheet
- Attachment 4: Letter Received
- Attachment 5: Shadow Study
- Attachment 6: Tree Management Plan
- Attachment 7: Rezoning Considerations



Note: Dimensions are in METRES



City of
Richmond



RZ 13-644887

Original Date: 06/11/14

Revision Date:

Note: Dimensions are in METRES



- PROVISION OF ACCESSIBILITY FEATURES
"AGING-IN-PLACE" REQUIREMENTS
ON ALL UNITS:**
- Entry door minimum 865 mm clear opening (3'0" swinging door spec.)
 - Hallways minimum 900 mm width
 - Door from garage to living area minimum 2'-10"
 - Grab bars in bathroom (toilet, shower, tub)
 - Blocking to bedrooms for installation of grab-bars (toilet, tub and shower)
 - Provision of lever door handles
 - No windows that are located in the bedroom with a window sill in the bedroom
 - One window that can be opened with a single hand in one bedroom

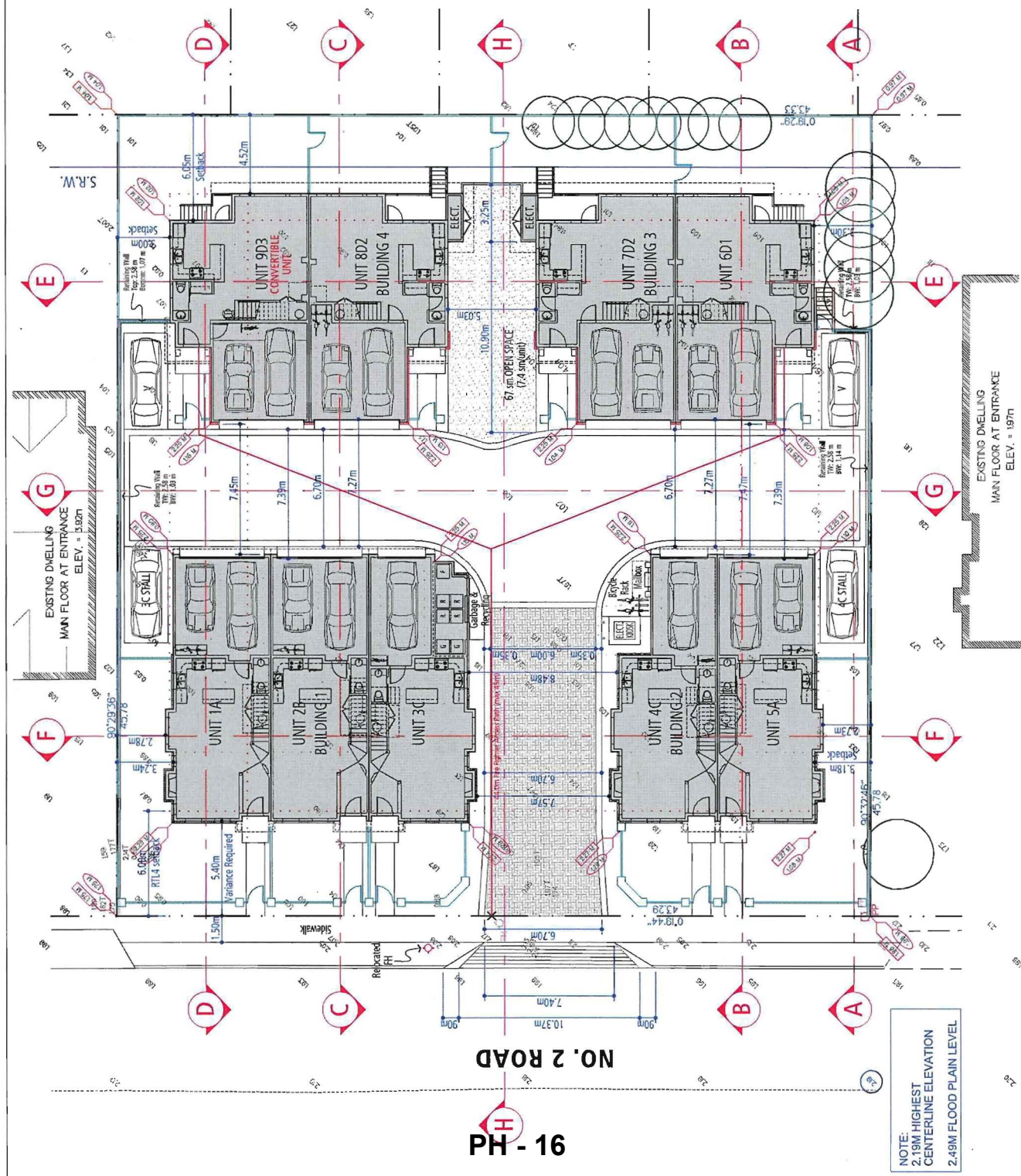
BALAND A
Baland Developments Inc.
100-2727 Parke Road, Richmond, BC, V6X 1S7
AMHERST LANE
8100 NO 2 ROAD

SITE PLAN
SCALE 1/8" = 1'-0"

JUNE 02, 2014
FOUGERE
architecture inc.
SUITE 100, 1000-10000
10000-10000
Vancouver, BC V6T 1K5
fo@fofugere.com
fofugere.com

PLAN#01

ATTACHMENT 2



Residential 2 cars/unit	12	
Total 0.2 car/unit	2	
Total Required	20	
Parking Provided	11	
Standard Stall	7	
Small Stall	2	
Visitor Provided	2	
Total Provided	20	
Zoning Variance:		7 Small Cars
On-site Bicycle Parking Requirements		
Class 1: 1.25 stalls/unit	11.25	
max. 33% vertical Stalls	3.71	
Class 2: 0.2 stall/unit	1.8	
Total Class 1 Stalls Required	12	
Total Class 1 Stalls Provided	12	
Total Class 2 Stalls Required	2	
Total Class 2 Stalls Provided	2	
Horizontal Stalls Provided	9	
Vertical Stalls Provided	3	

LEGEND -



STANDARD CAR STALL
SIZE: 2.5m x 5.5m



SMALL CAR STALL
SIZE: 2.3m x 4.6m

CLASS 1 BIKE STALL
\$176.18m x 0.6m

CLASS 1 BIKE STALL (Vertical)
SIZE: 1.0m x 0.6m

Electric Vehicle Plug-ins

**6.7m Wide Driveway
with 4.4m Vertical Clearance**

PARKING PLAN

SCALE 1/8" = 1'-0"

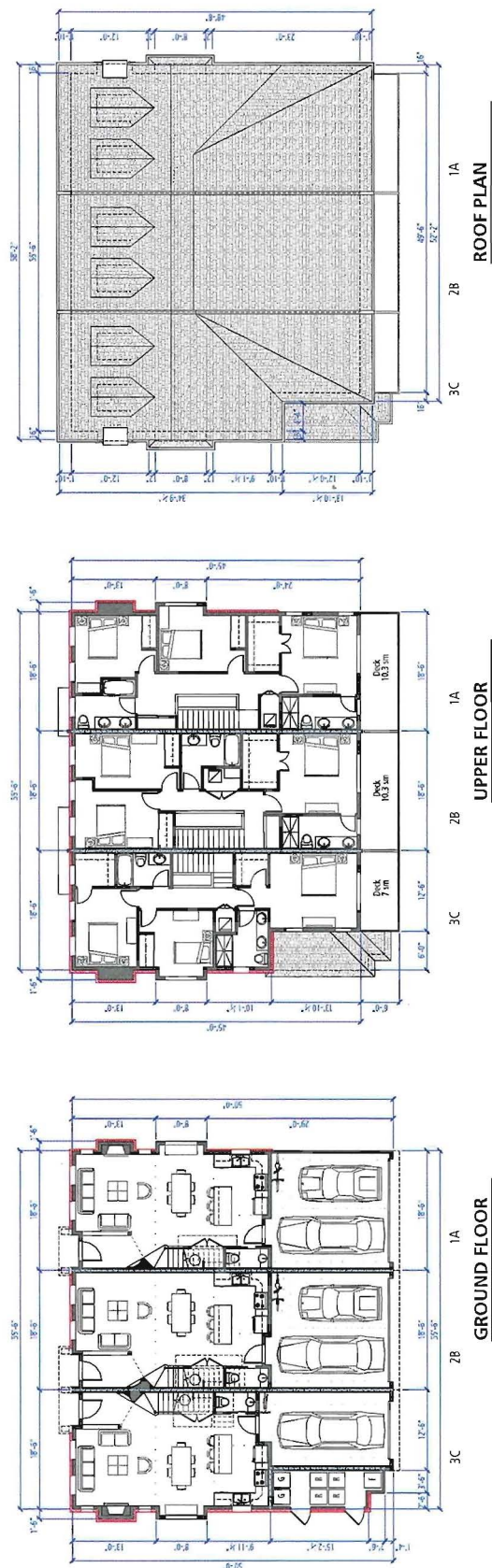
JUNE 02 2014



FOUGERE
architecture inc.

PLAN#02

LA. WASHINGTON
604.873.2907
www.architecture.ca



BALANDRA
Balandra Developments Inc.
P.O. 2527 Pleasant St., Richmond, B.C. V7C 3G2

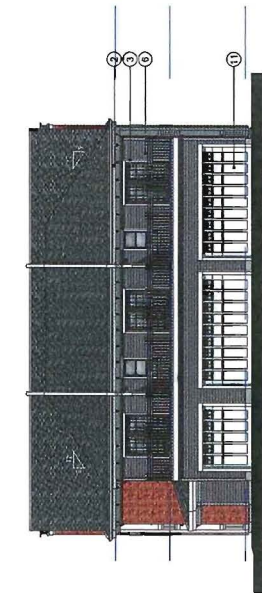
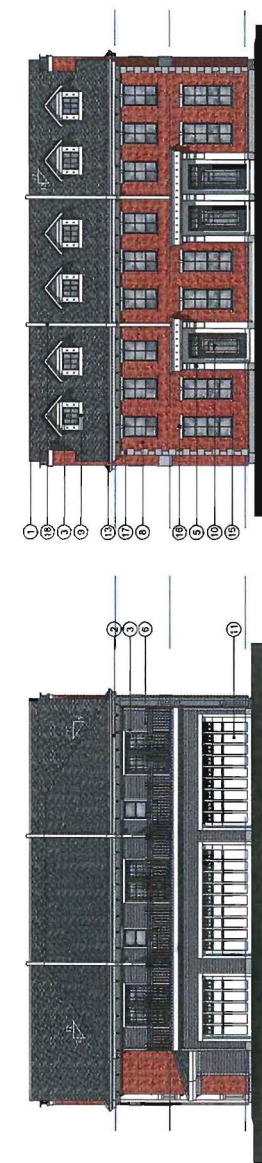
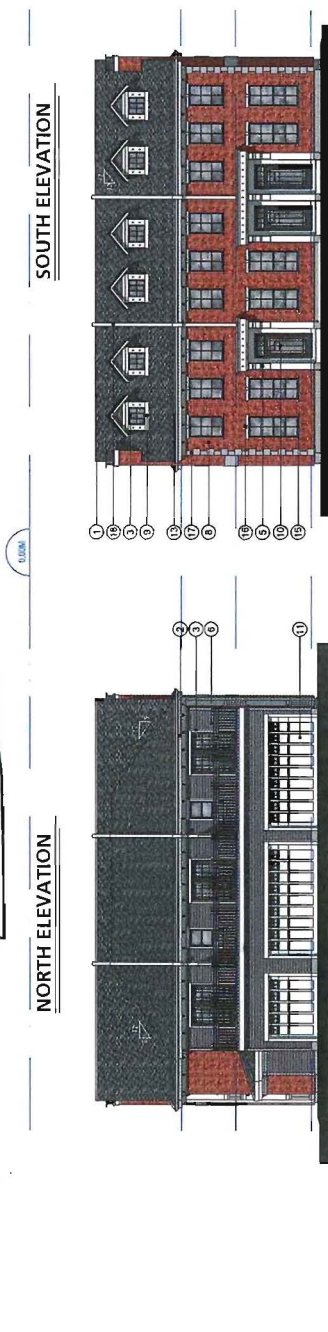
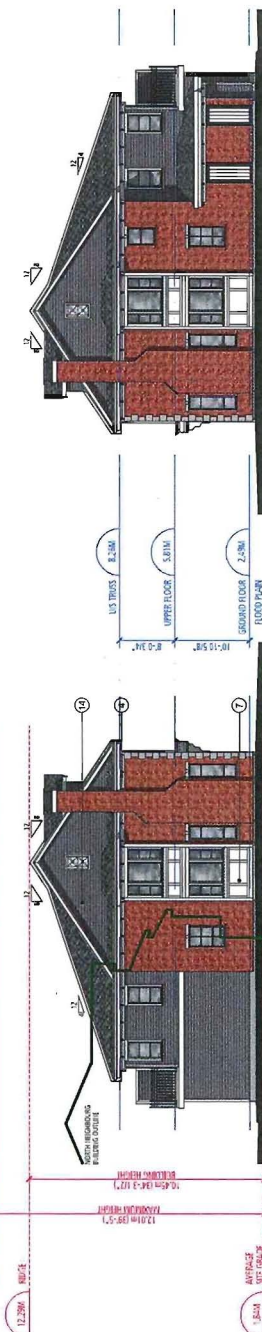
AMHERST LANE
8600 NW 2 ROAD

Balandra Developments Inc.
Box 26522 Portland, OR 97226

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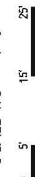
**PROVISION OF ACCESSIBILITY FEATURES
"AGING-IN-PLACE" REQUIREMENTS
ON ALL UNITS:**

- Entry doors minimum 955 mm clear opening (3'-2" swinging door type).
- Door swing into common areas.
- Door must provide a living area minimum 2'-10" (measuring door spec).
- Blocking in bedrooms for installation of grab-bars (bunk, tub and shower).
- Provision of lever door handle.
- One window that can be opened.
- One window that can be opened from inside.
- One window that can be opened with a single hand in one position.



BUILDING 1
SCALE 1/8" = 1'-0"

SCALE 1/8" = 1'-0"



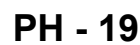
JUNE 02 2014

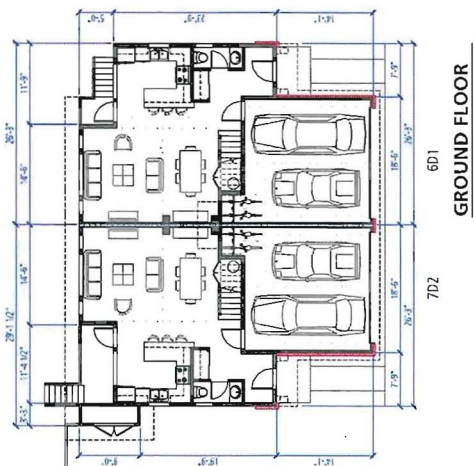


FOUGERE
architecture inc.

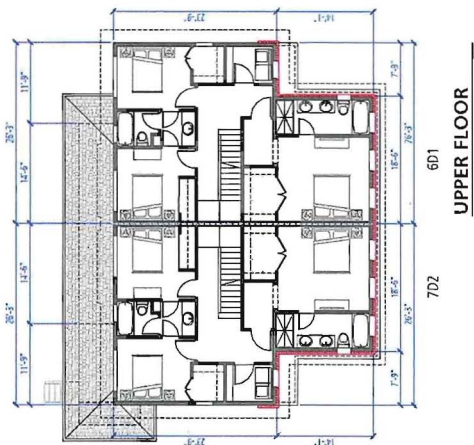
1000 BROADVIEW AVE., SUITE 100, WILLOWDALE, ONTARIO M2H 3B7
416-491-2967
foou@foou.com

PLAN#04

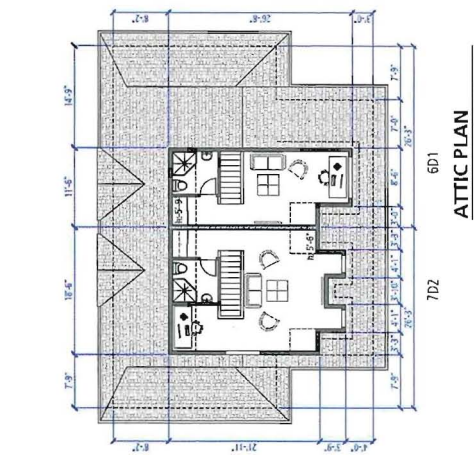




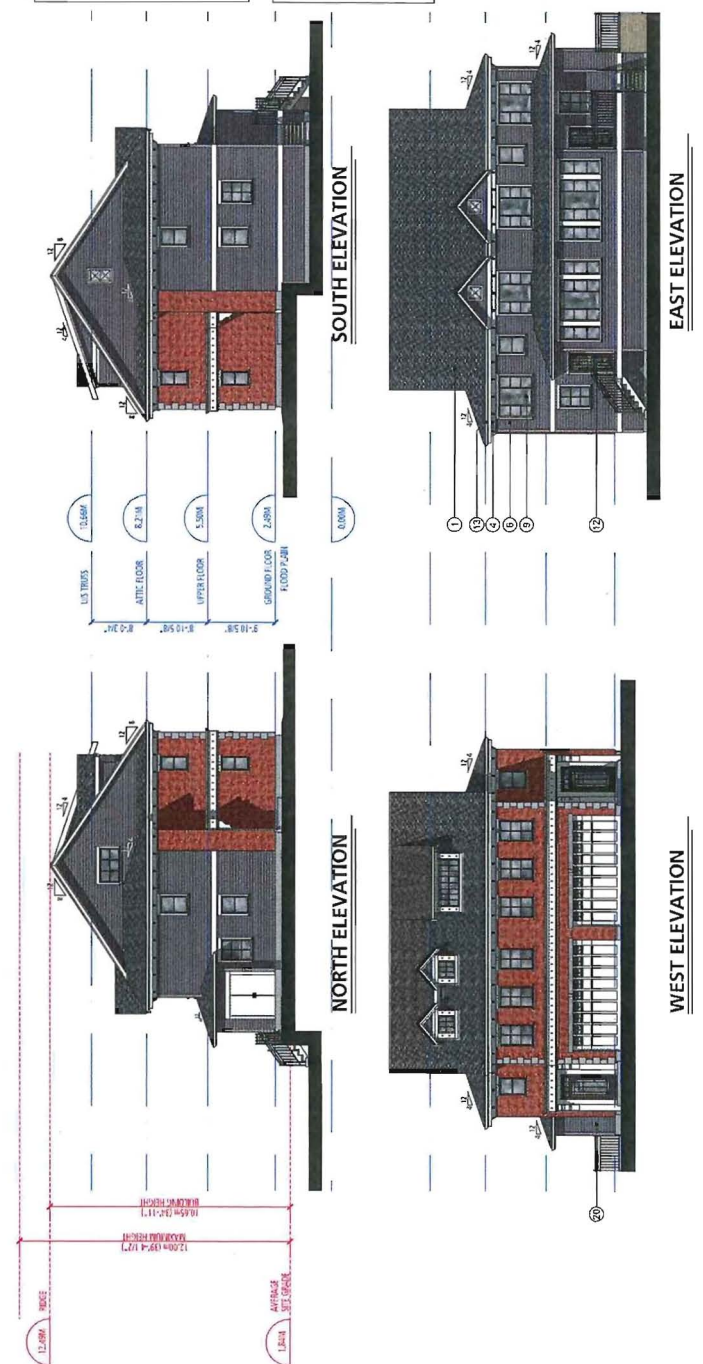
GROUND FLOOR



UPPER FLOOR



ATTIC PLAN

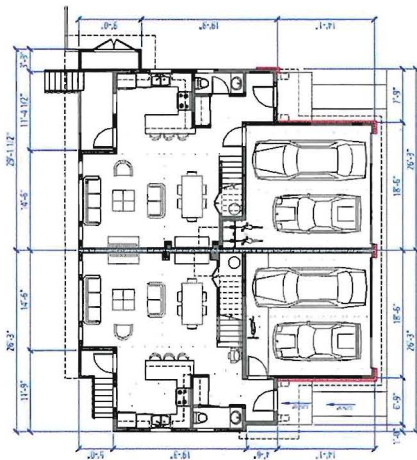


EXTERIOR FINISHES SCHEDULE

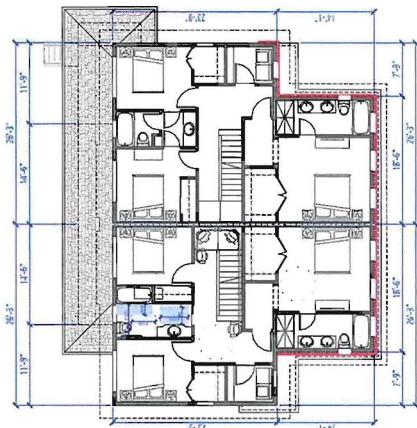
NO.	DESCRIPTION	FINISH
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2	WOOD FLOORING	Engineered Oak - Chestnut Gray
3	WOOD FLOORING	Engineered Oak - Chestnut Gray
4	WOOD FLOORING	Engineered Oak - Chestnut Gray
5	WOOD FLOORING	Engineered Oak - Chestnut Gray
6	WOOD FLOORING	Engineered Oak - Chestnut Gray
7	WOOD FLOORING	Engineered Oak - Chestnut Gray
8	WOOD FLOORING	Engineered Oak - Chestnut Gray
9	WOOD FLOORING	Engineered Oak - Chestnut Gray
10	WOOD FLOORING	Engineered Oak - Chestnut Gray
11	WOOD FLOORING	Engineered Oak - Chestnut Gray
12	WOOD FLOORING	Engineered Oak - Chestnut Gray
13	WOOD FLOORING	Engineered Oak - Chestnut Gray
14	WOOD FLOORING	Engineered Oak - Chestnut Gray
15	WOOD FLOORING	Engineered Oak - Chestnut Gray
16	WOOD FLOORING	Engineered Oak - Chestnut Gray
17	WOOD FLOORING	Engineered Oak - Chestnut Gray
18	WOOD FLOORING	Engineered Oak - Chestnut Gray
19	WOOD FLOORING	Engineered Oak - Chestnut Gray
20	WOOD FLOORING	Engineered Oak - Chestnut Gray

PROVISION OF ACCESSIBILITY FEATURES

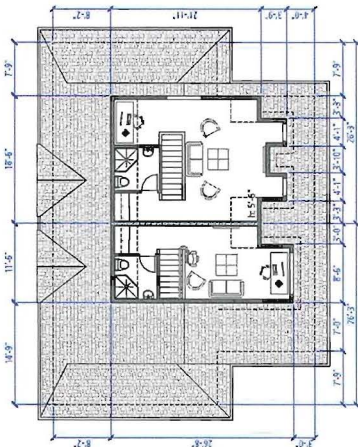
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4	WOOD FLOORING	Engineered Oak - Chestnut Gray
5	WOOD FLOORING	Engineered Oak - Chestnut Gray
6	WOOD FLOORING	Engineered Oak - Chestnut Gray
7	WOOD FLOORING	Engineered Oak - Chestnut Gray
8	WOOD FLOORING	Engineered Oak - Chestnut Gray
9	WOOD FLOORING	Engineered Oak - Chestnut Gray
10	WOOD FLOORING	Engineered Oak - Chestnut Gray
11	WOOD FLOORING	Engineered Oak - Chestnut Gray
12	WOOD FLOORING	Engineered Oak - Chestnut Gray
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16	WOOD FLOORING	Engineered Oak - Chestnut Gray
17	WOOD FLOORING	Engineered Oak - Chestnut Gray
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19	WOOD FLOORING	Engineered Oak - Chestnut Gray
20	WOOD FLOORING	Engineered Oak - Chestnut Gray



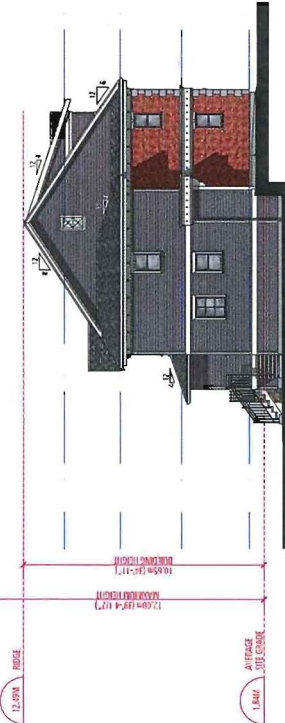
GROUND FLOOR



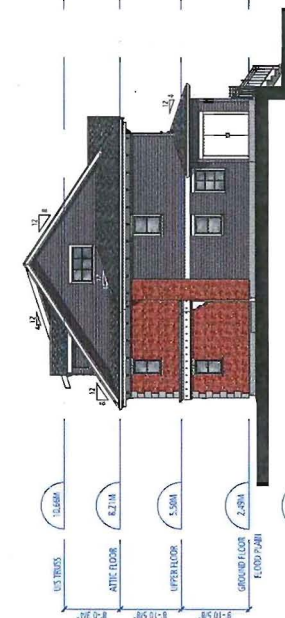
UPPER FLOOR



ATTIC PLAN



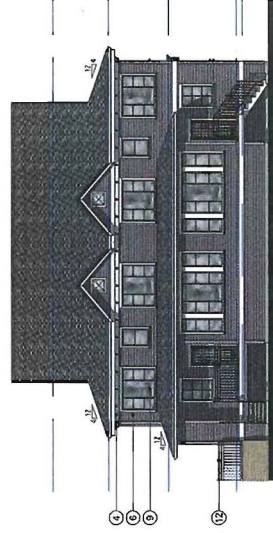
NORTH ELEVATION



SOUTH ELEVATION



WEST ELEVATION



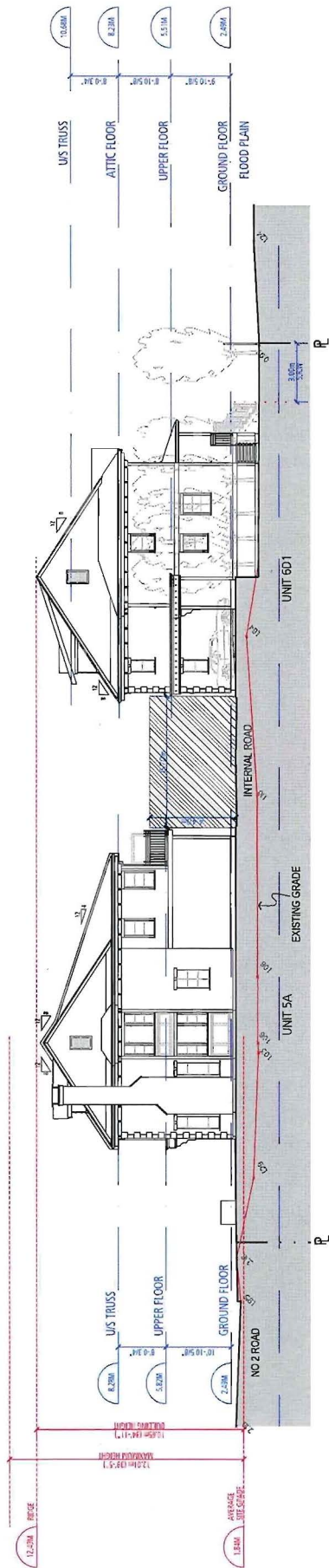
EAST ELEVATION

EXTERIOR FINISHES SCHEDULE

NO.	DESCRIPTION	FINISH
1	WALLS	SEVEN WILLOWS - SW 1000 Level Gray
2	WOOD PANELS	SEVEN WILLOWS - SW 1000 Level Gray
3	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
4	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
5	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
6	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
7	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
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10	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
11	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
12	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
13	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
14	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
15	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
16	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
17	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
18	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
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20	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray

PROVISION OF ACCESSIBILITY FEATURES

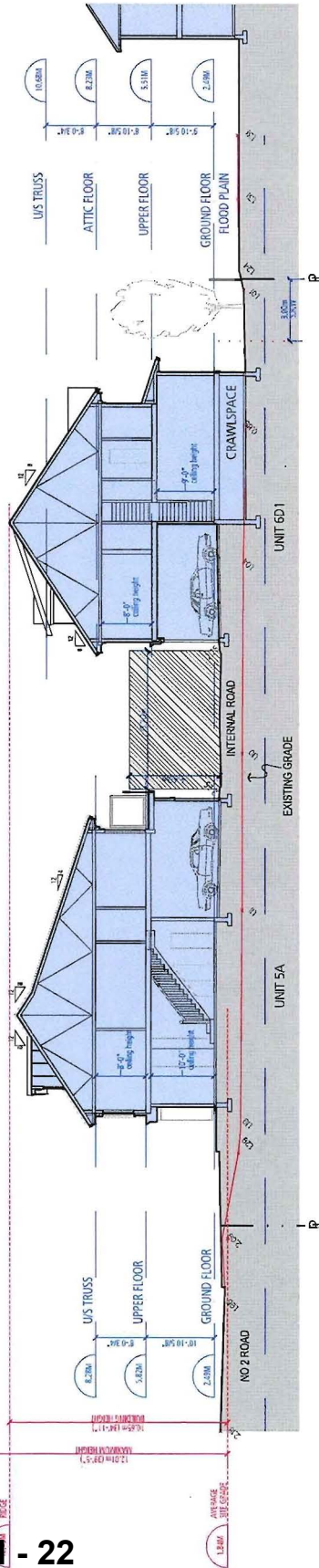
NO.	DESCRIPTION	FINISH
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2	WOOD PANELS	SEVEN WILLOWS - SW 1000 Level Gray
3	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
4	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
5	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
6	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
7	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
8	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
9	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
10	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
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12	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
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14	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
15	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
16	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
17	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
18	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
19	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray
20	WOOD TRIM	SEVEN WILLOWS - SW 1000 Level Gray



SECTION A

PH - 22

BALANDRA
Balandra Developments Inc.
100-20127 Road 2, Amherst, BC V1X 1Y1
AMHERST LANE
ROAD NO 2 ROAD



SECTION B

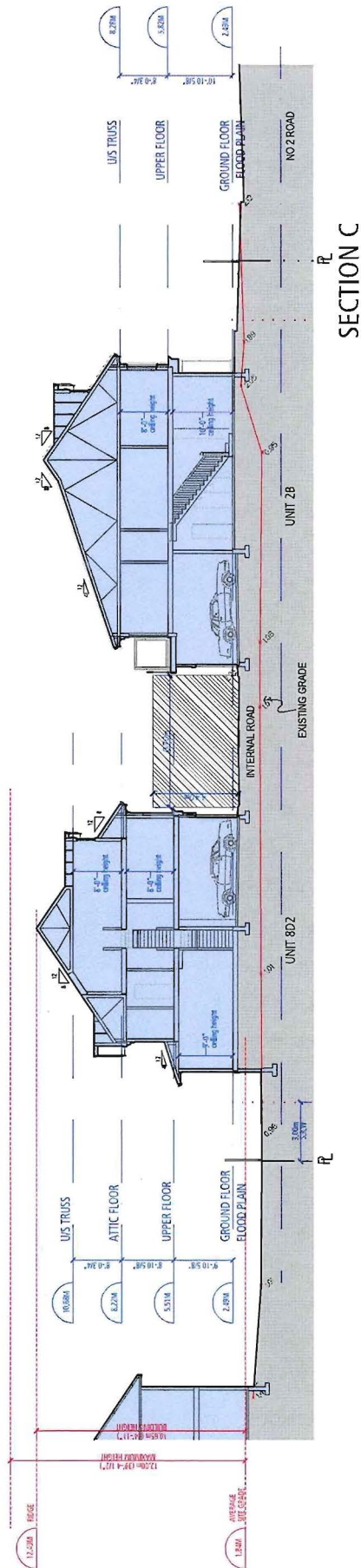
SITE SECTIONS
SCALE 1/8" = 1'-0"



JUNE 02, 2014

FOUGERE
architecture inc.
100-20127 Road 2, Amherst, BC V1X 1Y1
250-495-1111
FOUGERE ARCHITECTURE INC.
VANCOUVER, BC V5T 4E6

PLAN#09



PH - 23



Balandra Developments Inc.
Box 20122 Boulder Ave. Richmond, BC V7C 1G2

AMHERST LANE
R000 NO 2 ROAD

SITE SECTIONS
SCALE 1/8" = 1'-0"

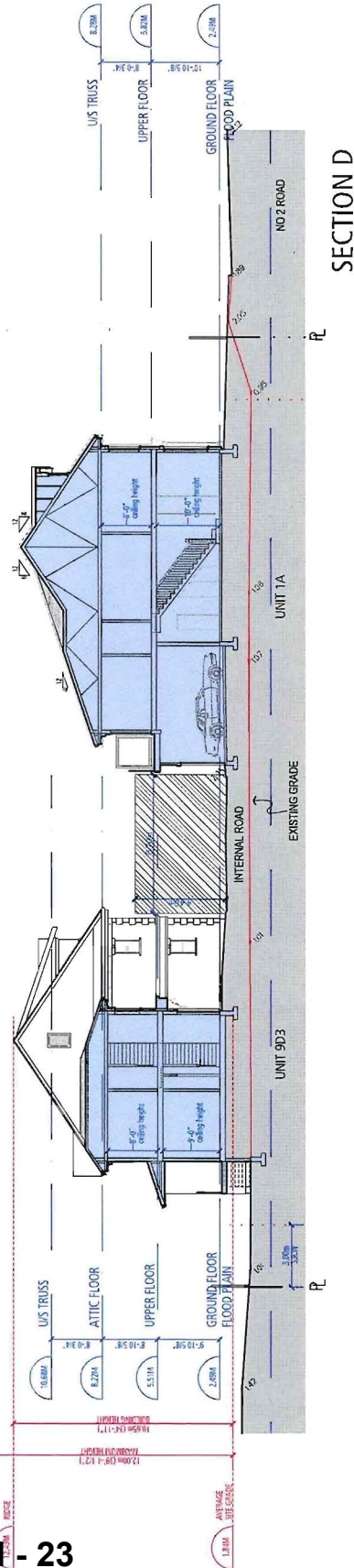


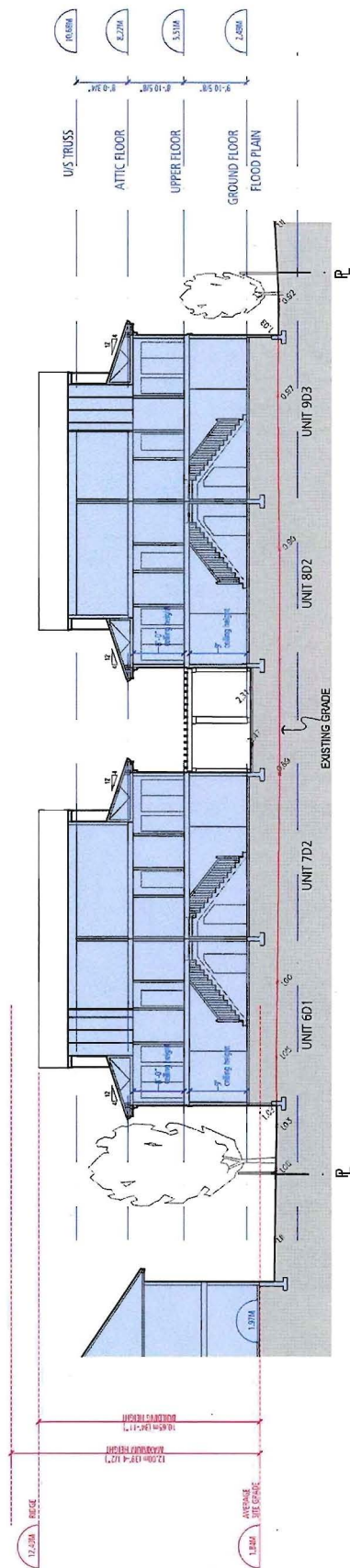
JUNE 02, 2014



FOUGERE
architecture inc.
SUITE 100, 1000-1010 AVENUE DU COMMERCE
VANCOUVER, BC V6C 3K8
Tel: 604.271.1111 Fax: 604.271.1112
www.fougerearchitecture.com

PLAN#10





SECTION E
UNIT 1A

PH - 24



Balandra Developments Inc.
Rte 2422 Road 2 N, Richmond, BC, V7N 1Y7

AMHURST LANE
Rt 600 N° 2 ROAD

SITE SECTIONS
SCALE 1/8" = 1'-0"

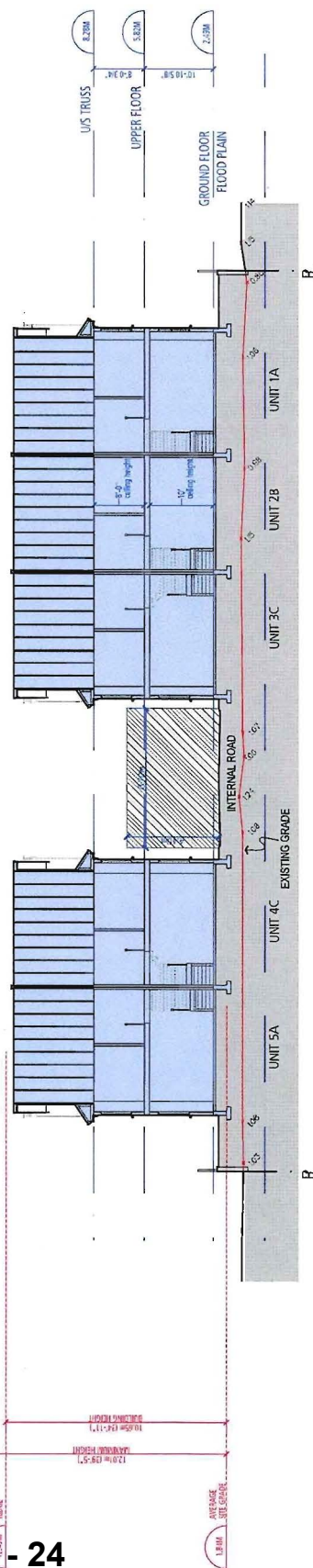
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JUNE 02, 2014

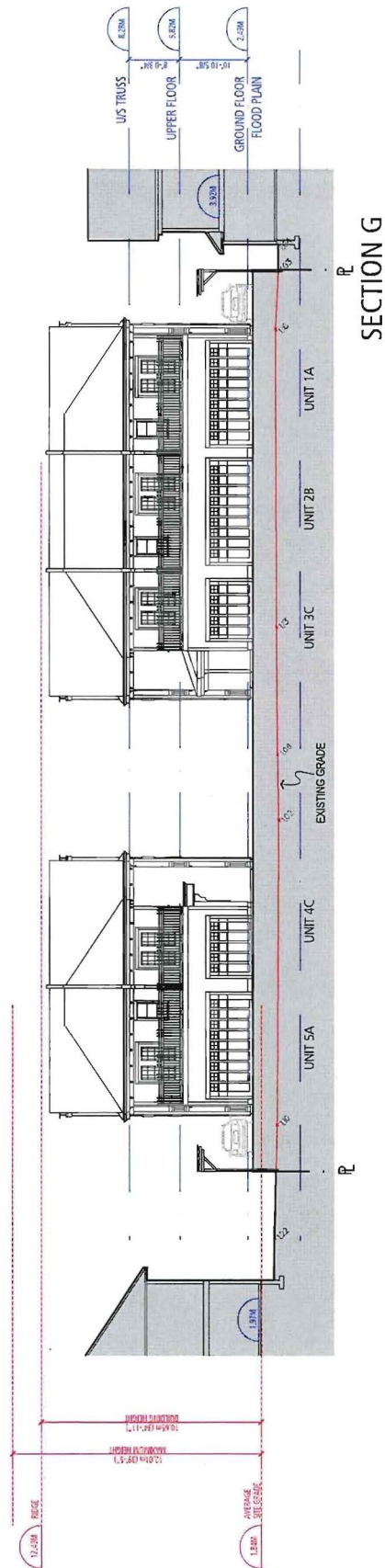


FOUGERE
architecture inc.
BENTLEY COLLABORA • ALBERTA • VICTORIA
100-1000 10th Street
V8W 2G8
250.677.1111
fougere@fougere.ca

PLAN#11

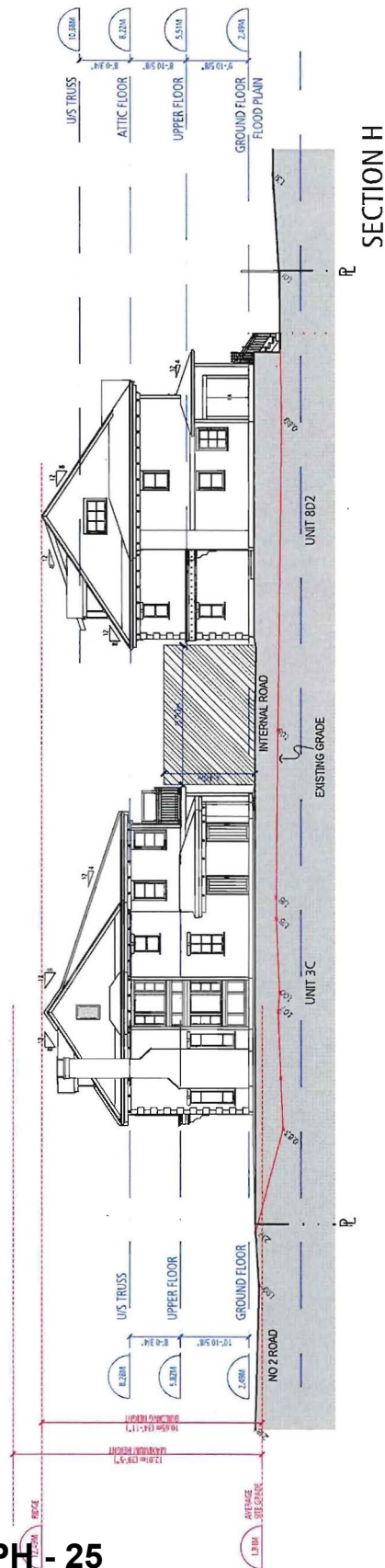


SECTION F



PH - 25

BALANDRA
 Balandra Development Inc.
 8000 N 2 RD
 AMHERST LANE
 8000 N 2 RD



SITE SECTIONS
 SCALE 1/8" = 1'-0"

0 5 15 25

JUNE 02, 2014
FOUGERE
 architecture inc.
 8000 N 2 RD
 AMHERST LANE
 8000 N 2 RD

PLAN#12



NO. 2 ROAD



REAR PROPERTY LINE



AMHERST LANE
8600 N^o 2 ROAD

STREETSCAPES
SCALE 1/8" = 1'-0"



PLIX CO INC



FOUGERE
architecture inc.
SHERIDAN COLLEGE • ALBERTA • VISA • MASTERCARD
604.873.2907
102 - 2425 Quebec Street
Vancouver, BC V5T 4J5
fougerearchitecture.ca

PLAN#13



Study No.	Year	Study Name
A	1973	Insured for DP
B	1973	Re-insured for DP
C	1974	Re-insured for DP
D	1974	Insured for re-insure
E	1974	INSURED FOR REINSURING DP

Background

eta

690 West 2nd Avenue
Vancouver, BC, Canada V6J 1H4
[004.283.1426
[004.283.1470
[www.ellie.ca

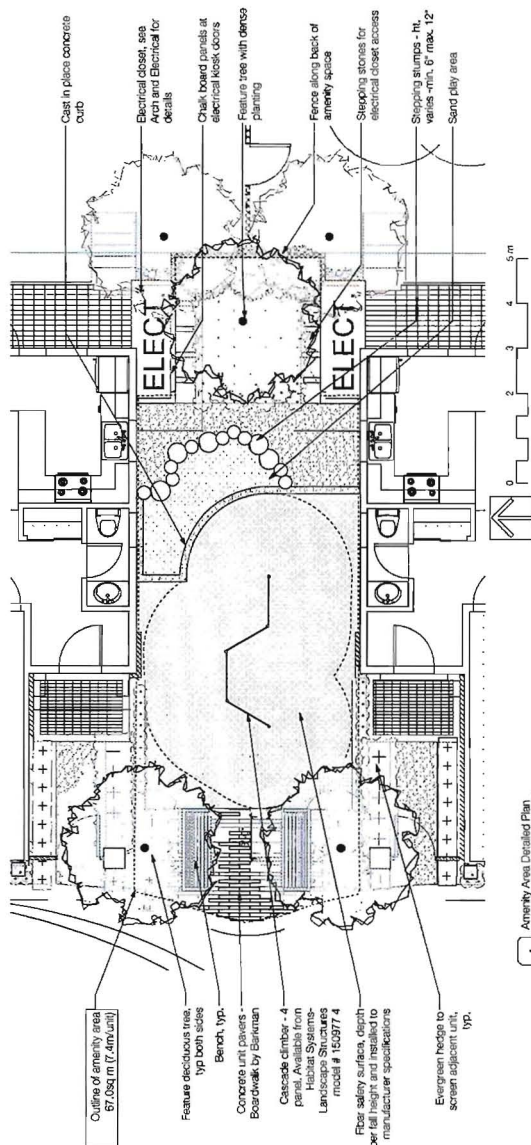
Amherst Lane

1600 No 2 Road
Richmond BC

Plant List and
Materials Schedule

1

Project Name	Project ID
1	21303
Location	State
1/1/13	MS 12/1/13
Project No.	
	L3d
	— 8 —
	9
2/1/2013	
2014	



Amenity Area Detailed Plan
Scale: 1:50

[illegible]

WHITE FINISHING	SIZE	MODEL	MANUFACTURER	HIGHLIGHT	COLOR	QTY
FINISH DESCRIPTION	4'-0"	NRI	Various Finishes		Black	
LINE BACK		PRO	LANDSCAPE FORMS		BLACK	
MATERIALS	SIZE	MODEL	MANUFACTURER	HIGHLIGHT	COLOR	QTY
FINISH DESCRIPTION	60mm depth	Standard	ARISTOTFOR CONCRETE			
FORMS	60mm depth	REBARWALK	BACKMAN HARDWARES		Concrete Grey	
POSTERSTAND PAVES AT ASHLEY AREA	60mm depth	REBARWALK	BACKMAN HARDWARES		Concrete Grey	
WOODEN DECK - RESERPTA						
COMPLETED WOOD PROTECTIVE SURFACE						
BY W WOODEN FENCE						

[illegible]



RZ 13-644887

Attachment 3

Address: 8600 and 8620 No. 2 Road

Applicant: Balandra Development Inc.

Planning Area(s): Blundell

	Existing	Proposed
Owner:	Balandra Development Inc.	To be determined
Site Size (m²):	1,980.0 m ²	No Change
Land Uses:	Single-Family Residential	Multiple-Family Residential
OCP Designation:	Neighbourhood Residential	No Change
Area Plan Designation:	N/A	No Change
702 Policy Designation:	N/A	No Change
Zoning:	Single Detached (RS1/E)	Low Density Townhouses (RTL4)
Number of Units:	2	9
Other Designations:	Arterial Road Policy – Townhouse Development	No Change

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.60	0.60 Max.	none permitted
Lot Coverage – Building:	Max. 40%	40% Max.	none
Lot Coverage – Non-porous Surfaces:	Max. 65%	65% Max.	none
Lot Coverage – Landscaping:	Min. 25%	25% Min.	none
Setback – Front Yard (m):	Min. 6.0 m	5.4 m	Variance Requested
Setback – North Side Yard (m):	Min. 3.0 m	3.0 m Min.	none
Setback – South Side Yard (m):	Min. 3.0 m	3.0 m Min.	none
Setback – Rear Yard (m):	Min. 3.0 m	Ground Floor 4.5 m Min. Second Floor 6.0 m Min.	none
Height (m):	Max. 12.0 m (3 storeys)	12.0 m (3 storeys) Max.	none
Lot Width:	Min. 50.0 m	43.29 m	Variance Requested
Off-street Parking Spaces – Regular (R) / Visitor (V):	2 (R) and 0.2 (V) per unit	2 (R) and 0.2 (V) per unit	none
Off-street Parking Spaces – Total:	20	20	none

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Tandem Parking Spaces:	Max. 50% of proposed residential spaces in enclosed garages (16 x Max. 50% = 8)	0	none
Small Car Parking Spaces	None when fewer than 31 spaces are provided on site	7	Variance Requested
Handicap Parking Spaces:	None when fewer than 3 visitor parking spaces are required	0	none
Amenity Space – Indoor:	Min. 70 m ² or Cash-in-lieu	Cash-in-lieu	none
Amenity Space – Outdoor:	Min. 6 m ² x 9 units = 54 m ²	67 m ²	none

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

Lee, Edwin

To: DevApps
Subject: RE: RZ 13-311554 Ballandra Development Inc

From: baaske@shaw.ca [mailto:baaske@shaw.ca]
Sent: Sunday, 01 December 2013 21:41
To: DevApps
Cc: Larry Biggar
Subject: RZ 13-311554 Ballandra Development Inc

Attention: Edwin Lee
City of Richmond - Planner

Dear Sir:

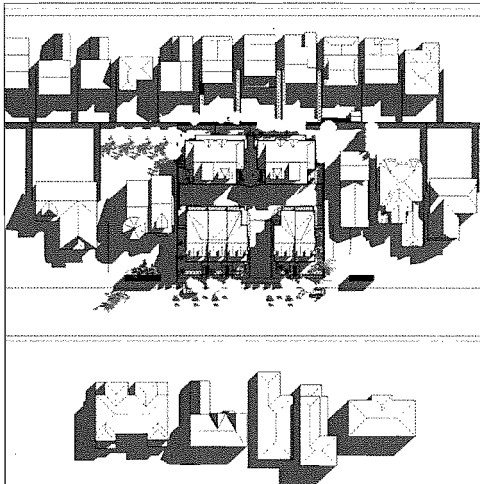
Further to our telephone conversation regarding the development proposed at 8600 and 8620 No 2 Road, as I explained our property is on the East side almost dead center between these two lots. Currently the two house on those lots are located more on the front of their properties leaving huge back yards which attached to my tiny back yard making our home and outdoor living space very private and quite a desirable location for anyone wanting a smaller lot. With the proposed development all this will change, we will entirely lose our privacy and any sunlight that we now enjoy will be replaced with 9 homes, 9 families, and 9 plus vehicles just outside our yard. This is entirely not desirable for us and for the future will in fact narrow our potential buyer base.

After attending a meeting with the Developer and Larry Beggar from RE/Max and listening to what they had to say my husband took a day off work to attend City Hall to look at the actual plans and read a letter written by the City dated Oct 29, 2013. This letter to our astonishment indicates the proposed site does not meet many of the Cities zoning requirements. The required zoning is in place to protect all parties and as a property owner we insist that this proposal for 9 townhouses be rejected, the project is far too big for the lots. I understand you can not stop new development however this is a bit overkill for the space. Would a nice area with two duplex's, the same height as the surrounding houses and a nice cedar hedge all around not be a better option for the buyers of the new townhouses as well as the families already in the area.

We would like to enjoy our home of 30 years for a few years more, please don't allow this unnecessarily large complex force us out before we are ready.

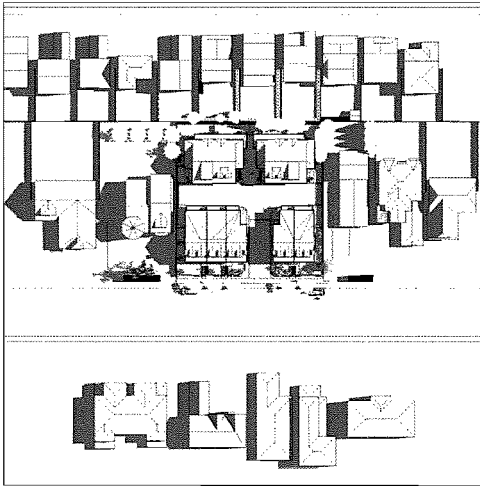
Thank you,
Peggy and Fred Baaske
8651 Delaware Road
Richmond BC V7C AX

EQUINOX 10:00 am



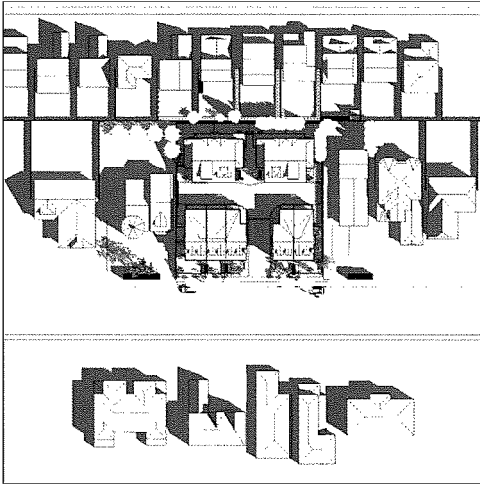
WITH TREES

EQUINOX 12:00 pm

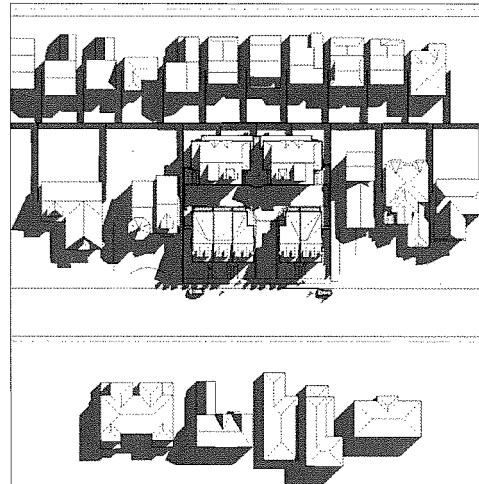


WITH TREES

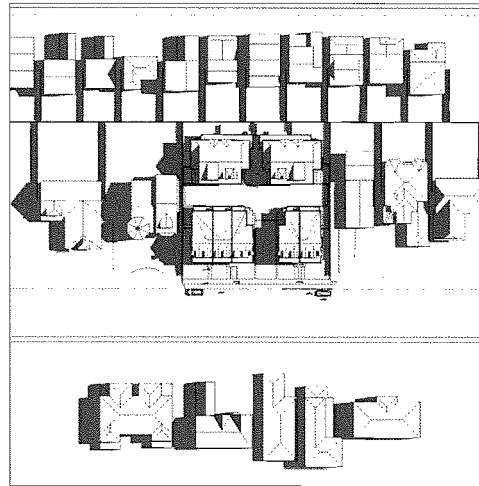
EQUINOX 2:00 pm



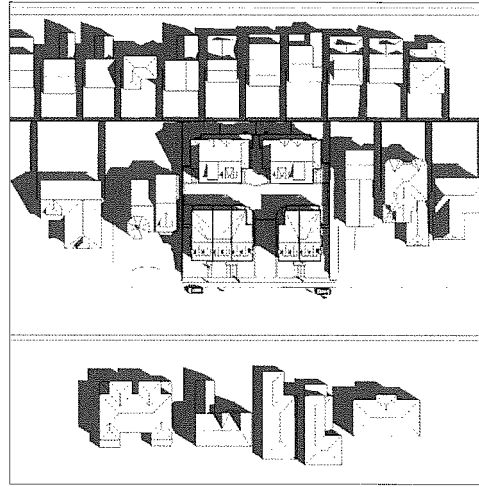
WITH TREES



WITHOUT TREES



WITHOUT TREES



WITHOUT TREES



**City of
Richmond**

Rezoning Considerations
Development Applications Division
6911 No. 3 Road, Richmond, BC V6Y 2C1

Address: 8600 and 8620 No. 2 Road

File No.: RZ 13-644887

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9146, the developer is required to complete the following:

1. Consolidation of all the lots into one development parcel (which will require the demolition of the existing dwellings).
2. Registration of a statutory public-rights-of-passage right-of-way, and/or other legal agreements or measures, as determined to the satisfaction of the Director of Development, over the full width and extent of the internal drive-aisle in favour of future residential developments to the north and south. Language should be included in the SRW document that the City will not be responsible for maintenance or liability within this SRW.
3. Discharge existing Sanitary SRW (Registration Number RD92605, Plan Number 57019) along the east property line of the development site.
4. The granting of a 3.0 m wide statutory Sanitary right-of-way along the east property line.
5. The granting of a 0.17 m wide Public Rights-of-Passage (PROP) Statutory Right-of-Way (SRW) along the entire frontage on No. 2 Road for frontage improvement works.
6. Registration of a flood indemnity covenant on title.
7. Registration of a restrictive covenant and/or alternative legal agreement(s), to the satisfaction of the City, securing the owner's commitment to have the proposed development achieving Energuide 82 requirements and pre-ducted for solar hot water. This covenant and/or legal agreement(s) will include, at minimum, that no building permit will be issued for a building on the subject site unless the building is designed to achieve Energuide 82 requirements and pre-ducted for solar hot water; and that the owner has provided a professional report by a Certified Energy Advisor (CEA), to the satisfaction to the Director of Development.
8. City acceptance of the developer's offer to voluntarily contribute \$4,500 to the City's Tree Compensation Fund for the planting of nine (9) replacement trees within the City. If additional replacement trees (over and beyond the 23 replacement trees as proposed at the Rezoning stage) could be accommodated on-site (as determined at Development Permit stage), the above cash-in-lieu contribution would be reduced in the rate of \$500 per additional replacement trees to be planted on site.

Should the applicant wish to begin site preparation work after third reading of the rezoning bylaw, but prior to final adoption of the rezoning bylaw and issuance of the Development Permit, the applicant will be required to obtain a Tree Permit and submit landscaping security (i.e. \$16,000 in total) to ensure the replacement planting will be provided.

9. City acceptance of the developer's offer to voluntarily contribute \$2.00 per buildable square foot (e.g. \$25,608.60) to the City's affordable housing fund.
10. City acceptance of the developer's offer to voluntarily contribute \$0.77 per buildable square foot (e.g. \$9,859.31) to the City's Public Art fund.
11. Contribution of \$1,000 per dwelling unit (e.g. \$9,000) in-lieu of on-site indoor amenity space.
12. 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 hedges 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.
13. Installation of appropriate tree protection fencing around all hedges to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.
14. The submission and processing of a Development Permit* completed to a level deemed acceptable by the Director of Development.

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

1. Include notations on the Development Permit Plans that all residential units will be designed to meet Energuide 82 requirements and be pre-ducted for solar hot water with design specifications to be included on the building permit plans.

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

1. Submission of a Landscaping Security to the City of Richmond based on 100% of the cost estimates provided by the landscape architect.
2. Submission of a Tree Survival Security to the City as part of the Landscape Letter of Credit to ensure that the hedge rows identified for retention will be protected. No Landscape Letter of Credit will be returned until the post-construction assessment report confirming the protected trees survived the construction, prepared by the Arborist, is reviewed by staff.

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

1. Enter into a Servicing Agreement* for the design and construction of a new 1.5 m concrete sidewalk at the west property line of the site, and a 1.5 m grass and treed boulevard along the entire frontage of the site. The Design to include Water, Storm & Sanitary service connections; works included but not limited to the following:

Water:

- Submit fire flow calculations signed and sealed by a professional engineer based on F.U.S or ISO to confirm that there is adequate available flow.
- Existing fire hydrant may need to be relocated at the developer's cost to accommodate frontage improvements.

Storm:

- One of the existing tie-in points at the box culvert is to be utilized for the service connection; all others are to be abandoned and/or removed at the developer's cost.
- There is a shared connection with 8628 No. 2 Road; the developer is required to confirm if 8628 No. 2 Road is utilizing this connection. If yes, then the developer is required to provide separate IC & connection and undertake all necessary alterations at 8628 No. 2 Road.

Additional Requirement:

- Private utility companies will require rights-of-ways to accommodate their equipment (kiosks, vista, transformers, etc.); the developer is required contact the private utility companies to learn of their requirements.
2. Submission of DCC's (City & GVS&DD), School site acquisition charges, Address Assignment Fee, and servicing charges, etc.
 3. Incorporation of all accessibility and sustainability features in Building Permit (BP) plans as determined via the Rezoning and/or Development Permit processes.
 4. Submission of a Construction Parking and Traffic Management Plan to the Transportation Division. 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.
 5. 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 Division 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



**Richmond Zoning Bylaw 8500
Amendment Bylaw 9146 (RZ 13-644887)
8600 and 8620 No. 2 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 **"LOW DENSITY TOWNHOUSES (RTL4)"**.

P.I.D. 005-024-145

Lot 51 Section 19 Block 4 North Range 6 West New Westminster District Plan 40278

and

P.I.D. 001-312-944

Lot 1 Except: Firstly: Part Subdivided by Plan 48746 and Secondly: Part Subdivided by Plan 54335; Section 19 Block 4 North Range 6 West New Westminster District Plan 7351

2. This Bylaw may be cited as **"Richmond Zoning Bylaw 8500, Amendment Bylaw 9146"**.

FIRST READING

A PUBLIC HEARING WAS HELD ON

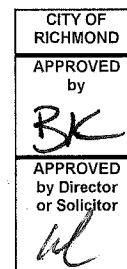
SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

JUL 14 2014



MAYOR

CORPORATE OFFICER

To Public Hearing	
Date:	Sept. 2 2014
Item #	1
Re:	BYLAW 9146 RZ 13-644887

Mayor and Councillors

From: Webgraphics
Sent: Sunday, 24 August 2014 11:56
To: Mayor and Councillors
Subject: Send a Submission Online (response #799)

Categories: 12-8060-20-9146 - RZ 13-644887 - 8600 & 8620 No 2 Road - Balandra Development Inc

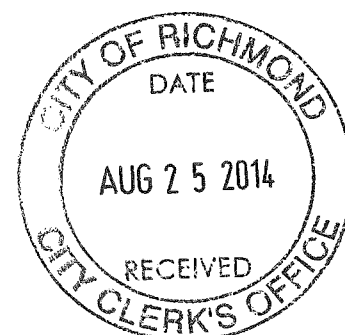
Send a Submission Online (response #799)

Survey Information

Site:	City Website
Page Title:	Send a Submission Online
URL:	http://cms.richmond.ca/Page1793.aspx
Submission Time/Date:	8/24/2014 11:55:48 AM

Survey Response

Your Name	Walter Xinlong Song
Your Address	8628 No.2 Road, Richmond, BC, V7C 3M5
Subject Property Address OR Bylaw Number	Bylaw 8500, Amendment 9146 (RZ 13-644887)
Comments	<p>We object to rezoning 9 townhouse because: A. No.2 road is disaster emergency route, Too many people will block this route. B. 2 Single houses become 9 townhouses make this zone too crowded. C. There are many townhouse & apartment around there, also a huge existed apartment zone need rebuilding.</p>



To Public Hearing	
Date:	Sept. 2 2014
Item #	1
Re:	BYLAW 9146 RZ 13-644887

Lee, Edwin

From: Dr.Song [xinlongsong@hotmail.com]
Sent: Tuesday, 26 August 2014 11:33
To: Lee, Edwin
Subject: Object to rezoning by law 8500,Amendment
Attachments: Scanned at 2014-8-26 11-22.jpg; Scanned at 2014-8-26 11-10.jpg

Sir.

This is Walter Xinlong Song,the owner of 8628 No.2 Road;I really object to Rezoning

Bylaw 8500,Amendment Bylaw 9146(RZ 13-644887).Because:

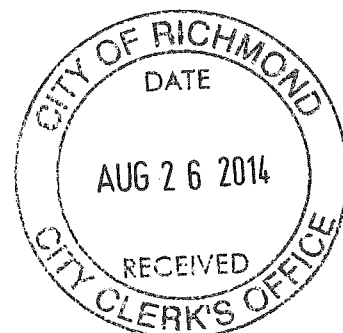
A, the front size only 43.1 m,but usually need 50 m.

B, I really want sell my property to them but no answer!I guess someone use tricks!Last 6 month a lot strange things happened in rezoning property(8620 No.2 Road),Police came many times!

C.2 Single houses rezoning 9 Townhouses too crowded .

-
Sincerely

Walter 心龍





City of Richmond

Report to Committee

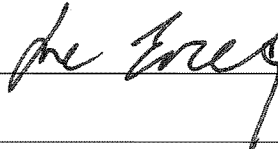


To:	Planning Committee	Date:	June 17, 2014
From:	Wayne Craig Director, Development	File:	12-8060-20-009147
Re:	A Proposed Official Community Plan Amendment To Increase Townhouse Energy Efficiency and Renewable Energy		

Staff Recommendation

1. That Official Community Plan Bylaw 9000, Amendment Bylaw 9147, to add land use policies in Official Community Plan (OCP) Chapter 12.4.2, to establish energy efficiency policies for townhouse developments in the City, be introduced and given first reading:
2. That Official Community Plan Bylaw 9000, Amendment Bylaw 9147, having been considered with:
 - the City's Financial Plan and Capital Program; and
 - the Greater Vancouver Regional District Solid Waste and Liquid Waste Management Plans;is hereby found to be consistent with said programs and plans, in accordance with Section 882(3) (a) of the Local Government Act.
3. That Official Community Plan Bylaw 9000, Amendment Bylaw 9147, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby deemed not to require further consultation.


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

WC:pr

REPORT CONCURRENCE		
ROUTED TO: Building Approvals	CONCURRENCE <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER 
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

The purpose of this report is to provide information on alternative energy options for townhouse projects in response to direction from the Planning Committee on March 4, 2014. The recommendation is to adopt a Townhouse Energy Efficiency and Renewable Energy policy to apply to in-stream and future townhouse rezonings. This policy would be in effect, until a revised energy efficiency policy, which considers all residential buildings of less than five-storeys, is approved. This broader policy will be brought forward in 2015, by Sustainability and District Energy staff with assistance from Development Applications, Building Approvals and Policy Planning, following a review of the pending BC Building Code (BCBC) amendment that is expected in December 2014.

Increased energy efficiency is supported by Council's adopted policies and plans. The 2041 Official Community Plan (2041 OCP) defines a community-wide energy reduction target of 10% below 2007 levels by 2020, as well as Greenhouse Gas (GHG) reduction targets of 33% below 2007 levels by 2020 and 80% below 2007 levels by 2050, subject to senior government action. The City adopted a Community Energy and Emissions Plan in early 2014, which includes:

Action 4: Promote energy efficiency in all rezonings.

Improving energy efficiency also supports Council's commitments under the BC Climate Action Charter signed in 2008 and it is in line with the following 2011-2014 Council Term Goal #8 (Sustainability):

8.1: Continued implementation and significant progress towards achieving the City's Sustainability Framework, and associated targets; and

8.4: Review opportunities for increasing requirements for sustainable development for all new developments including consideration of increasing requirements for sustainable roof treatments and energy security

Background

Improving the minimum energy performance of new buildings reduces community-wide energy use, related GHG emissions and household energy spending. The incremental cost is reduced, if new homes are designed and constructed for energy efficiency, and improvements can result in energy cost savings to the owner that exceed the initial investment in a short timeframe. The recognition by lenders and other financial institutions of this value is reflected in the availability of reduced mortgage loan insurance premiums for energy efficient homes.

The City has established policies to achieve greater energy performance in new developments including requiring a LEED Silver equivalency for City Centre rezonings and connections to City district energy utilities for larger multi-family residential and mixed use buildings. The City does not currently have similar energy efficiency policies that apply to townhomes. Changes in the market, technologies, incentives and the pending updated BC Building Code create new opportunities to improve energy efficiency in more buildings types, including townhomes.

Analysis

Townhousing in Richmond

Richmond is a leading municipality in Metro Vancouver for new townhouse development. It delivers many of the features of single detached housing, along with the benefits of higher density forms. Townhousing is already a relatively energy efficient form of housing, as their construction details are similar to single detached houses (e.g., insulated wood frame, low window-wall ratios), and they have smaller unit sizes than single detached houses and shared walls with adjoining units. BC Hydro estimates that a single detached house in the Lower Mainland is expected to use over 50% more energy than a townhouse.

Recent Richmond townhouse developments range from 3 to 141 units and one-third have ten units or less. Going forward, to have this type of townhouse development be more efficient, an effective policy would achieve the following: for developers it would provide flexibility, enable them to obtain the advice of energy professionals, maximize access to incentives and minimize incremental capital costs; for residents it would reduce operating costs; and for the City, it would be administrable within existing City Permitting and Inspection resources, and result in measurable progress towards achieving Richmond's energy and GHG reduction goals.

While townhouse construction results in higher energy efficiency, rezoning single-family lots for multi-unit townhouse development increases total energy consumption. This suggests that, to achieve its energy and GHG reduction targets, the City needs take more action.

Policy Approaches

Staff considered three approaches for measuring townhouse energy performance: "Prescriptive", "Performance" and "On-Site Renewables". Table 1 provides an overview of each approach and includes the stakeholder impact and incremental capital cost of different approaches. Staff recommend a policy which utilizes all three approaches, and emphasizes the Natural Resources Canada EnerGuide Rating System (ERS) energy performance requirements (an accepted industry). The proposed policy also includes a requirement for new townhouses to have solar hot water-ready fixtures. Discussion about the Natural Resources Canada EnerGuide Rating System (ERS) and the proposed policy follows.

EnerGuide Rating System (ERS)

The Natural Resources Canada (NRCan) ERS is referenced by the National Building Code, BC Building Code, CMHC and some local government policies. This national initiative is designed to have developers work with professional energy advisors to identify effective and appropriate townhouse efficiency upgrades prior to construction. Predicted energy use modeled from building siting and specifications determines the ERS rating.

Table 1: Stakeholder Impacts and Incremental Capital Cost of Different Approaches				
Item		Prescriptive Approach	Performance Approach EnerGuide Rating System	On-site Renewables
Description		List of above code requirements for mechanical equipment	Require Certified Energy Advisor (CEA) Evaluation Report demonstrating that the most marginal unit is designed to minimum ERS standard	List of accepted mechanical equipment and minimum thresholds for on-site renewable energy generation
Stakeholder Impacts	Applicant	<ul style="list-style-type: none">Maximum certaintyNo required supportLimited design flexibilityMay be eligible for incentivesLimited building design impactNot generally visible	<ul style="list-style-type: none">CEA guidance and supportMaximum flexibilityMay be eligible for incentivesLimited building design impactNot generally visible	<ul style="list-style-type: none">Potential uncertainty if performance requiredNo required supportLimited design flexibilityLimited current incentivesMay impact building designMay be visible with potential marketing benefit
	Resident	Not eligible for rebates	<ul style="list-style-type: none">Eligible for rebateNo unfamiliar mechanical equipment	<ul style="list-style-type: none">Not eligible for rebatesMost cost effective response is typically an air-source heat pump which may have impacts at townhouse densities
	City	<ul style="list-style-type: none">Staff maintains policy to reflect building practice, codes and technologiesMay increase permitting and inspection resources requiredThe City has limited authority in some instances	<ul style="list-style-type: none">Natural Resources Canada maintains standard and certifies CEAsProject review completed by applicant's CEA	<ul style="list-style-type: none">Staff maintains policy to reflect building practice, codes and technologiesMay promote local renewable industriesMay increase permitting and inspection resources
Incremental Capital Cost		<ul style="list-style-type: none">Medium: Highly variable costs depending on prescriptive measuresEstimated at \$5,000 to reduce energy 15%	Low: Estimated \$2,200 (reducing to \$1,000 under the 2014 code) to reduce energy 15%	<ul style="list-style-type: none">High: \$4,000 to \$20,000 per unit to reduce energy 15%-35%Costs are declining and efficiencies increasing for some technologies

Referencing EnerGuide takes advantage of the established Certified Energy Advisor (CEA) profession and gives builders the flexibility to respond to changes in the industry. Connecting developers with CEAs enables developers to determine cost-effective energy efficiency strategies and up-to-date information on available rebates and incentives. Energuide is familiar to industry, identifies conservation opportunities that are cost-effective and limits resource requirements for municipal enforcement.

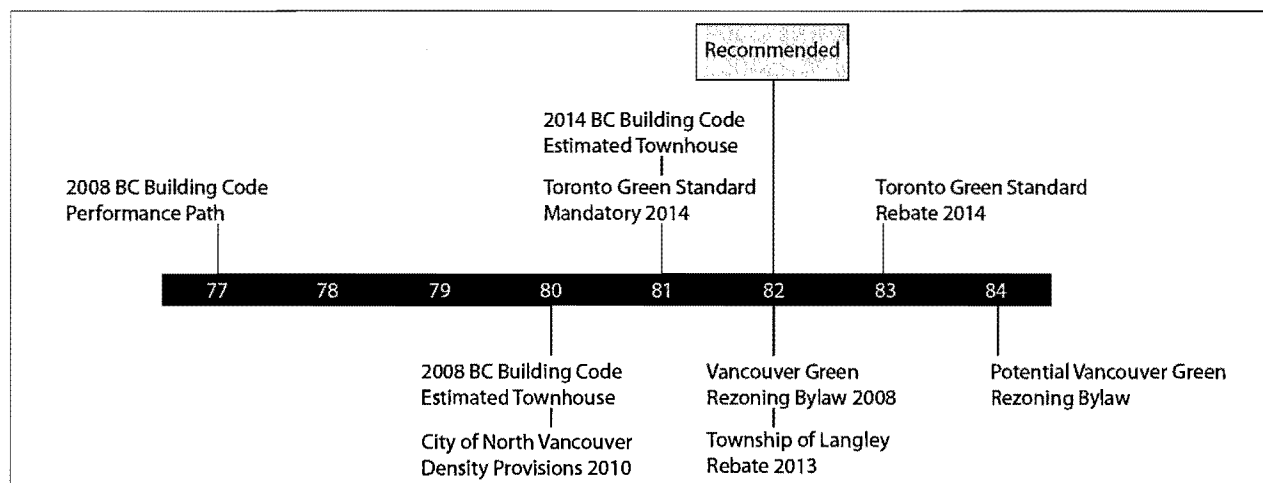
EnerGuide includes a testing component to certify the final buildings. The City's proposed approach does not include a requirement for EnerGuide certification, but the applicant will be encouraged to certify their projects, since developers are eligible for a BC Hydro rebate and buyers' are eligible for a CMHC mortgage insurance premium rebate if the purchased unit is certified.

ERS 82 is the recommended minimum rating, which represents an increase in energy efficiency beyond current requirements for townhouses built to BC Building Code requirements (Figure 1).

This rating allows townhouse projects to rely primarily on improved airtightness and insulation, with improved mechanical equipment such as a heat recovery ventilator.

This standard is intended to serve as an interim step, to allow the building industry time to adapt to both the proposed policy and the upcoming Code change. The estimated median incremental capital cost per unit is \$2,200 reducing to around \$1,000 with the 2014 code. CEA fees for townhouse projects are estimated to be \$350 per unit tested. Annual energy savings are approximately 8.6 GJ per unit or 15%.

Figure 1. EnerGuide ratings applicable to townhouse projects



Recommended Policy

The recommended policy would:

- require new townhouses:
 - to be designed to score 82 or higher on the EnerGuide Rating System (ERS). To achieve this target, developers would be required to retain a certified energy advisor (CEA) to complete an Evaluation Report for improved energy performance on the most marginal (i.e., greatest design heat loss) units, which would confirm that the Building Permit specifications for the all units will achieve or exceed an ERS score of 82. The developer would be required to register a covenant on title that all the units are built and maintained to the ERS 82, or a higher standard; and
 - to be solar hot water-ready; or
- alternatively, new townhouses would be exempt from the above requirement, if they are connected to a district energy utility, or include the installation of industry proven renewable energy systems (e.g., geoexchange, solar water heating, photovoltaic energy) which provide the majority (at least 51%) of heating, cooling and/or electrical energy load requirements.

The proposed policy would apply to all new townhouse rezoning proposals regardless of the number of units. If this approach is applied to in-stream projects, the following total savings would be expected:¹

Estimated Cost Savings	Comment
- \$225,400	- Total utility rebates that would be available to developers
- \$362,900	- Total potential mortgage insurance rebate to buyers
- \$158,700	- Total annual energy savings for owners
- 131 tonnes	- Total estimated annual CO2e reduction of community-wide GHG emissions, equivalent to removing 41 cars from the road

Proposed 2041 Official Community Plan Text Amendment

The proposed Townhouse Energy Efficiency and Renewable Energy OCP amendment provides clarity and transparency to all applicants. The recommendation is that the OCP amendment be applied to those rezoning applications under staff review, or received after the adoption of the proposed OCP amendment. All in-stream townhouse projects that have not been granted 3rd reading for rezoning have already begun committing to these rezoning considerations. The existing 2041 OCP guidelines inform applicants of the City's current energy conservation expectations, but these will be significantly clarified by the proposed amendment.

Each rezoning application would be considered on its own merit and all utility incentives would continue to be available to developers who meet higher energy standards (e.g., BC Hydro incentives). New townhouse applicants who also seek to amend the 2041 OCP land use designation may be expected to exceed these minimum expectations.

Consultation

On May 28, 2014, staff discussed the proposed townhouse energy efficiency changes with the Urban Development Institute (UDI) and Richmond Small Home Builders Group. The Small Home Builders Group indicated acceptance of the proposed approach, noting that the incremental capital costs presented in this report are aligned with their own findings. Both groups raised concerns over the total costs of development, including both development cost charges and community amenity contributions, and the impact that these may have on housing costs and affordability. One developer also responded, indicating support for energy efficiency initiatives, but preferred different approaches to address incremental capital cost. The correspondence supports the City's recommended approach to "rough-in" versus to "require" the installation of renewables to accommodate future technological and energy pricing shifts. The recommended approach is generally preferred by stakeholders when compared to a more prescriptive approach.

In accordance with OCP Bylaw Preparation Consultation Policy 5043, staff recommend that no additional stakeholder consultation is required and the proposed OCP Amendment Bylaw 9147 can be discussed at the Public Hearing.

¹ Calculations derived from median values modeled for electric and gas conditioned units from BC Hydro and FortisBC consultant studies. Rebates assume ERS 82 certification and Energy Star appliance installation. Mortgage insurance amount is based on Richmond townhouse sale prices, median down payment and industry estimates of insurance use.

Policy Monitoring and Review

Should this policy be endorsed by Council, staff will monitor its implementation. Townhouse applicants will be required to submit reports from a CEA facilitating the review process. Staff will consider how and where energy efficiency requirements can be adjusted, or made more rigorous in accordance with the pending December 2014 BCBC amendment. At this point, it is staff's expectation that a broader residential energy efficiency policy could be prepared for all Part 9 residential buildings city-wide (Table 2) in 2015. This broader policy has the potential to better address energy efficiency requirements for single detached houses, as well as low-rise buildings and may involve bylaw amendments, establishing Development Permit areas and feebate programs. The policy would be prepared in consultation with UDI and the Small Builders Group.

Table 2: Richmond Energy Efficiency Policies and Regulations


Land Use	Rezoning	Development Permit	Building Permit
Single detached	To be considered after the policy monitoring and review stage, as discussed above in this report.		
Townhousing	Proposed Bylaw 9147 (This Report)	Guideline 14.2.10	
Low-rise housing (outside West Cambie and City Centre)			
Low-rise housing (City Centre)			
High-rise housing (City Centre)	LEED equivalency		ASHRAE / NECB compliance in development

Financial Impact

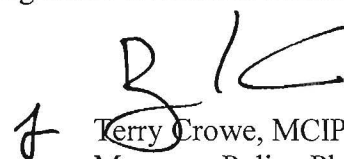
None at this time.

Conclusion

Richmond has demonstrated leadership in increasing building energy efficiency and reducing related GHG emissions. The 2041 Official Community Plan and Community Energy and Emissions Plan together are a strong framework to pursue the City's community-wide targets. While Richmond is already a leader in townhouse development, further action is needed to achieve improved energy efficiency. The proposed interim policy provides new townhouse developers with flexible ways to identify and implement more cost effective and energy efficient townhouses at the construction stage. This approach is aimed at providing future townhouse owners with lower energy costs.


Peter Russell, BA Sc, MSc, MCIP, RPP,
Senior Manager, Sustainability & District Energy
(604-276-4130)

PR:cas


Terry Crowe, MCIP, RPP
Manager, Policy Planning Division,
(604-276-4139)



**Richmond Official Community Plan Bylaw 9000
Amendment Bylaw 9147
(Townhouse Energy Efficiency and Renewable Energy)**

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

1. Richmond Official Community Plan Bylaw 9000 is amended by adding the following text after Chapter 12.4 Energy, Objective 2:

Objective 3: To improve townhouse energy efficiency and renewable energy systems.

Policies:

- a) new townhouses are required;
 - to be designed to score 82 or higher on the EnerGuide Rating System (ERS). To achieve this target, developers are to retain a certified energy advisor (CEA) to complete an Evaluation Report, for improved energy performance on the most marginal (i.e., greatest design heat loss) units, which confirms that the Building Permit specifications for the all units achieve or exceed an ERS score of 82. The developer would be required to register a covenant on title that all the units are built and will be maintained to the ERS 82, or a higher standard; and
 - to be solar hot water-ready; or
 - b) alternatively, new townhouses will be exempt from a) above, if they connect to a district energy utility, or install industry proven renewable energy systems (e.g., geexchange, solar water heating, photovoltaic energy) which provide the majority (at least 51%) of heating, cooling and/or electrical energy load requirements.
2. This Bylaw may be cited as **“Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 9147”**.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

JUL 14 2014

CITY OF RICHMOND
APPROVED for content by originating dept.
APPROVED for legality by Solicitor



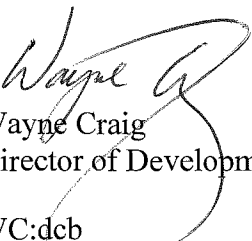
To: Planning Committee
From: Wayne Craig
Director of Development

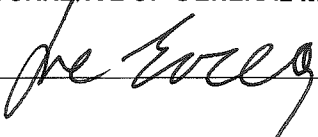
Date: June 26, 2014
File: RZ 13-649641

Re: Application by Polygon Development 296 Ltd. for Rezoning at 9700 and 9740 Alexandra Road from "Two-Unit Dwellings (RD1)" and "Single Detached (RS1/F)" to "Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)"

Staff Recommendation

1. That Richmond Zoning Bylaw 8500, Amendment Bylaw No. 9159:
 - a) to create "Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)"; and
 - b) to rezone 9700 and 9740 Alexandra Road from "Two-Unit Dwellings (RD1)" and "Single Detached (RS1/F)" to "Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)";be introduced and given first reading; and
2. That the affordable housing contribution for the rezoning of 9700 and 9740 Alexandra Road (RZ 13-649641) be allocated entirely (100%) to the capital Affordable Housing Reserve Fund established by Reserve Fund Establishment Bylaw No. 7812.


Wayne Craig
Director of Development
WC:dcb

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

Staff Report

Origin

Polygon Jayden Mews Homes Ltd., (formerly, Polygon Development 296 Ltd.) (“Polygon”) has applied to Rezone 9700 and 9740 Alexandra Road from “Two-Unit Dwellings (RD1)” and “Single Detached (RS1/F)” to a Site Specific Zone, “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)”, in order to develop approximately 64 three-storey townhomes on the assembled site. A location map is provided in Attachment 1.

Project Overview

The proposed development site is located in the Alexandra Neighbourhood on a consolidation of two large lots between Alexandra Road and Alderbridge Way in an area that was re-designated for residential use by Council in 2012.

Constrained by an irregular shaped lot, the developer proposes 13 buildings fronting onto an internal drive aisle accessing Alexandra Road. The proposed site layout includes a 213.9 m² (2,302 ft²) two-storey amenity building with an adjacent children’s play area and a meandering landscaped path which will incorporate original, visible artworks that will also function as habitat for barn owls. The site plan also shows a common green space for outdoor recreation and informal gathering and a landscaped outdoor seating area around an existing large conifer tree to be retained on site.

As proposed, individual townhouse units will range in size from 126.2 m² (1,358.5 ft²) to 152.0 m² (1,636.3 ft²) and approximately 40% of the townhouses will have direct walkway connections to the meandering landscaped pathway that runs through the site.

An emergency vehicle access to Alderbridge Way will be incorporated into the site plan off one of the two drive aisle ends adjacent to Alderbridge Way. The final location and configuration will be determined during the Development Permit review.

A 337.9 m² (3,637 ft²) land dedication will be required along Alderbridge Way to accommodate the installation of a new public sidewalk and a treed boulevard that will ultimately run between Garden City Road and No. 4 Road along Alderbridge Way.

Frontage improvements are also proposed along Alexandra Road including raising the Alexandra Road surface, the installation of concrete sidewalks, and provision for parking and new light standards along the south side of Alexandra Road. In addition, upgrading and/or replacement of existing sanitary lines, storm lines, watermain lines, additional fire hydrants and the undergrounding of hydro lines, will be required as part of development’s off-site works and addressed through a separate Servicing Agreement.

Findings of Fact

The proposed development site is approximately 1.215 ha (3.00 ac. before land dedications) in size. The developer has submitted an application to demolish the residential buildings on the two lots and the lots have extensive tree and understorey vegetation coverage especially in the southern two-thirds of the site.

Both properties are currently owned by Polygon Development 296 Ltd.

A covenant is currently registered on title over 9700 Alexandra Road restricting use of the property to a two-family dwelling. The removal of this covenant is necessary in order to permit townhouses on the lot and is included in the Rezoning considerations.

The developer's conceptual development plans are provided in Attachment 2 and a Development Application Data Sheet is provided in Attachment 3.

Surrounding Development

To the North: At 9566 Tomicki Avenue, is an existing 26 building three-storey townhouse development containing (known as Wishing Tree) 141 units [zoned "Town Housing (ZT67) – Alexandra Neighbourhood (West Cambie)" (DP 08-432203)].

To the East: Six large residential lots (9800 and 9820 Alexandra Road and 4711–4771 No. 4 Road) all zoned "Single Detached (RS1/F)". The West Cambie Area Plan identifies the area containing these Single Detached lots as "Residential Area 2" permitting two- and three-storey Townhomes. Redevelopment of these lots in the future is likely.

To the South: Alderbridge Way and the Garden City lands (5555 No. 4 Road) to the south of that. The 55 ha (136.5 ac.) Garden City lands are zoned "Agriculture (AG1)".

To the West: Five large residential lots (9580–9680 Alexandra Road) currently zoned "Single Detached (RS1/F)" and/or "Two-Unit Dwellings (RD1)". All five lots are included in a Rezoning application (RZ 13-649999) by Am-Pri Developments (2012) Ltd. which proposes to develop approximately 96 three-storey townhouse units on the consolidated property.

Further west, between May Drive and Garden City Road is the proposed First Richmond North Shopping Centre (Smart Centres) (RZ 10-528877 – pending final).

Related Policies & Studies

Official Community Plan – West Cambie Area Plan

On October 15, 2012, Council adopted an Official Community Plan (OCP) amendment to re-designate 9540–9820 Alexandra Road and 4711–4771 No. 4 Road from "Public and Open Space Use" and "Park" to "Neighbourhood Residential" with the exception of a greenway strip over 9540 Alexandra Road and portions of 9560–9600 Alexandra Road (see Attachment 4). An amendment to the West Cambie Area Plan was also adopted to re-designate the same properties from "Park" to "Townhouses". Although the "Park" designations were removed from the West Cambie Area Plan, the ESA designations within the former park were retained with the intent

that these areas would be reassessed for possible retention on a case-by-case basis as a requirement of any redevelopment proposals involving these properties.

Current Use and Density

The Alexandra Neighbourhood Land Use Map (Attachment 4) within the West Cambie Area Plan identifies the subject properties as being within “Residential Area 2” which supports two and three-story townhouses at a base Floor Area Ratio (FAR) of 0.65 with density bonusing to 0.75 FAR for affordable housing. The developer is proposing a project density of 0.72 FAR with an affordable housing contribution (see the “Affordable Housing Policy” section below for further discussion), consistent with the Area Plan.

Affordable Housing and the West Cambie-Alexandra Interim Amenity Guidelines Policy 5044

The development site is located within the West Cambie Planning Area and is subject to the “West Cambie-Alexandra Interim Amenity Guidelines Policy 5044”. This Policy establishes guidelines for voluntary developer contributions toward affordable housing, community and engineering planning costs, child care and City beautification for new developments in the Alexandra area.

As outlined in the report from the General Manager, Community Services dated May 20, 2014, Polygon (the Developer) has requested that this development be considered as a special development circumstance “donor site” for which the developer proposes to make a \$678,107.00 voluntary contribution to the City’s Affordable Housing Reserve (capital fund) in lieu of building affordable housing units on site. Staff recommends that the entire contribution amount be placed into the Reserve’s capital fund per the report from the General Manager, Community Services.

The proposed contribution amount is based on the Affordable Housing Value Transfer (AHVT) rate of \$160/ft² (established in a report from the General Manager, Community Services dated May 30, 2012) applied to one-third of the density bonus from 0.65 base FAR to 0.75 FAR (although Polygon has opted for a lower density of 0.72 FAR). Specifically, the affordable housing contribution is derived from:

- A net site area of 11,812.16 m² (127,145 ft²);
- One-third of the Affordable Housing density 0.1 FAR bonus per the West Cambie Area Plan;
- An AHVT rate of \$160/ft² ;
- The AHVT rate assumes wood construction and the affordable housing floor area not being retained on site; and
- Formula: $(127,145 \text{ ft}^2 \times 0.1 \text{ FAR bonus}) / 3 \times (\$160/\text{ft}^2) = \$678,107.00$.

The Affordable Housing contribution for the subject site would be secured prior to adoption of the Rezoning Bylaw. The proposed “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)” Zoning for the site incorporates both the density bonus and the affordable housing contribution amount.

The Developer will also be required to make additional contributions pursuant to the West Cambie-Alexandra Interim Amenity Policy 5044. Preliminary estimates of these contributions are:

- Community and engineering planning costs at \$0.07/ft² (estimated at \$6,230.11);
- Child care at \$0.60/ft² (estimated at \$53,400.90); and
- City beautification at \$0.60/ft² (estimated at \$53,400.90).

These contributions will be finalized through the Development Permit review and collected at the prior to final adoption of the Rezoning Bylaw. The actual City beautification contribution may be reduced from the \$0.60/ft² rate established by Policy 5044 by the equivalent value of frontage improvements identified and bonded for through the Servicing Agreement. The offsite works which may qualify for this reduction include works along a portion of the north side of Alexandra Road (i.e. conversion of the existing ditch to a swale, sidewalk installation, resetting of existing pedestrian bridges to address grade changes, etc).

Environmentally Sensitive Area Designations

Richmond's ESA designations were most recently updated as part of the 2041 Official Community Plan (OCP) (Bylaw 9000) review using 2012 aerial photogrammetry, GIS mapping and limited ground truthing. Staff notes that a detailed on-site assessment was not undertaken for the subject properties during the 2012 ESA Management Strategy update and OCP review.

The designated ESAs in the Alexandra Neighbourhood are classified in the City's ESA inventory as "Upland Forest" areas. Upland Forests are typically treed areas (woody vegetation > 5 m (16.4 ft.) tall not including forested wetlands (swamps and bog forests) or forested riparian zones, adjacent to streams, rivers, and other watercourses.

Depending upon the type of development or activity proposed and the degree of anticipated impact upon the designated ESA, environmental assessment requirements vary from "no review" being required to a "detailed inventory and assessment" being required by qualified environmental professionals (QEPs). The intent of an environmental assessment is to verify the nature, extent and quality of any valued environmental features present and to provide recommendations for their preservation where possible, impact mitigation and/or compensation measures where impacts are determined to be unavoidable. A detailed review and assessment of the ESA is discussed later in this report.

Flood Construction Elevation and Road Elevation Requirements

The West Cambie Area Plan establishes a minimum Flood Construction Level within the Alexandra Neighbourhood of 2.6 m GSC and a minimum elevation of 2.0 m GSC for all new roads within the neighbourhood. The development proposes to meet these requirements by raising the grade for most of the lot and raising the elevation of the north frontage road (i.e. a portion of Alexandra Road) by approximately 0.6 m to bring it up to the required 2.0 m elevation. Registration of a Flood Covenant with a minimum Flood Construction Level of 2.6 m GSC is included in the Rezoning considerations.

Aircraft Noise Policy

The subject property is located within "Area 2" of the Aircraft Noise Sensitive Development (ANSD) Policy Areas. All aircraft noise sensitive land uses except new single family may be considered within Area 2. The proposed townhouse development conforms to this policy. The Rezoning Adoption requirements include registration of restrictive covenants, submission of an

acoustic report, incorporation of noise mitigation in construction such as mechanical ventilation and central air conditioning.

District Energy Utility and Sustainability Features

The development site is not within the area where connection to the West Cambie District Energy Utility (DEU) is required.

The Developer is exploring a range of sustainability features to incorporate into the development. To time of writing, the Developer is proposing to incorporate the following sustainability features into the buildings:

- Achieving Ener-Guide ratings of at least 82 for all the homes;
- Pre-ducting for solar hot water heating;
- Double glazed Low-E glazing on all windows;
- Energy Star appliances;
- Low VOC paints in all homes;
- Dual flush toilets and low flow faucets;
- Drywall with recycled gypsum and paper content; and
- Recycling bin storage in all kitchens.

The Rezoning considerations include requirements for achieving an Ener-Guide rating of 82 or better and pre-ducting for solar hot water heating, and entering into a legal agreement to secure this.

Additional sustainability initiatives for this development will be further reviewed and confirmed as part of the Development Permit design review submission.

Public Art

The applicant has submitted a Public Art Plan checklist and is working with the Public Art Planner to address the City's Public Art Program Policy 8703. The developer's preliminary concept is to work with a wildlife biologist and an artist to develop a public art project that will also provide a Barn owl roost (e.g. nesting box) on the development site.

A voluntary contribution of \$70,162.85 to the City's public art fund is included in the rezoning considerations.

Consultation

Impacts to an Existing Ditch Along Alexandra Road

The City's requirement for raising the full width of Alexandra Road to 2.0 m GSC will result in changes being made to an existing open ditch that lies adjacent to the Wishing Tree Strata complex (9566 Tomicki Avenue), converting it to a swale. The Wishing Tree Strata Council has advised, through Polygon, that they accept the changes to the pedestrian bridge elevations provided that there is no reduction in function or accessibility, to which Polygon has agreed.

The Wishing Tree Strata has also requested that the City investigate the possibility of installing traffic calming measures on Alexandra Road to address "cut-through" traffic caused by the proposed new retail centre on Alexandra Road (Smart Centres) and that street parking be reintroduced on No. 4 Road adjacent to Wishing Tree as a means to slow down traffic speed.

Staff investigations into traffic calming measures on Alexandra Road to address “cut-through” traffic as a result of the proposed new retail centre were undertaken and reported to Planning Committee (report dated September 7, 2012, from the General Manager, Planning & Development re: West Cambie Natural Park Re-designation). Specific measures recommended through that report will be incorporated with development in the area. Notably:

- A right-in-right-out diverter will be constructed as part of Polygon’s development (Jaden Mews) on the east leg of Alexandra at May Drive; and
- A future traffic-calming measure on No. 4 Road at Alexandra Road will be implemented when the parcels fronting No.4 Road, between Alexandra Road and Alderbridge Way, redevelop.

Transportation Staff have also reviewed the possibility of on-street parking on No. 4 Road but found that it would not be feasible due to existing road configuration.

Public Input

To the time of writing, one letter has been received regarding the proposed Rezoning. The owner of 9800 Alexandra Road has written to the City (Attachment 8) with concerns about the impact on his property and its future redevelopment potential. In response to concerns about future redevelopment potential of 9800 Alexandra Road, staff note that this site must be developed with the adjacent lot to the immediate east and also include other lots fronting No. 4 Road. Redevelopment would generally consist of townhouses similar to existing townhouse projects along the west side of No. 4 Road north of Odlin Road.

He has also requested that a connection be installed to the sanitary line that would have to be built by Polygon that would allow his property to connect up to as his property is currently on a septic field system and he has concerns about the affect the neighbouring development will have on it. While no commitments have been made to this point, Engineering staff will review this when the detailed Servicing Agreement plans are submitted to the City.

Staff also responded to approximately four telephone enquiries from residents in the area on the status of both the Polygon application and the Am-Pri application for the adjacent lots (9580 to 9680 Alexandra Road).

Staff Comments

Environmentally Sensitive Area and Tree Retention

Approximately 77% of the net development site is designated in the Official Community Plan as an Environmentally Sensitive Area (ESA). Detailed assessments of the environmental features and the condition of the trees on site were undertaken by Keystone Environmental Ltd. (Biologist report dated April 17, 2014 and summary of findings report dated June 3, 2014 – see Attachment 5) and Pacific Sun Tree Services (Arborist report dated June 6, 2014 – see Attachment 6).

Biologist Review

The Biologist’s report and supplemental document:

- Provides comment on the extent of the City’s ESA designation on the site;
- Assesses the subject site for its Value of Ecosystem Components (VECs);

- Identifies the presence or likelihood of any federally or provincial species at risk;
- Provides a rating of the value of the existing habitat;
- Provides recommendations for mitigation and enhancement; and
- Includes a habitat balance sheet assessment of the pre and post development conditions.

Based on their review the Biologists prepared a Habitat Survey Map (shown on the next page) that identifies three distinct areas on the site:

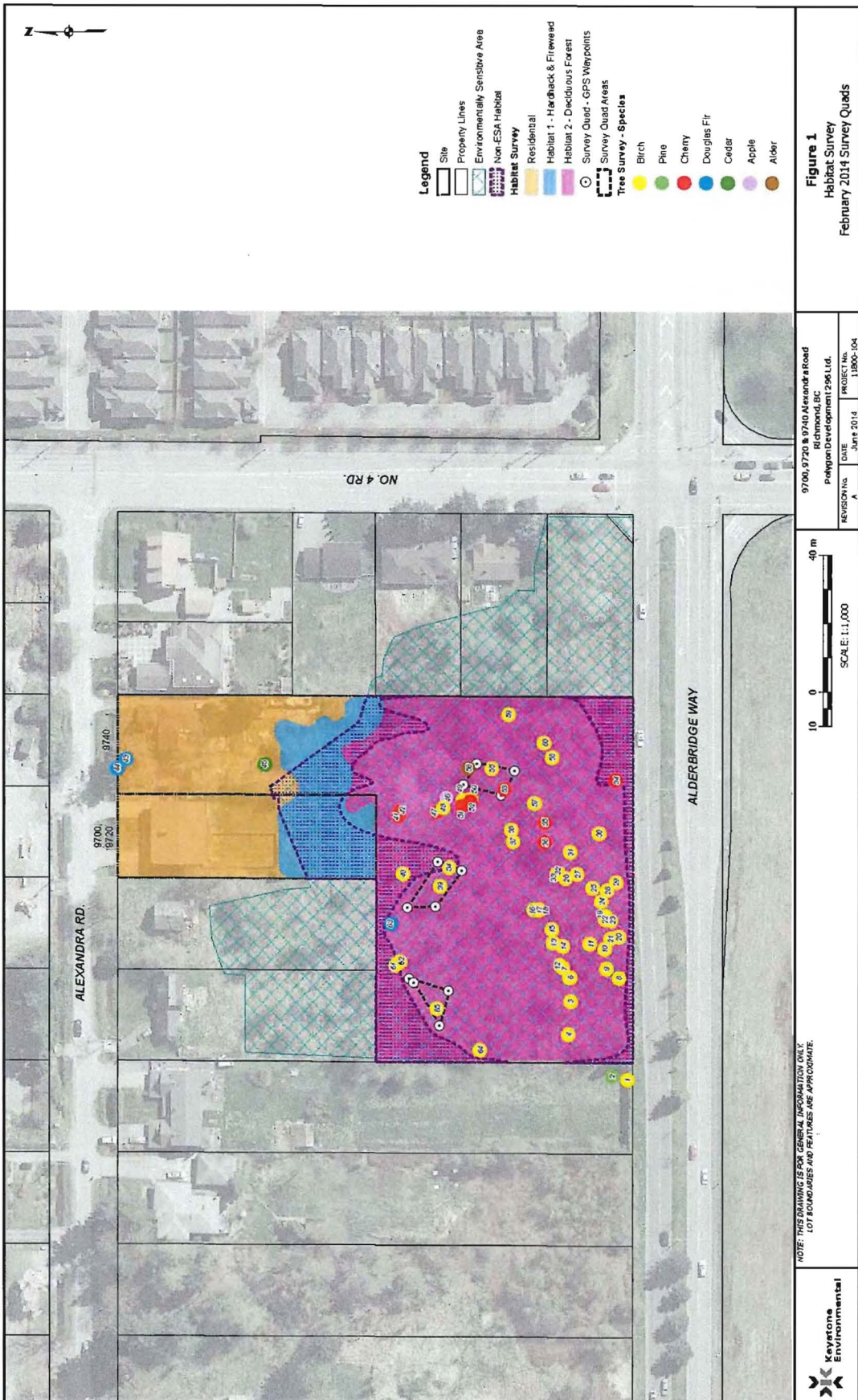
- “Residential” (located in the northern portion of the site),
- “Habitat 1 – Hardhack & Fireweed-Blackberry Open Habitat”; and
- “Habitat 2 – Deciduous Dominated Mixed Community” (located primarily in the southern portion of the site).

The Biologists note that the “Residential” area, the “Habitat 1” area and approximately 1,318.1 m² of the “Habitat 2” area are “*not meeting the criteria for Upland Forest within the ESA definition*”. The assessment indicates that the habitat value provided by these areas so low that the Biologists have recommended these areas (totalling 2,149 m²) be removed from the City’s ESA.

The Biologists further comment that “*the remaining 6,935 m² area in “Habitat 2” is considered low value habitat due to a high density of invasive Himalayan blackberries and die-back of paper birch (possibly due to birch borer infestation).*” While the Biologists have not explicitly recommended complete removal of the balance of the Habitat 2 area from the City’s ESA their supplemental assessment is that, from a habitat value perspective, full compensation for impacts arising from the development of the site is achieved by replacement planting at a ratio of 1 to 0.25 (i.e. 1 m² of replacement planting is worth 4 m² of existing habitat).

The “Habitat Survey Map” on the next page shows the extent of the City’s existing ESA designation over the subject site, the reductions to the ESA proposed by the Biologist’s site assessment and the extent of the three identified category areas. The map also shows the locations and species of 65 of the site’s 87 reported bylaw sized trees. (Tree counts on this map were based on field studies conducted July 29, 2013. Additional field studies were conducted on May 12 and 15, 2014 with the results provided in Attachment 5.)

Biologist's Habitat Survey Map



The table below summarizes the Biologist's assessment of the habitat values present in Habitat areas 1 and 2.

Habitat Valuation

Habitat Category Areas	Fish and Fish Habitat	Vegetation Diversity and Health	Wildlife Habitat Connectivity	Invasive Species Presence	Overall Rank
Habitat 1	N/A	Low	Low	High	Low
Habitat 2	N/A	Low	Low	High	Low

The impact of the invasive and diseased vegetation on the site's habitat is apparent in that the Biologist's assessment indicates that the development's proposed landscaping and enhancement plans indicating 1,750 m² will still result in a net benefit of habitat for wildlife.

Arborist Review

An Arborist's report has been prepared for the site (Attachment 6). The report identifies 87 bylaw sized trees on the property. These are almost entirely deciduous species with the majority of these being Birch trees. Other tree species found on the site include: Cherry, Douglas fir, Apple, Alder, Cedar, Hemlock, English Oak, Crab Apple, Shore Pine and Sycamore Maple.

The Arborist indicates that approximately 86% (i.e. 75) of the bylaw sized trees on site should be removed primarily due to deteriorating conditions, structural defects or impacts, by Bronze Birch Borer beetles.

Five are being considered for retention, while the remaining seven are being removed due to construction grade changes or site layout conflicts. Most of the development site is proposed to be raised to meet the 2.6m GSC Flood Construction Elevation requirements.

One of the five on-site trees proposed for retention one is a 30 cm dbh Douglas-fir located in the interior of the site. It's retention as a central feature for the proposed development. A second prominent tree proposed for retention is a larger Birch tree located along Alderbridge Way near the site's proposed green space area. The Arborist's report includes tree protection fencing zones around each of the trees proposed for retention.

The Tree Summary Table below shows the total number of bylaw sized trees on site and the number proposed for removal and retention. The tree retention and replacement plans will be refined through the Development Permit review.

Tree Summary Table

Total bylaw sized trees on site (over 8 " (200 mm) in diameter)	87	100%
Trees in suitable condition over 8 " (200 mm) in diameter	12	14%
Trees in unsuitable condition for retention over 8" (200 mm) in diameter	75	86%
Bylaw sized trees proposed for removal (87 including bylaw sized trees)	82	94%
Trees proposed for retention on-site	5	
Trees to be replaced per OCP at 2 for 1	164	

Proposed Landscaping Plan and Objectives

The preliminary landscape plan prepared for the site is intended to improve habitat for wildlife.

The strips along the eastern and western boundaries will be approximately 3 m wide with the western property boundary strip being designed to combine with a similar vegetation strip proposed on the adjacent property through its redevelopment (RZ 13-649999). This will result in a 6 m wide vegetation corridor between the projects creating songbird habitat and facilitating movement of small birds and mammals.

Along the new southern property boundary (post land dedication) two vegetated buffer strips are proposed that will merge into a central green space. The two vegetation strips will also be enhanced through plant species selections designed to create a year round visual screen between this development and the Garden City lands to the south.

The table below summarizes the proposed vegetation strips for the development site. To the extent possible, breaks in these vegetation strips will be kept to a minimum.

Proposed Vegetation Strips

West property boundary	6 m wide when combined with buffer strip on the adjacent development property (AmPri Development 9580-9680 Alexandra Road)
South property boundary	2.7 m to 6 m wide strip of native trees and shrubs except for the area adjacent to the interior green space – species selections to minimize agricultural issues for the Garden City Lands to the south. Taller trees and shrubs used.
East property boundary	3 m wide strip of native trees and shrubs that would be intended to combine with a landscaped buffer established on adjacent lands when they redevelop.

The Development Permit considerations will include a requirement for a long-term maintenance plan to ensure that invasive plant species are managed within the vegetation strips.

The Biologist's assessment, recommendations and species selections will be reviewed in greater detail through the forthcoming Development Permit application. Particular attention will be paid to species selections along Alderbridge Way across from the agricultural lands. Staff will also work with the applicant to refine the assessment, reduce the net loss of habitat area on site and determine compensation if required through the Development Permit.

Analysis

Land Use and Zoning

The proposed Zoning Bylaw amendment will create a new "Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)" zone for this development site. The new zone is based on an existing site specific zone "Town Housing (ZT67)" used at the Wishing Tree townhouse development north of Alexandra Road but is customized to address issues specific to this site. The new zone provides for the following elements:

- A minimum rear yard setback of 4 m to accommodate a dense "year round" natural vegetation strip adjacent to Alderbridge Way;
- A maximum base density of 0.65 FAR
- An increase in the maximum density to 0.72 FAR if the owner has paid or secured a monetary contribution of \$678,107.00 to the City's capital Affordable Housing Reserve Fund;
- A maximum building height of 12.2 m; and
- A minimum front yard setback along Alexandra Road of 3.0 m for the accessory amenity building and 4.0 m for all other buildings.

Affordable Housing Contribution

Polygon has requested a density in excess of the 0.65 FAR base and has offered to provide a voluntary contribution to the City's capital Affordable Housing Reserve Fund and proposed that this site be a potential "donor site" for the Kiwanis special development circumstance project. Their voluntary contribution of \$678,107.00 is based on one-third of the increased density of 0.1 FAR as permitted by the West Cambie Area Plan land use map even though Polygon has opted instead for a lower density of 0.72 FAR. Staff supports this voluntary contribution as it fully addresses the density bonusing provisions for affordable housing outlined in the West Cambie Area Plan. Subject to Council's approval, Polygon proposes to develop affordable housing units at its Alexandra East development at a comparable value of the cash contribution from the Jayden Mews project.

ESA Response – Preliminary Overview

The Biologist's review indicates that the future landscape planting will provide improved habitat value for the site by removing the extensive areas of invasive species and providing targeted enhancements create songbird habitat, and will provide north-south movement corridors.

Both the Arborist's and the Biologists' reports indicate the quality of the on-site trees is low. The initial proposal suggests that five bylaw sized trees are to be retained and 126 replacement trees will be provided through the development plan. The developer has committed to complying with the OCP 2 to 1 replacement ratio through the forthcoming Development Permit via a combination of tree planting and monetary compensation as necessary.

The Developer has been advised that clearing of the primary vegetation stands on the site will not be permitted until the Development Permit has been issued unless safety issues are evident. Additionally, retention of trees within land dedication areas will also need to be reviewed by Parks Arboriculture staff. The Rezoning Considerations include a requirement for submission of a pre-clearing bird nest survey summary of findings and recommendations prior to site clearing activities.

Alderbridge Way Median Enhancement

Additional infill tree planting will be installed along the centre median for the portion of Alderbridge Way fronting the subject site. The applicant will work with Parks staff on an appropriate planting plan for the median via a Servicing Agreement.

Engineering and Transportation Requirements

No significant concerns have been identified through the technical review related to the subject development proposal. As there are several developments occurring or proposed to occur within the vicinity of Alexandra Road some of the off-site works may be advanced by others. Engineering staff will determine how the frontage works along Alexandra Road will occur based on the sequence of Servicing Agreement submissions received and discussions with the individual developers.

Highlights of the off-site engineering requirements include:

- Construction of a 200 mm diameter gravity sanitary sewer along Alexandra Road from the east property line of the development site to future May Drive;
- Construction of a 375 mm diameter sanitary sewer along the future May Drive from Alexandra Road connecting to the existing system on Tomicki Avenue;
- If adequate water flow is not available, then upgrades beyond the development site frontage may be required, e.g. constructing a 200 mm diameter watermain along the future May Drive from Alexandra Road to Tomicki Avenue or from Alexandra Road to Alderbridge Way;
- Replacement of existing watermain from the west property line of the development site to No 4 Road;
- Installation of additional fire hydrants;
- Upgrading of the existing storm sewer line along the property frontage; and
- Undergrounding of existing private utility lines along Alexandra Road.

Key elements of the transportation related off-site requirements include:

- Design and construction of the Alexandra Road frontage including curbing, an 8.5 m wide travel road surface, treed boulevards and sidewalks;
- Design and construction of a 1.5 m wide treed boulevard and 3.3 m wide shared cyclist/pedestrian path along Alderbridge Way;
- Land dedication along Alderbridge Way for the sidewalk and treed boulevard;
- No vehicle access other than emergency access to Alderbridge Way;
- Parking at a ratio of 1.7 spaces for each dwelling unit (1.5 residents, 0.2 visitors);
- A minimum 20% of the parking stalls with a 120 volt receptacle for electric vehicles;
- An addition 25% of the parking stalls be pre-ducted for future wiring for the future installation of electric vehicle charging equipment;
- Provide SU-9 vehicle turning templates;
- Bicycle parking: 1.25 Class 1 spaces per dwelling, 0.2 Class 2 spaces per dwelling; and

- On-site drive aisles should be no less than 6.0 m wide.

Staff will ensure that the engineering and transportation related requirements are addressed in the forthcoming Development Permit and Servicing Agreements. Both the Development Permit and the Servicing Agreement(s) are included the Rezoning considerations.

Rezoning Considerations

Detailed Rezoning considerations are provided in Attachment 7.

Development Permit Issues

Issues that will be addressed through the forthcoming Development Permit include:

- Confirmation of the site plan in relation to the Zoning Schedule (ZT71), detailing building massing and design, provision of parking, loading, pedestrian access, amenity areas, surface permeability, incorporation of play areas, etc.;
- Details on the existing vegetation, ESA mitigation, compensation and long-term maintenance plan preparation and protection;
- Addressing drainage concerns in the corridor between this site and the site to the west;
- Registration of any legal agreements related to the protection and maintenance of the ESA vegetation areas;
- Confirmation of the Public Art response;
- Resolving on-site garbage collection and ensuring appropriate vehicle movement;
- Incorporation of appropriate Aircraft Noise Mitigation measures in the building plans;
- A variance will be required to accommodate the number of tandem stalls proposed;
- Addressing accessibility features within the units; and
- Greater definition of the sustainability measures that will be built into the units.

Financial Impact or Economic Impact

None.

Conclusion

The proposed development provides for ground oriented town housing consistent with the West Cambie Area Plan and the Alexandra Neighbourhood Land Use Map. Detailed Biologist and Arborist assessments of the existing vegetation on the subject site have revealed the limitations of the habitat currently found at that location and have been used to prepare appropriate plans for vegetation replacement and enhancement aimed at creating a higher quality of habitat on site.

Based on the information submitted, Staff recommend that:

- a) Bylaw 9159 to create “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)” Zoning and to rezone the subject properties to “Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)” be introduced and given first reading; and
- b) The affordable housing contribution for the rezoning of 9700 and 9740 Alexandra Road be allocated entirely (100%) to the capital Affordable Housing Reserve Fund.



David Brownlee
Planner 2

Attachment 1: Location Map

Attachment 2: Conceptual Development Plans

Attachment 3: Development Application Data Sheet

Attachment 4: Alexandra Neighbourhood Land Use Map

Attachment 5: Biologist's Report – Keystone Environmental dated April 17, 2014, and
supplemental findings summary report dated June 3, 2014

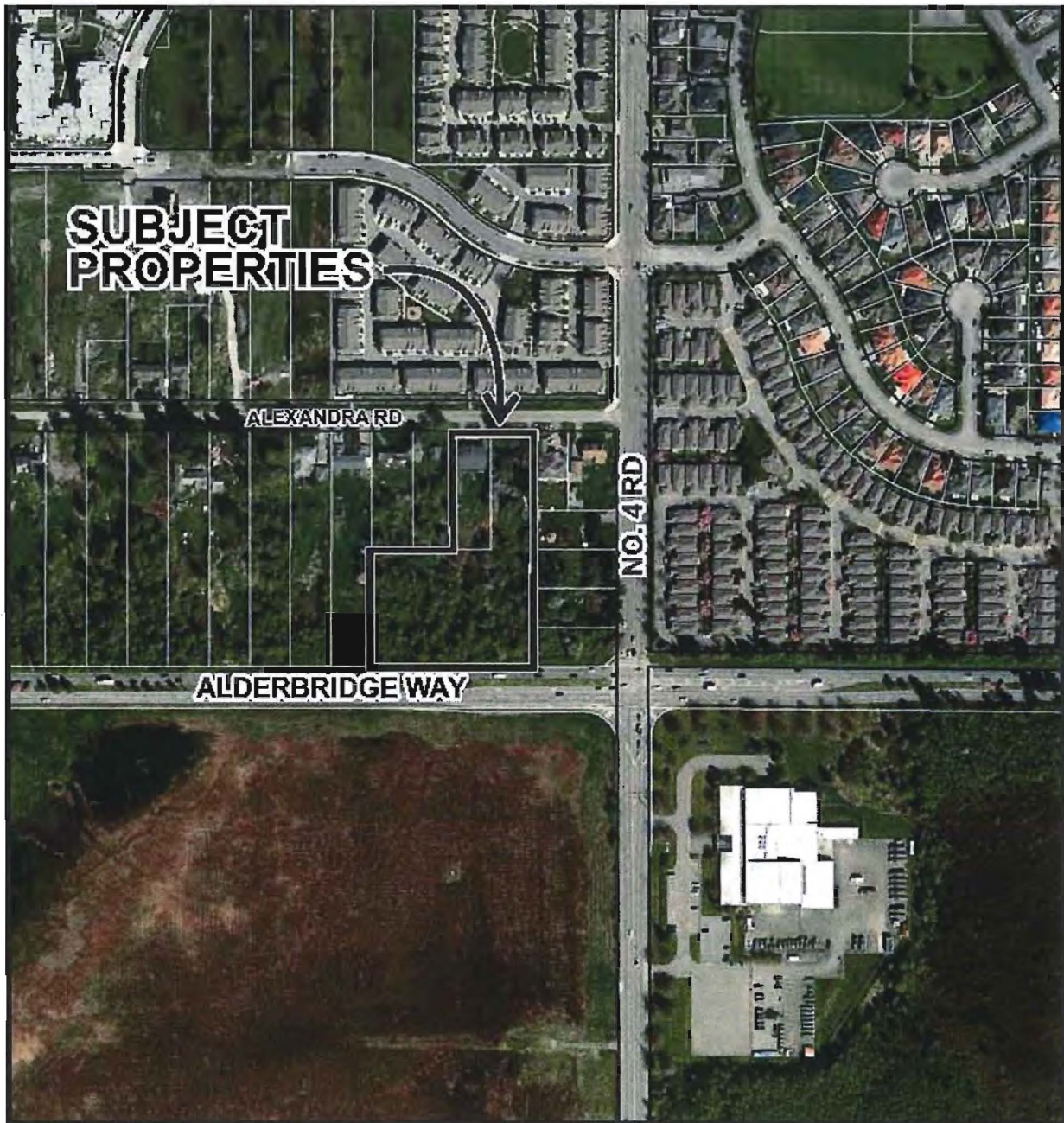
Attachment 6: Arborist's Report – Pacific Sun Tree Services dated June 6, 2014

Attachment 7: Rezoning Considerations Concurrence

Attachment 8: Letter from the owner of 9800 Alexandra Road



City of
Richmond



RZ 13-649641

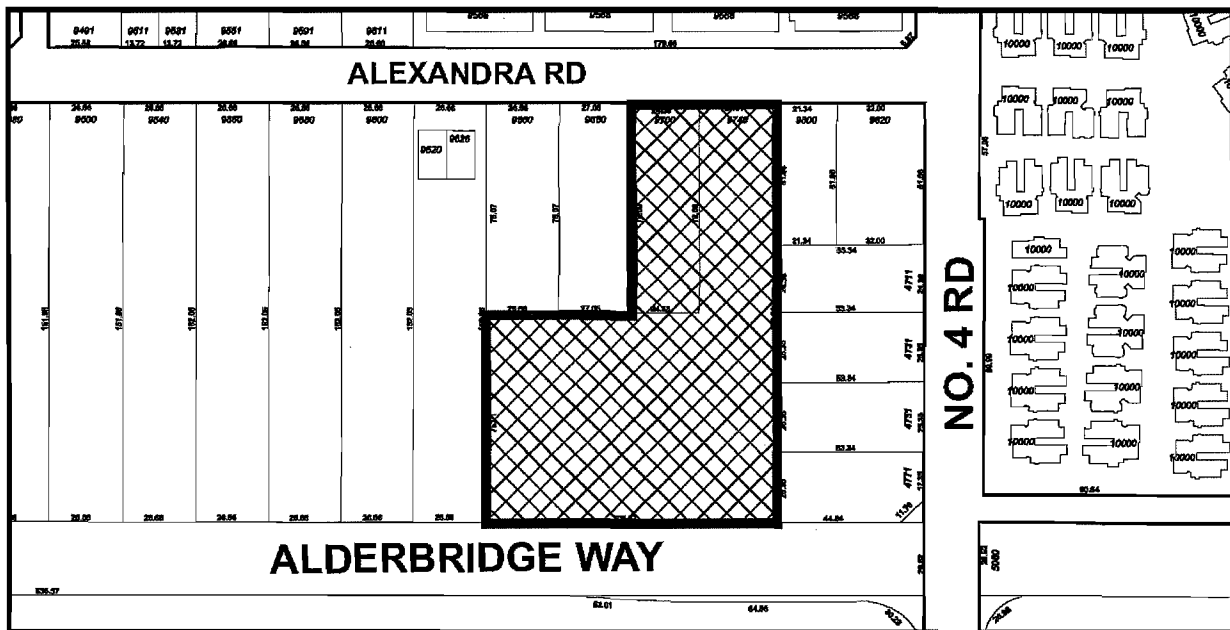
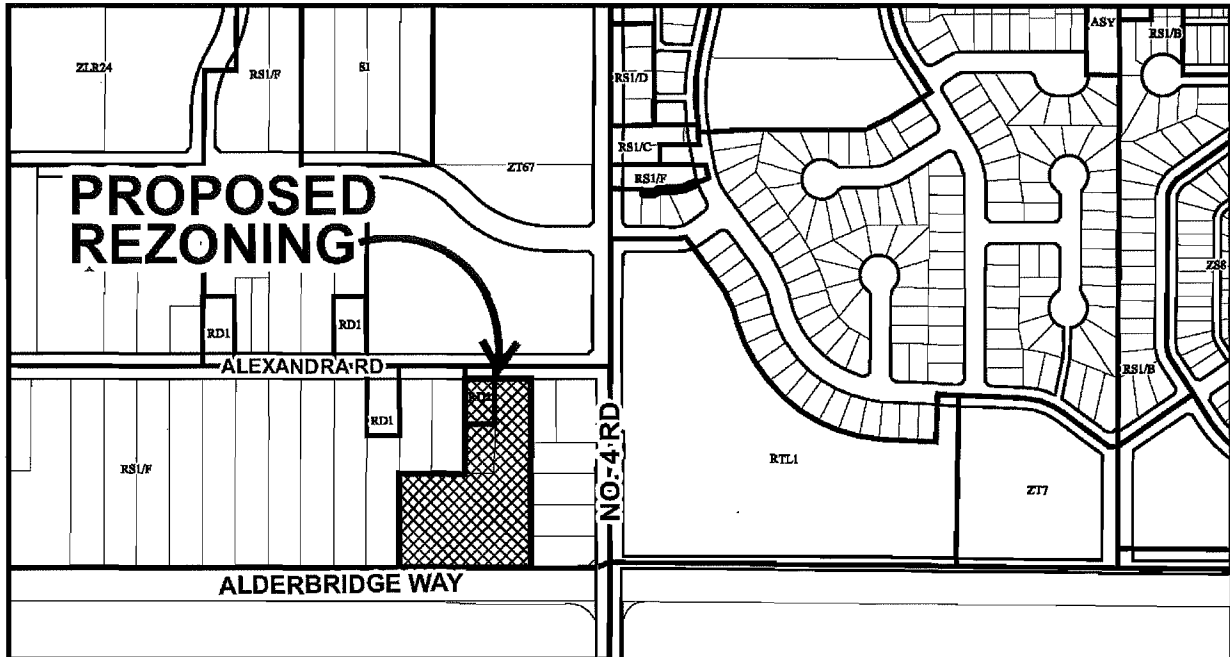
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Revision Date: 11/26/13

Note: Dimensions are in METRES



City of Richmond



RZ 13-649641

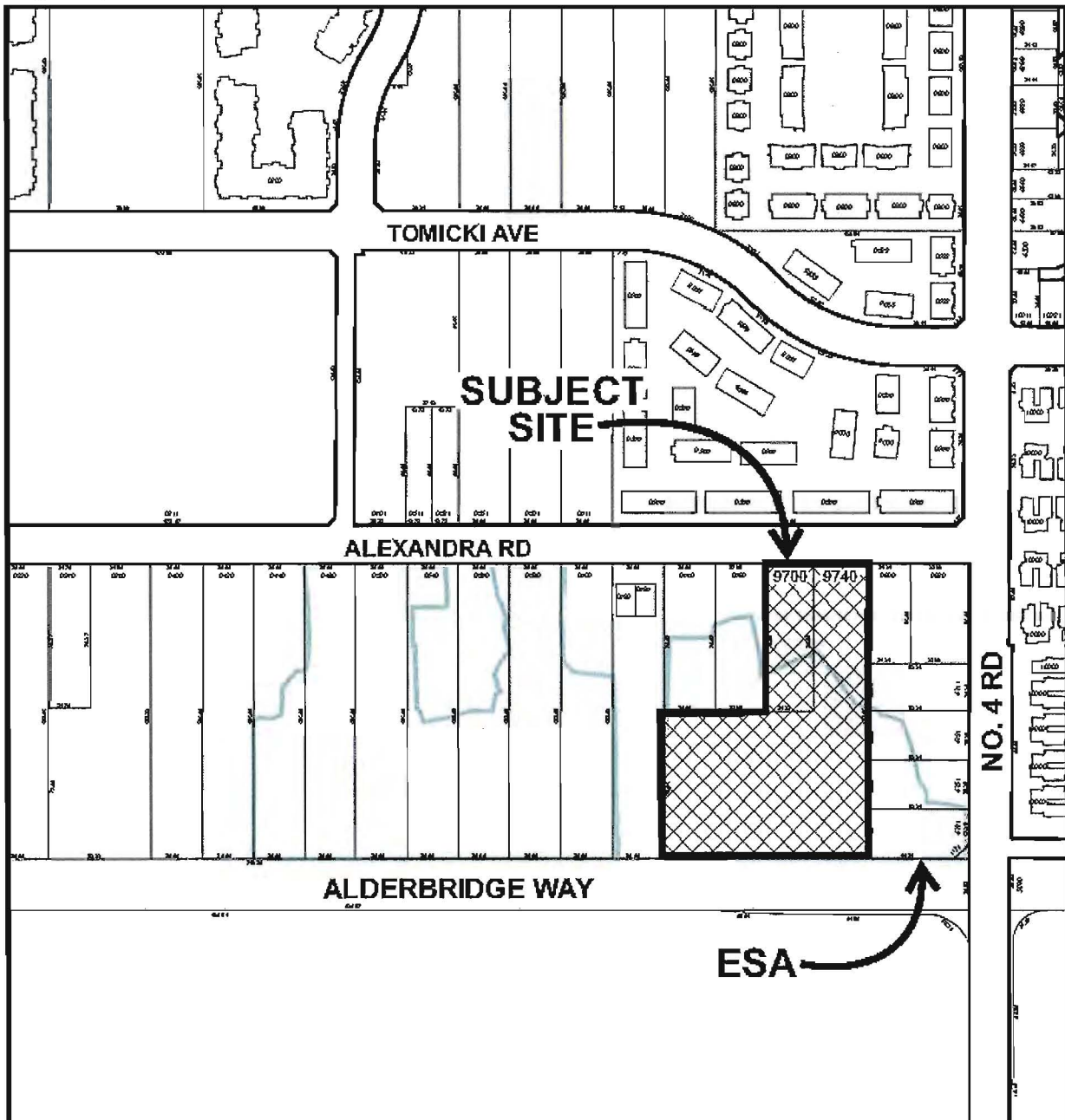
Original Date: 03/05/14

Revision Date:

Note: Dimensions are in METRES



City of
Richmond

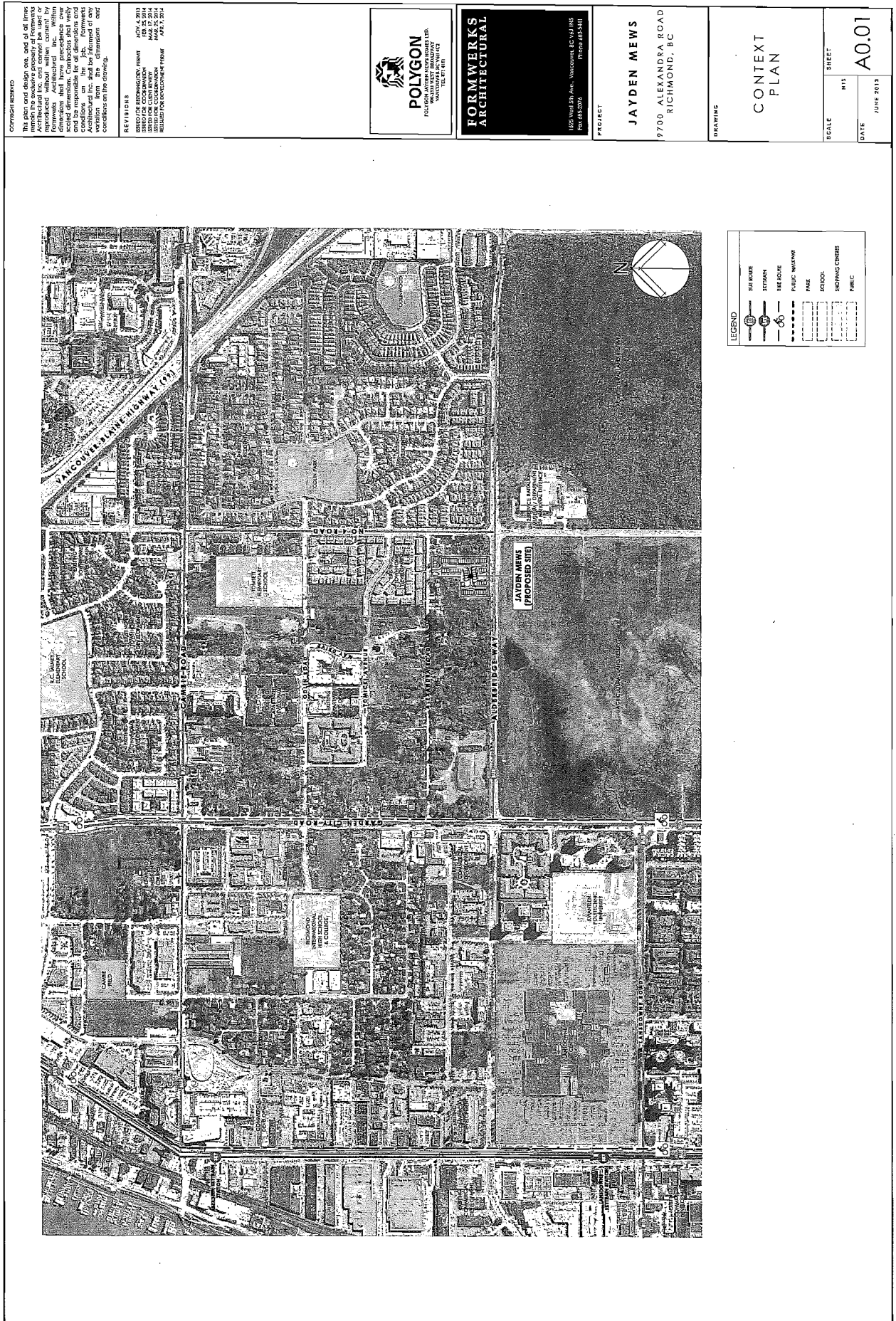


**Environmentally Sensitive
Areas**

Original Date: 05/26/14

Revision Date:

Note: Dimensions are in METRES



CONSULTANT LIST

OWNER: POLYGON DEVELOPMENT, LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

ARCHITECT: FORMWERKS ARCHITECTURAL INC.
 1405 WEST 5TH AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: DARRYL TUCKER
 PHONE: 604.683.3441

LANDSCAPE: EDCO GROUP CONSULTANTS LTD.
 300-1080 BURNBURN COURT
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

CIVIL: CIVIL ENGINEERING CONSULTANTS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

STRUCTURAL: STRUCTURAL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

MECHANICAL: MECHANICAL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

ELECTRICAL: ELECTRICAL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

ENVIRONMENTAL: ENVIRONMENTAL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

TRAFFIC: TRAFFIC ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

SOIL: SOIL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

GEOTECHNICAL: GEOTECHNICAL ENGINEERS LTD.
 175 WEST 2ND AVENUE
 VANCOUVER, BC V6C 3K7
 PROJECT: PH-69
 CONTACT: CHRIS BO
 PHONE: 604.683.3441

PROJECT DATA

DEVELOPMENT DATA

CIVIC ADDRESS: 175 WEST 2ND AVENUE
 ZONING: PH-69
 LOT AREA: 10,000 SQ. FT.
 LOT COVERAGE: 40%
 SETBACKS: 3.0M / 10.0M
 BUILDING HEIGHT: 12.0M
 NUMBER OF RESIDENTIAL UNITS: 44
 TOTAL BUILDING FLOOR AREA: 10,000 SQ. M.
 AMENITY SPACE: 100 SQ. M.
 DENSITY: 4.4 UNITS PER 1,000 SQ. M.
 PARKING: 44 SPACES
 TOTAL BICYCLE SPACES: 44

MIN. REQUIRED / MAX. ALLOWED

DEVELOPMENT DATA: 10,000 SQ. FT. / 10,000 SQ. FT.
 LOT COVERAGE: 40% / 40%
 SETBACKS: 3.0M / 10.0M
 BUILDING HEIGHT: 12.0M / 12.0M
 NUMBER OF RESIDENTIAL UNITS: 44 / 44
 TOTAL BUILDING FLOOR AREA: 10,000 SQ. M. / 10,000 SQ. M.
 AMENITY SPACE: 100 SQ. M. / 100 SQ. M.
 DENSITY: 4.4 UNITS PER 1,000 SQ. M. / 4.4 UNITS PER 1,000 SQ. M.
 PARKING: 44 SPACES / 44 SPACES
 TOTAL BICYCLE SPACES: 44 / 44

AREA CALCULATIONS

UNIT TYPE	TOTAL QUANTITY	UNIT FLOOR AREA	TOTAL AREA
RESIDENTIAL	44	10,000 SQ. M.	440,000 SQ. M.
COMMERCIAL	0	0 SQ. M.	0 SQ. M.
INDUSTRIAL	0	0 SQ. M.	0 SQ. M.
PARKING	44	100 SQ. M.	4,400 SQ. M.
TOTAL	88	10,100 SQ. M.	444,400 SQ. M.

NOT FOR CONSTRUCTION

POLYGON

FORMWERKS ARCHITECTURAL

JAYDEN MEWS

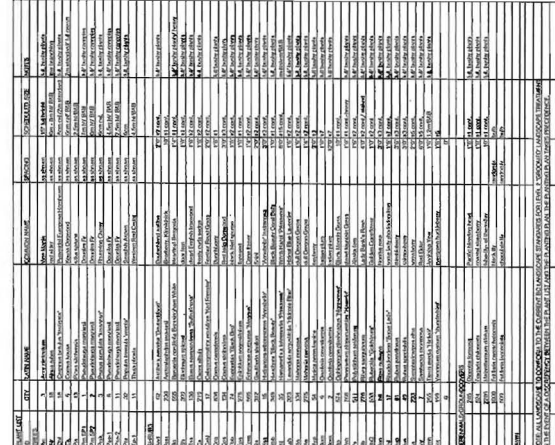
9700 ALEXANDRA ROAD
RICHMOND, BC

DATE: JUNE 2013

SHEET: N11

SCALE: 1:100

A1.01



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REVISIONS

NOV. 4, 2013
REVISED FOR SUBMITTAL
NOV. 12, 2014
REVISED FOR SUBMITTAL
NOV. 12, 2014
REVISED FOR SUBMITTAL
NOV. 12, 2014
REVISED FOR SUBMITTAL
NOV. 12, 2014

POLYGON

POLYMER CONSTRUCTION
1000 WEST BROADWAY
RICHMOND, VA 23218
TEL: 804.351.1111

FORMWERKS ARCHITECTURAL

100 West 13th Ave., Norfolk, VA 23510
Tel: 402-209-1111

PROJECT

JAYDEN MEWS

9700 ALEXANDRA ROAD
RICHMOND, 8C

DRAWING

STREETSCAPES

SCALE

SHEET

DATE

NO.

A0.05

JUNE 2013

ALEXANDRA ROAD STREETSCAPE - LOOKING SOUTH
N.T.S.

ALEXANDRA ROAD STREETSCAPE - LOOKING NORTH
N.T.S.

ALDERBRIDGE WAY STREETSCAPE - LOOKING NORTH
N.T.S.

FORMWERKS ARCHITECTURAL

1825 West 28th Avenue, Vancouver, BC V6J 1T5
Tel: 604-266-1100 Fax: 604-266-1101

POLYGON

PROFESSIONAL ARCHITECTS
1000 WEST 10TH AVENUE, SUITE 100
VANCOUVER, BC V6H 1T1
TEL: 604-266-1100

PROJECT

JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

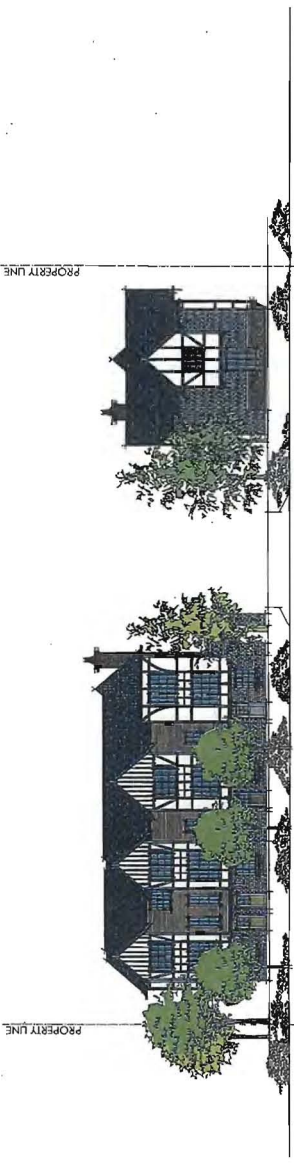
STREETSCAPES

DATE 1/04/2013
SCALE 1/12
SHEET A1.03

REVISIONS


REVISED FOR RECORDING/PERMIT	NOV. 4, 2013
REVISED FOR CONSTRUCTION	FEB. 12, 2014
REVISED FOR CONSTRUCTION	MAY 12, 2014
REVISED FOR CONSTRUCTION	MAY 29, 2014
REVISED FOR ALP	APR. 26, 2014

PROPERTY LINE



ALEXANDRA ROAD STREETSCAPE
N.T.S.

PROPERTY LINE



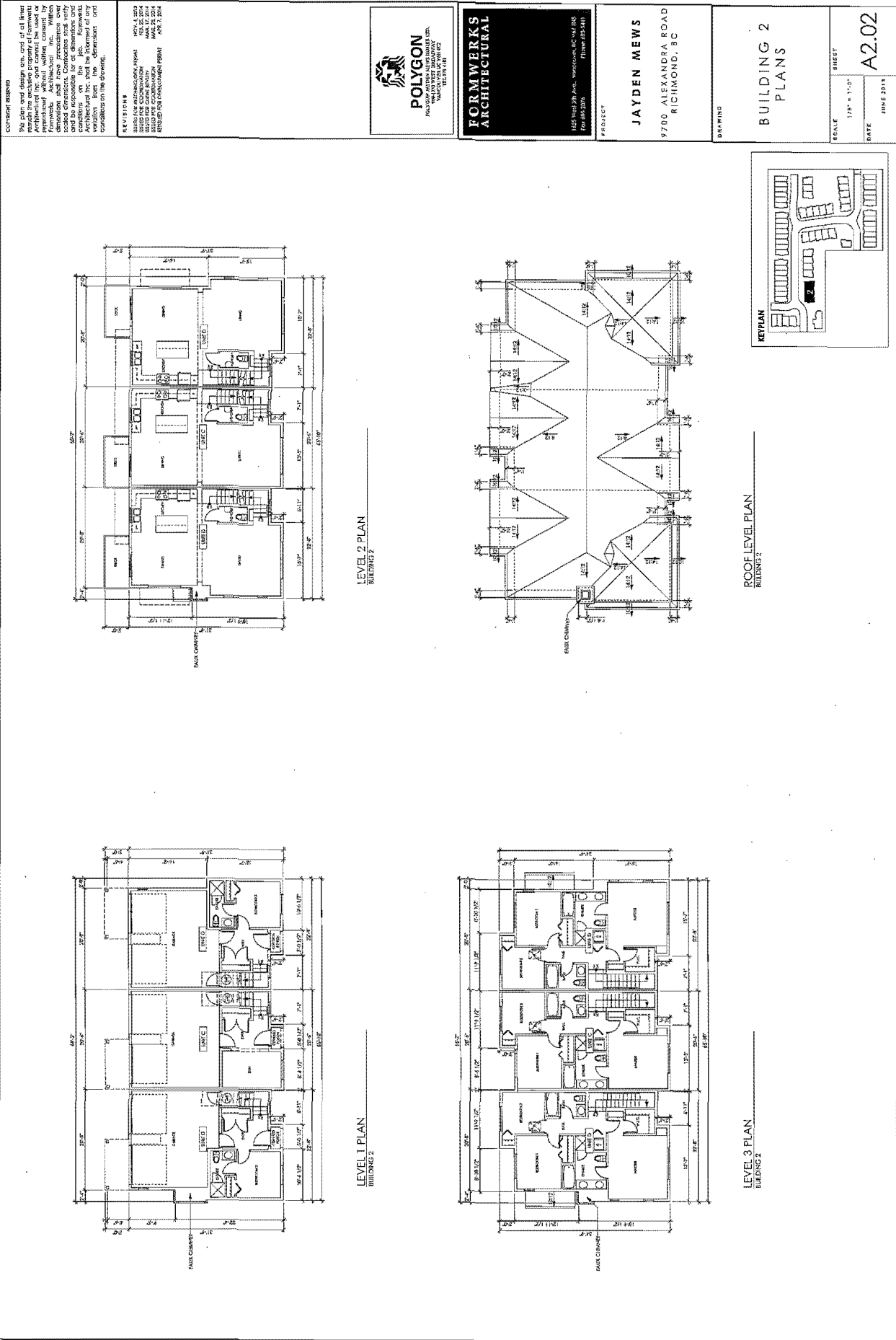
ALDERBRIDGE WAY STREETSCAPE
N.T.S.

[illegible]

SCALE	1/8" = 1'-0"	DATE	JUNE 2012
SHEET			
A1.06			

COLOUR SCHEME B
SIDE ELEVATION

COLOUR SCHEME B
REAR ELEVATION



REVISIONS	
ISSUED FOR REOPENING/REV. PERMIT	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 25, 2014
ISSUED FOR CLIENT REVIEW	MAR. 12, 2014
ISSUED FOR COORDINATION	MAR. 25, 2014
REISSUED FOR DEVELOPMENT PERMIT	APR. 7, 2014



1625 West 5th Ave., Vancouver, B.C. V6J 1T5
Phone 683-5441
Fax 685-2076

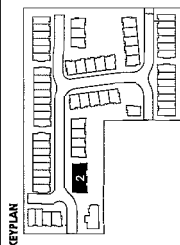
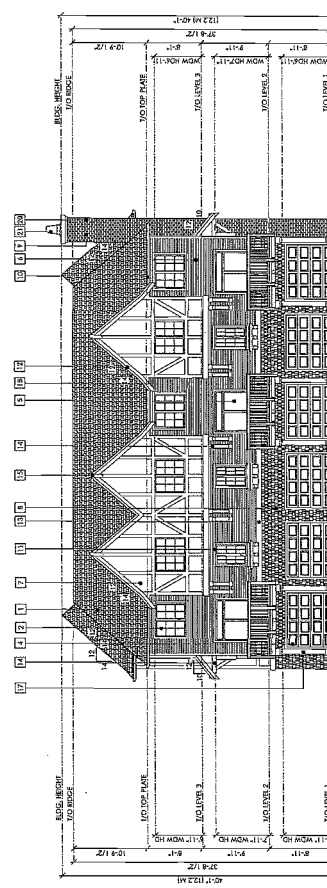
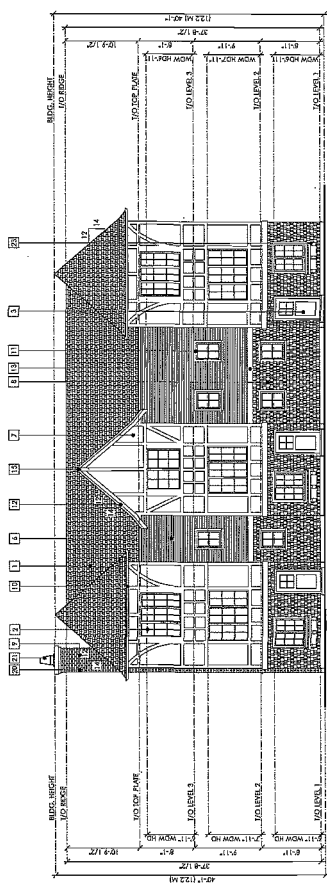
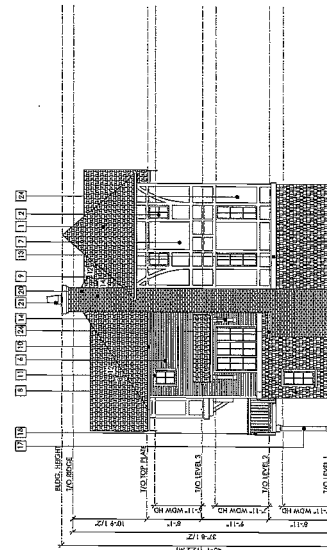
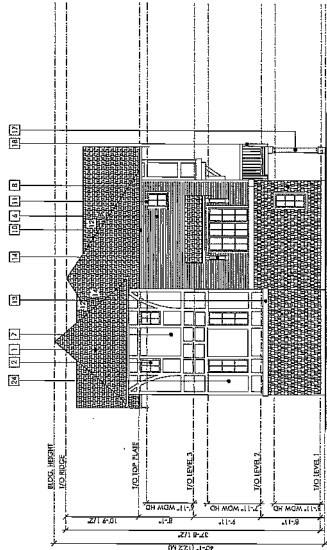
JAYDEN MEWS
2700 ALEXANDRA ROAD
RICHMOND, BC

DRAWING

BUILDING 2
ELEVATIONS

DATE	SHEET
------	-------

A2.03



- [illegible]

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ISSUED FOR REZONING/DV, FIRM	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 25, 2014
ISSUED FOR CLIENT REVIEW	MAR. 17, 2014
ISSUED FOR COORDINATION	MAR. 25, 2014
REQUEST FOR DEVELOPMENT PERMIT	APR. 7, 2014



POLYCOM JAYDEN NEWS HOMES LTD.
969-1233 WEST BROADWAY
VANCOUVER BC V6H 4C2
TEL: 671-0181

**FORMWERKS
ARCHITECTURAL**

625 West 5th Ave., Vancouver, BC V6J 1K5
Fax 605-2076 Phone 603-5441

JAYDEN MEWS

9700 ALEXANDRA ROAD
RICHMOND, BC

DRAWING

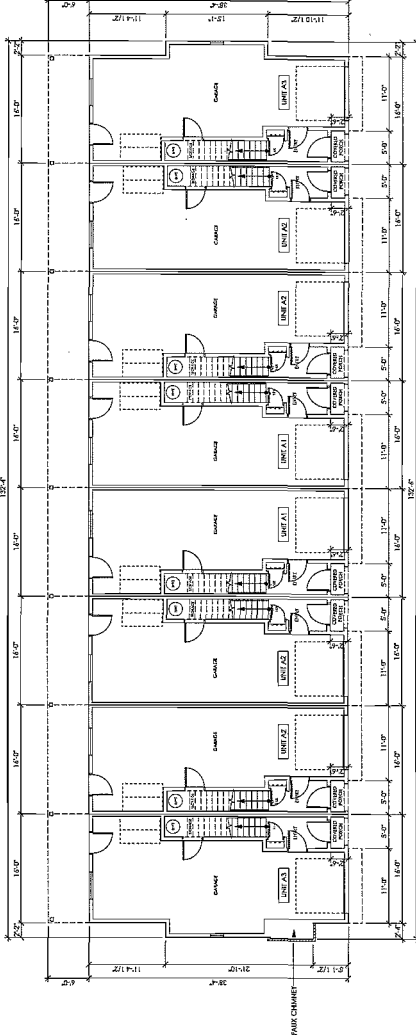
BUILDING 3
PLANS
(LEVEL 1 & 2)

SCALE SHEET

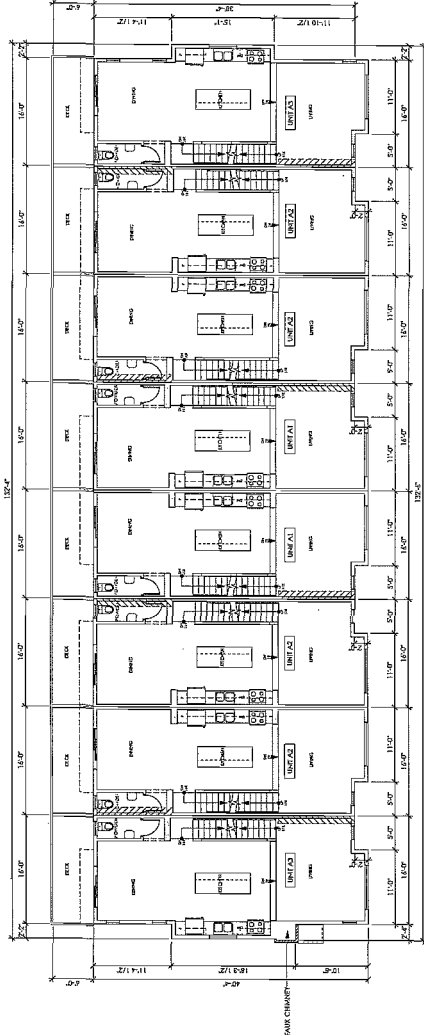
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A2.04

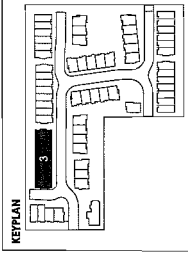
JUNE 2013



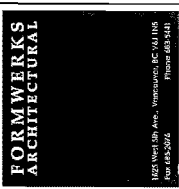
LEVEL 1 PLAN
BUILDING 3



LEVEL 2 PLAN
BUILDING 3



ISSUED FOR RECOMMENDATION	NOV 4 2014
ISSUED FOR RECOMMENDATION	FEB 25 2014
ISSUED FOR CLIENT REVIEW	MAR 17 2014
ISSUED FOR RECOMMENDATION	MAR 25 2014
ISSUED FOR RECOMMENDATION	APR 7 2014

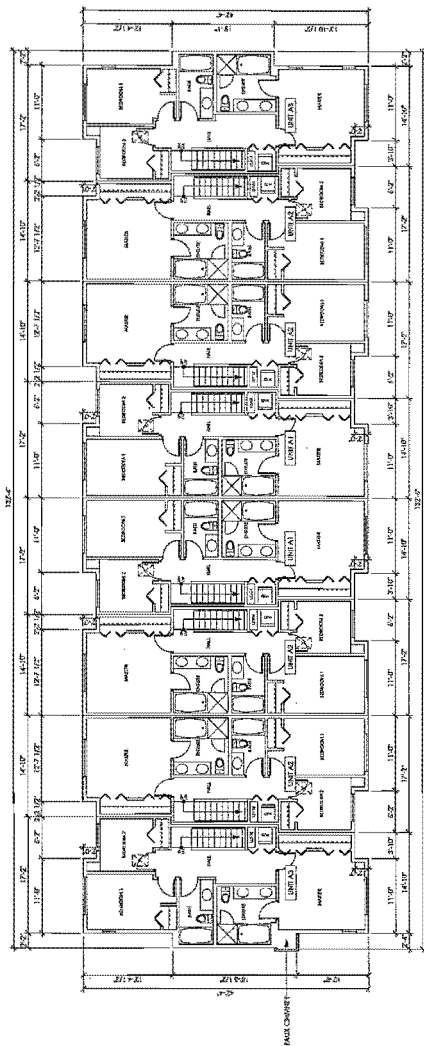


PROJECT
JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

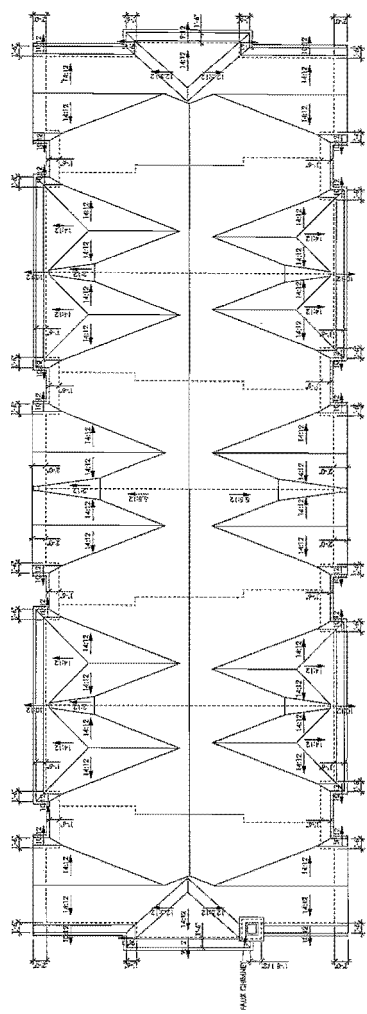
DRAWING

**BUILDING 3
PLANS
(LEVEL 3 &
ROOF)**

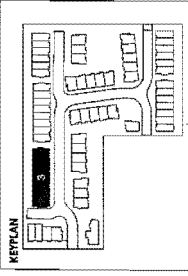
CALL	1/8" = 1'-0"	A2.05
DATE	JUNE 2013	
SHEET		



LEVEL 3 PLAN
BUILDING 3



ROOF LEVEL PLAN
BUILDING 3



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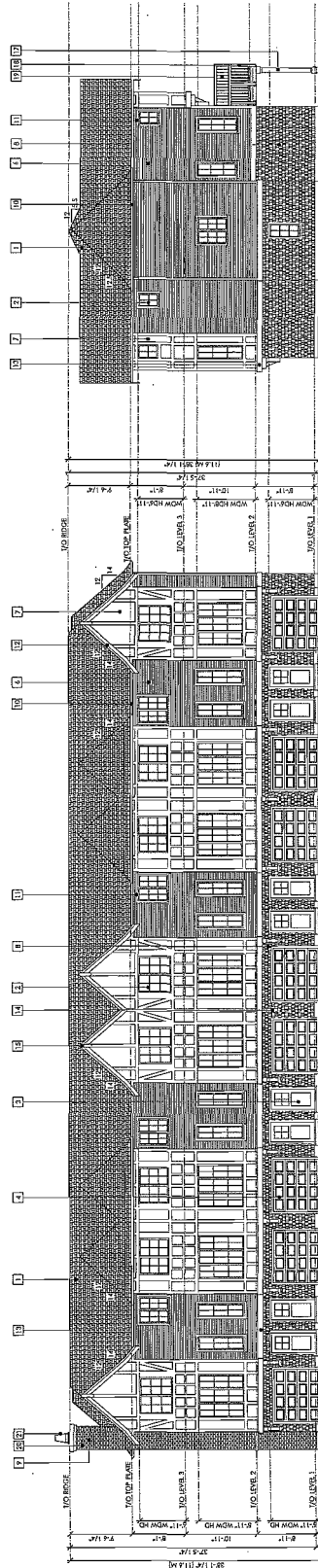
REVISIONS
 NO. 1 NOV. 4, 2013
 SUBMITTAL FOR PERMIT
 NO. 2 DEC. 12, 2013
 SUBMITTAL FOR PERMIT
 NO. 3 MAR. 15, 2014
 SUBMITTAL FOR PERMIT
 NO. 4 JUL. 1, 2014
 SUBMITTAL FOR PERMIT



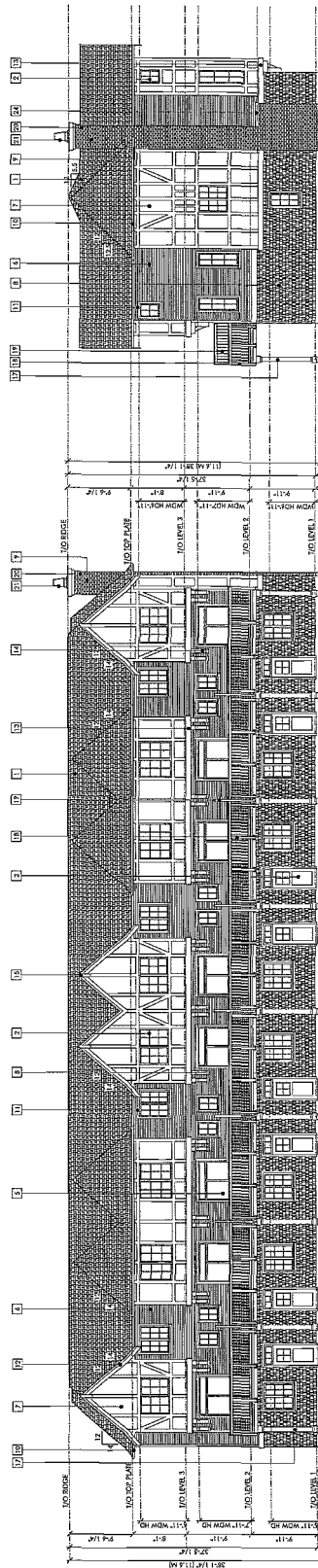
FORMWORKS ARCHITECTURAL
 1025 West 5th Ave., Vancouver, BC V6H 1A1
 Phone: 604-681-8888
 Fax: 604-681-8889

PROJECT
JAYDEN MEWS
 9700 ALEXANDRA ROAD
 RICHMOND, BC

DRAWING
BUILDING 3 ELEVATIONS
 SCALE: 1/8" = 1'-0"
 DATE: JUNE 2013
A2.06

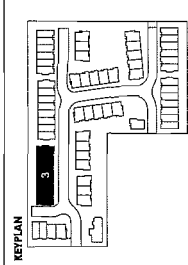


FRONT ELEVATION
 BUILDING 3



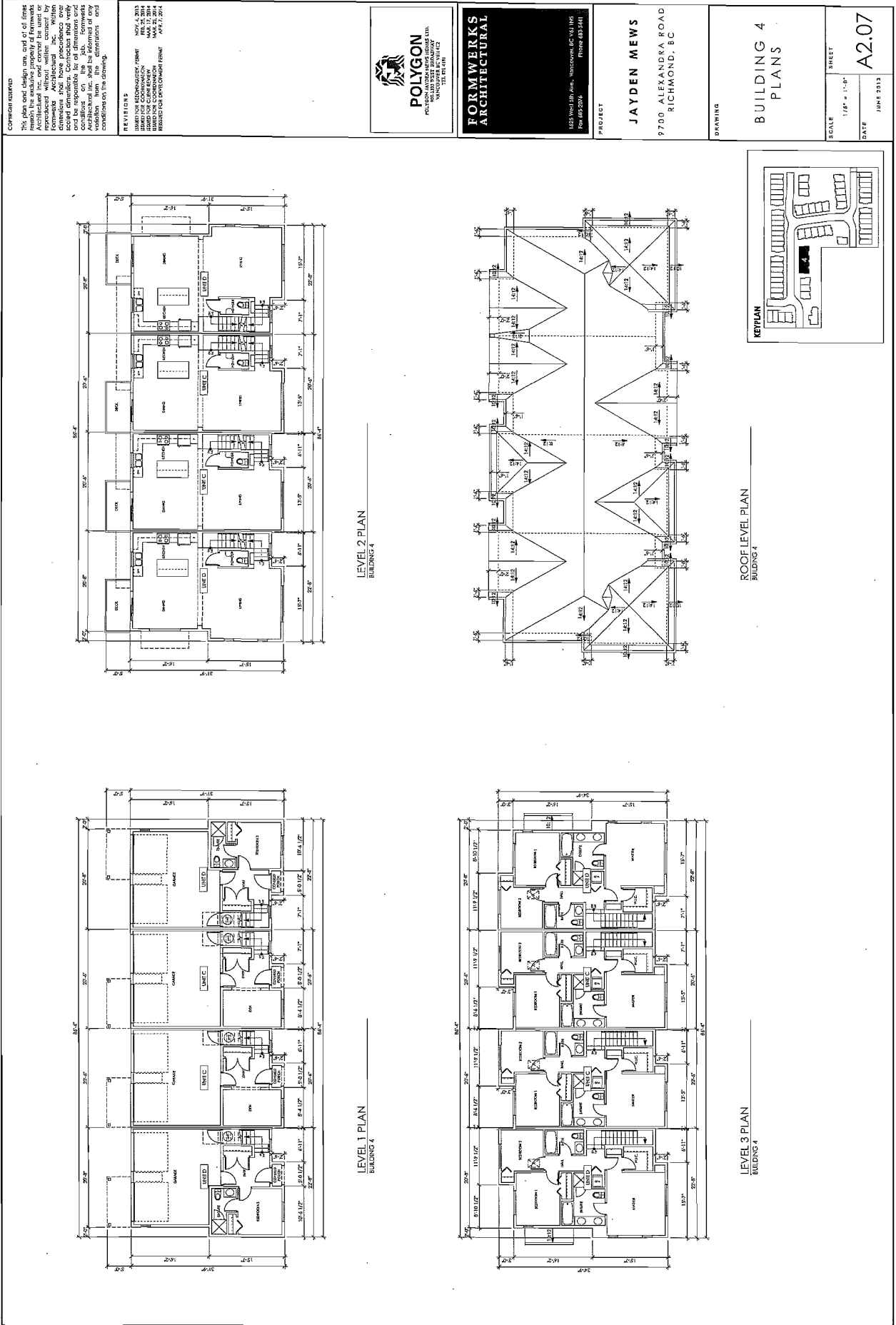
SIDE ELEVATION
 BUILDING 3

REAR ELEVATION
 BUILDING 3



FINISH SCHEDULE

1. EXTERIOR BRICK	17. PAINTED 2X4 BATTEN BOARD	33. METAL CHIMNEY CAP
2. EXTERIOR PAINTED BRICK	18. PAINTED 2X4 BATTEN BOARD	34. METAL CHIMNEY CAP
3. EXTERIOR PAINTED BRICK	19. PAINTED 2X4 BATTEN BOARD	35. METAL CHIMNEY CAP
4. EXTERIOR PAINTED BRICK	20. PAINTED 2X4 BATTEN BOARD	36. METAL CHIMNEY CAP
5. EXTERIOR PAINTED BRICK	21. PAINTED 2X4 BATTEN BOARD	37. METAL CHIMNEY CAP
6. EXTERIOR PAINTED BRICK	22. PAINTED 2X4 BATTEN BOARD	38. METAL CHIMNEY CAP
7. EXTERIOR PAINTED BRICK	23. PAINTED 2X4 BATTEN BOARD	39. METAL CHIMNEY CAP
8. EXTERIOR PAINTED BRICK	24. PAINTED 2X4 BATTEN BOARD	40. METAL CHIMNEY CAP
9. EXTERIOR PAINTED BRICK	25. PAINTED 2X4 BATTEN BOARD	41. METAL CHIMNEY CAP
10. EXTERIOR PAINTED BRICK	26. PAINTED 2X4 BATTEN BOARD	42. METAL CHIMNEY CAP
11. EXTERIOR PAINTED BRICK	27. PAINTED 2X4 BATTEN BOARD	43. METAL CHIMNEY CAP
12. EXTERIOR PAINTED BRICK	28. PAINTED 2X4 BATTEN BOARD	44. METAL CHIMNEY CAP
13. EXTERIOR PAINTED BRICK	29. PAINTED 2X4 BATTEN BOARD	45. METAL CHIMNEY CAP
14. EXTERIOR PAINTED BRICK	30. PAINTED 2X4 BATTEN BOARD	46. METAL CHIMNEY CAP
15. EXTERIOR PAINTED BRICK	31. PAINTED 2X4 BATTEN BOARD	47. METAL CHIMNEY CAP
16. EXTERIOR PAINTED BRICK	32. PAINTED 2X4 BATTEN BOARD	48. METAL CHIMNEY CAP



NOTES:

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REVISIONS:

NO.	DATE	DESCRIPTION
1	NOV 4, 2017	ISSUED FOR CONSTRUCTION
2	MAY 11, 2018	ISSUED FOR CONSTRUCTION
3	JUNE 11, 2018	ISSUED FOR CONSTRUCTION
4	JULY 11, 2018	ISSUED FOR CONSTRUCTION

POLYGON

PROFESSIONAL ARCHITECTS

1000 WEST 10TH AVENUE, SUITE 100

EDMONTON, ALBERTA T6P 1N1

FORMWERKS ARCHITECTURAL

1000 WEST 10TH AVENUE, SUITE 100

EDMONTON, ALBERTA T6P 1N1

PROJECT:

JAYDEN MEWS

9700 ALEXANDRA ROAD

RICHMOND, BC

DRAWING:

BUILDING 4 ELEVATIONS

SCALE: 1/8" = 1'-0"

DATE: JUNE 10, 2018

SHEET: A2.08

FRONT ELEVATION

BUILDING 4

REAR ELEVATION

BUILDING 4

SIDE ELEVATION

BUILDING 4

SIDE ELEVATION

BUILDING 4

KEY PLAN

FINISH SCHEDULE

1. INTERIOR FINISH	2. PAINTS	3. PAINTS	4. PAINTS
5. PAINTS	6. PAINTS	7. PAINTS	8. PAINTS
9. PAINTS	10. PAINTS	11. PAINTS	12. PAINTS
13. PAINTS	14. PAINTS	15. PAINTS	16. PAINTS
17. PAINTS	18. PAINTS	19. PAINTS	20. PAINTS
21. PAINTS	22. PAINTS	23. PAINTS	24. PAINTS
25. PAINTS	26. PAINTS	27. PAINTS	28. PAINTS
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53. PAINTS	54. PAINTS	55. PAINTS	56. PAINTS
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93. PAINTS	94. PAINTS	95. PAINTS	96. PAINTS
97. PAINTS	98. PAINTS	99. PAINTS	100. PAINTS

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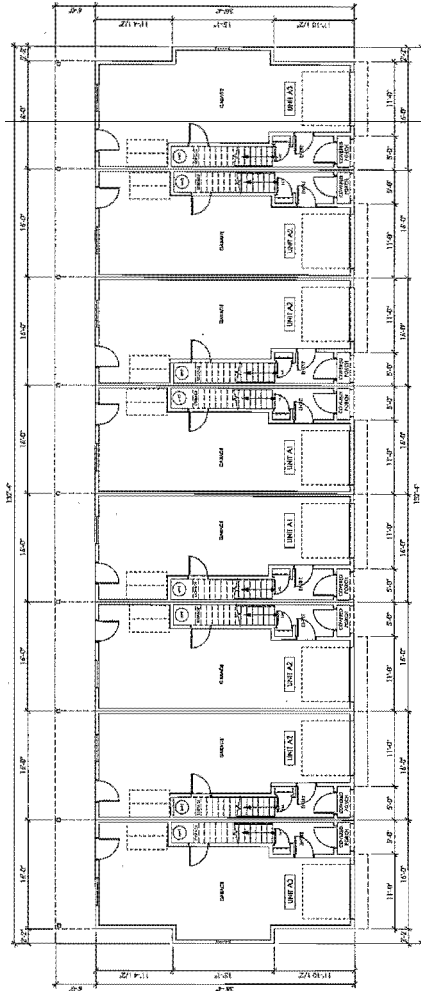
REVISIONS
REVISION NO. 1
REVISION DATE 04/12/2014
REVISION DESCRIPTION
REVISION FOR DESIGNING PERM
REVISION FOR DESIGNING PERM



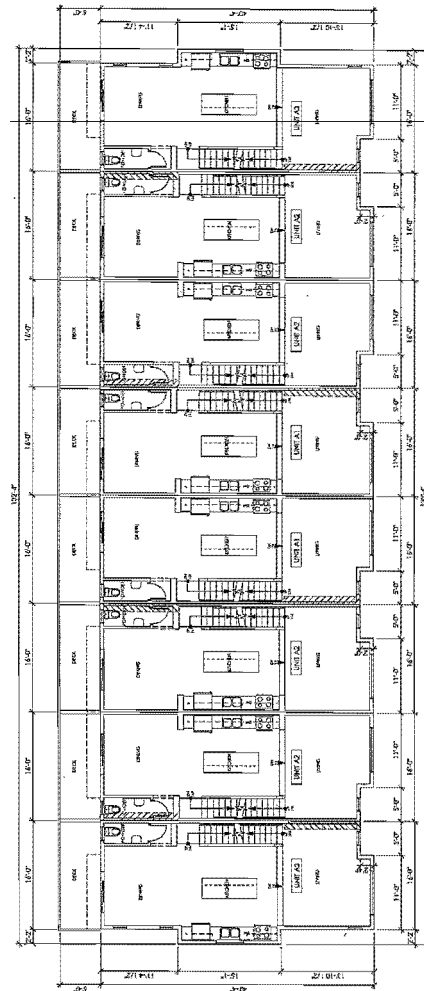
**FORMWORKS
ARCHITECTURAL**
1000 West Broadway, Vancouver BC V6Y 1Y1
Phone: 604-271-1100
Fax: 604-271-1101

PROJECT
JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

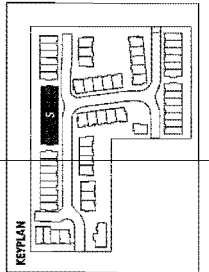
DRAWING
**BUILDING 5
PLANS
(LEVEL 1 & 2)**
SCALE: 1/8" = 1'-0"
DATE: _____
SHEET: **A2.09**
INCHES: 8.5x11

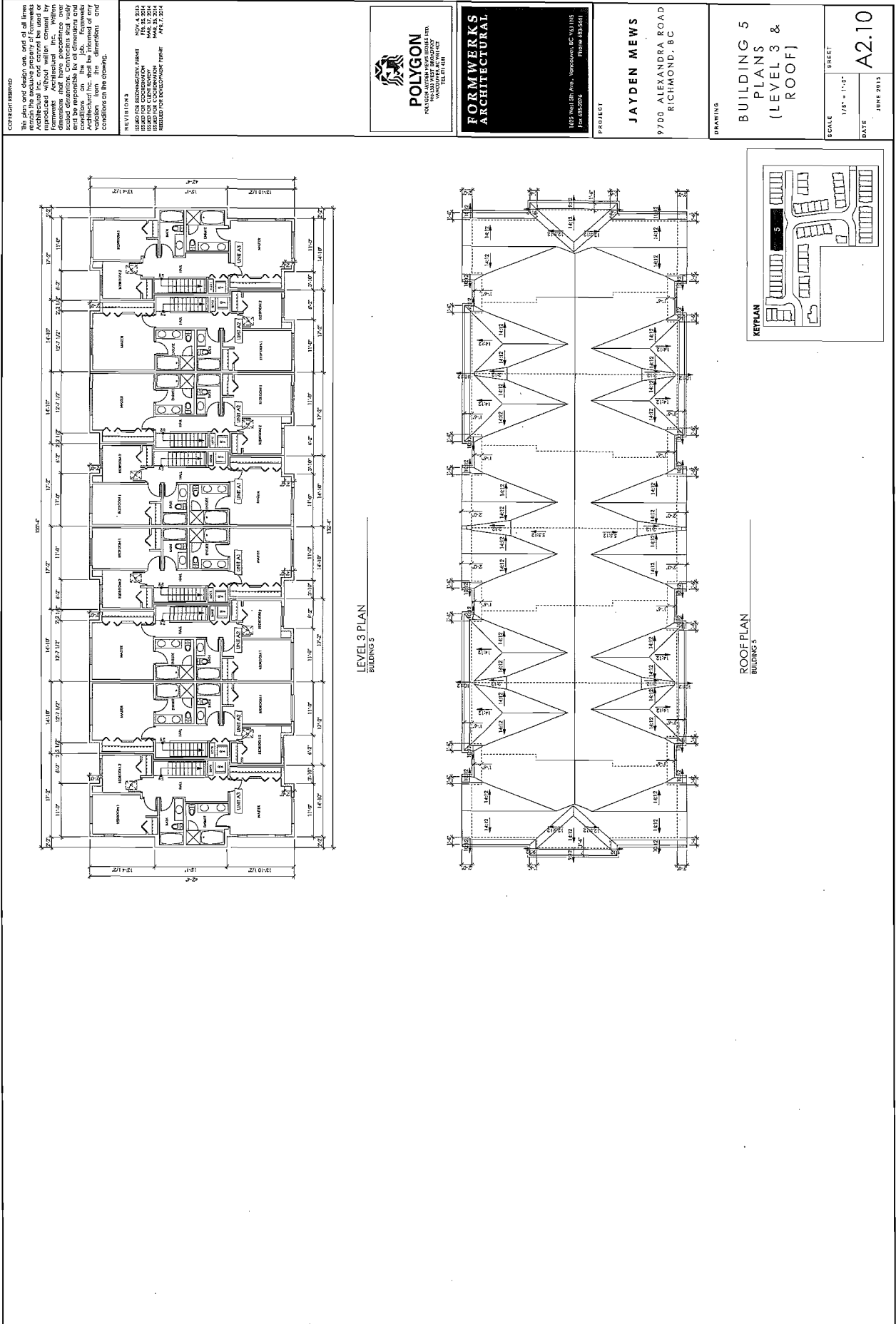


LEVEL 1 PLAN
BUILDINGS 5



LEVEL 2 PLAN
BUILDINGS 5





CONTRACT ATTACHED

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REVISIONS

NOV. 14, 2013
 SUBMITTED FOR PERMIT
 NOV. 14, 2013
 SUBMITTED FOR PERMIT
 NOV. 14, 2013
 SUBMITTED FOR PERMIT

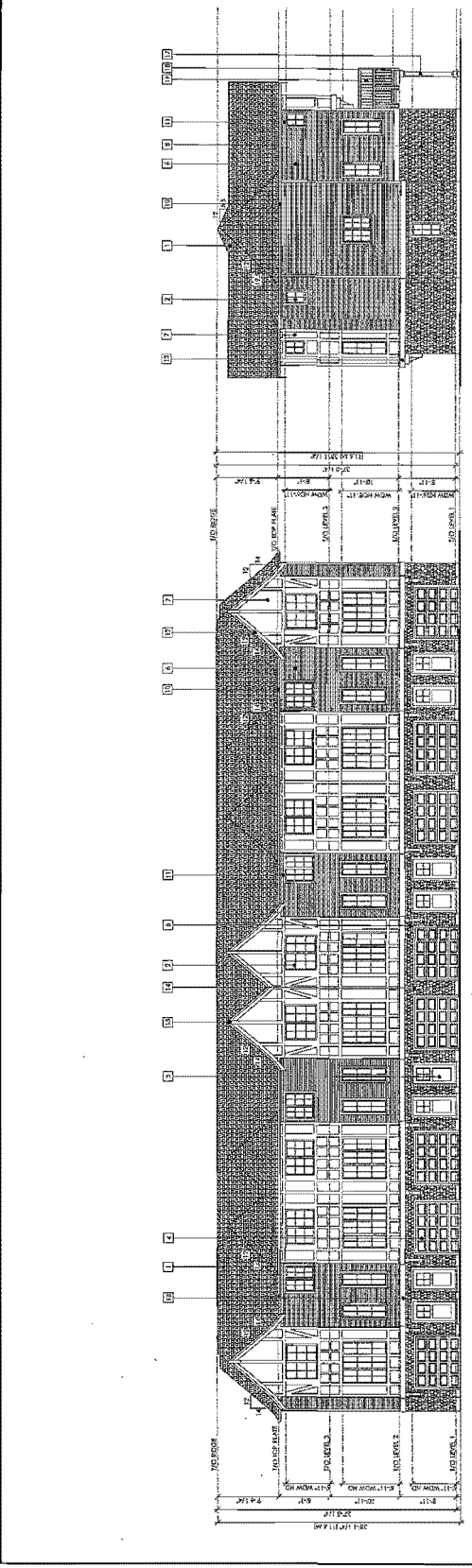
POLYGON
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 VANCOUVER, BC V6H 1T1
 TEL: 604.681.1111

FORMWERKS ARCHITECTURAL
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 PH: 604.681.1111
 FAX: 604.681.1111

JAYDEN MEWS
 9700 ALEXANDRA ROAD
 RICHMOND, BC

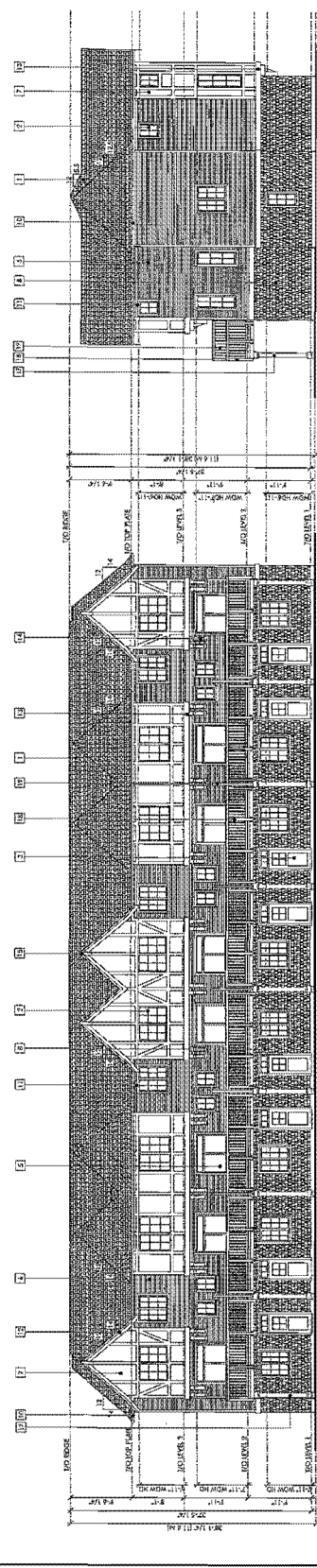
BUILDING 5 ELEVATIONS

A2.11
 DATE: JUNE 2013



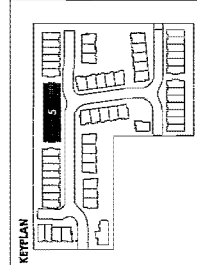
FRONT ELEVATION
 BUILDING 5

SIDE ELEVATION
 BUILDING 5



REAR ELEVATION
 BUILDING 5

SIDE ELEVATION
 BUILDING 5



FINISH SCHEDULE

1. INTERIOR FINISHES	2. PAINTED STEEL CORNER BRACKETS	3. PAINTED STEEL BEAM BRACKETS	4. PAINTED STEEL JOIST BRACKETS
5. INTERIOR WALLS	6. PAINTED STEEL JOIST BRACKETS	7. PAINTED STEEL JOIST BRACKETS	8. PAINTED STEEL JOIST BRACKETS
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97. INTERIOR WALLS	98. PAINTED STEEL JOIST BRACKETS	99. PAINTED STEEL JOIST BRACKETS	100. PAINTED STEEL JOIST BRACKETS

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REVISIONS

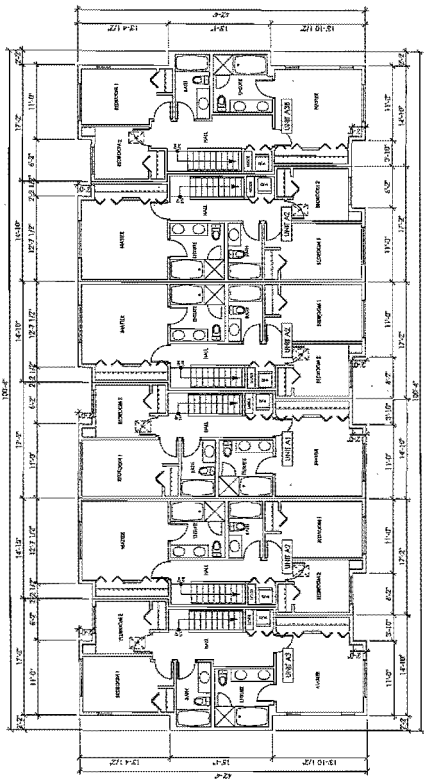
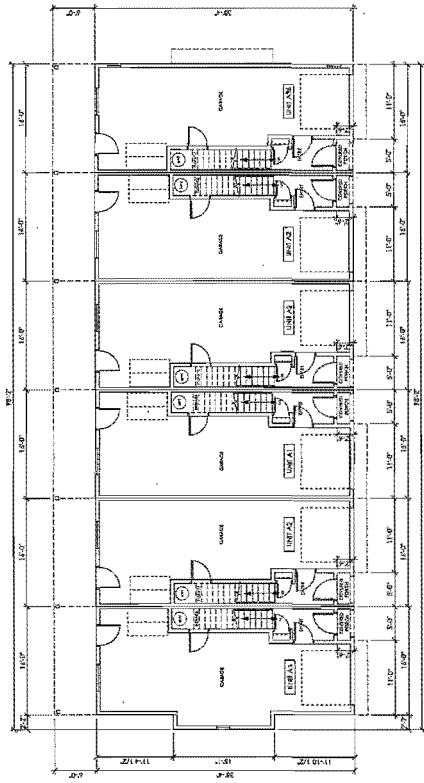
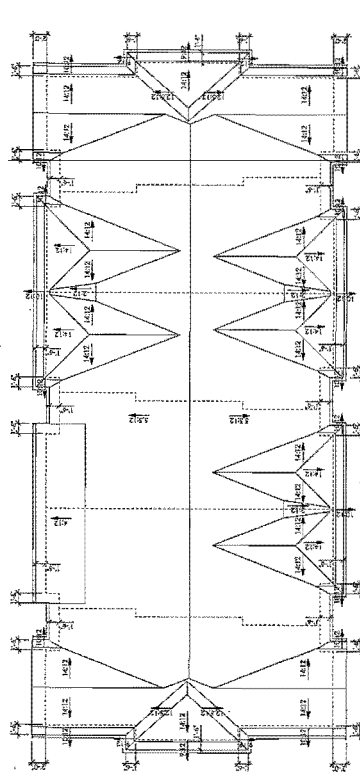
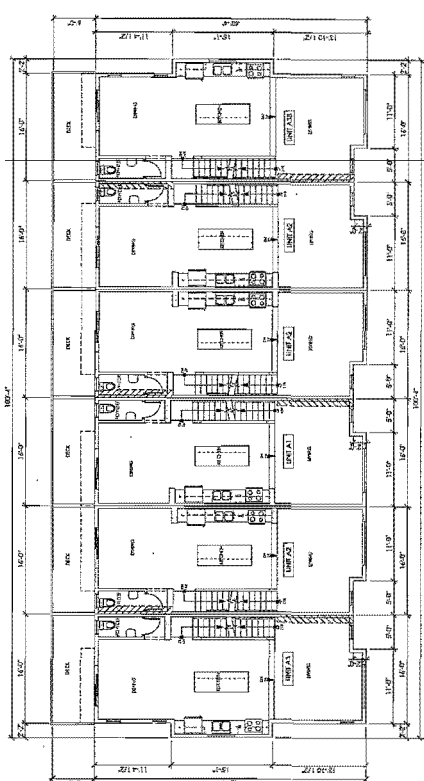
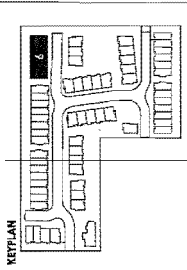
ISSUED FOR APPROVAL/REVIEW, PROJECT	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 25, 2014
ISSUED FOR CLIENT REVIEW	MAR. 17, 2014
ISSUED FOR COORDINATION	MAY. 26, 2014
ISSUED FOR DEVELOPMENT PERMITS	APR. 7, 2014



PROJECT
JAYDEN MEWS
700 ALEXANDRA ROAD
RICHMOND, BC

BUILDING 6
PLANS

DATE	1/5" x 11.0"	SHEET
BY		A2.12
		JUNE 2013



CONTRACT NOTES

1. All work shall conform to the latest editions of the Building Code of the City of Richmond, Virginia, and the applicable provisions of the International Building Code, Inc. (IBC).

2. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

3. The Contractor shall maintain access to all existing utilities and structures on the site.

4. The Contractor shall be responsible for protecting all existing structures and utilities on the site.

5. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

6. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

7. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

8. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

9. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

10. The Contractor shall be responsible for obtaining all necessary permits and for complying with all applicable laws, codes, and regulations.

REVISIONS

NO.	DATE	DESCRIPTION
1	NOV. 4, 2019	ISSUED FOR PERMITTING
2	MAY 17, 2024	REVISED FOR PERMITTING
3	MAY 17, 2024	REVISED FOR PERMITTING
4	MAY 17, 2024	REVISED FOR PERMITTING
5	MAY 17, 2024	REVISED FOR PERMITTING

POLYGON

1425 West 30th Ave., Suite 100
Richmond, VA 23224
Phone: (804) 354-1111

FORMWORKS ARCHITECTURAL

1425 West 30th Ave., Suite 100
Richmond, VA 23224
Phone: (804) 354-1111

PROJECT

JAYDEN MEWS

9700 ALEXANDRA ROAD
RICHMOND, BC

DATE

JUNE 2019

SHEET

A2.13

FRONT ELEVATION

BUILDING 6

REAR ELEVATION

BUILDING 6

KEYPLAN

SIDE ELEVATION

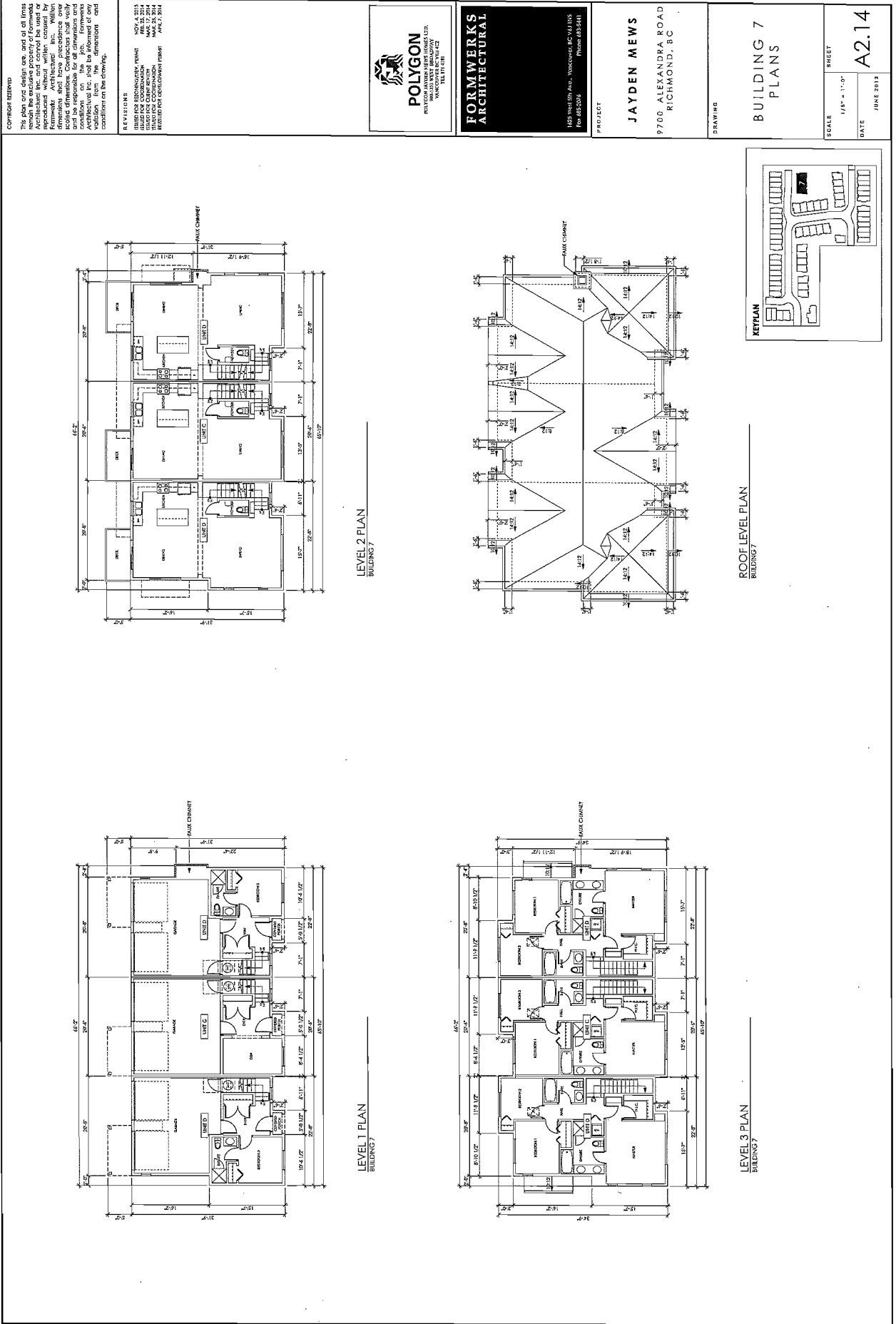
BUILDING 6

SIDE ELEVATION

BUILDING 6

LEGEND

SYMBOL	DESCRIPTION
1	PAINTED WOOD SHINGLES
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100	PAINTED WOOD SHINGLES



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ISSUED FOR RETURNING TO: TERM	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 23, 2014
ISSUED FOR CUSTOM REVIEW	MAR. 17, 2014
ISSUED FOR COORDINATION	MAR. 25, 2014
ISSUED FOR DEVELOPMENT	APR. 7, 2014



**FORMWORKS
ARCHITECTURAL**

25 West 5th Ave., Vancouver, BC V6J 1H5
Tel: 604-681-2076 Phone: 604-681-5441

PROJECT

AYDEN MEWS

9700 ALEXANDRA ROAD
RICHMOND, BC

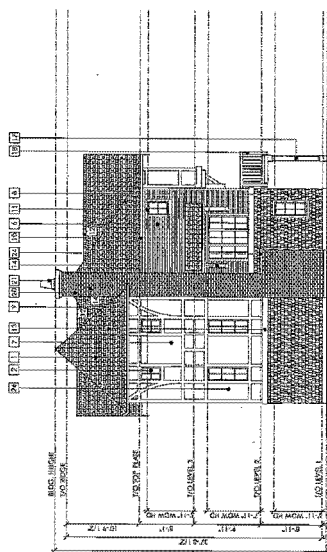
DRAWING

BUILDING 7
ELEVATIONS

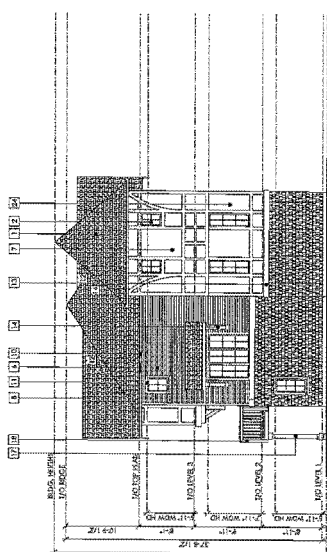
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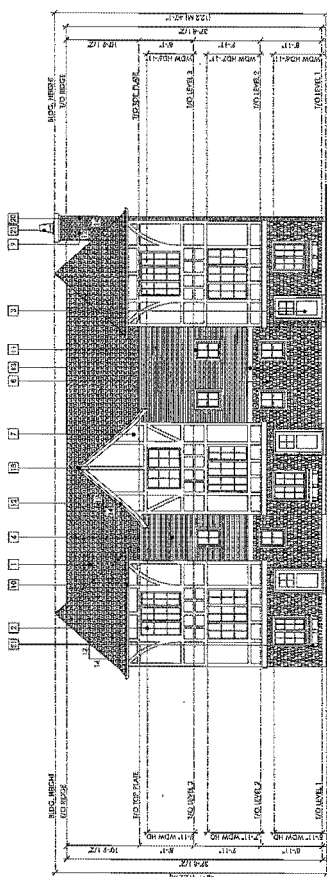
ATB
JUNE 2013



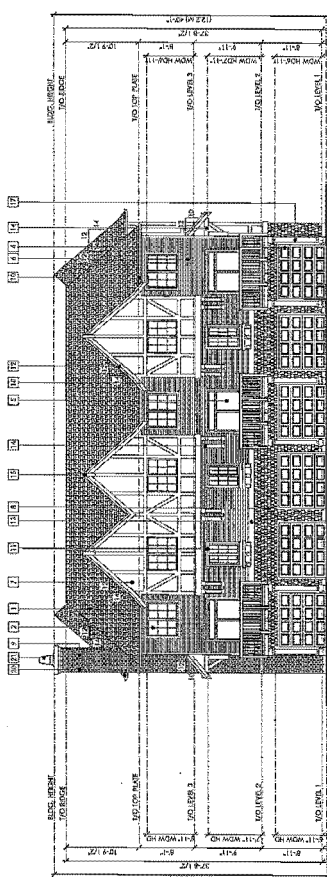
SIDE ELEVATION
BUILDING 7



SIDE ELEVATION
BUILDING 7

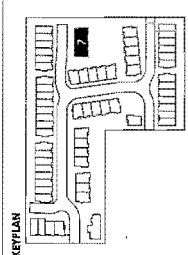


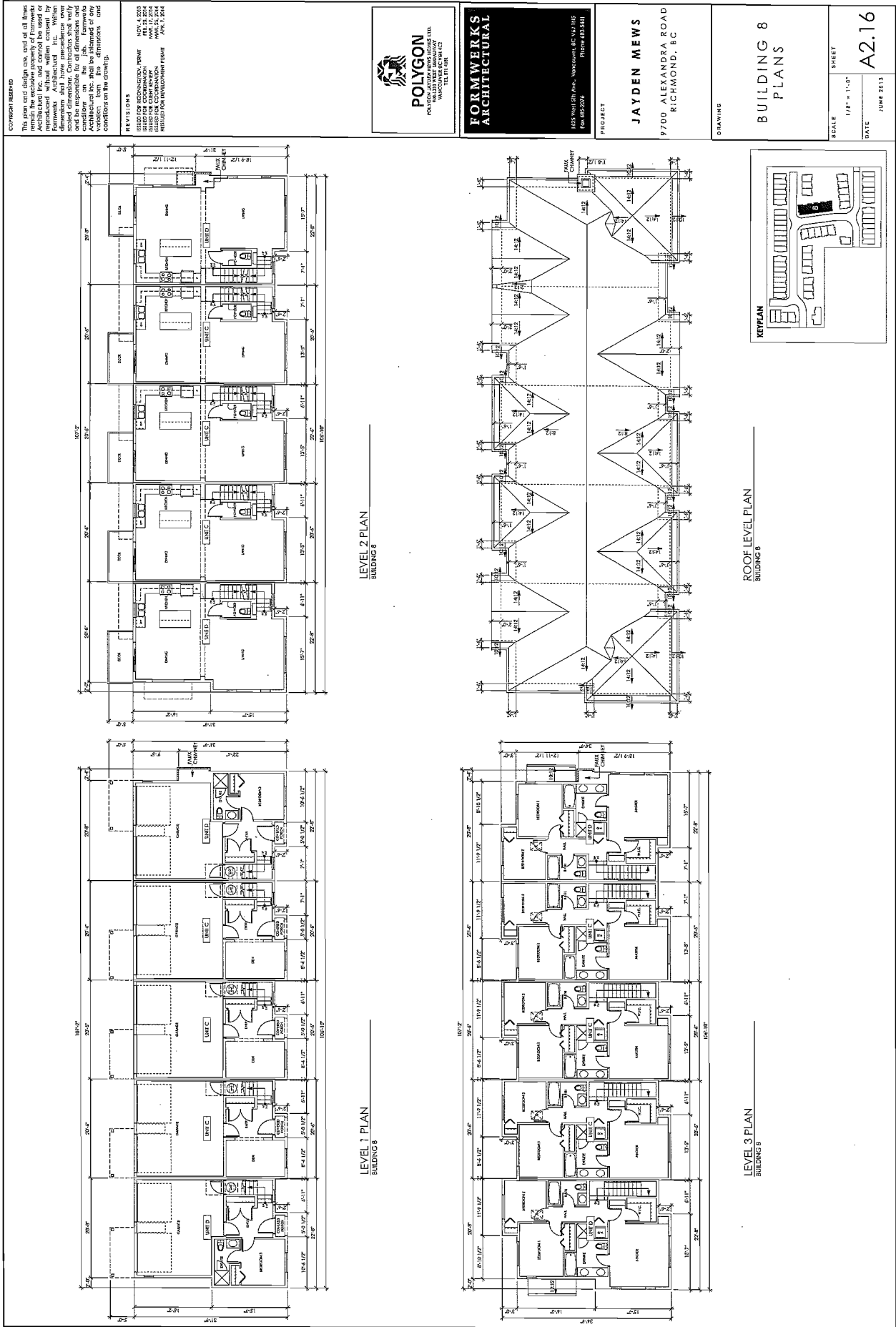
FRONT ELEVATION
BUILDING 7



REAR ELEVATION
BUILDING 7

FRESH SCHEDULE	
17	POULIAR BATTLE
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100	POULIAR BATTLE





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REVISED:
REVISED FOR REVISIONS PERMIT NOV 4, 2013
REVISED FOR CONSTRUCTION PERMIT NOV 12, 2014
REVISED FOR CONSTRUCTION PERMIT NOV 12, 2014
REVISED FOR CONSTRUCTION PERMIT NOV 12, 2014

POLYGON
POLYMER CONSTRUCTION MATERIALS
VANCOUVER, BC
TEL: 604-271-1111

FORMWORKS ARCHITECTURAL
1025 Third St. W. Vancouver, BC V6J 1H5
Phone: 604-271-1111

PROJECT:
JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

DRAWING:
BUILDING 8 PLANS

SCALE:
1/8" = 1'-0"

SHEET:
A2.16

DATE:
JUNE 2013

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ISSUED FOR BILLING/DEV. PERMIT	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 25, 2014
ISSUED FOR CLIENT REVIEW	MAR. 17, 2014
ISSUED FOR COORDINATION	MAR. 25, 2014
RESUBMITTED FOR DEVELOPMENT PERMIT	APR. 7, 2014

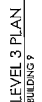
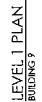
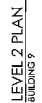


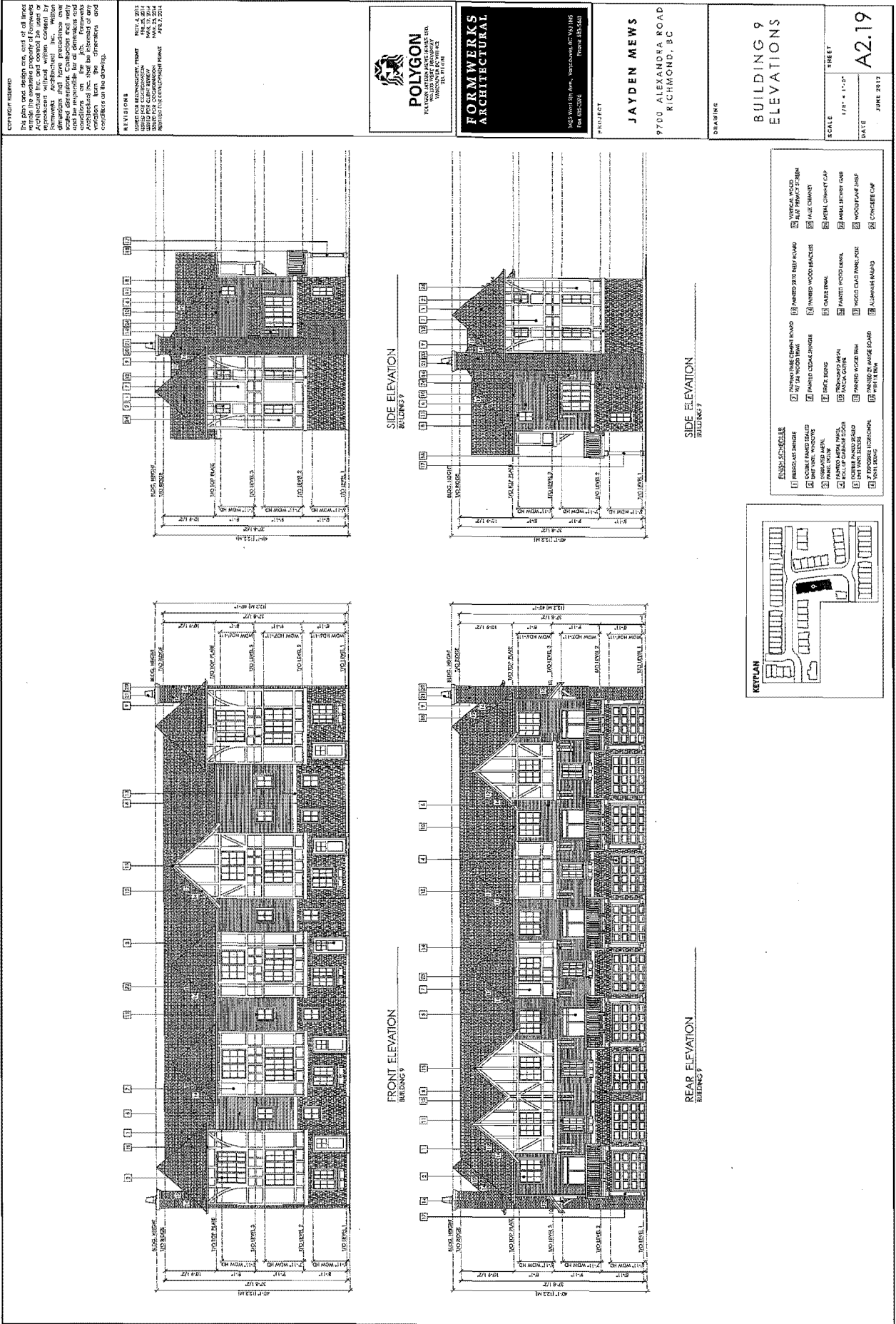
625 West 5th Ave., Vancouver, BC V6J 1N5
Fax (604) 681-3076 Phone (604) 681-5441

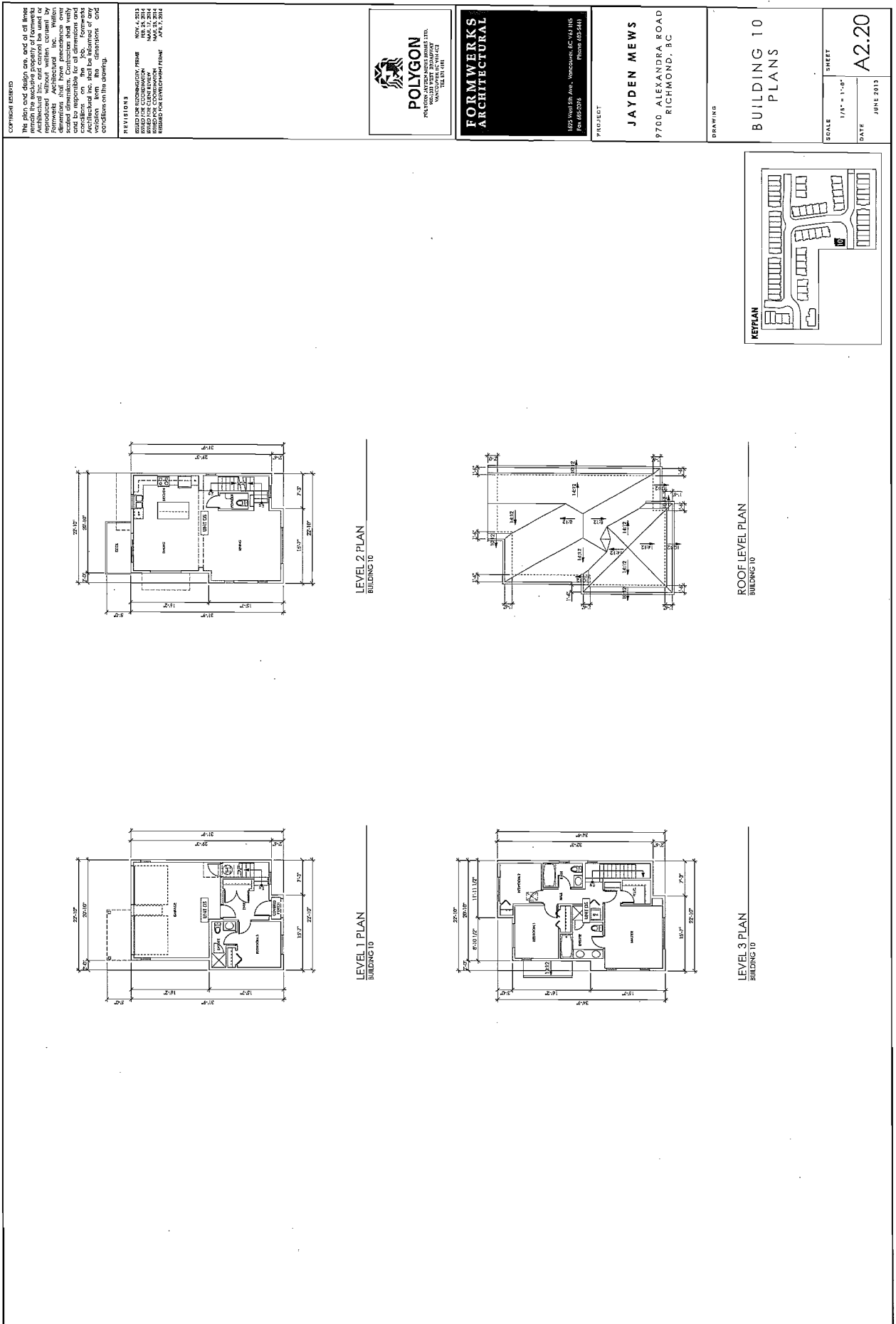
PROJECT

BUILDING 9
PLANS

2019







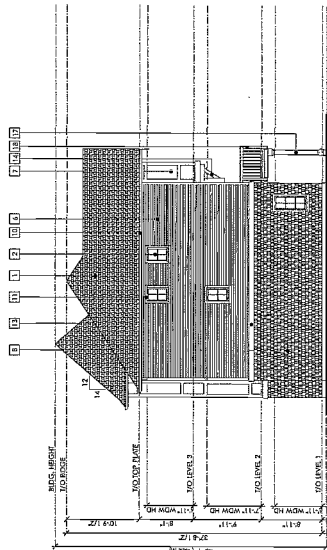
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REVISIONS
 REVISED FOR REWORK/REVISED PERMIT
 NOV. 4, 2013
 SALES/PROJECT MANAGER
 MAY 17, 2014
 REVISED FOR REWORK/REVISED PERMIT
 MAY 17, 2014

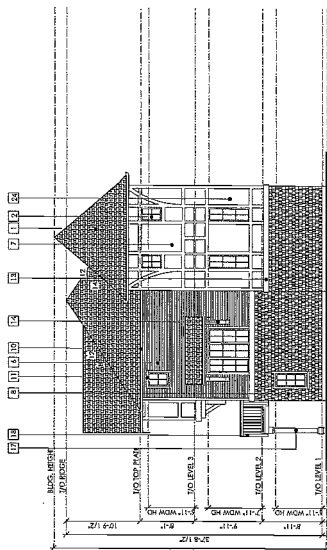


JAYDEN MEWS
 9700 ALEXANDRA ROAD
 RICHMOND, BC
 PROJECT

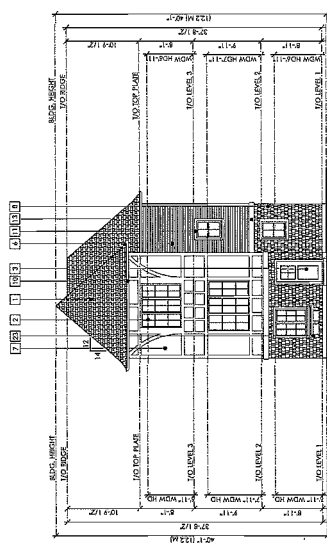
BUILDING 10 ELEVATIONS
 DRAWING
 SCALE 1/8" = 1'-0"
 SHEET
 DATE JUNE 2013
A2.21



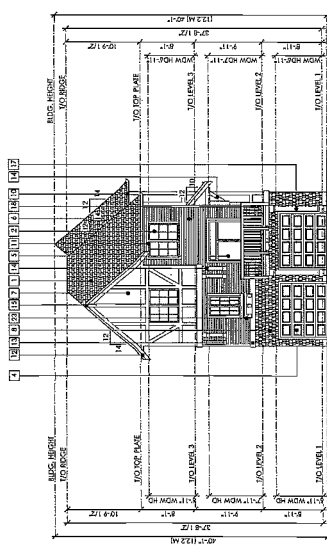
FRONT ELEVATION
 BUILDING 10



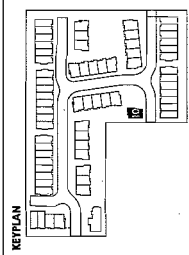
SIDE ELEVATION
 BUILDING 10



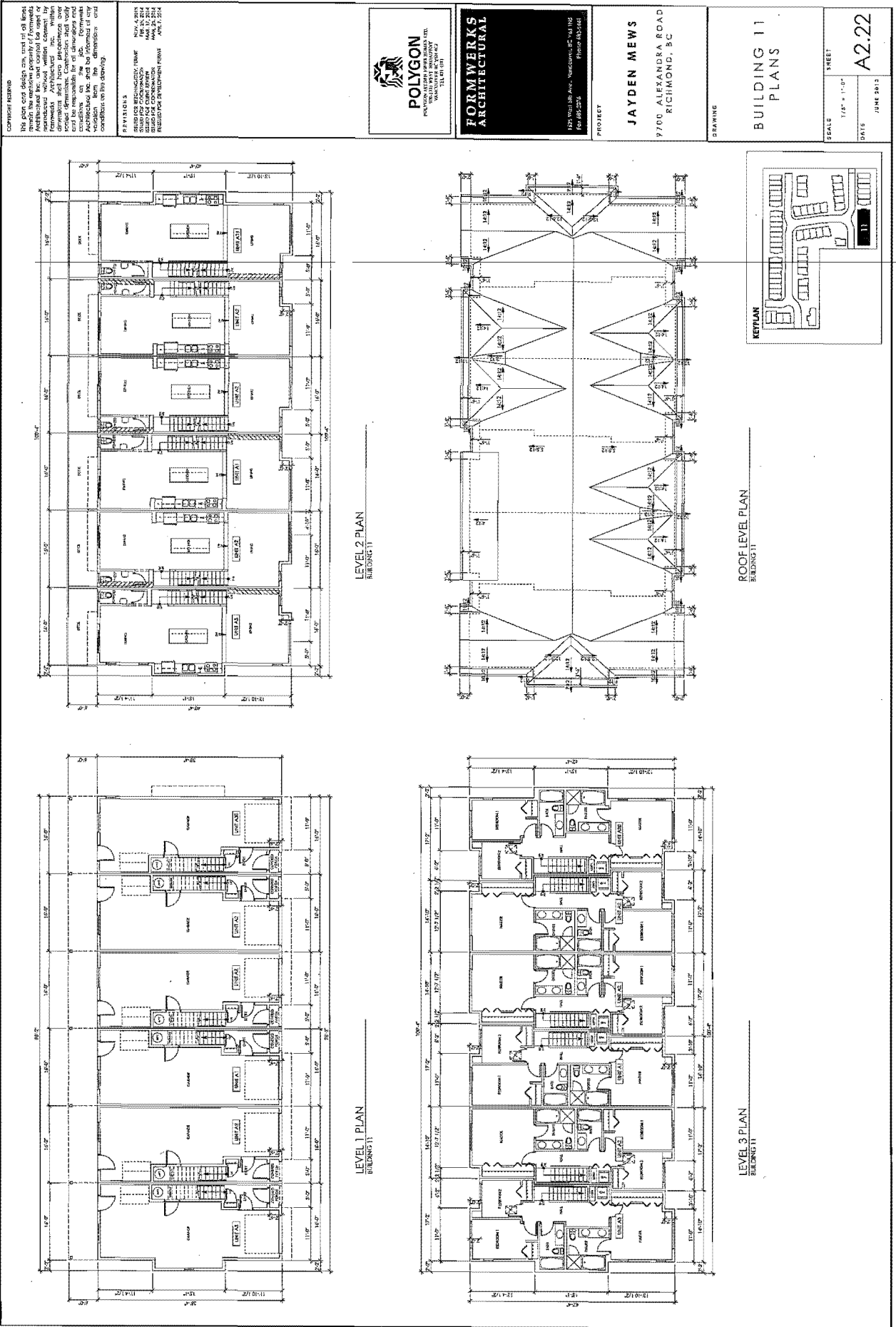
REAR ELEVATION
 BUILDING 10



SIDE ELEVATION
 BUILDING 10



- FINISH SCHEDULE**
- 1. PRECAST SINGLE
 - 2. DOUBLE PRECAST
 - 3. INSULATED PANEL
 - 4. PANEL DOOR
 - 5. DOUBLE PRECAST
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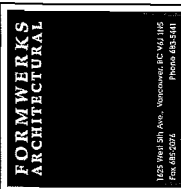


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REVISIONS

NOV. 4, 2013
REVISED FOR PERMITS, FINISH
NOV. 15, 2013
REVISED FOR PERMITS, FINISH
NOV. 17, 2013
REVISED FOR PERMITS, FINISH
NOV. 17, 2013
REVISED FOR PERMITS, FINISH
NOV. 17, 2013



JAYDEN MEWS

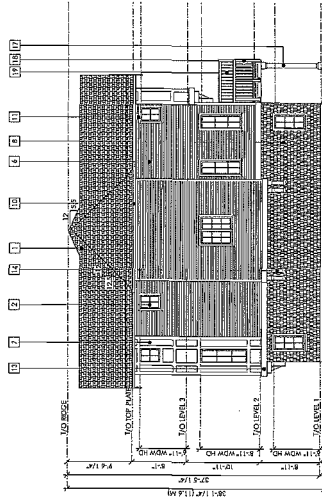
7700 ALEXANDRA ROAD
RICHMOND, B.C.

**BUILDING 11
ELEVATIONS**

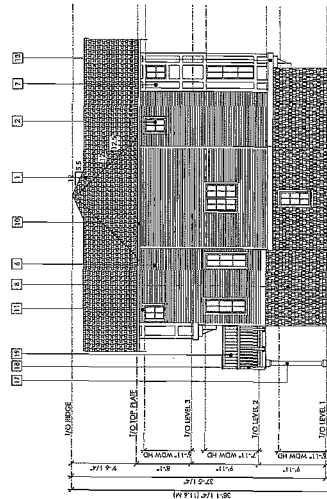
DATE JUNE 2013

SCALE 1/8" = 1'-0"

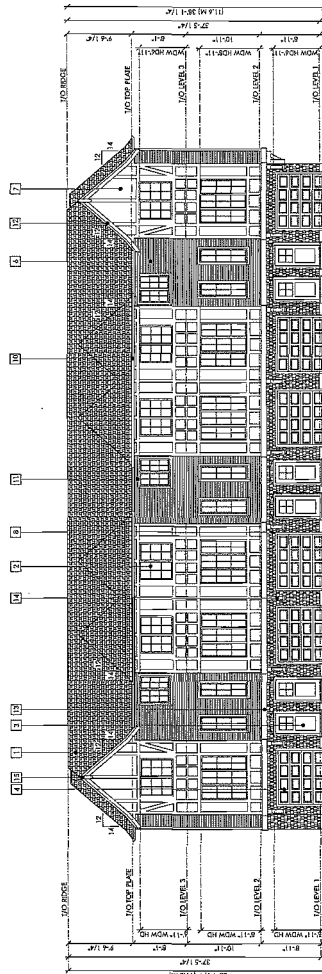
SHEET A2.23



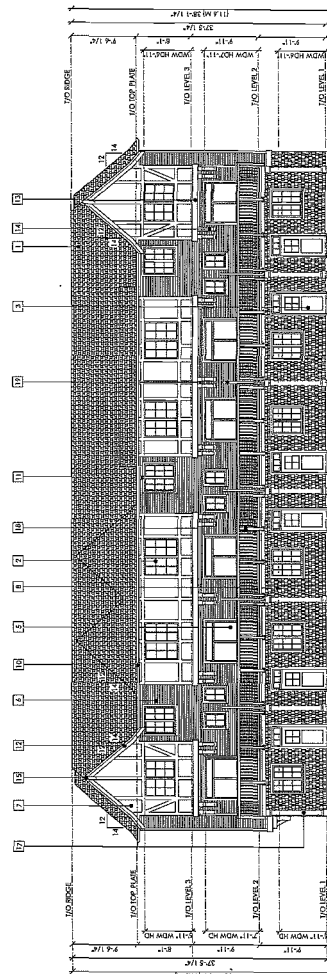
**SIDE ELEVATION
BUILDING 11**



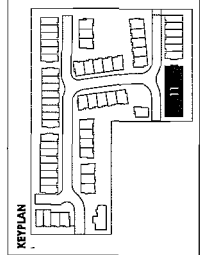
**SIDE ELEVATION
BUILDING 11**



**FRONT ELEVATION
BUILDING 11**



**REAR ELEVATION
BUILDING 11**




FINISH SCHEDULE	
1. FIBERGLASS BRIDGE	2. PAINTED STEEL BRIDGE
3. COLORED FIBERGLASS BRIDGE	4. PAINTED WOOD BRIDGES
5. PAINTED METAL	6. PAINTED WOOD BRIDGES
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95. PAINTED METAL	96. PAINTED WOOD BRIDGES
97. PAINTED METAL	98. PAINTED WOOD BRIDGES
99. PAINTED METAL	100. PAINTED WOOD BRIDGES

CONTRACT SUMMARY

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REVISIONS

NOV. 4, 2013
REVISED FOR SUBMITTAL
NOV. 15, 2014
REVISED FOR SUBMITTAL
NOV. 20, 2014
REVISED FOR SUBMITTAL
NOV. 21, 2014
REVISED FOR SUBMITTAL



POLYGON
POLYMER CONSTRUCTION
1000 WEST BROADWAY, SUITE 100
NEW YORK, NY 10014
TEL: 212-671-1111

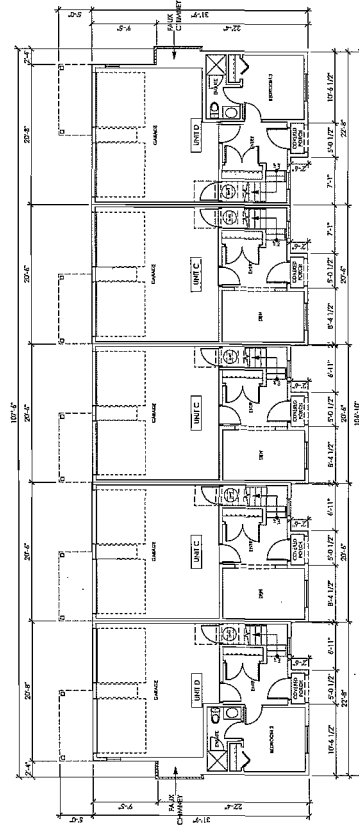
FORMWERKS ARCHITECTURAL

1000 West Broadway, Suite 100, New York, NY 10014
TEL: 212-671-1111

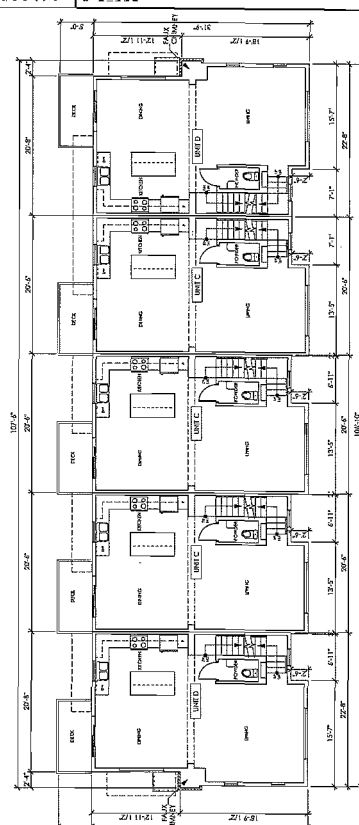
PROJECT

JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

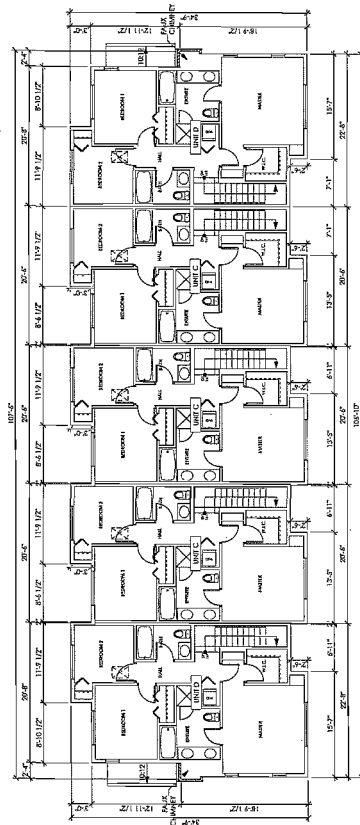
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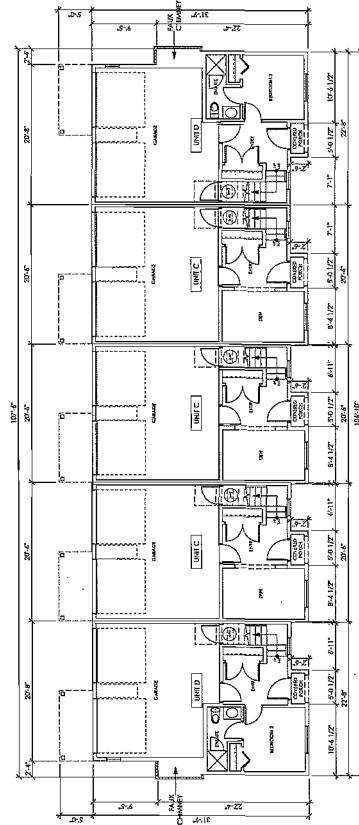
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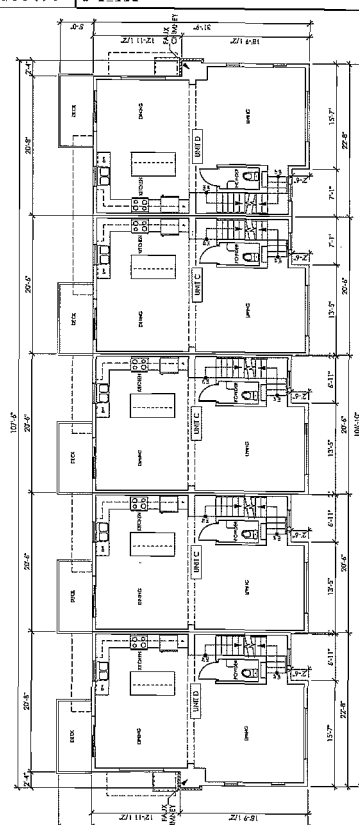
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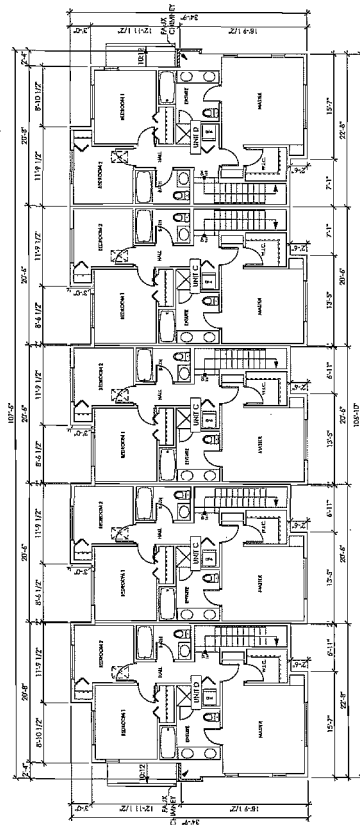
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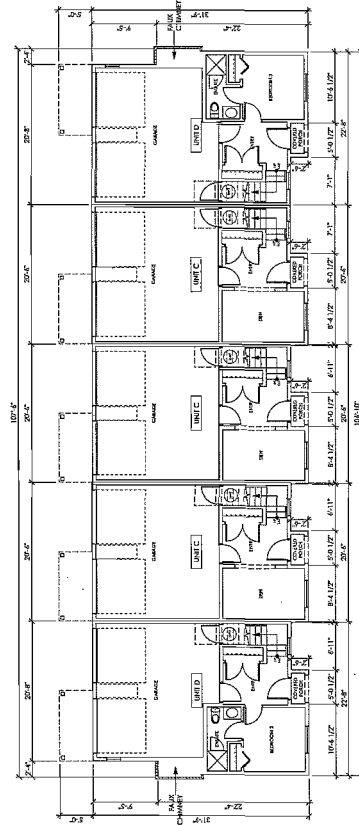
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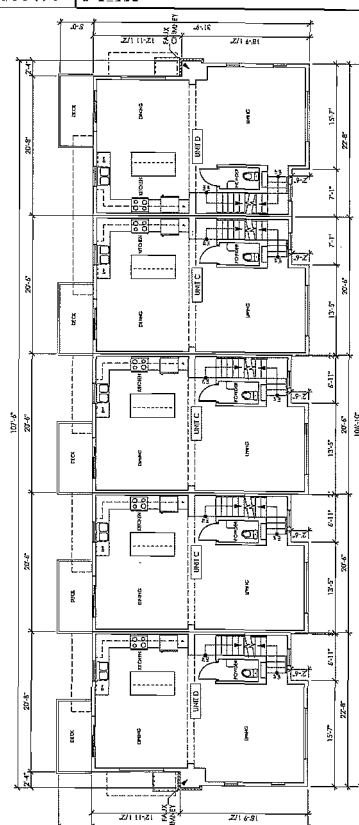
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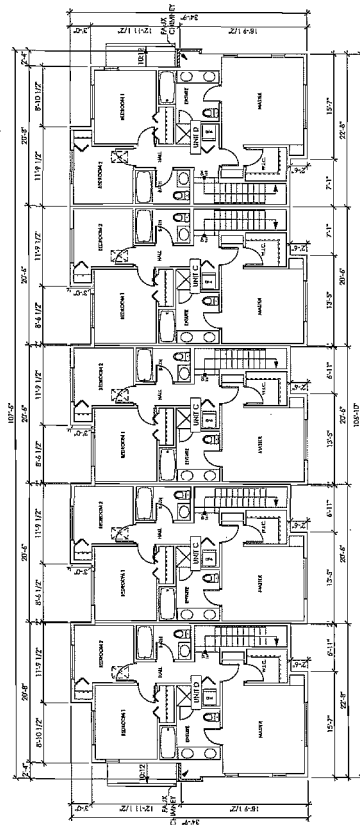
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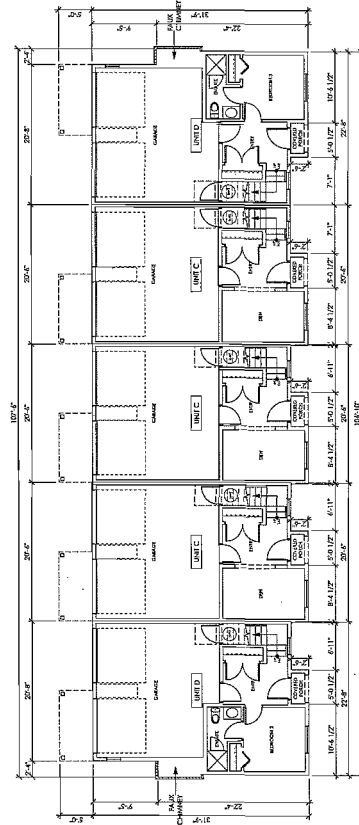
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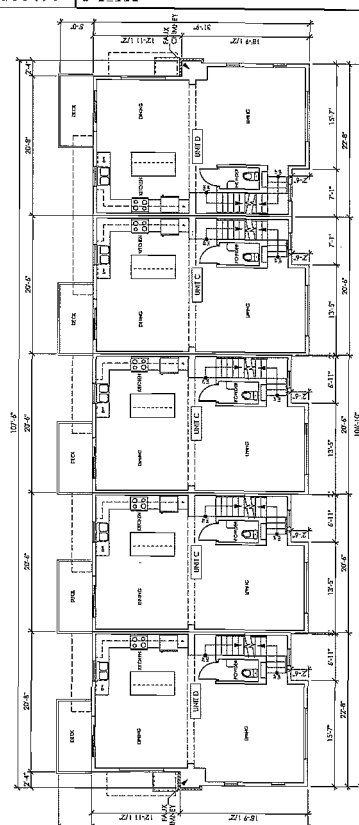
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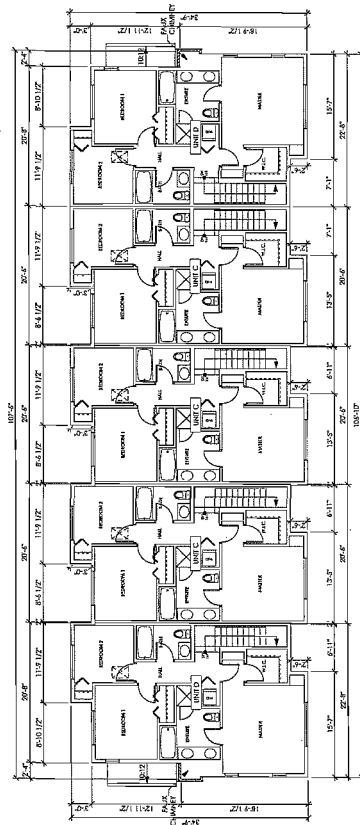
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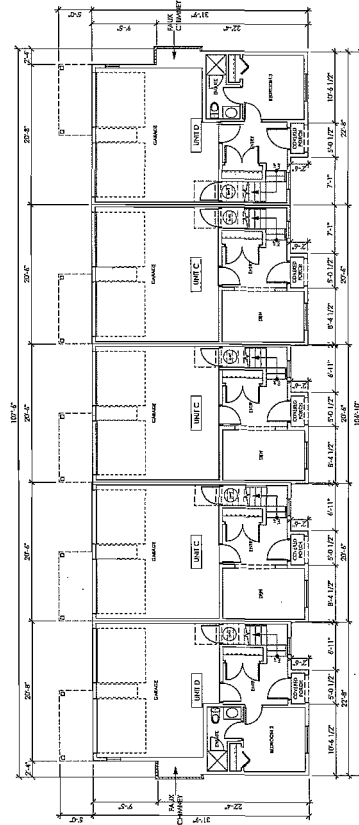
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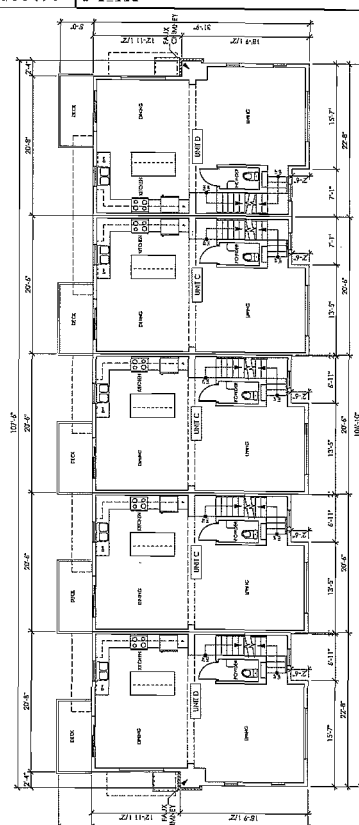
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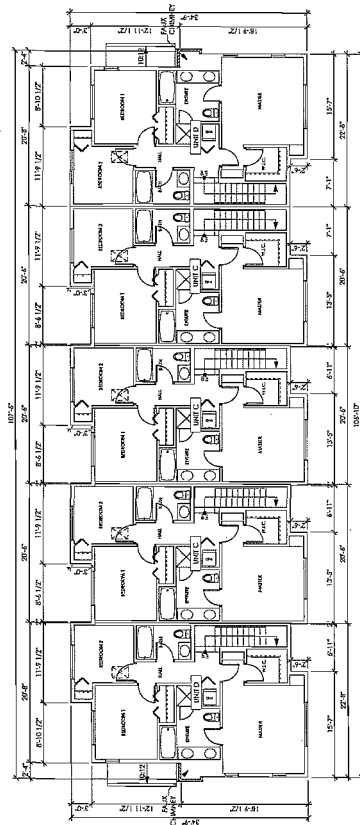
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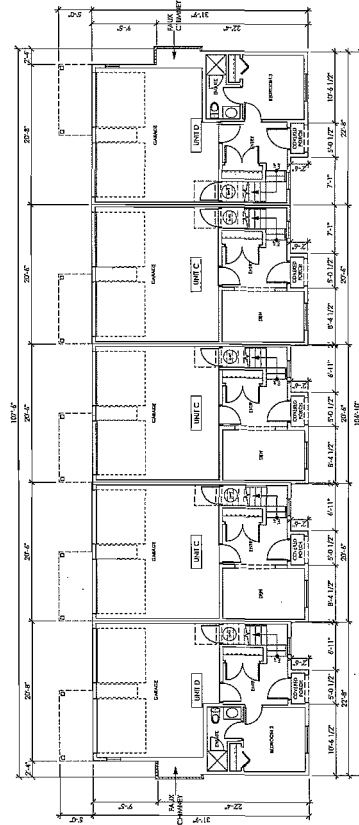
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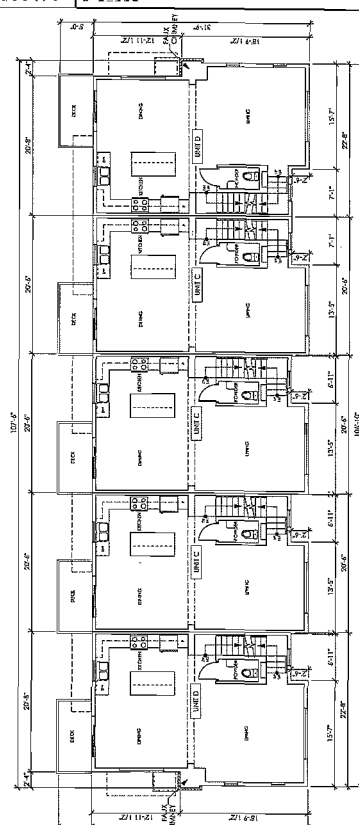
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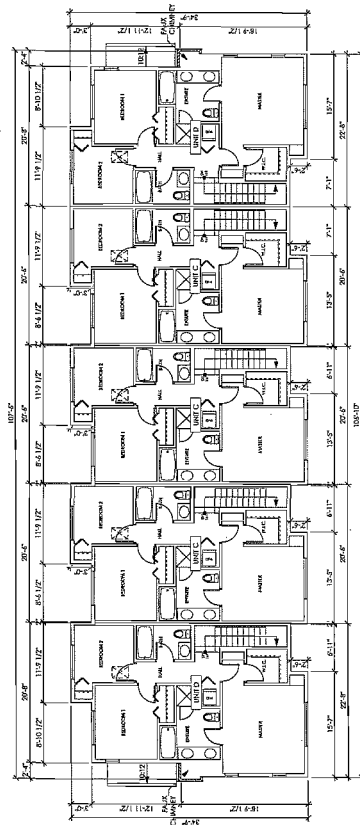
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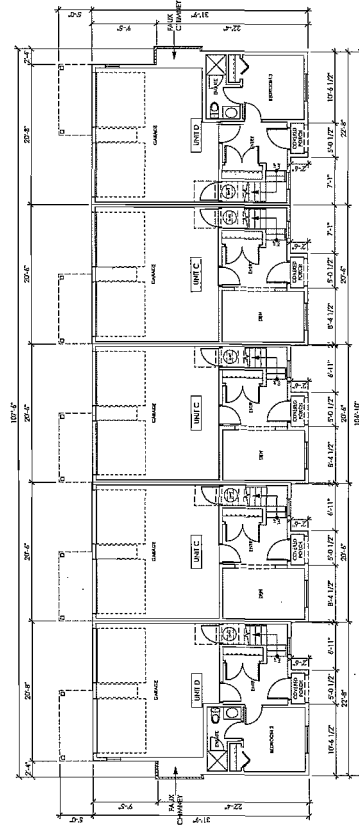
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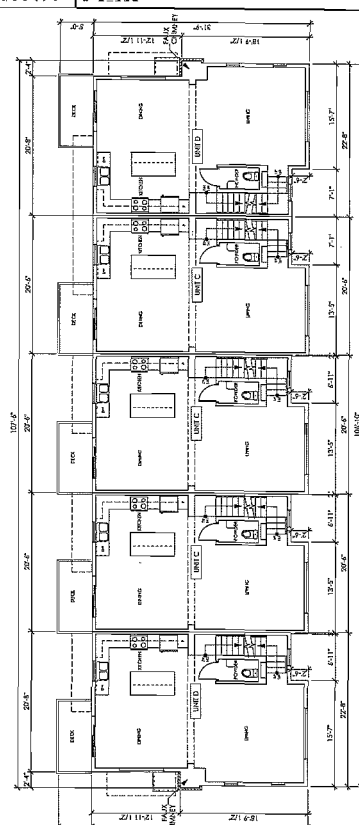
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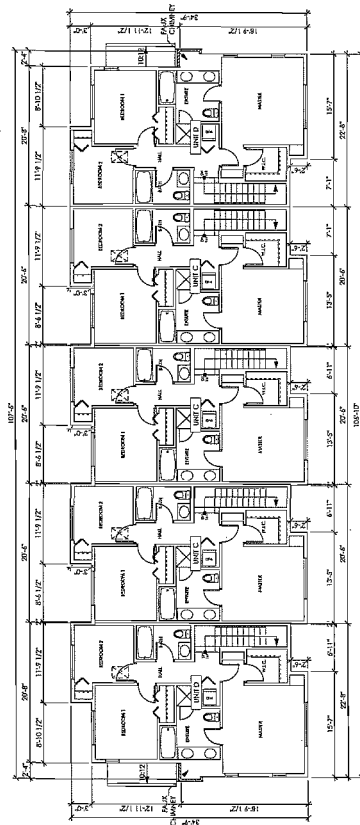
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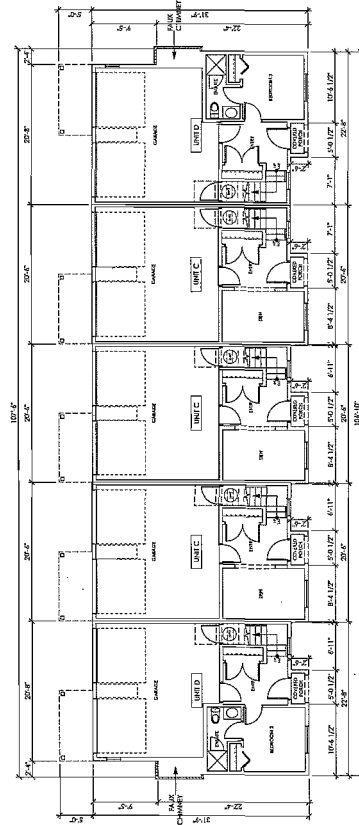
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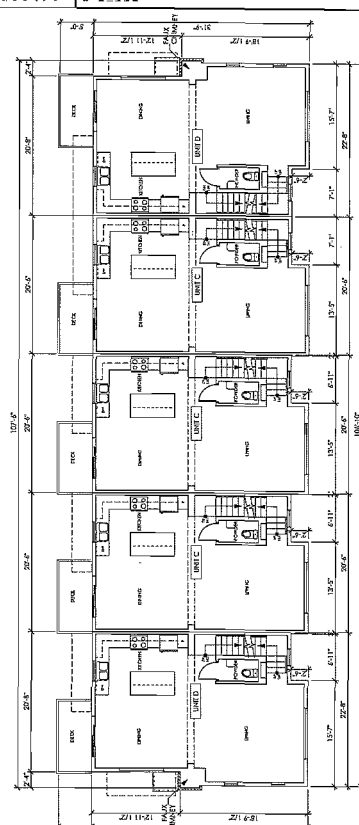
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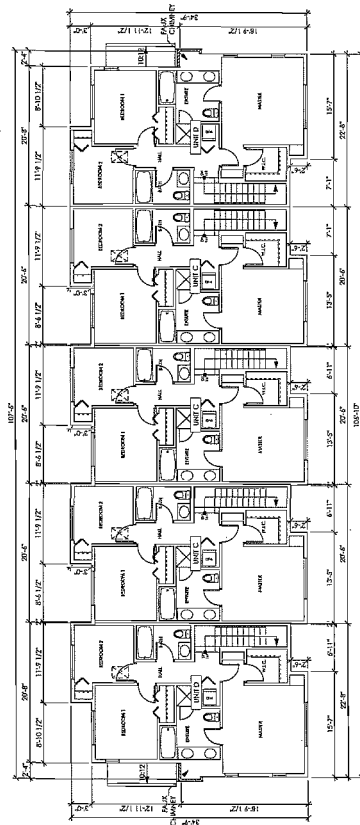
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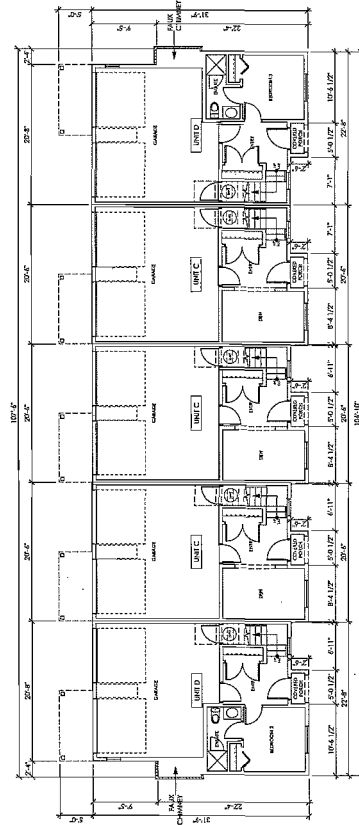
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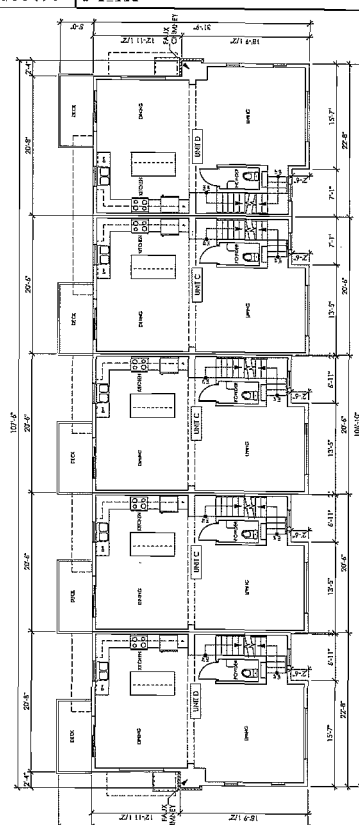
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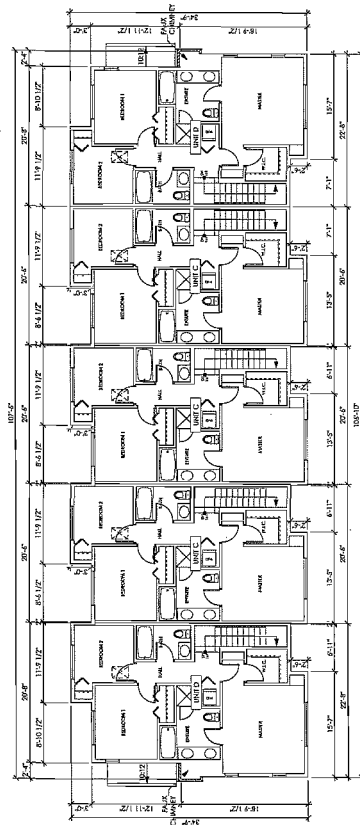
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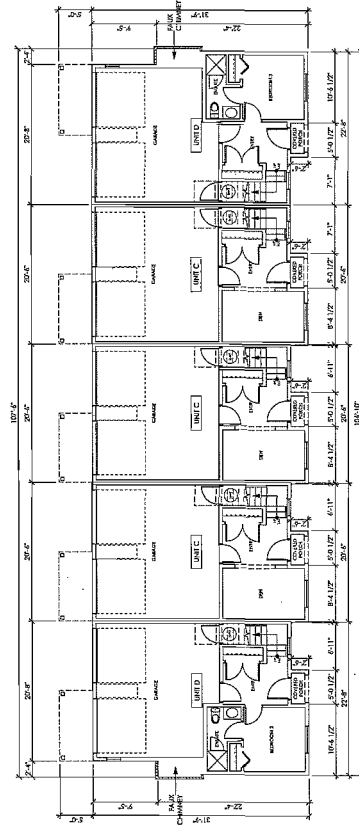
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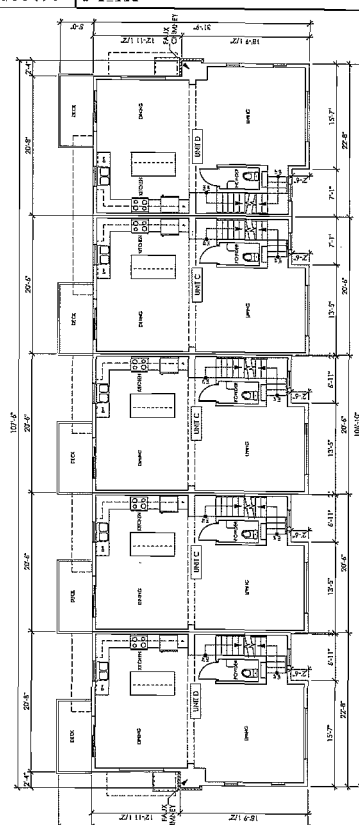
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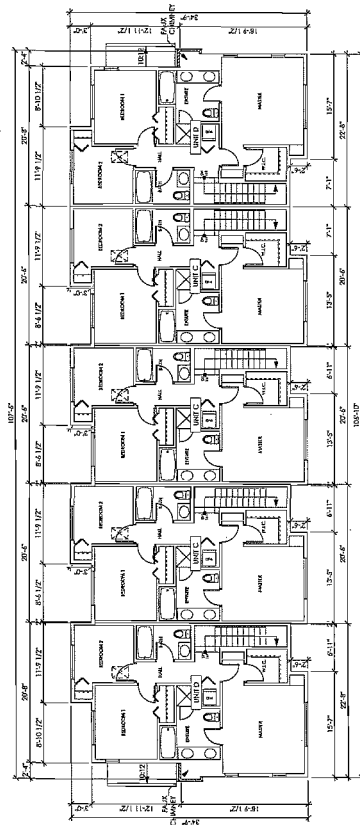
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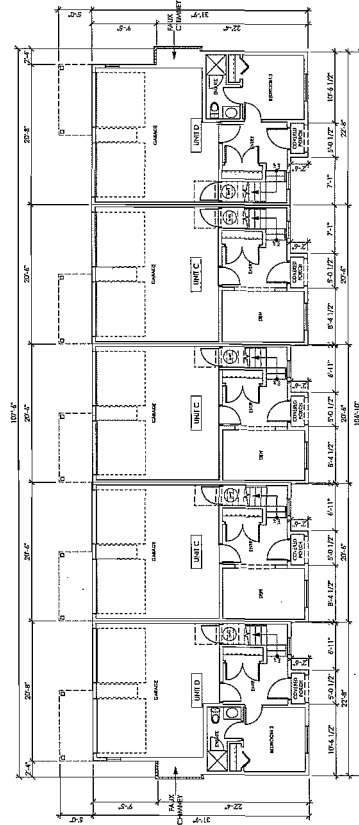
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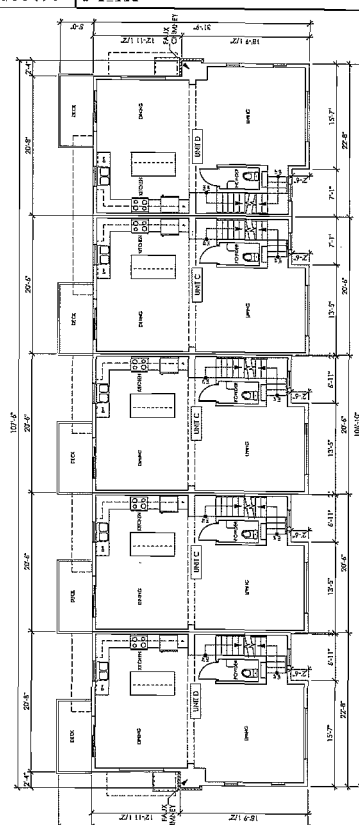
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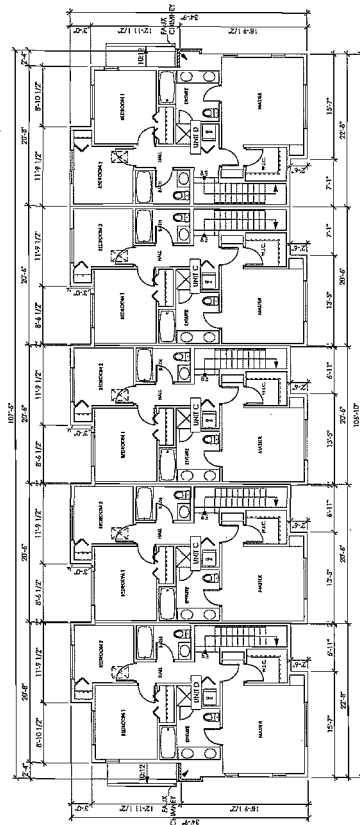
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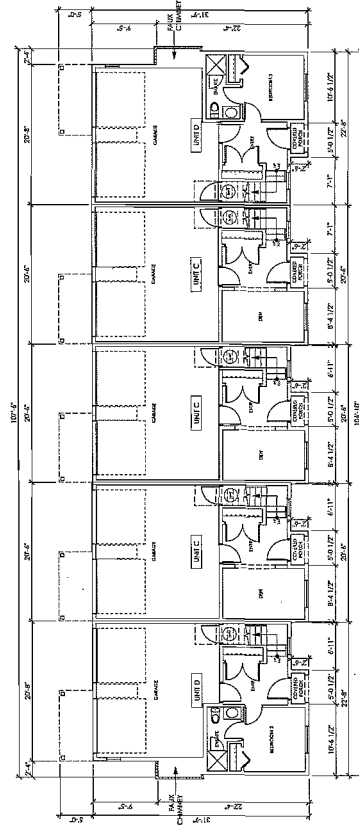
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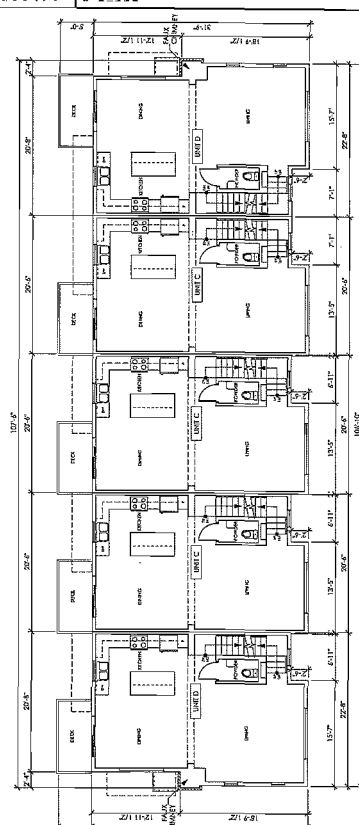
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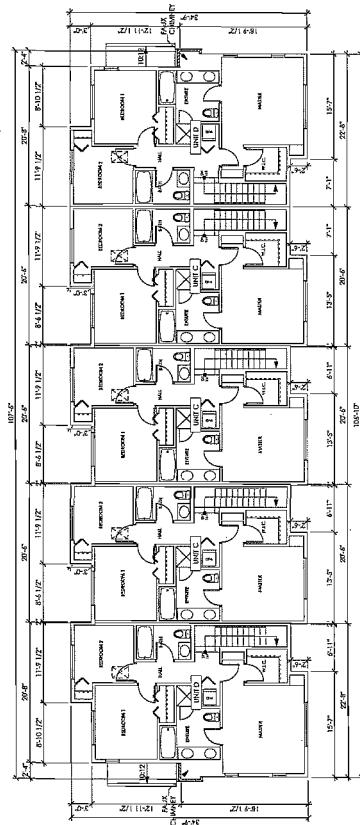
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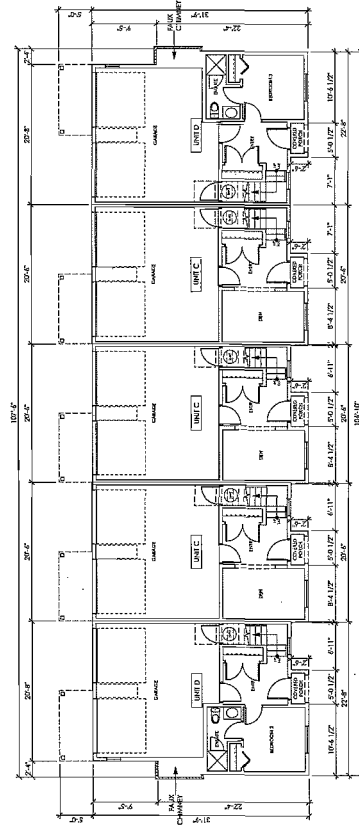
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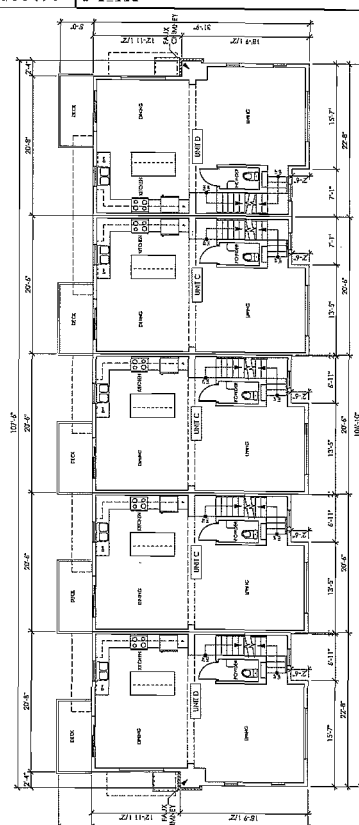
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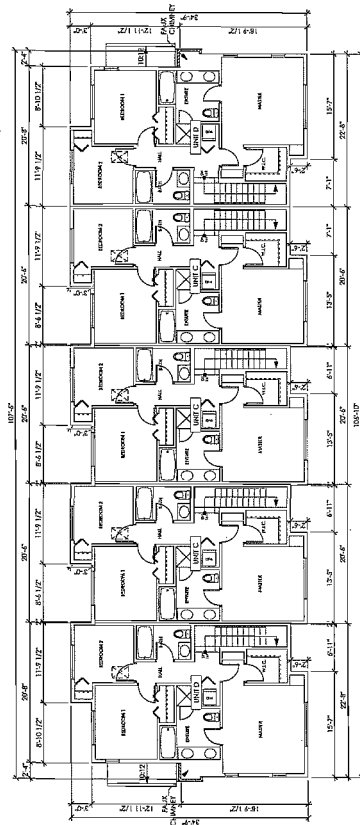
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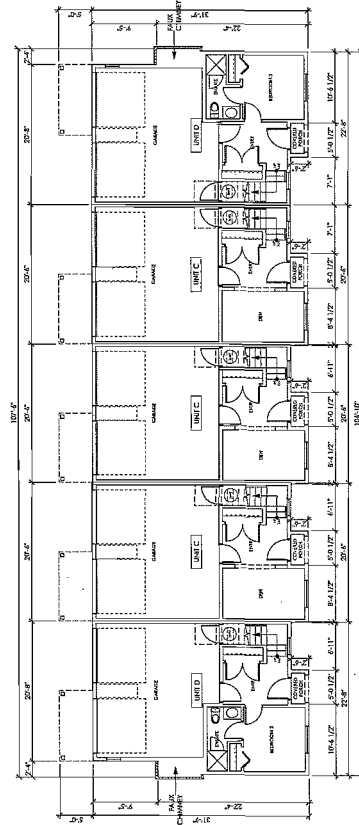
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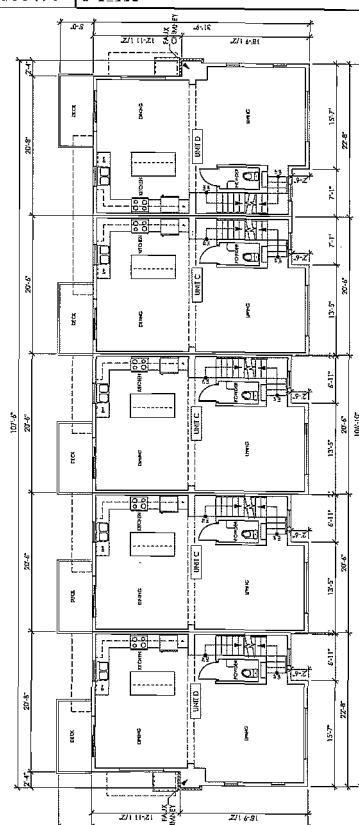
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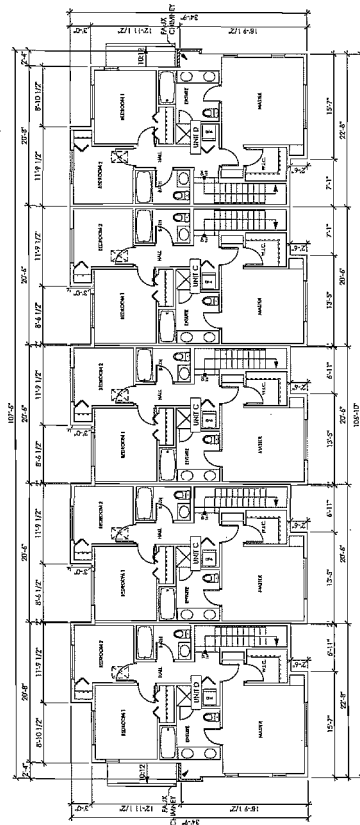
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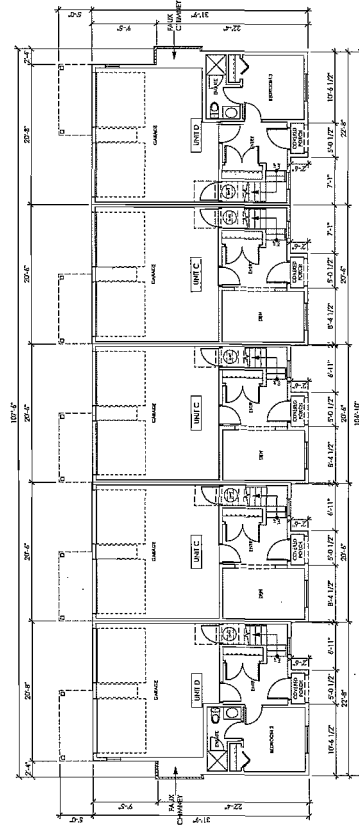
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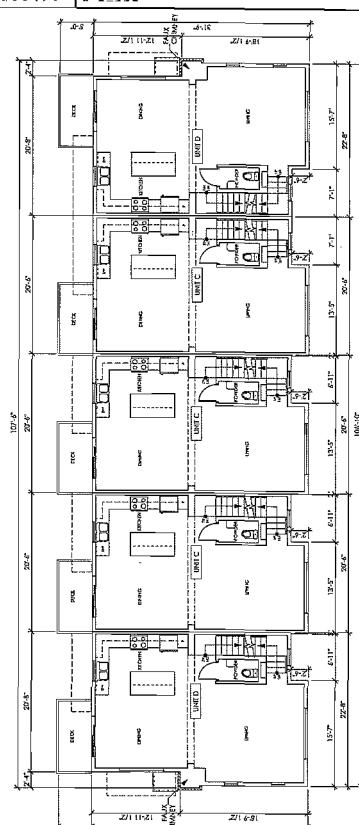
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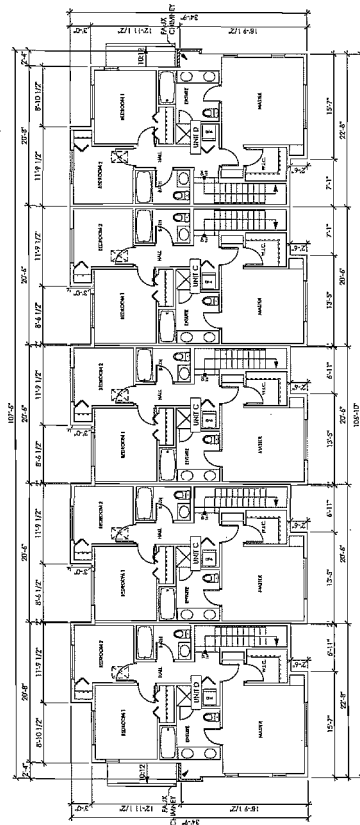
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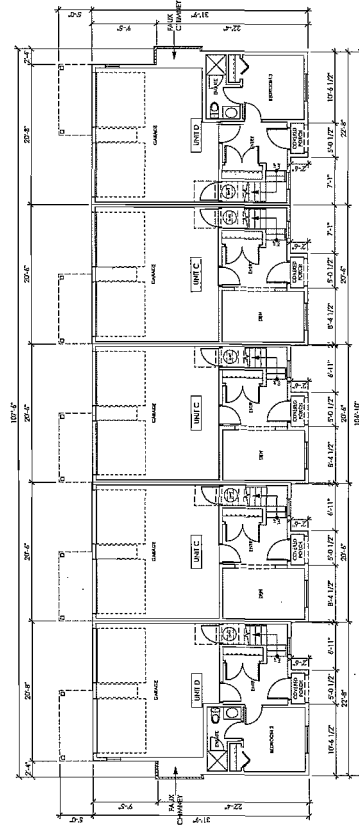
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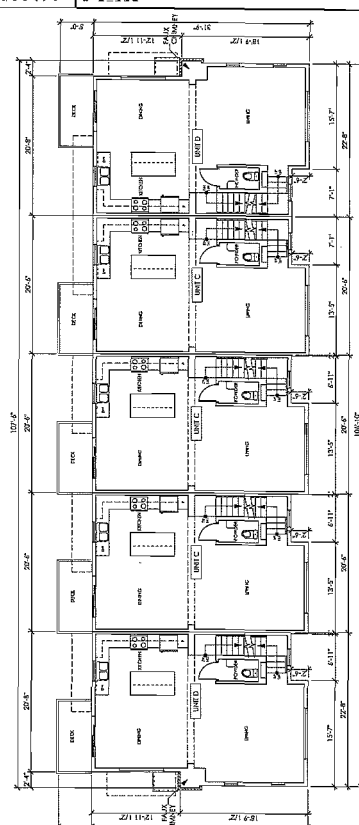
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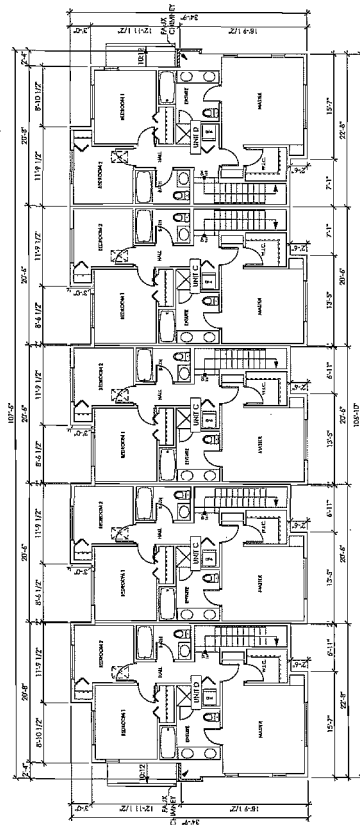
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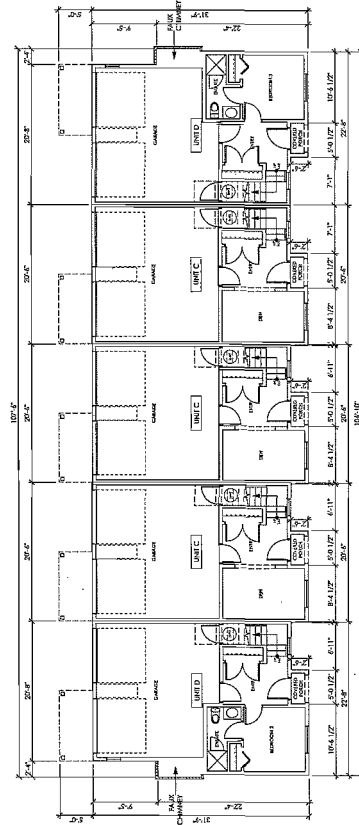
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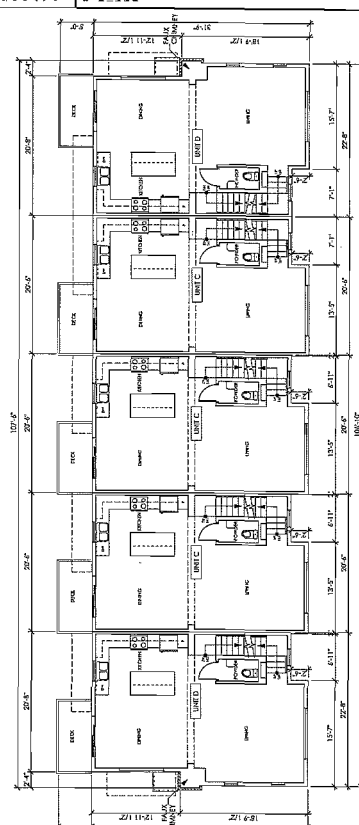
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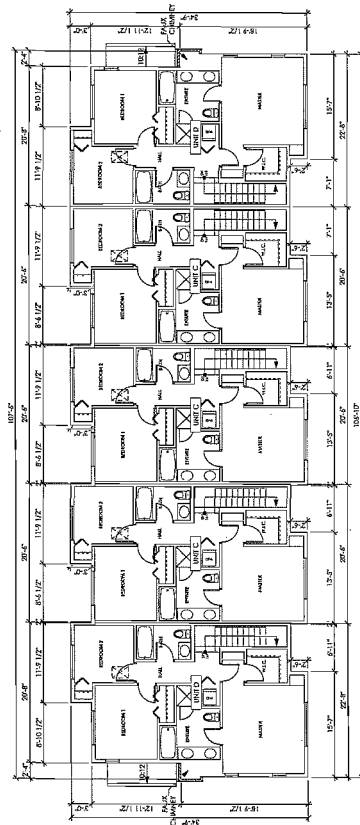
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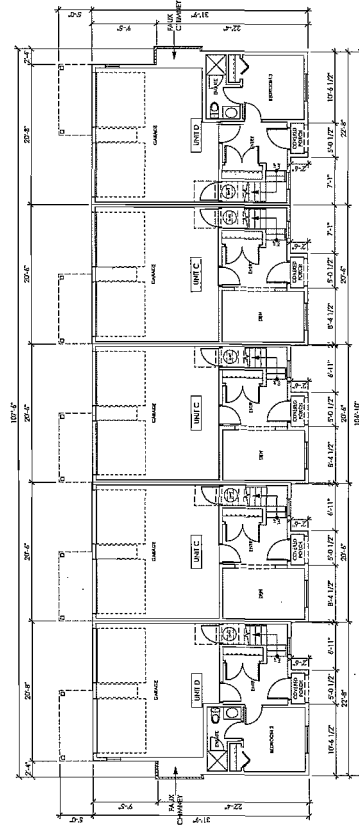
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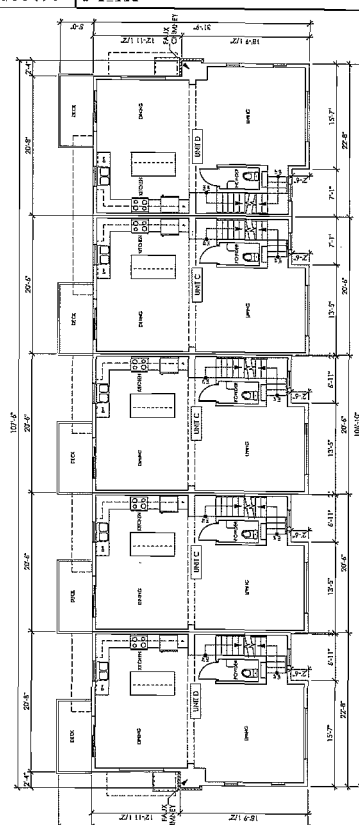
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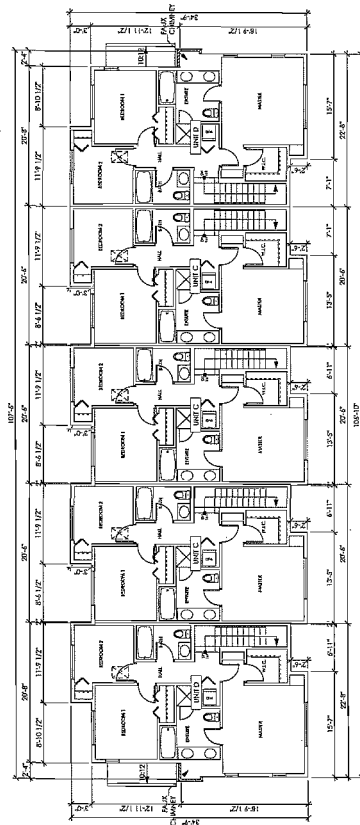
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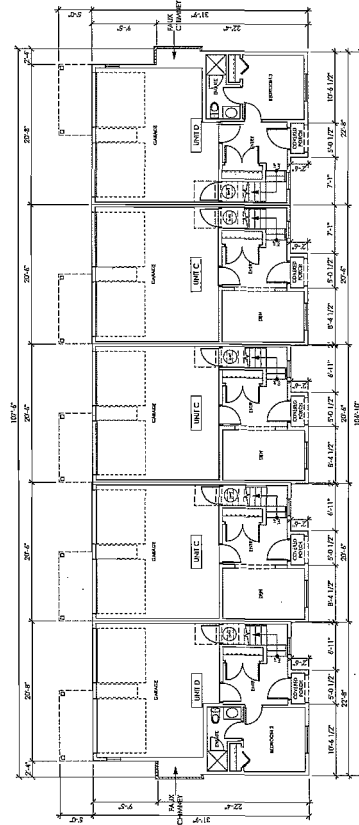
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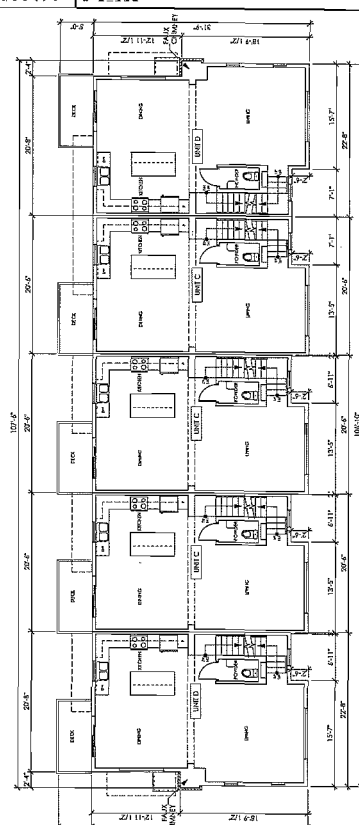
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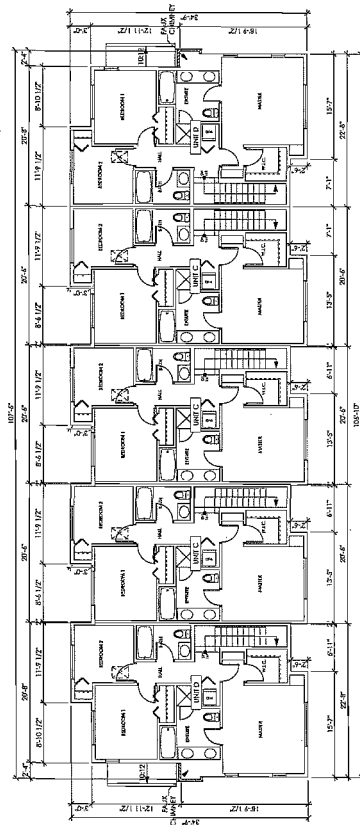
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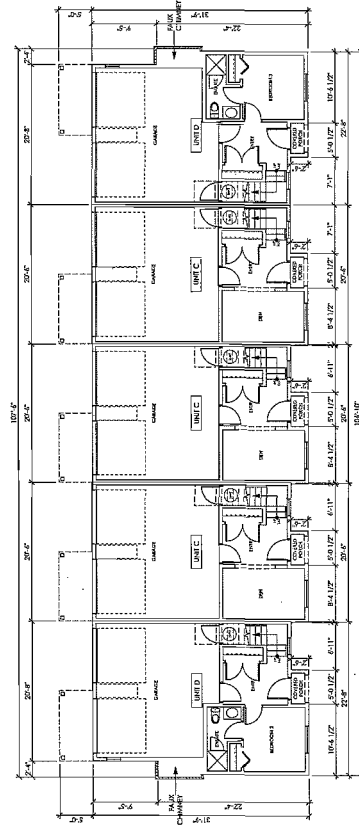
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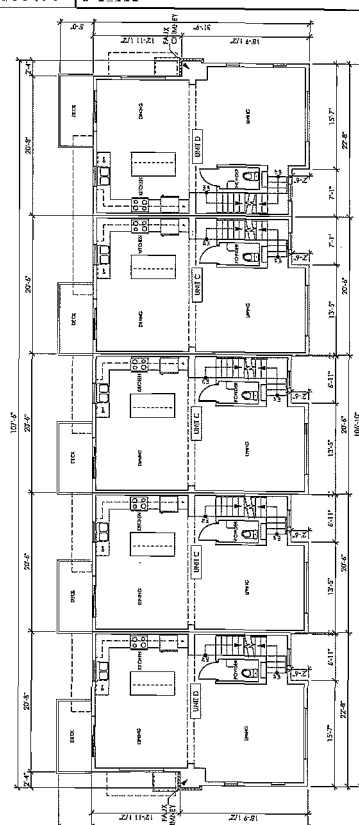
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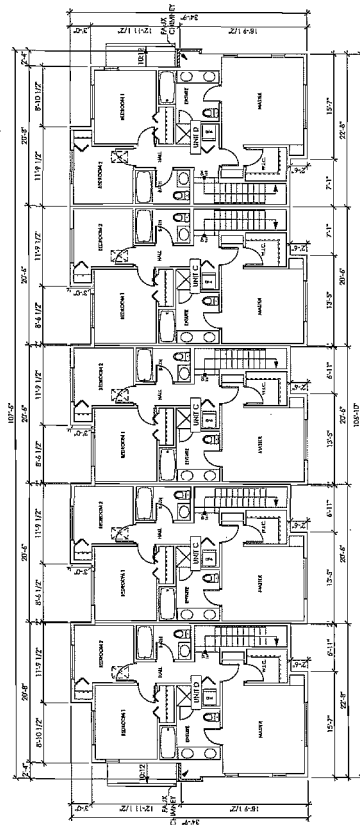
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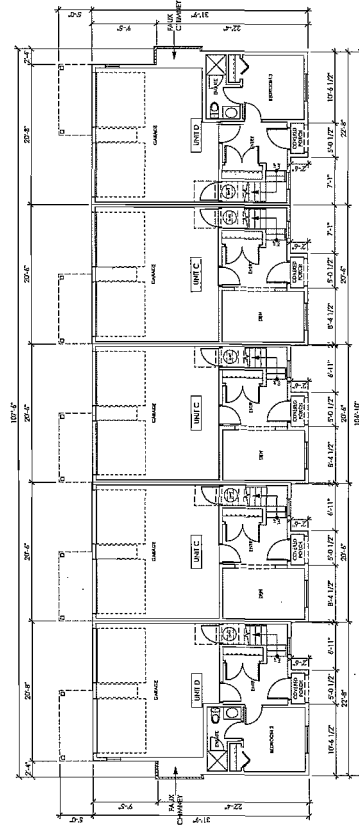
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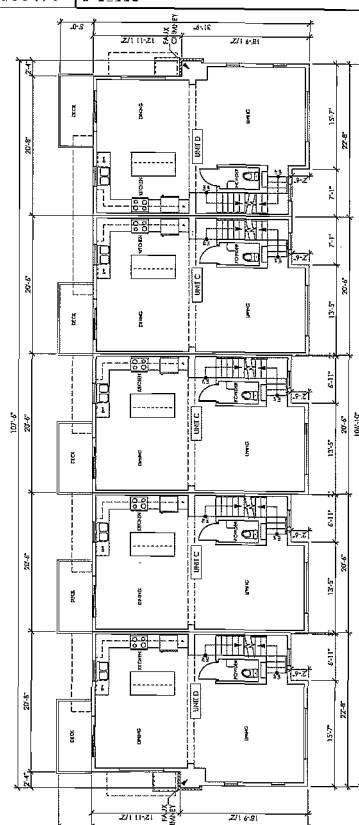
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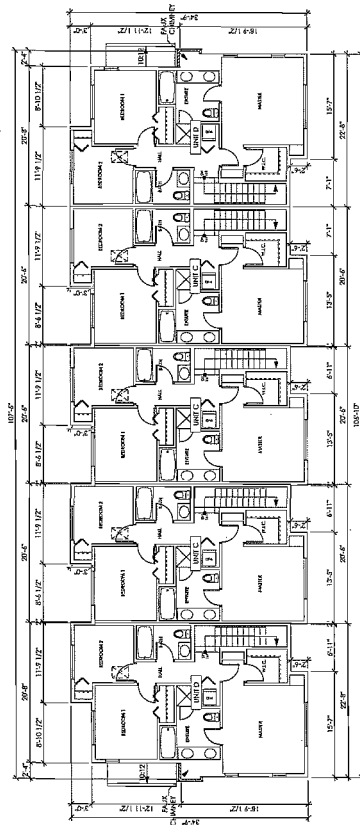
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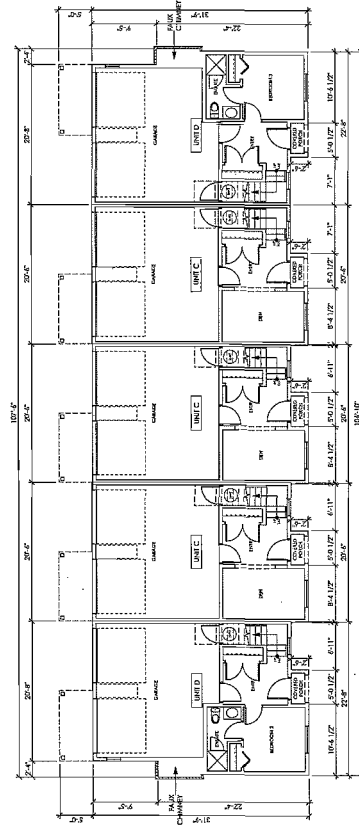
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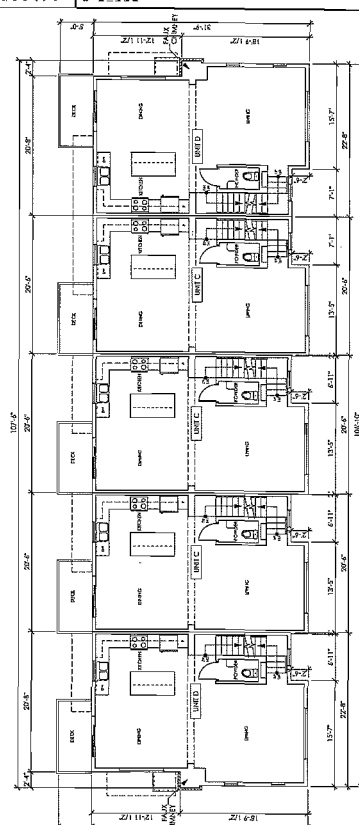
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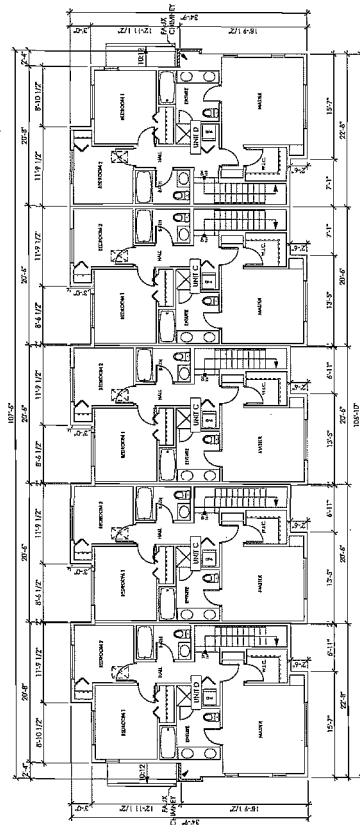
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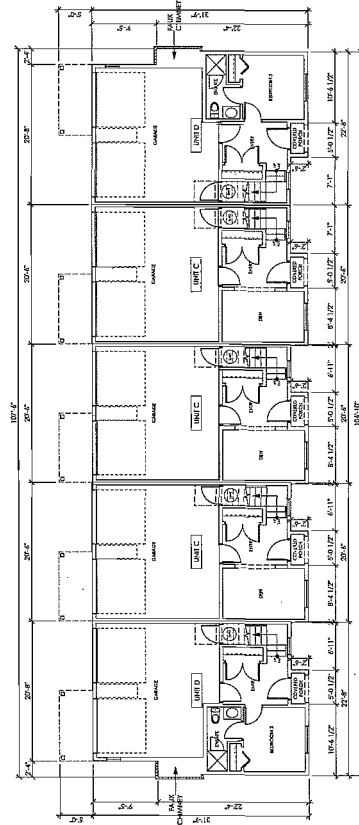
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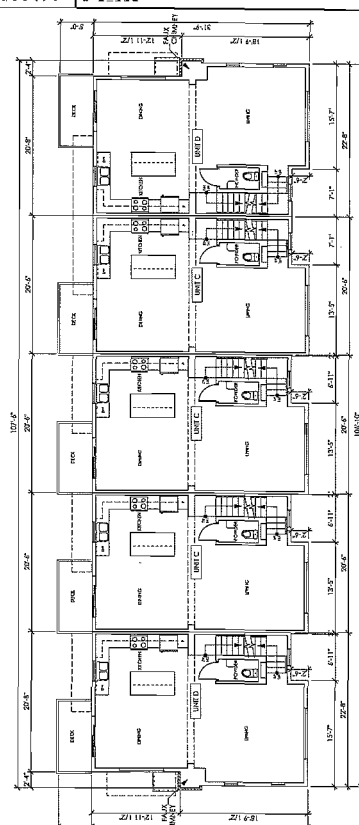
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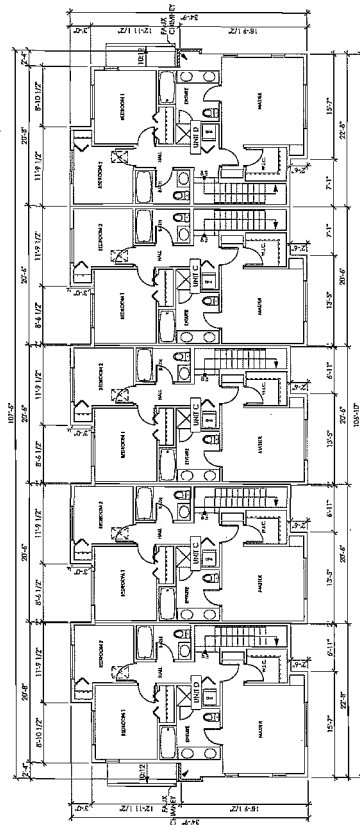
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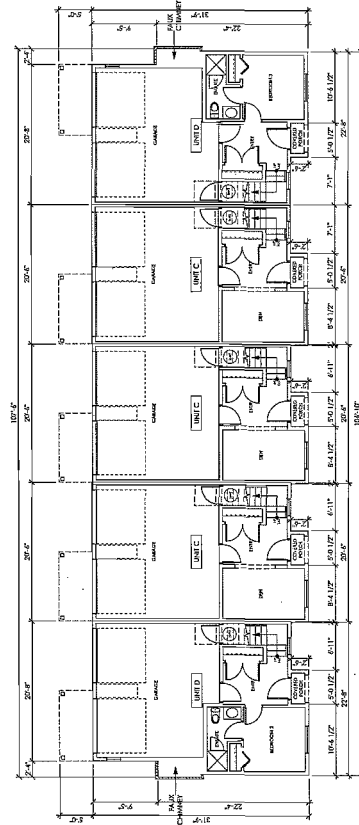
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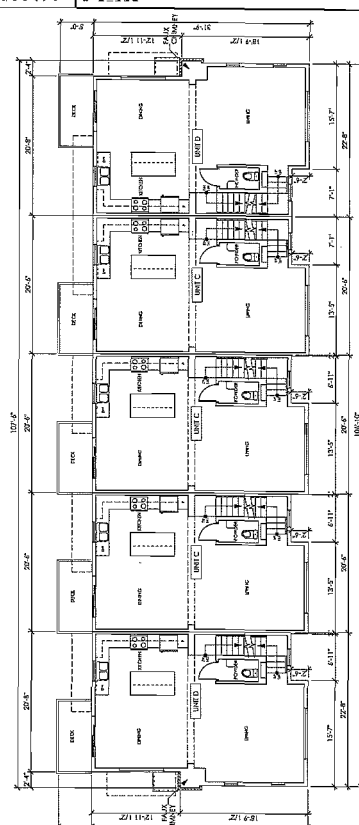
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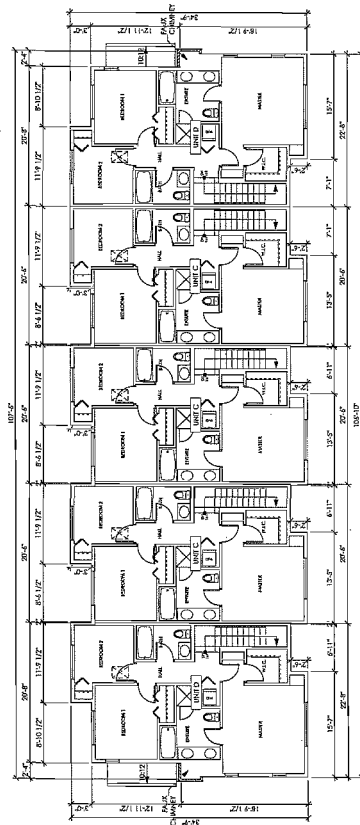
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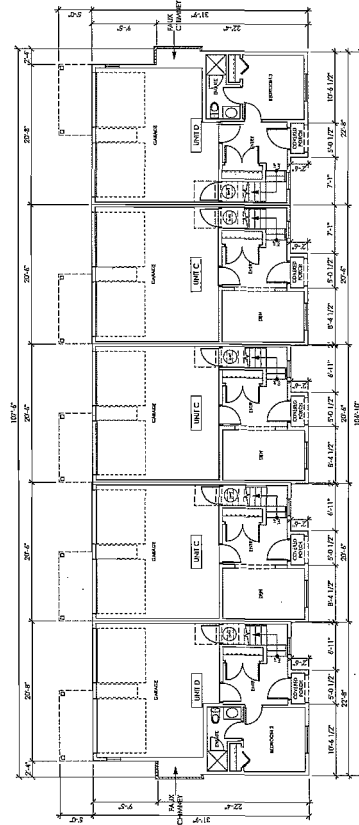
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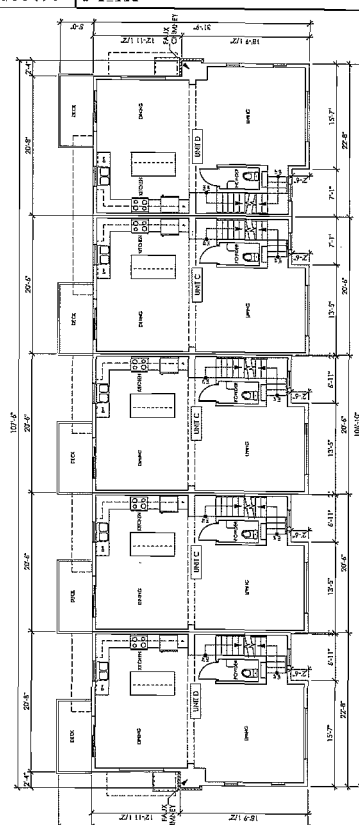
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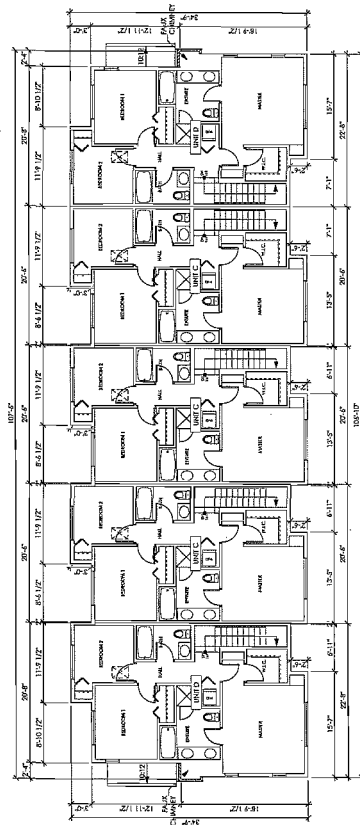
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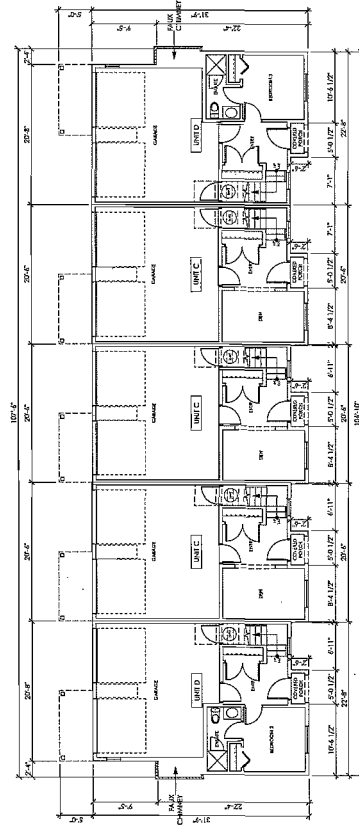
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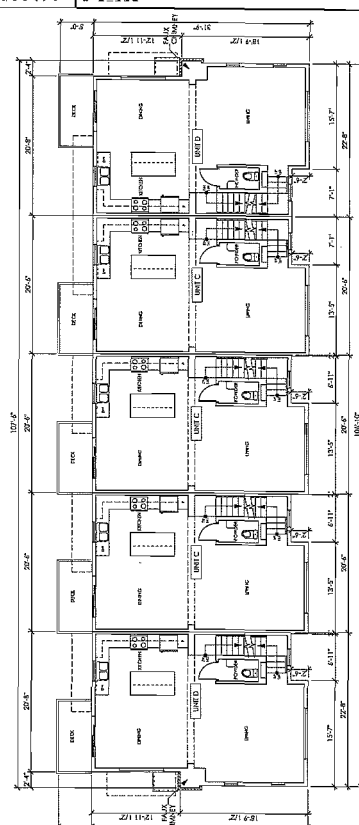
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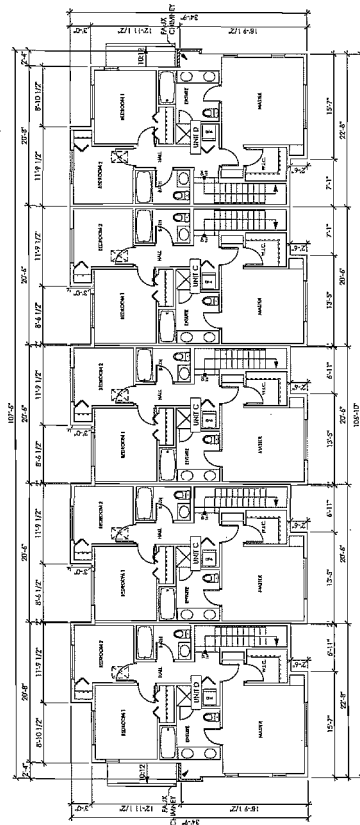
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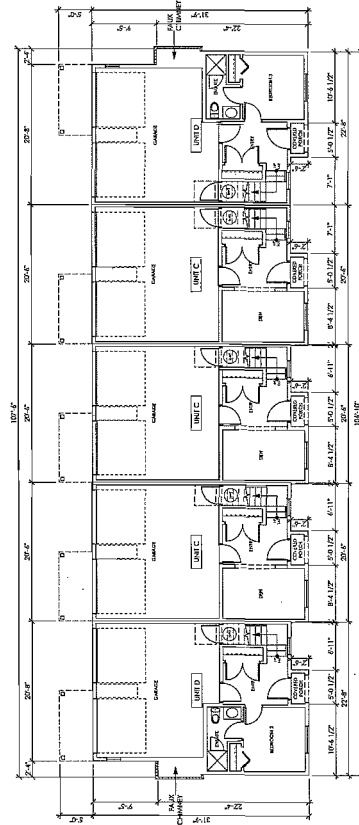
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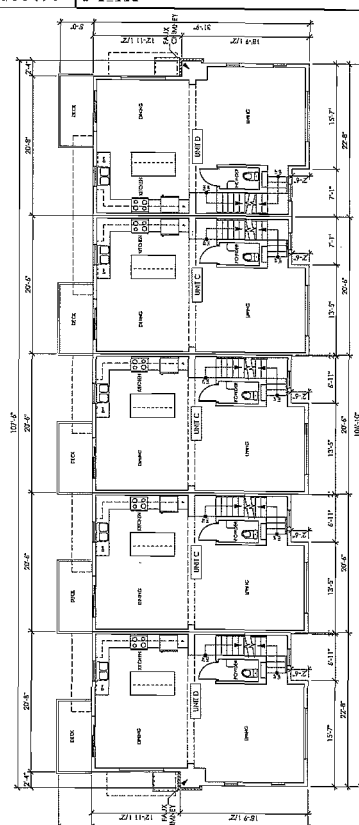
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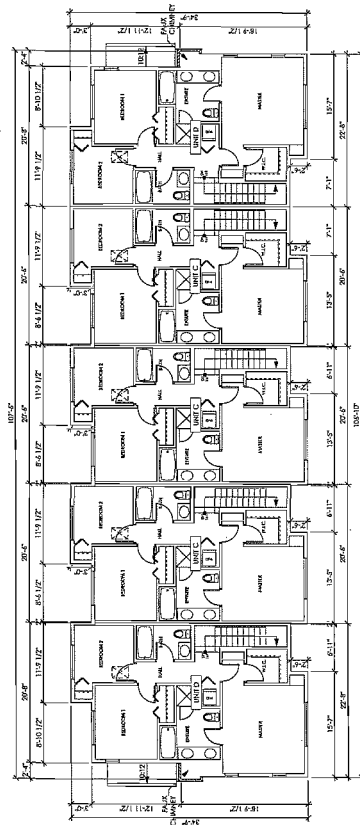
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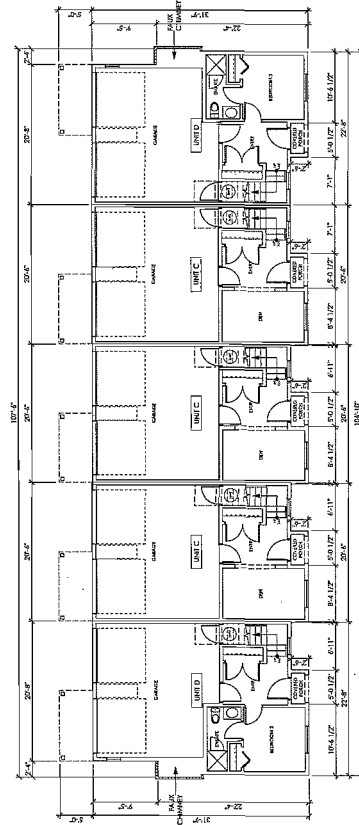
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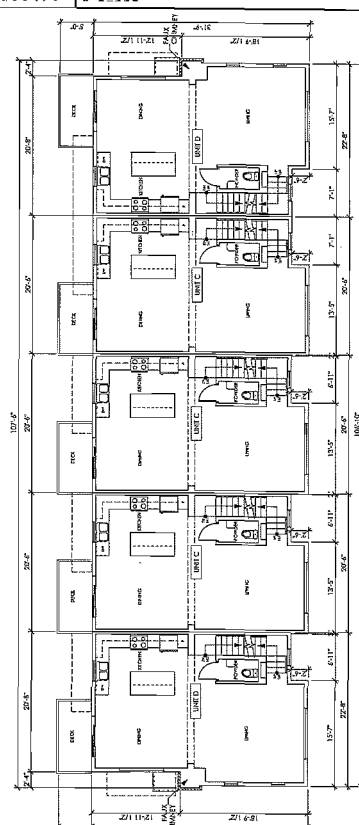
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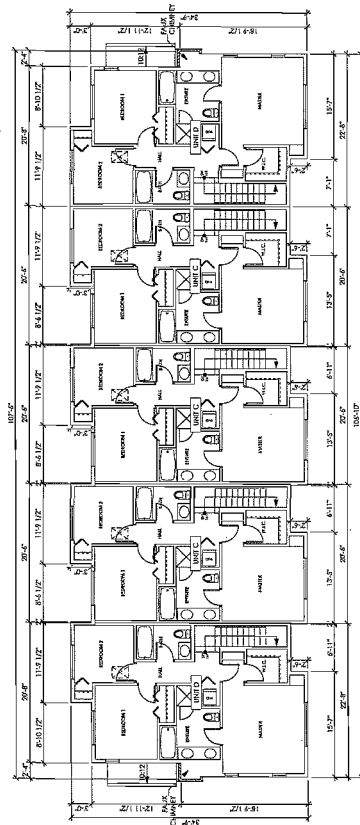
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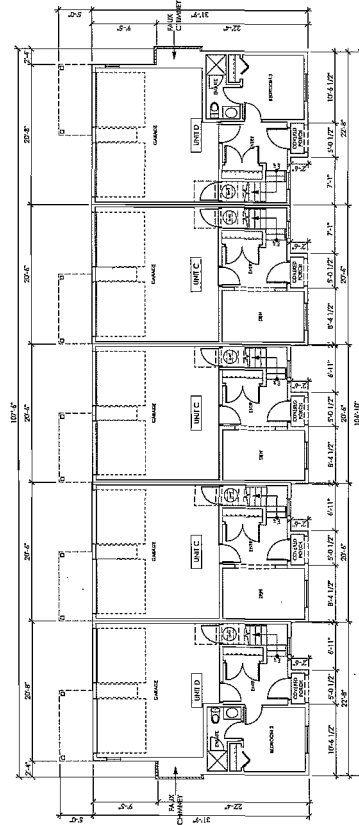
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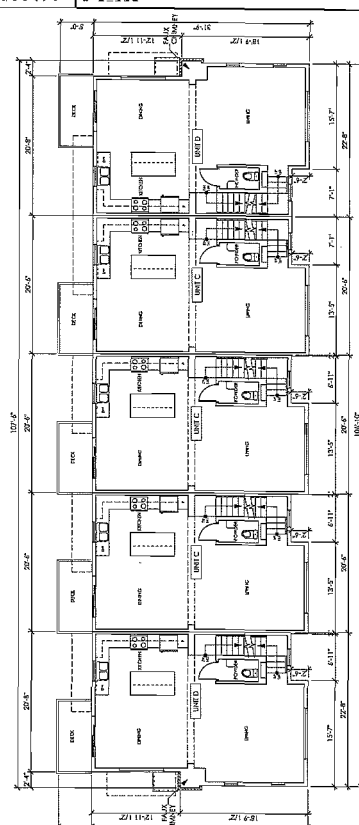
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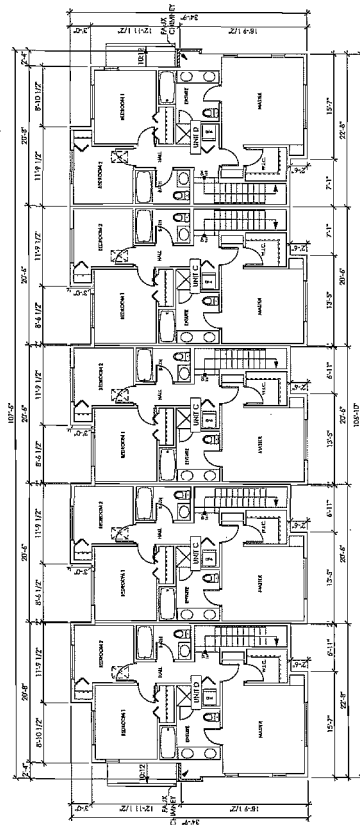
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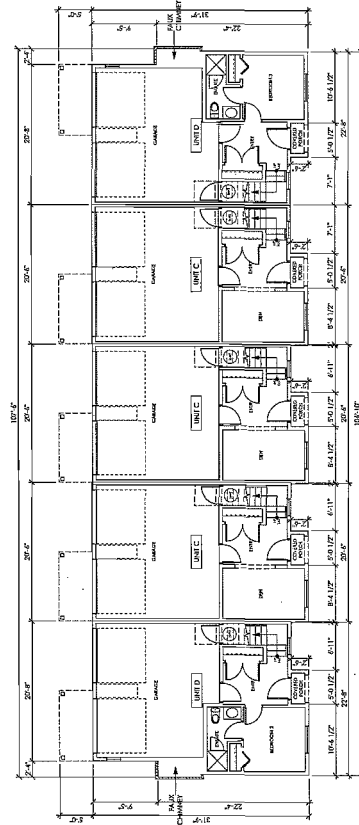
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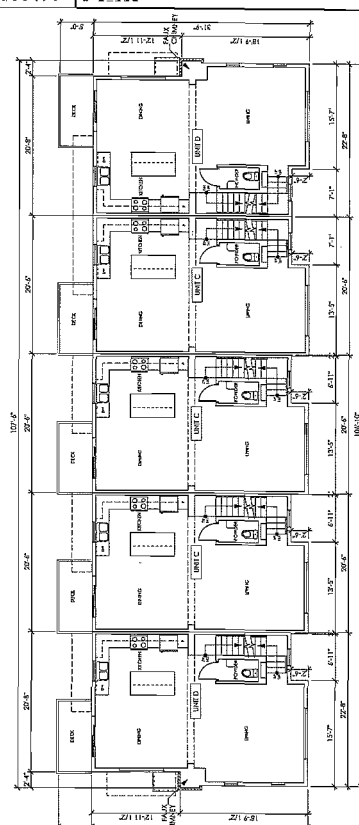
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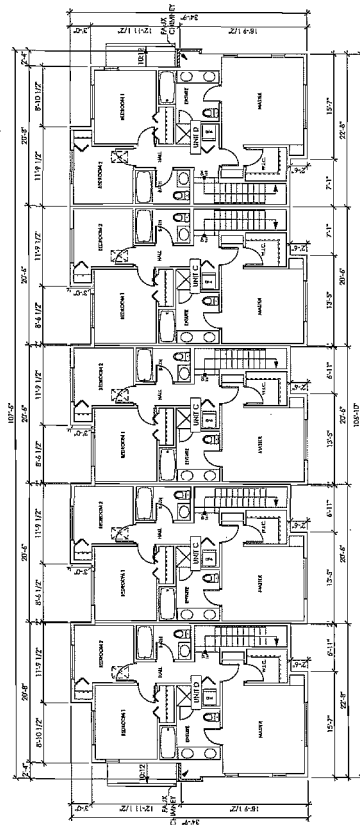
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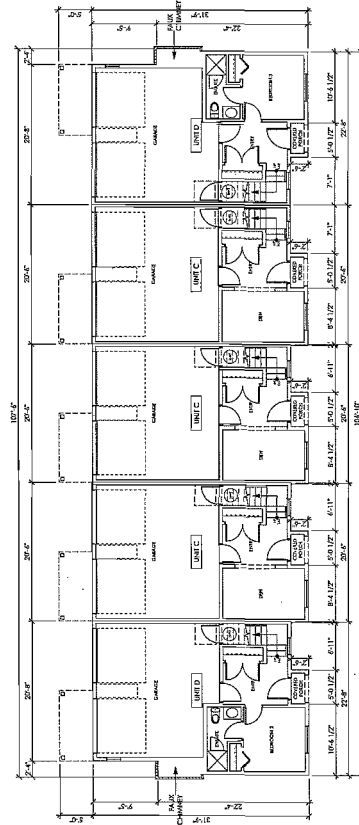
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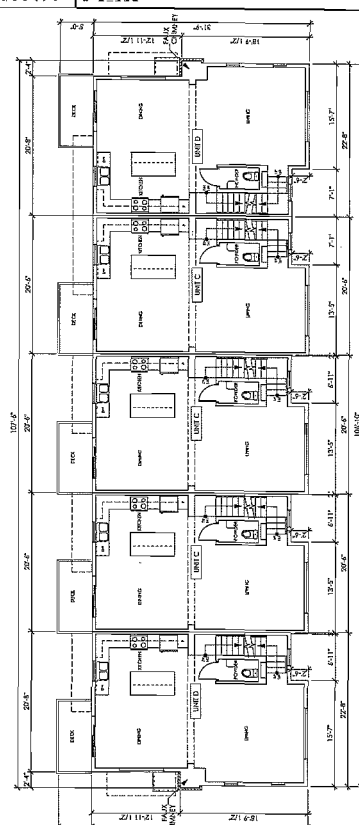
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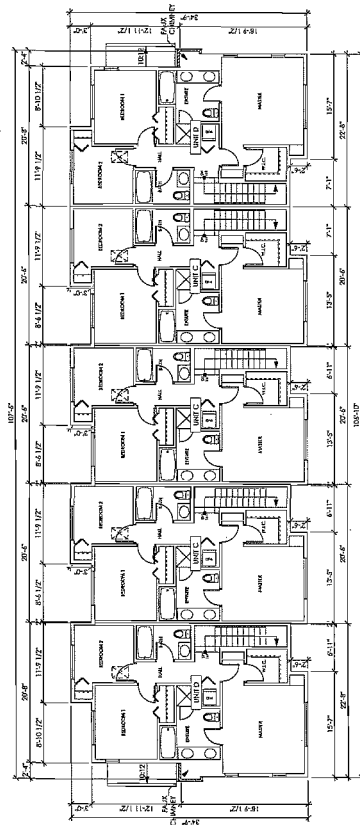
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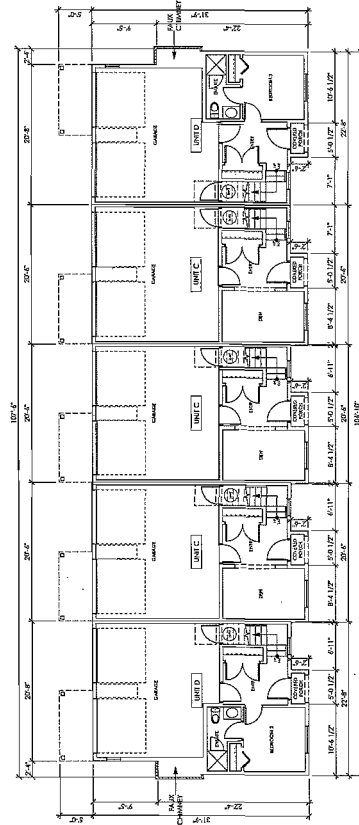
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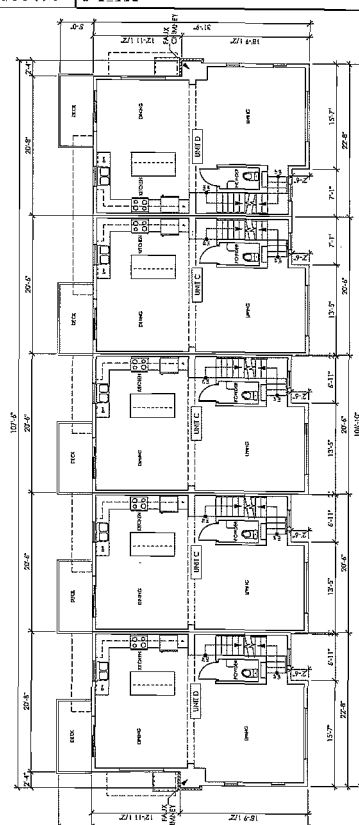
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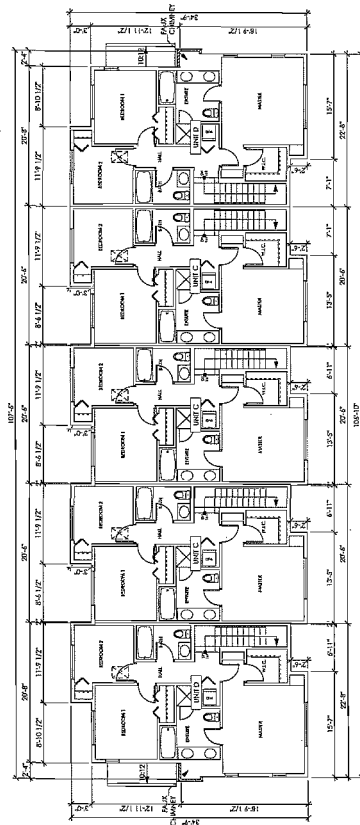
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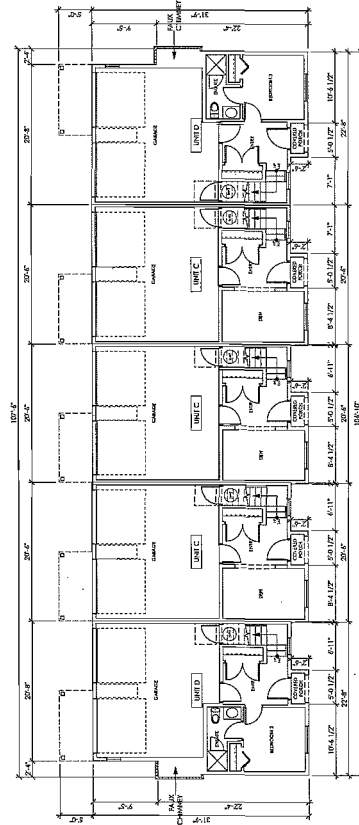
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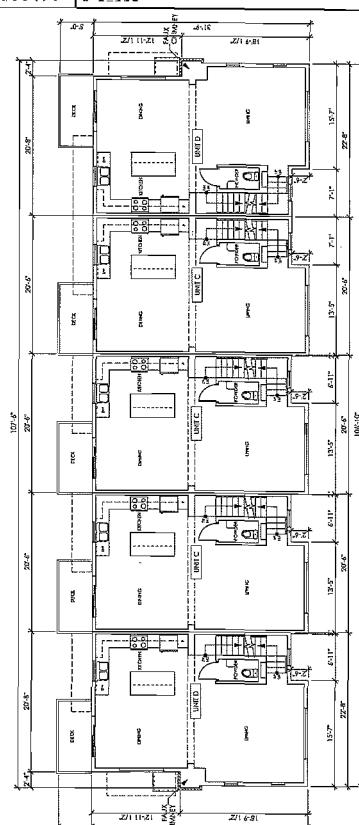
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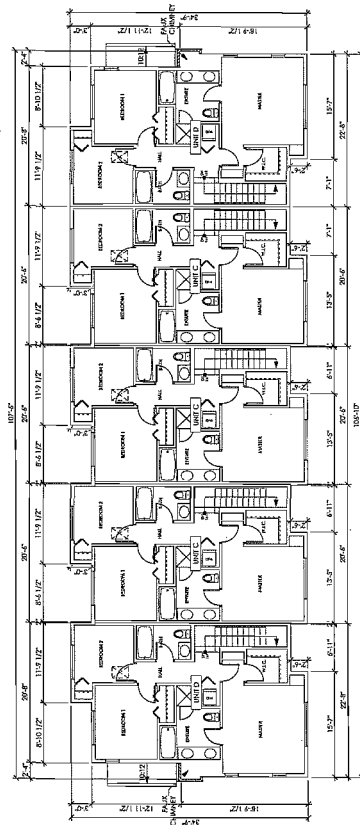
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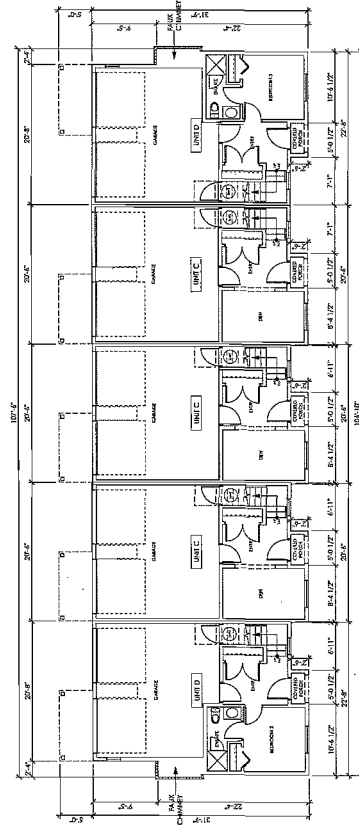
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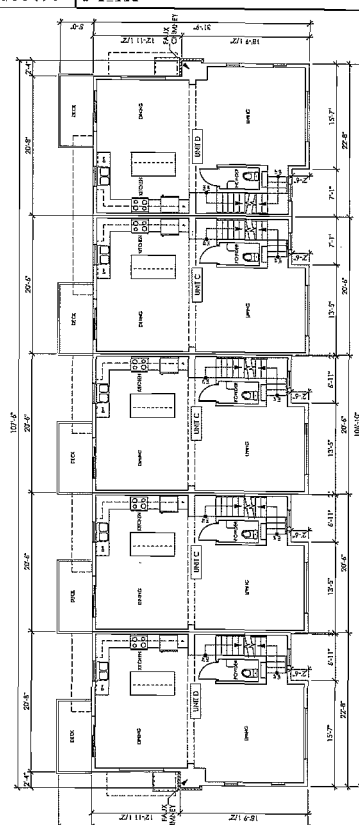
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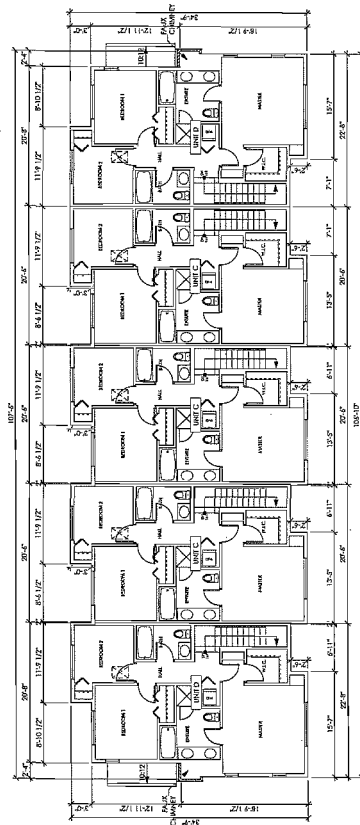
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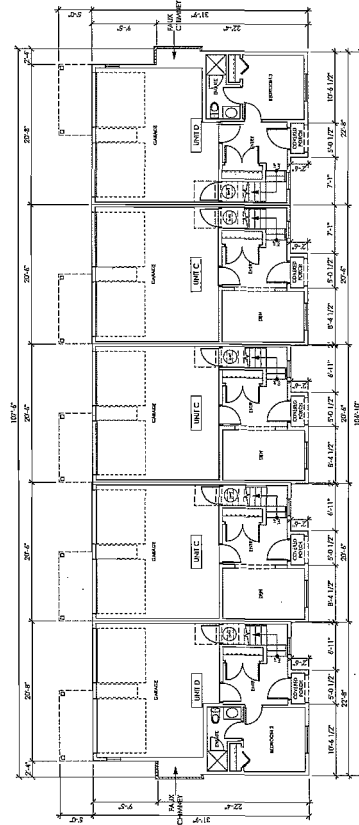
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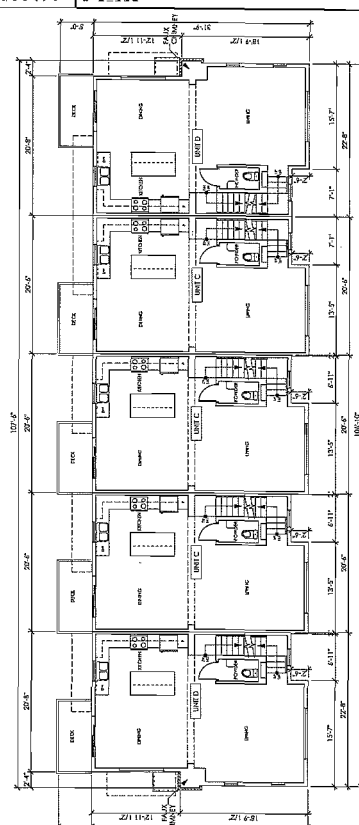
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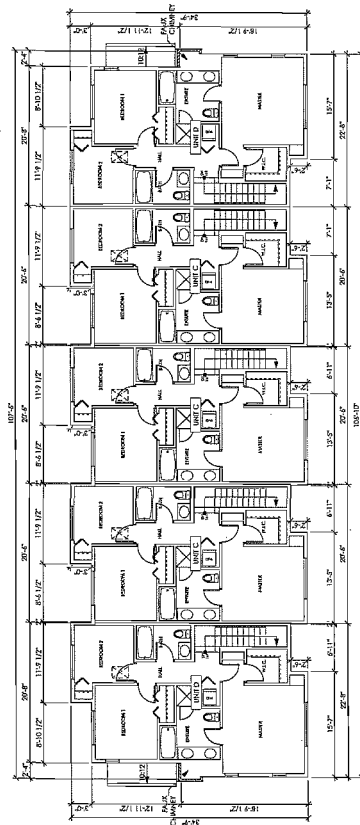
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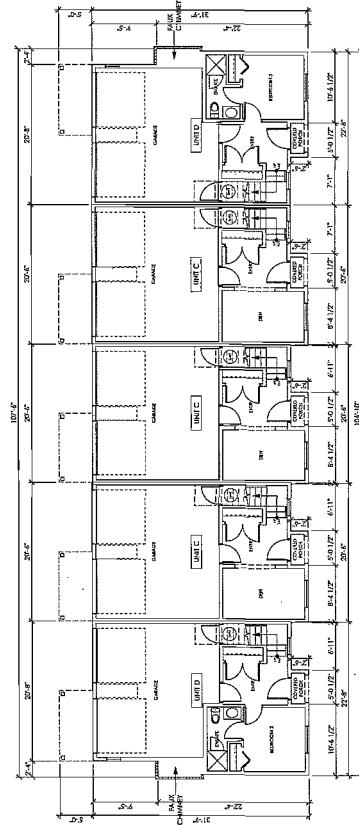
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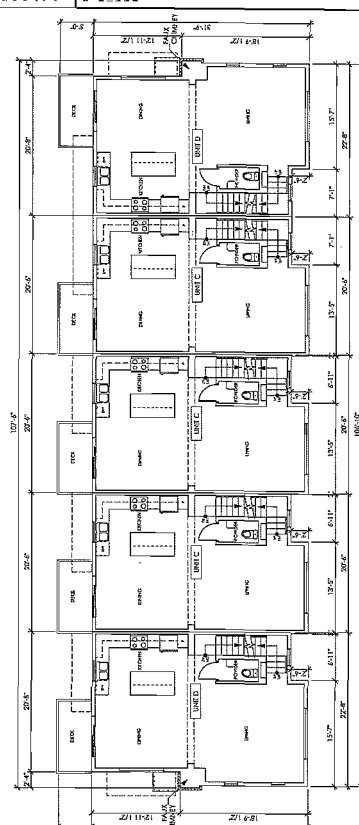
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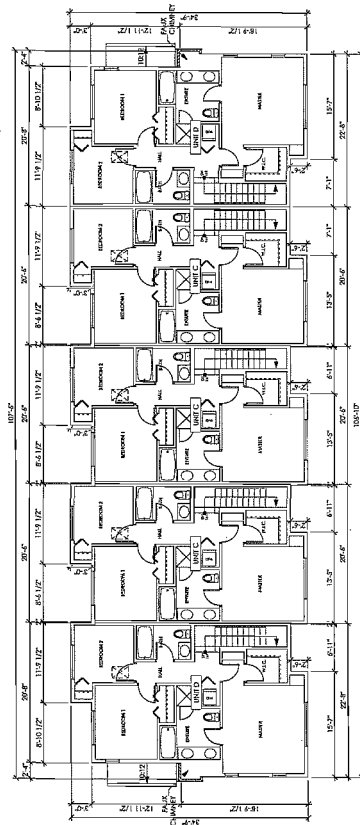
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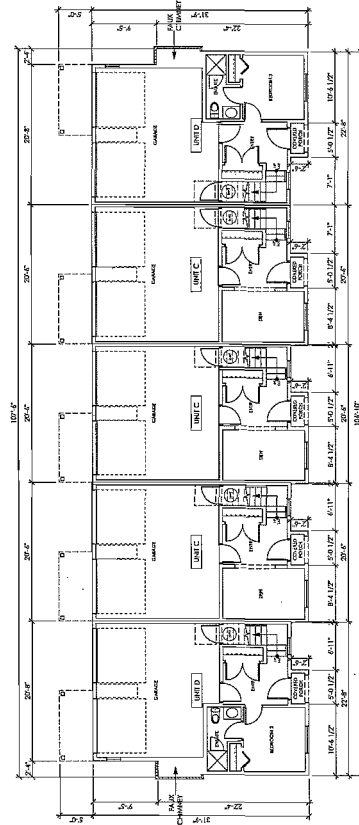
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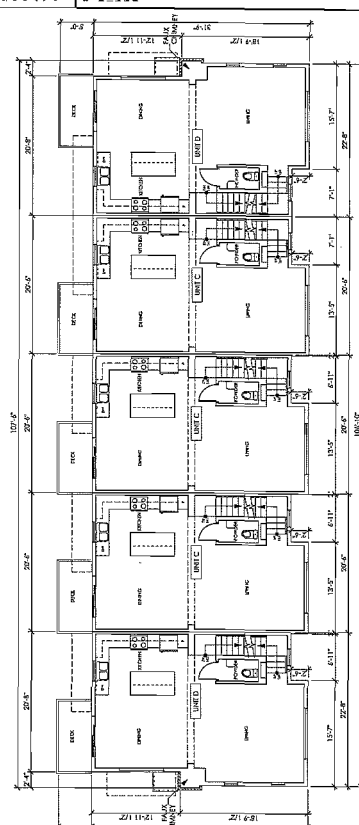
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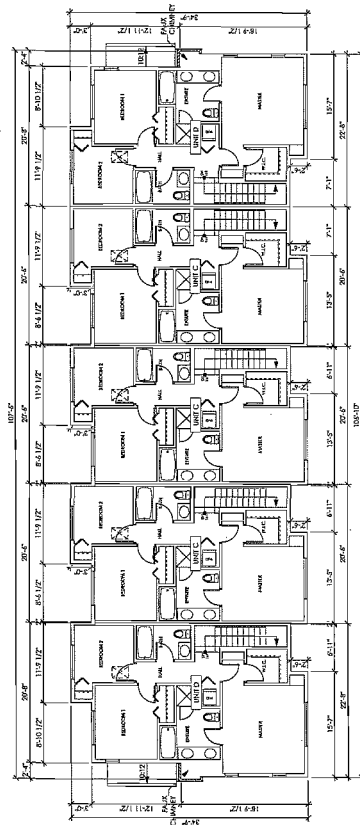
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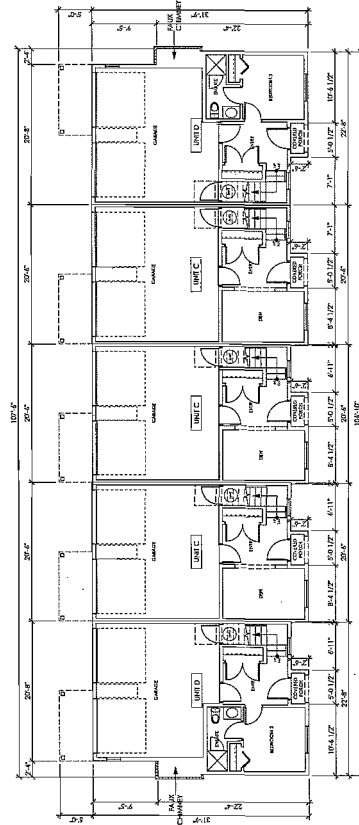
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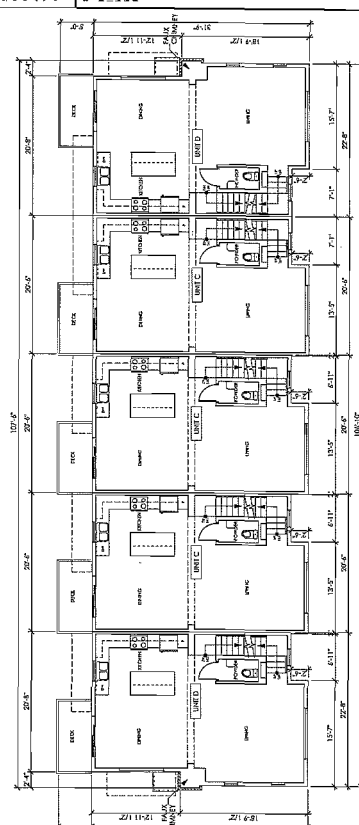
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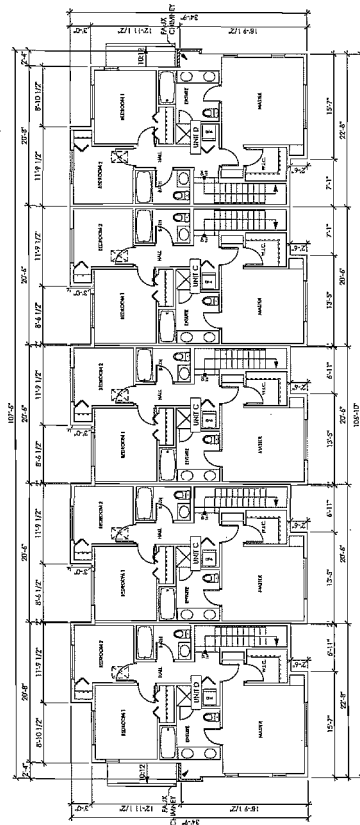
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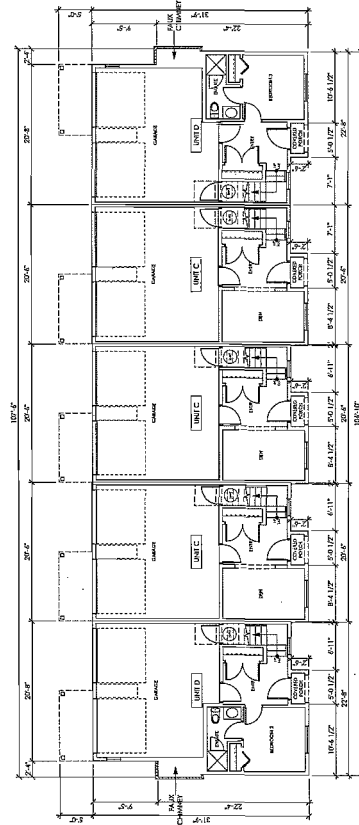
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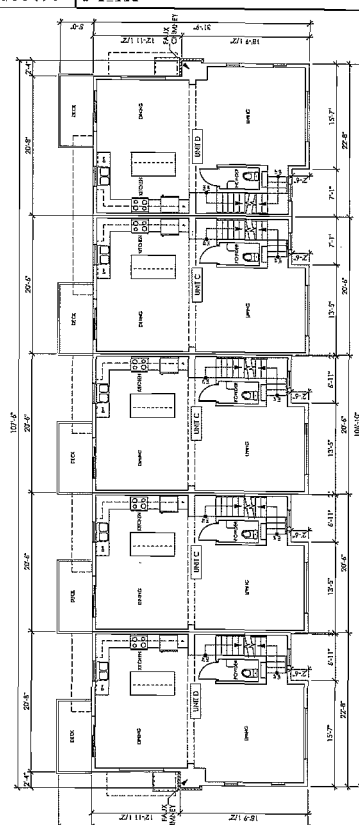
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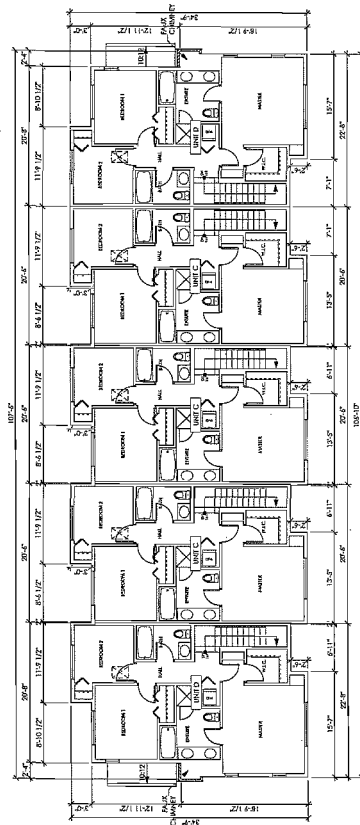
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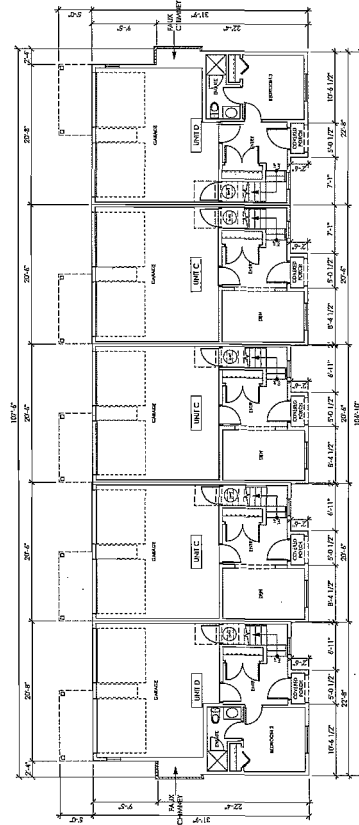
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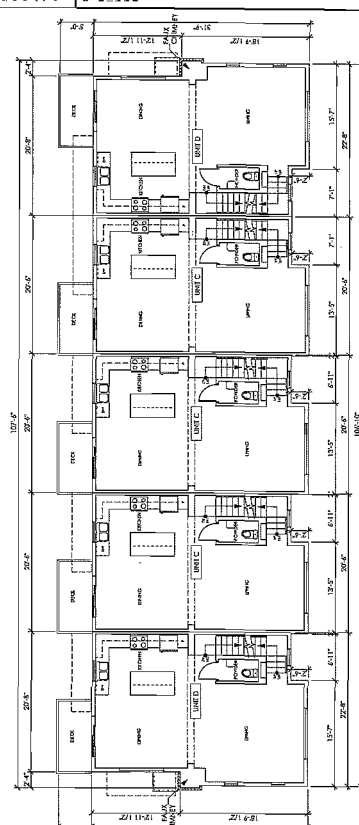
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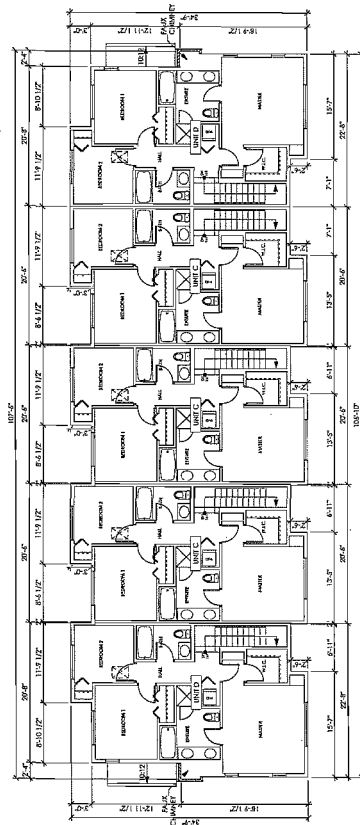
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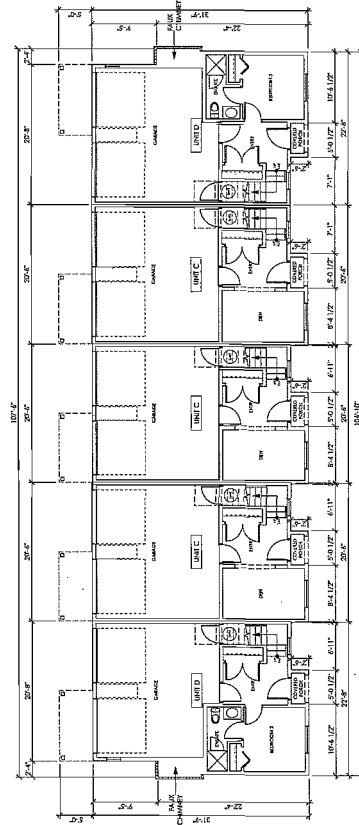
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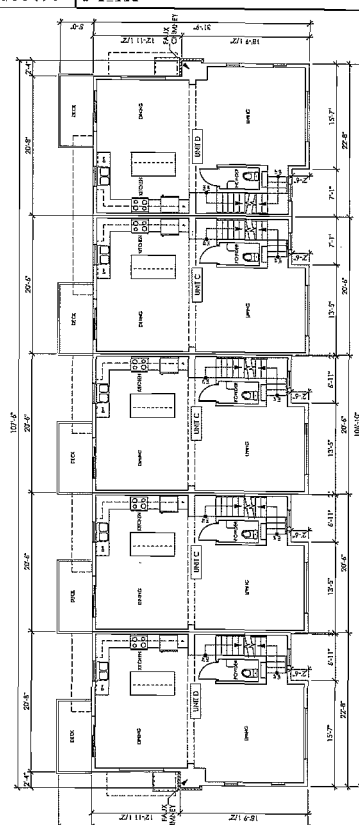
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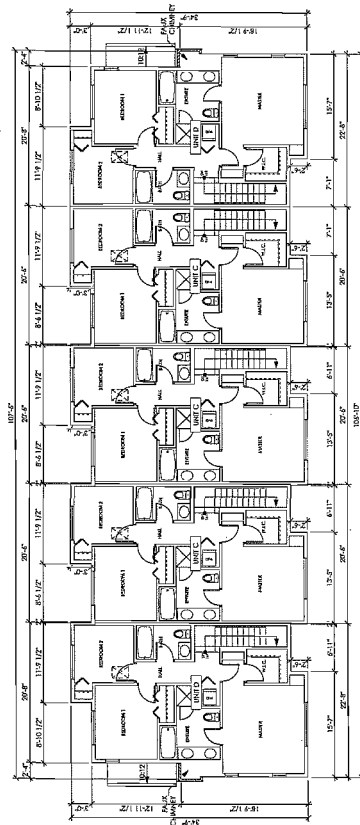
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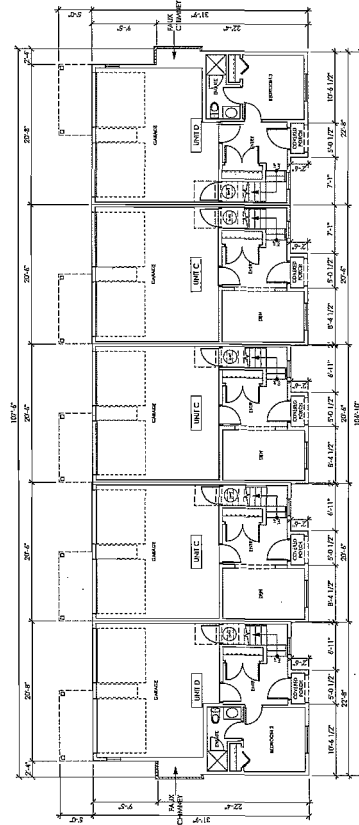
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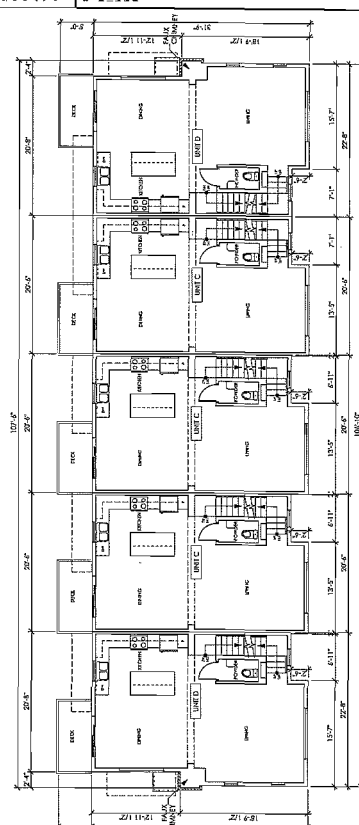
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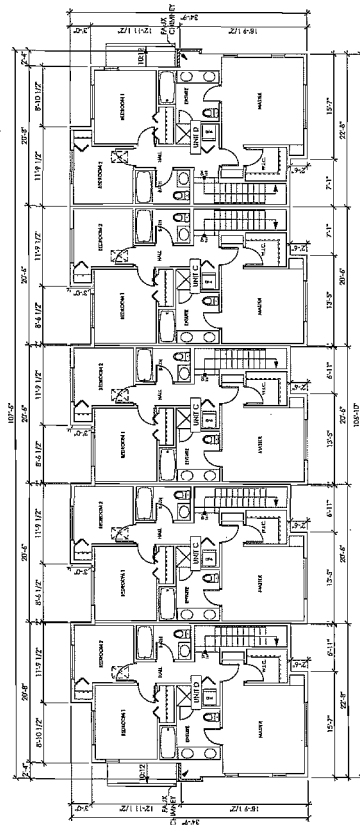
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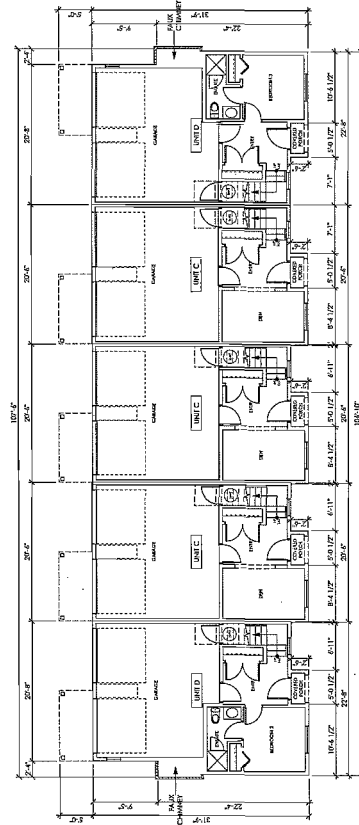
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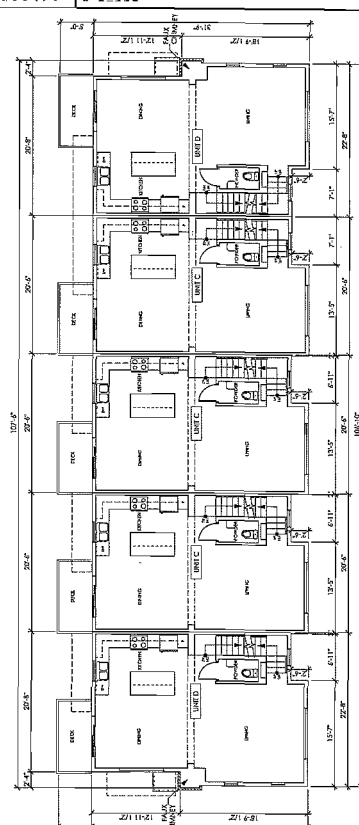
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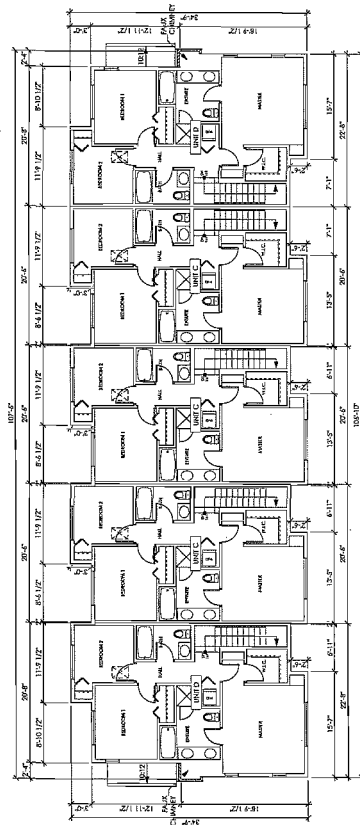
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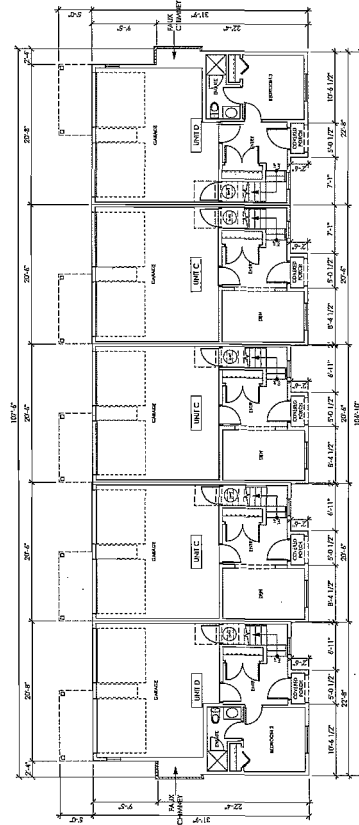
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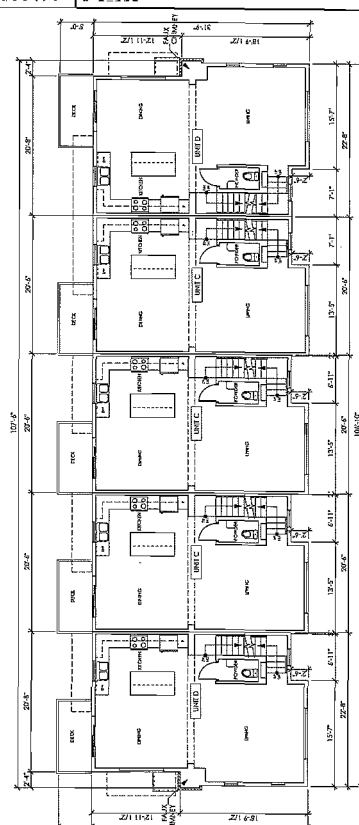
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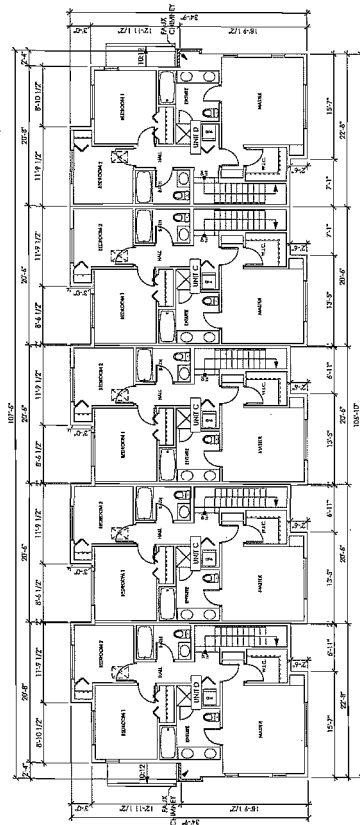
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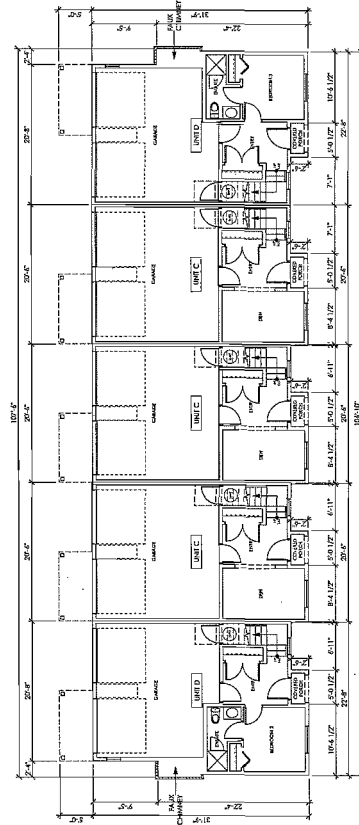
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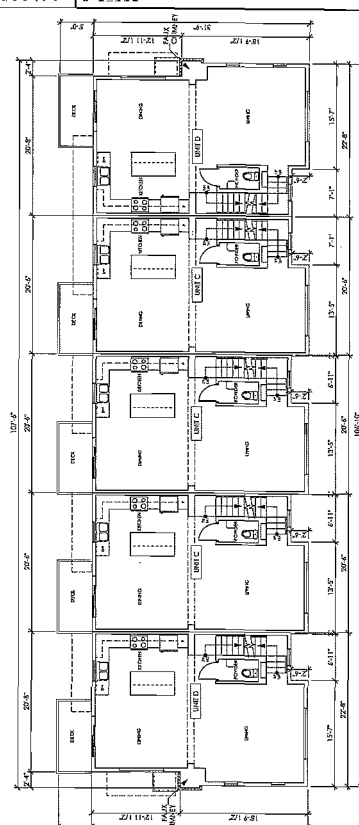
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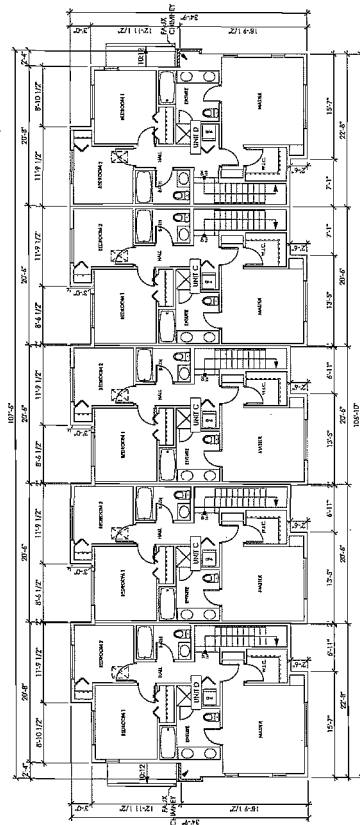
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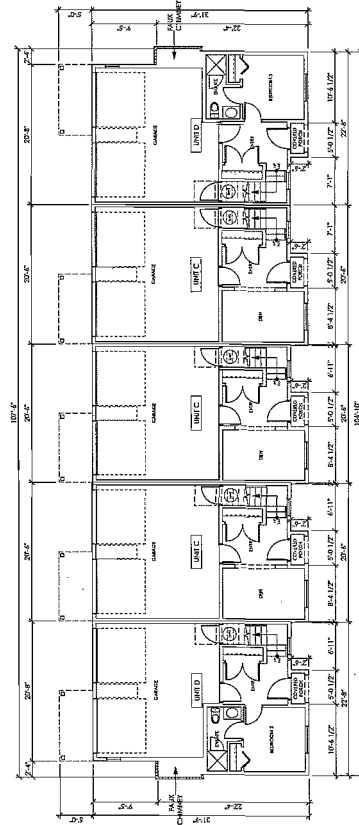
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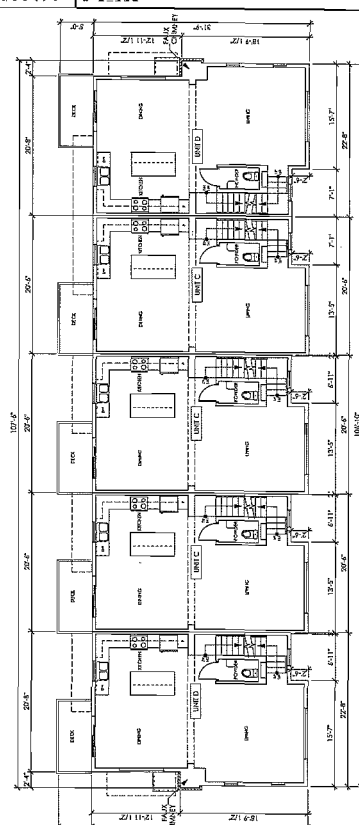
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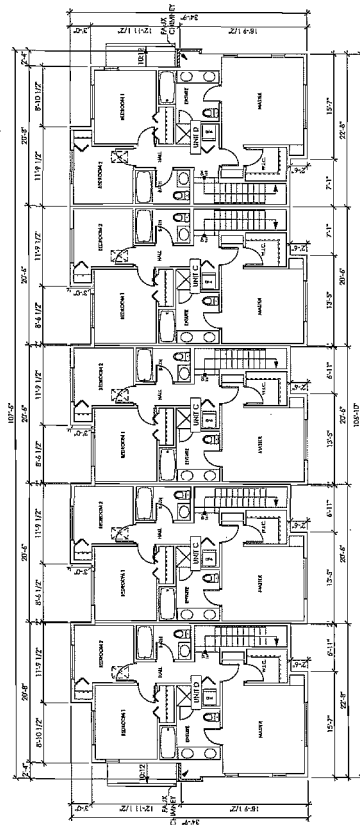
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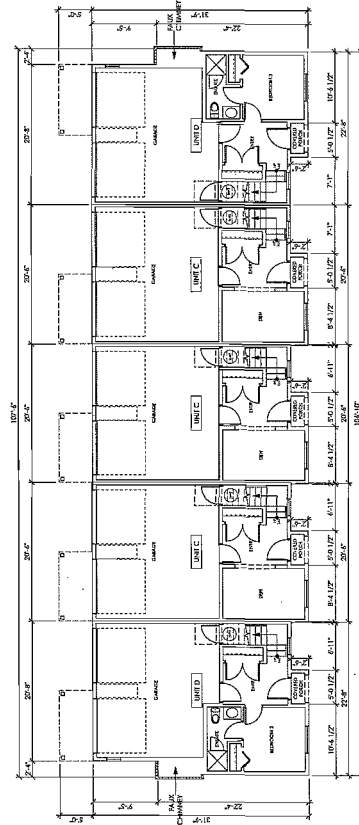
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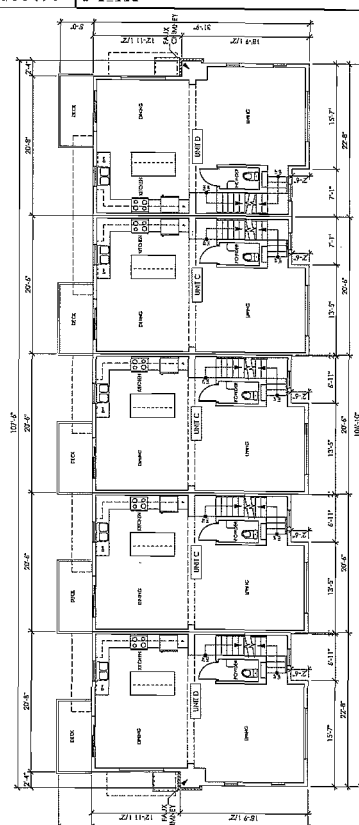
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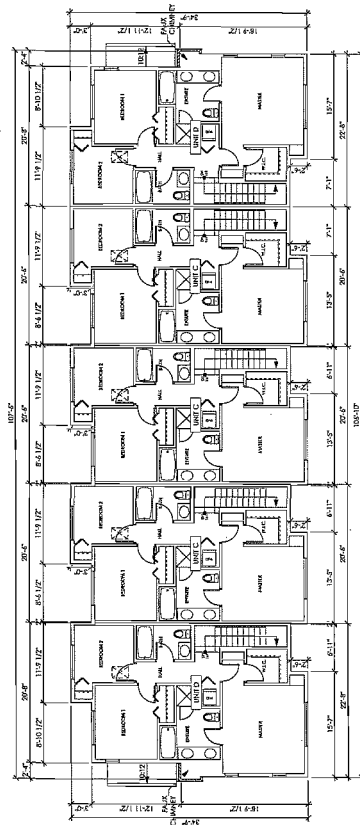
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BUILDING 12



LEVEL 2 PLAN
BUILDING 12



LEVEL 3 PLAN
BUILDING 12



LEVEL 1 PLAN<

REAR ELEVATION
BUILDING 12

FRONT ELEVATION
BUILDING 12

SIDE ELEVATION
BUILDING 12

SIDE ELEVATION
BUILDING 12

KEYPLAN

FINISH SCHEDULE

1. BRICK-CLAY BRICK	2. PAINTED ASP. GABLE ROOF	3. PAINTED 2X8 SILL BOARD	4. METAL ROOF
5. DOUBLE PANELED	6. PAINTED CEDAR SHED	7. PAINTED 2X8 SILL BOARD	8. METAL ROOF
9. PAINTED ASP. GABLE ROOF	10. PAINTED CEDAR SHED	11. PAINTED 2X8 SILL BOARD	12. METAL ROOF
13. PAINTED ASP. GABLE ROOF	14. PAINTED CEDAR SHED	15. PAINTED 2X8 SILL BOARD	16. METAL ROOF
17. PAINTED ASP. GABLE ROOF	18. PAINTED CEDAR SHED	19. PAINTED 2X8 SILL BOARD	20. METAL ROOF

NOTES:

1. THE ARCHITECT HAS REVIEWED THE CONSTRUCTION DOCUMENTS AND FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT.
2. THE ARCHITECT HAS REVIEWED THE CONSTRUCTION DOCUMENTS AND FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT.
3. THE ARCHITECT HAS REVIEWED THE CONSTRUCTION DOCUMENTS AND FOUND THEM TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROJECT.

POLYGON
ARCHITECTURAL
1000 WEST 10TH AVENUE
DENVER, CO 80202
TEL: 303.733.1000

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JAYDEN MEWS
9700 ALEXANDRA ROAD
RICHMOND, BC

BUILDING 12 ELEVATIONS

A2.25

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REVIEWS		NOV. 4, 2013 FEB. 25, 2014 MAR. 17, 2014 MAR. 25, 2014 APR. 7, 2016
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**FORMWERKS
ARCHITECTURAL**

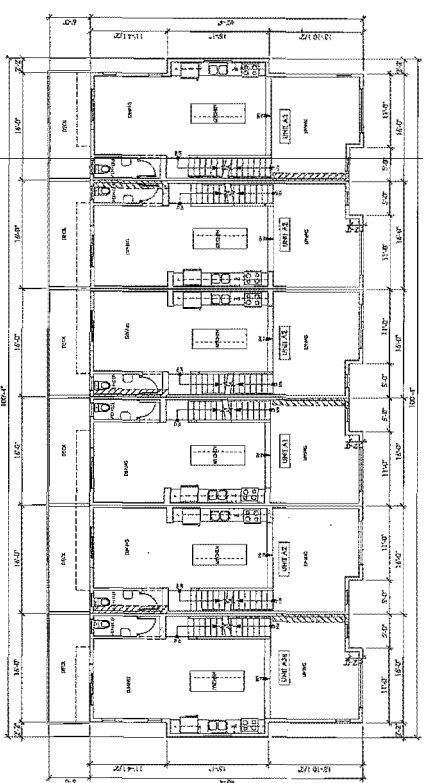
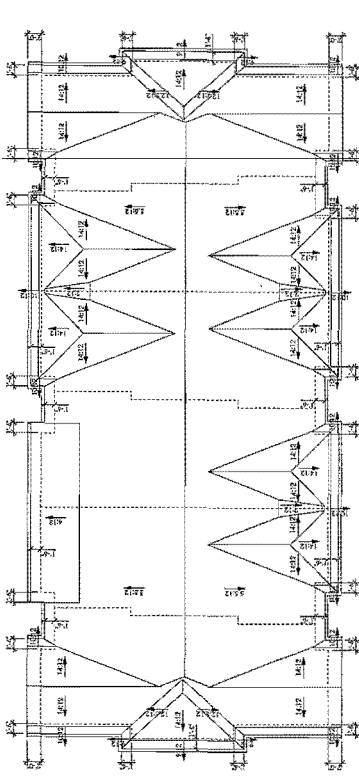
4625 West 5th Ave., Vancouver, BC V6J 1H6
Tel: 465-2974 Phone: 465-5441

JAYDEN MEWS
700 ALEXANDRA ROAD
RICHMOND, BC

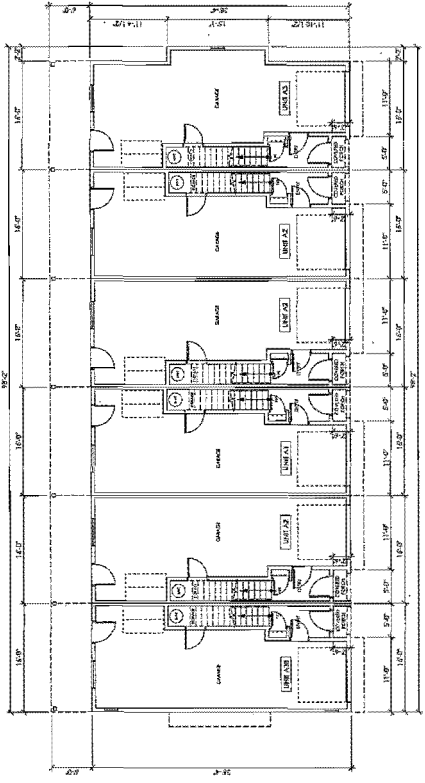
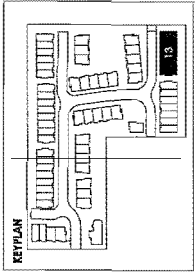
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BUILDING 13
PLANS

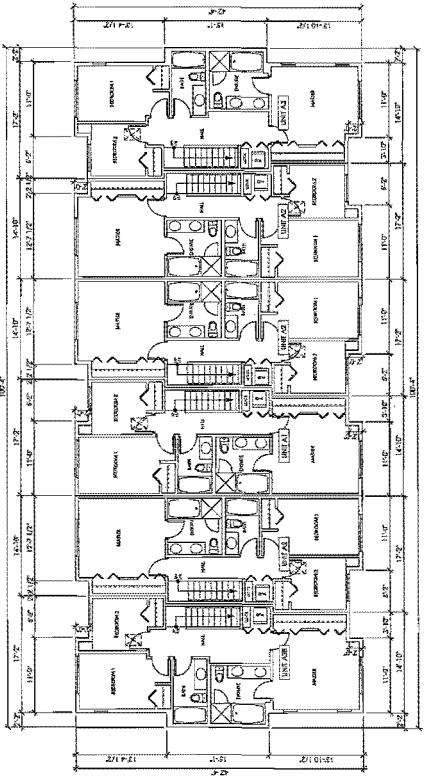
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LEVEL 2 PLAN
MONG 13

ROOF PLAN



LEVEL 1 PLAN



LEVEL 3 PLAN

REVISIONS	
ISSUED FOR REZONING/DREY, PERMIT	NOV. 4, 2013
ISSUED FOR COORDINATION	FEB. 25, 2014
ISSUED FOR CLIENT REVIEW	MAR. 17, 2014
ISSUED FOR COORDINATION	MAR. 25, 2014
RESUBMITTED FOR DEVELOPMENT PERMIT	APR. 7, 2014



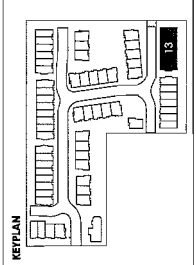
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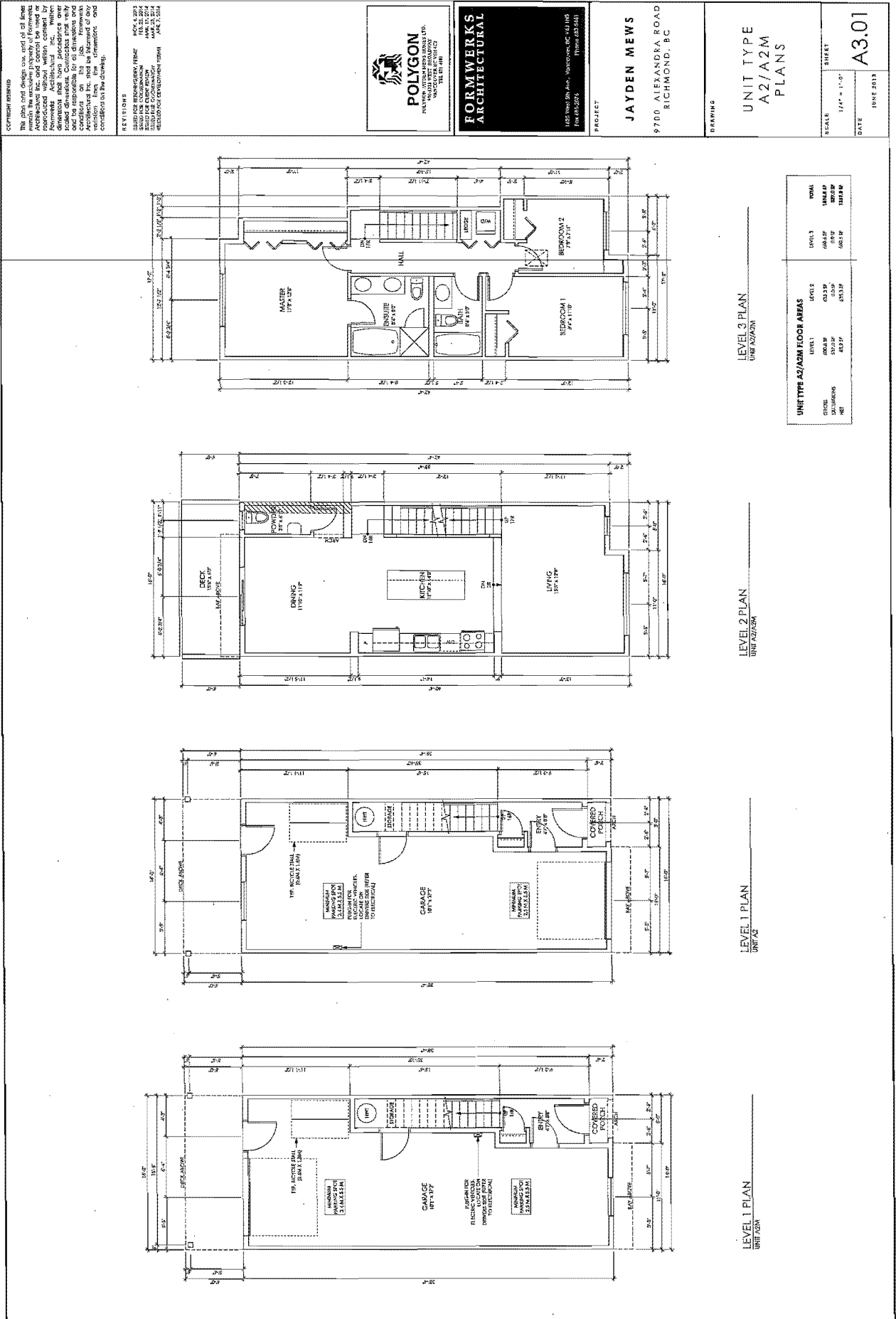
BUILDING 13
ELEVATIONS

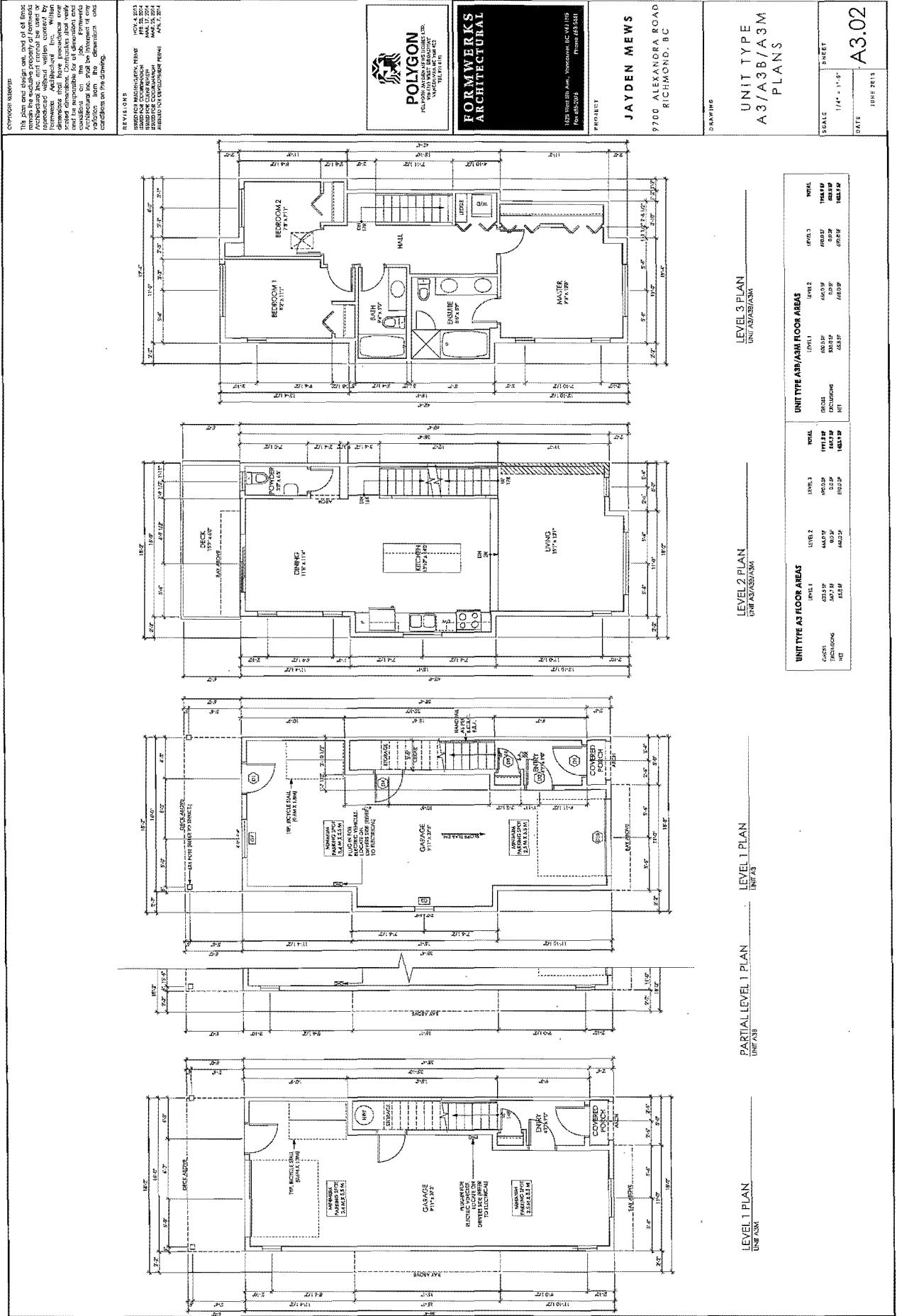
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SHEET			

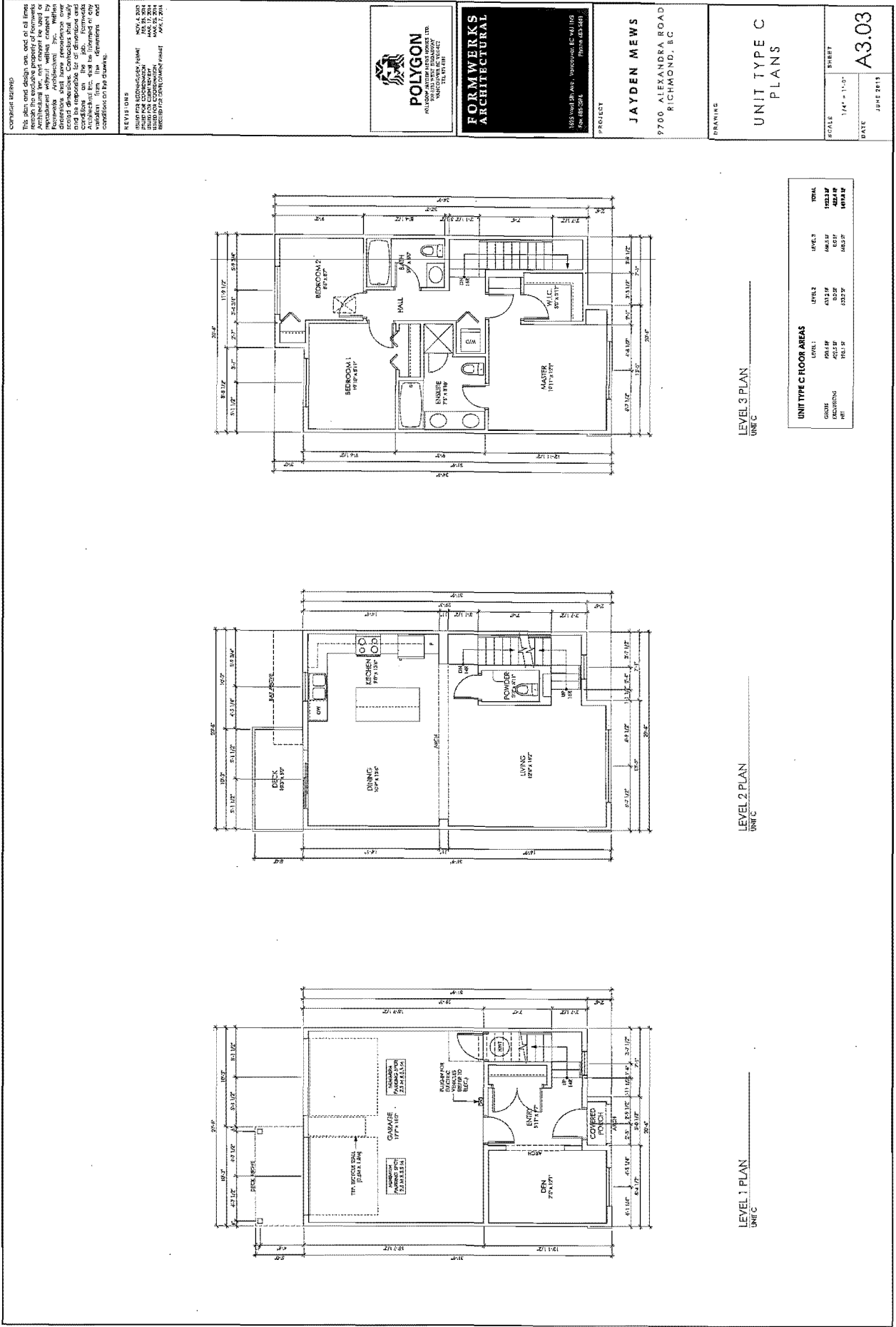


FINISH SCHEDULE	
1	FINISHES TO BE SHIP
2	DOOR/SLIP TO BE SHIP
3	DOOR/SLIP TO BE SHIP
4	WALL/CEILING
5	WALL/CEILING
6	WALL/CEILING
7	WALL/CEILING
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CONTRACT NOTES

This plan and design are used as all times. The owner shall be responsible for obtaining all necessary permits and approvals. The architect shall be responsible for the design and construction of the building. The architect shall be responsible for the design and construction of the building. The architect shall be responsible for the design and construction of the building.

POLYGON

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10000 W. 10TH AVE. SUITE 100
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JAYDEN MEWS

9700 ALEXANDRA ROAD
RICHMOND, BC

UNIT TYPE C PLANS

SCALE

1/4" = 1'-0"

DATE

JUNE 2013

DATE

JUNE 2013



**City of
Richmond**

Development Application Data Sheet

Development Applications Division

RZ 13-649641

Attachment 3

Address: 9700 and 9740 Alexandra Road

Applicant: Polygon Development 296 Ltd.

Planning Area(s): West Cambie

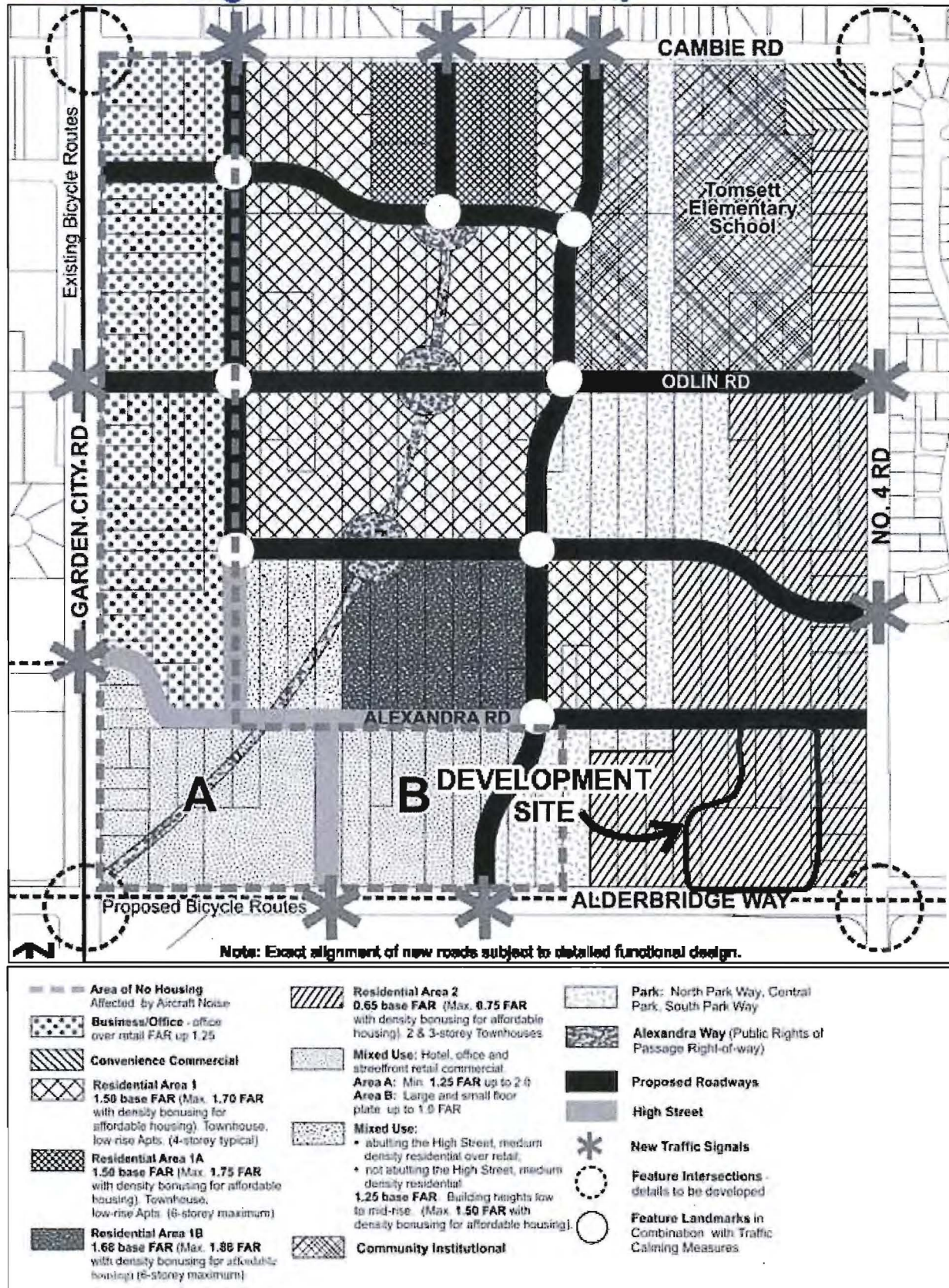
	Existing	Proposed
Owner:	Polygon Development 296 Ltd.	Same
Site Size (m²):	12,150.05 m ² gross area (130,782 ft ²)	11812.16 m ² (127,145 ft ²) net of dedications Road dedication = 337.89 m ²
Land Uses:	Single-Family Residential	Multi-Family Residential
OCP Designation:	Neighbourhood Residential	Same
Area Plan Designation: (West Cambie Area Plan)	Residential Area 2; 0.65 base FAR (Max. 0.75 FAR with density bonusing for affordable housing). Two- and three-storey Townhouses.	Same
Zoning:	Two-Unit Dwellings (RD1) and Single Detached (RS1/F)	"Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)"
Number of Units:	2 single family dwellings	Approximately 64
Other Designations:	75% of the site is designated Environmentally Sensitive Area	Portions of the site will be retained and enhanced as natural areas. It is proposed that the ESA designation be adjusted through a subsequent OCP amendment.

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Density (units/acre):	N/A	64/3.00 = 21.93 upa	None permitted
Floor Area Ratio:	Max. 0.65 or 0.75 with affordable housing contribution per West Cambie Area Plan	0.72 with a voluntary cash contribution of \$678,107.00 based on a net buildable of 91,120.59 ft ²	None permitted
Lot Coverage – Building:	Max. 40%	33%	None
Lot Size (min. area):	10,000 m ²	11812.16 m ² net (127,145 ft ²)	None

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Setback – Front Yard (m):	Min. 3.0 m for amenity building; 4.0 m for all other buildings	Min. 3.0 m for amenity building; 4.0m for all other buildings m Min.	None
Setback – Side Yards (m):	Min. 3.0 m	Min. 3.0 m	None
Setback – Rear Yard (m):	Min. 4.0 m	Min. 4.0 m to 6.0 m	None
Height (m):	12.2 m	12.2 m	None
Off-street Parking Spaces – Regular (R) / Visitor (V):	98 (R) and 13 (V) per unit (1.5 R / 0.2 V)	152 (R) and 13 (V) per unit	None
Off-street Parking Spaces – Total:	111	165	None
Stalls with Electrical Plug-ins	25% = 32 stalls	64 stalls	None
Enclosed Tandem Parking Spaces:	Permitted	72 tandem spaces within 36 units (56.25%)	Variance 8 stalls over
Bicycle Stalls	Class 1: 1.25/unit (80) Class 2: 0.20/unit (13)	Class 1: 87 Class 2: 13	None
Amenity Space – Indoor:	Min. 100 m ² (1,076 ft ²)	213.86 m ² (2,302 ft ²)	None
Amenity Space – Outdoor:	6.0 m ² (64.59 ft ²) per unit 384 m ² total	1,411.01 m ² (15,188 ft ²)	None

Other: Tree replacement compensation required for loss of significant trees.

Alexandra Neighbourhood Land Use Map





April 17, 2014

Mr. Chris Ho
Polygon Development 296 Ltd.
Suite 900 - 1333 West Broadway
Vancouver, BC
V6H 4C2

Dear Mr. Ho:

**Re: DRAFT Report of Findings – Biophysical Assessment
9700 and 9740 Alexandra Road, Richmond, BC
Project No. 11800 (v2.0)**

We have enclosed one copy of the report titled *DRAFT Report of Findings – Biophysical Assessment – 9700 and 9740 Alexandra Road, Richmond, BC* (version 2.0). We are pleased to submit this report to the Polygon Construction. If you have any questions, please do not hesitate to contact us.

Sincerely,

Keystone Environmental Ltd.

DRAFT

Craig S. Patterson, B.Sc.
Project Manager

11800 140417 DRAFT Biophysical Assessment updated.docx

Encl.

**DRAFT REPORT OF FINDINGS
BIOPHYSICAL ASSESSMENT**

**9700 and 9740 Alexandra Road
Richmond, BC**

Prepared for:

**POLYGON DEVELOPMENT 296 LTD.
Suite 900 – 1333 West Broadway
Vancouver, BC
V6H 4C2**

Prepared by:

**KEYSTONE ENVIRONMENTAL LTD.
Suite 320 – 4400 Dominion Street
Burnaby, BC
V5G 4G3**

Telephone: 604-430-0671

Facsimile: 604-430-0672

www.keystoneenviro.com

Project No. 11800

April 2014

EXECUTIVE SUMMARY

Keystone Environmental Ltd. (Keystone Environmental) was contracted by Polygon Developments to conduct a Biophysical Assessment on a proposed development located at 9700 and 9740 Alexandra Road in Richmond, BC.

The objectives of this study were as follows:

- Conduct an environmentally-based literature and database search on the property and surrounding areas, including applicable fisheries, wildlife and habitat databases.
- Perform a Site reconnaissance to assess flora, fauna and habitat features, and the collection of applicable biophysical information and photographic documentation.
- Complete a report, which contains study findings, identifies potential habitat sensitivities, and provided recommendations.
- Develop and present an Environmental Balance Sheet, detailing and quantifying habitat currently present and comparing to future landscaping plans.
- Present within this report, advisement and recommendations on developing within an Environmentally Sensitive Area (ESA), as per City of Richmond bylaws.

An assessment of the Site was conducted on July 29, 2013 and on February 5, 2014, according to the City of Richmond's *Criteria for the Protection of Environmentally Sensitive Areas, 2001*. Tree species noted in the assessment included birch, pine, cherry, Douglas fir, cedar, apple and alder; in total, 65 trees were surveyed. Throughout the Site, a dense understory of shrubs and herbs were noted. Fauna observed on-Site included a variety of songbirds and other passerines; no mammals, amphibians or reptiles were noted on-Site. Barn owls and barred owls had been previously documented as roosting on-Site, however no evidence of owls was visible during the field surveys. In the comparison between vegetation currently present on-Site and the proposed landscaping (designed by ETA landscape architecture), the environmental balance sheet shows an improvement in habitat quality in the future development. Based on City bylaws and Site observations, a number of recommendations were made, with the general theme of retaining the trees on-Site habitat values and/or incorporating habitat values, such as songbird habitat into the proposed development.

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Appendix C	Conservation Data Centre Search Results
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LIST OF ACRONYMS

ASL	ABOVE SEA LEVEL
BC	BRITISH COLUMBIA
BEC	BIOGEOCLIMATIC ECOSYSTEM CLASSIFICATION SYSTEM
BMPs	BEST MANAGEMENT PRACTICES
CDC	BRITISH COLUMBIA CONSERVATION DATA CENTRE
CMN	COMMUNITY MAPPING NETWORK
COSEWIC	COMMITTEE ON THE STATUS OF ENDANGERED WILDLIFE IN CANADA
CWHxm	COASTAL WESTERN HEMLOCK VERY DRY MARITIME
DFO	FISHERIES AND OCEANS CANADA
EA	ENVIRONMENTAL ASSESSMENT
EOR	ELEMENT OCCURRENCE RECORD
ESA	ENVIRONMENTALLY SENSITIVE AREA
FISS	FISHERIES INFORMATION SUMMARY SYSTEM
MFLNRO	BRITISH COLUMBIA MINISTRY OF FORESTS, LANDS AND NATURAL RESOURCE OPERATIONS
MOE	BRITISH COLUMBIA MINISTRY OF ENVIRONMENT
OCP	OFFICIAL COMMUNITY PLAN
RISC	RESOURCE INVENTORY STANDARDS COMMITTEE
ROW	RIGHT-OF-WAY
SARA	<i>SPECIES AT RISK ACT</i>
SHIM	SENSITIVE HABITAT AND INVENTORY MAPPING
VEC	VALUED ECOSYSTEM COMPONENTS

1. INTRODUCTION

Keystone Environmental Ltd. (Keystone Environmental) was contracted by Polygon Development 296 Ltd., to conduct a Biophysical Assessment at 9700 and 9740 Alexandra Road, located in Richmond, BC (the Site). On these properties, the southern portion (approximately 9000 m²) is designated as an Environmentally Sensitive Area (ESA) (City of Richmond, 1999). These ESAs are identified as areas with ecological value, forming links between conservation areas/parks (in this case, between the ESA at Shell Road and the Nature Park), or are lands that are part of the Agricultural Land Reserve. The City has adopted the *Environmentally Sensitive Areas Guidelines, 1999* (and its companion document *Criteria for the Protection of Environmentally Sensitive Areas, 2001*) to conserve and protect ESAs. This report was prepared in response to the City of Richmond's requirement that an assessment be conducted prior to issuing a development permit approval, to address potential impacts to the Environmentally Sensitive Area (ESA). As required by these guidelines, with the aim of assessing the habitat values of these properties, an assessment of the vegetation and wildlife present was conducted.

1.1 Site Description

The Site is located on the south side of Alexandra Road between Garden City Road and No. 4 Road in the City of Richmond, BC. The Site is currently occupied by two residences, a duplex residence and a single residence. The Site is bordered to the north by Alexandra Road and by residential properties to the west, south and east, as shown on Figure 1 (Appendix A).

The stratigraphy of the Site consists of bog, swamp, and shallow lake deposits of postglacial age. This unit consists of lowland peat up to 8 m thick, in part overlying overbank sandy to silt loam over deltaic and distributary channel fill (Geological Survey of Canada Map 1486A, 1979).

The local groundwater flow direction may vary as a result of local conditions, such as topography, geology and the presence of drainage channels and buried utilities, and is subject to confirmation with field measurements. Based on the relatively flat local topography, the local groundwater flow direction is inferred to be variable and indeterminate. With the exception of drainage ditches (located adjacent to the north of the Site) the closest waterbody is the Middle Arm of the Fraser River, located approximately 1.8 km northwest of the Site.

1.2 Scope of Assessment

The scope of work for this study included the following tasks:

- Conduct an environmentally-based literature and database search on the property and surrounding areas including applicable fisheries, wildlife and habitat databases.
- Perform a Site reconnaissance to assess flora, fauna and habitat features, and the collection of applicable biophysical information and photographic documentation.
- Complete a report, identifying study findings, potential habitat sensitivities, and recommendations.

Spatial boundaries for this assessment included the proposed Site's footprint (approximately 1.2 ha) and surrounding habitats. The surrounding habitats were bordered by Alexandra Road to the north, Alderbridge Way to the south, housing and No. 4 Road to the east, and the open grass area of 9620/ 9626 Alexandra Road to the west. Temporal boundaries encompass the existing land use of the study area and the construction and post-construction phases of the project.

1.3 Regulatory Framework

Regulatory framework applicable to the project includes:

- City of Richmond Official Community Plan – Bylaw 7100, Environmentally Sensitive Area Guidelines, Section 9.6 – March 15, 1999
- Government of Canada *Species at Risk Act 2002* - Schedule 1
- Government of British Columbia *Wildlife Act 1996* – Sections 5, 6
- Government of Canada *Wildlife Act 1985*
- Government of Canada *Fisheries Act 2012*
- Government of Canada *Migratory Bird Convention Act 1994*

2. DESCRIPTION OF THE EXISTING ENVIRONMENT

The biophysical attributes of 9700 and 9740 Alexandra Road are described by major type: terrestrial flora and fauna and their habitats, including adjacent agricultural lands habitats with potential influence on terrestrial ecosystem composition.

Field investigations were used to confirm environmental information collected during the background literature review and to identify and record other potential Valued Ecosystem Components (VECs) that could be impacted by the proposed project. The likely presence of wildlife, birds, aquatic life and habitat at risk in the project area was also assessed during field surveys. Photographs, representing and describing the biophysical elements in the study area, are provided in Appendix B.

2.1 Terrestrial Flora and Fauna Background Information

Database, reference manual, and map searches were conducted to identify recorded ESAs or threatened and endangered species on-Site or in the vicinity using the following provincial and federal on-line databases:

- BC Ministry of Forests, Lands and Natural Resource Operations Conservation Data Centre (CDC) species lists and Element Occurrence Reports (EOR)
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
- Community Mapping Network (CMN) Sensitive Habitat and Inventory Mapping (SHIM)
- Environment Canada Species at Risk
- BC Biogeoclimatic Ecosystem Classification Map

The on-line search of the CDC database for known occurrences of rare wildlife, plants, and ecological communities within 5 km of the Site was conducted and revealed two records of an animal observation and two records of plant observations. Details of these four CDC EORs and a list of the BC Species and Ecosystems Explorer search results for species at risk with potential to occur in the study area are provided in Appendix C:

- An occurrence record for the northern water-meal (*Wolffia borealis*) was identified approximately 2 km south-east of the Site. This species is identified as Red Listed and was last observed in 1980. The plant is found in lakes, ponds, and open water habitats (MoE CDC, 2011a).
- An occurrence record for the Northern Red-legged Frog (*Rana aurora*) was identified approximately 2.2 km south of the Site. This species is identified as Blue-Listed and was last observed in 2004, when one adult, four juveniles and six unclassified frogs were observed in a backyard pond.
- Occurrence records (three) for the Vancouver Island beggarticks (*Bidens amplissima*) were identified approximately 2.5 km northeast, 1.8 km southeast and 1.7 km south of the Site. This species is identified as Blue-Listed and was last observed in 2012.
- An occurrence record for the white sturgeon (*Acipenser transmontanus*) was identified in the Fraser River, approximately 1.8 km east of the Site. This species is identified as Red-listed and was last observed in 2004. This species prefers broad, shallow side channels with cobble/gravel bars and islands (MoE CDC, 2013).

Vegetation and wildlife habitat units were identified using aerial photographic interpretation. Fieldwork conducted on July 29, 2013 and on February 5, 2014 involved further defining and confirming the unit's vegetation and wildlife characteristics. Vegetation was identified and described using Plants of Coastal British Columbia (Pojar and MacKinnon, 2004).

Wildlife surveys followed the British Columbia Resource Inventory Standards Committee (RISC) protocols and methodologies (RISC 1999, 1998). The focus of the wildlife assessment was to identify presence and/or potential breeding habitat for rare or threatened (i.e., Red- or Blue-listed) vertebrate and invertebrate animal species of management concern as listed by:

- The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (October, 2011)
- Schedule 1 of the *Species at Risk Act* (Government of Canada, 2002)
- the British Columbia Conservation Data Centre's Animal Tracking List for the Chilliwack Forest District (October, 2011)

Bird surveys focused on identifying the presence/not-detected status of rare birds listed in the CDC and COSEWIC lists. Habitat usage was evaluated by direct nest identification, faecal wash, prey remains, feathers or any other signs indicating that birds may inhabit the area. The searches were completed in order to verify active use within the Site's habitat units, primarily by raptors (i.e., hawks and owls), and/or by songbirds, herons or other bird species. Based on these visual observations, the occurrences of nests were classified as "present" or "not detected." Significant cavity trees and/or wildlife trees with the potential to serve as roosting sites were also investigated for diurnal and nocturnal bird presence and/or use.

Large (>500 grams) and small (<500 grams) mammal presence was recorded based on signs of presence: scat, tracks, forage/browse indicators, scrapings, and direct field observation/reported sightings. The terrestrial invertebrate and herpetofauna assessments involved identification of habitats (i.e., ponded/pooled water areas) typically used by species of management concern. Habitat units defined during the vegetation survey were cross-referenced with the life requisites of species of management concern (Red- or Blue-listed) to evaluate potential occurrence and habitat usage in the study area.

2.2 Vegetation Assemblages

The project area lies within the dry maritime subzone of the Coastal Western Hemlock (CWHxm) biogeoclimatic zone as indicated by the BC Biogeoclimatic Ecosystem Classification Map. The elevation limits range from sea level to approximately 900 m a.s.l. (Pojar *et al.*, 1991). The CWH zone is characterized by cool summers and mild winters. The forests are dominated primarily by western hemlock (*Tsuga heterophylla*) with frequent occurrences of western red cedar (*Thuja plicata*) throughout the zone south of 56°N latitude and Douglas-fir (*Pseudotsuga menziesii*) south of Dean Channel. Common deciduous trees include black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), red alder (*Alnus rubra*), and bigleaf maple (*Acer macrophyllum*). In the natural understorey of the CWH dry maritime subzone, the shrub layer is dominated by salal (*Gaultheria shallon*), dull Oregon-grape (*Mahonia nervosa*), and red huckleberry (*Vaccinium parvifolium*). Various species of moss and fern are also common throughout the zone.

Table 2-1 lists the provincial Red- and Blue-Listed species that could potentially occur in the study area. Table 2-2 lists the ecological communities at risk that could potentially occur in the study area. The potential for occurrence within the study area was based on database searches for species at risk occurring within the Chilliwack Forest District; Richmond is located within this district.

Table 2-1 Provincial Red- and Blue Listed Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Provincial Status	SARA Status	COSEWIC Status	Potential for Occurrence	Comments ¹
<i>Bidens amplissima</i>	Vancouver Island beggarticks	Blue	Special Concern	Special Concern	Yes	Previously observed 1.7km from the site. Frequently found in wetlands in the lower Fraser Delta and on Vancouver Island. It occupies a variety of wetland habitats including ditches, willow wetlands, old riverbeds, pond margins, streambanks, and tidal or non-tidal river edges.
<i>Fissidens pauperculus</i>	poor pocket moss	Red	Endangered	Endangered	No	There are no detailed published accounts of habitat for the species in BC. A description of habitat in Lynn Canyon as was a silty outcrop within a stream and a silt cliff.
<i>Lupinus rivularis</i>	streambank lupine	Red	Endangered	Endangered	No	Wet to moist meadows and riverbanks in the lowland zone.

¹ Habitat requisites were extracted from the BC Ministry of the Environment, Species and Ecosystem Explorer and Conservation Data Centre website, BC Conservation Data Centre: Species Summary Reports unless otherwise cited (CDC 2011a).

Table 2-2 Provincially Red- and Blue-listed Ecological Plant Communities Potentially Occurring in the Study Area

Scientific Name	Common Name	Provincial Status	Potential Occurrence in Study Area
<i>Carex lasiocarpa</i> - <i>Rhynchospora alba</i>	slender sedge - white beak-rush	Red	No
<i>Carex sitchensis</i> - <i>Oenanthe sarmentosa</i>	Sitka sedge - Pacific water-parsley	Blue	No
<i>Distichlis spicata</i> var. <i>spicata</i> Herbaceous Vegetation	seashore saltgrass Herbaceous Vegetation	Red	No
<i>Leymus mollis</i> ssp. <i>mollis</i> - <i>Lathyrus japonicus</i>	dune wildrye - beach pea	Red	No
<i>Myrica gale</i> / <i>Carex sitchensis</i>	sweet gale / Sitka sedge	Red	No
<i>Picea sitchensis</i> / <i>Rubus spectabilis</i> Very Dry Maritime	Sitka spruce / salmonberry Very Dry Maritime	Red	No
<i>Pinus contorta</i> / <i>Sphagnum</i> spp. Very Dry Maritime	lodgepole pine / peat-mosses Very Dry Maritime	Blue	No
<i>Populus trichocarpa</i> - <i>Alnus rubra</i> / <i>Rubus spectabilis</i>	black cottonwood - red alder / salmonberry	Blue	Yes
<i>Populus trichocarpa</i> / <i>Salix sitchensis</i>	black cottonwood / Sitka willow	Blue	No
<i>Pseudotsuga menziesii</i> / <i>Mahonia nervosa</i>	Douglas-fir / dull Oregon-grape	Red	No
<i>Pseudotsuga menziesii</i> - <i>Pinus contorta</i> / <i>Racomitrium canescens</i>	Douglas-fir - lodgepole pine / grey rock-moss	Red	No
<i>Pseudotsuga menziesii</i> / <i>Polystichum munitum</i>	Douglas-fir / sword fern	Blue	Yes
<i>Pseudotsuga menziesii</i> - <i>Tsuga heterophylla</i> / <i>Gaultheria shallon</i> Dry Maritime	Douglas-fir - western hemlock / salal Dry Maritime	Blue	Yes
<i>Rhododendron groenlandicum</i> / <i>Kalmia microphylla</i> / <i>Sphagnum</i> spp.	Labrador tea / western bog-laurel / peat-mosses	Blue	No
<i>Schoenoplectus acutus</i> Deep Marsh	hard-stemmed bulrush Deep Marsh	Blue	No
<i>Selaginella wallacei</i> / <i>Cladina</i> spp.	Wallace's selaginella / reindeer lichens	Blue	Yes
<i>Sidalcea hendersonii</i> Tidal Marsh	Henderson's checker-mallow Tidal Marsh	Red	No
<i>Thuja plicata</i> / <i>Carex obnupta</i>	western redcedar / slough sedge	Blue	No
<i>Thuja plicata</i> / <i>Lonicera involucrata</i>	western redcedar / black twinberry	Red	Yes

Scientific Name	Common Name	Provincial Status	Potential Occurrence in Study Area
<i>Thuja plicata</i> - <i>Picea sitchensis</i> / <i>Lysichiton americanus</i>	western redcedar - Sitka spruce / skunk cabbage	Blue	Yes
<i>Thuja plicata</i> / <i>Polystichum munitum</i> Very Dry Maritime	western redcedar / sword fern Very Dry Maritime	Blue	Yes
<i>Thuja plicata</i> / <i>Rubus spectabilis</i>	western redcedar / salmonberry	Red	Yes
<i>Thuja plicata</i> / <i>Tiarella trifoliata</i> Very Dry Maritime	western redcedar / three-leaved foamflower Very Dry Maritime	Blue	No
<i>Tsuga heterophylla</i> - <i>Pseudotsuga menziesii</i> / <i>Eurhynchium oregonum</i>	western hemlock - Douglas-fir / Oregon beaked-moss	Red	No
<i>Tsuga heterophylla</i> - <i>Thuja plicata</i> / <i>Blechnum spicant</i>	western hemlock - western redcedar / deer fern	Red	No
<i>Typha latifolia</i> Marsh	common cattail Marsh	Blue	No

2.3 Wildlife Habitat Units

Wildlife habitat was identified and defined during the fieldwork on July 29, 2013. Table 2-3 lists the plant species observed in the wildlife habitat.

Table 2-3 Plant Species Observed in the Study Area

Scientific Name	Common Name
Tree species	
<i>Alnus rubra</i>	red alder
<i>Betula papyrifera</i>	paper birch
<i>Thuja plicata</i>	western redcedar
<i>Pinus spp.</i>	pine
<i>Prunus spp.</i>	cherry
<i>Malus spp.</i>	apple
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Acer spp.</i>	Maple (small)
Shrub species	
<i>Rubus discolor</i>	Himalayan blackberry
<i>Sorbus sitchensis</i>	Sitka mountain-ash
<i>Rubus ursinus</i>	trailing blackberry
<i>Oemeleria cerasiformis</i>	Indian-plum
<i>Vaccinium alaskanse</i>	Alaskan blueberry
<i>Vaccinium ovalifolium</i>	Oval-leaved blueberry
<i>Gaultheria shallon</i>	Salal
<i>Ilex aquifolium</i>	European holly
Herb species	
<i>Pteridium aquilinum</i>	bracken fern
<i>Ranunculus occidentalis</i>	Western buttercup
<i>Equisetum arvense</i>	common horsetail
<i>Hedera spp.</i>	Ivy
<i>Lonicera hispidula</i>	Hairy honeysuckle
<i>Lonicera ciliosa</i>	Western trumpet honeysuckle
Convolvulaceae	Morning glory
<i>Spiraea douglasii</i>	Hardhack
<i>Chamerion angustifolium</i>	Fireweed
Moss species	
<i>Homalothecium fulgescens</i>	yellow moss
Lichens	
n/a	Unidentified hair lichen
Fungus	
<i>Ganoderma applanatum</i>	Bracket fungus

The City of Richmond requirements (*Environmentally Sensitive Areas Guidelines* (1999)) for a biophysical study include a survey of all trees present on the site. This survey requires the measurement of the diameter of the tree trunk at breast height (dbh), determining the height, marking the coordinates of each tree and noting the elevation. Figure 1 (Appendix A) and Table 2-4 identifies the results of the tree survey conducted on July 29, 2013.

Table 2-4 Trees Present in Study Area – July 29, 2013

Tree Species			Diameter (dbh, cm)	Height (m)	Latitude (°)	Longitude (°)	Elevation* (masl)
1	<i>Betula papyrifera</i>	Birch (Dead)	23 & 27	9.5	49.1774	123.1164	13.584
2	<i>Pinus spp.</i>	Pine	28	10.1	49.1774	123.1164	11.662
3	<i>Betula papyrifera</i>	Birch	50	8.7	49.1776	123.1161	4.932
4	<i>Betula papyrifera</i>	Birch	21 & 38	11.4	49.1776	123.1162	7.336
5	<i>Betula papyrifera</i>	Birch	32 & 30	13.9	49.1776	123.1160	5.173
6	<i>Betula papyrifera</i>	Birch	36	10.7	49.1776	123.1160	5.173
7	<i>Betula papyrifera</i>	Birch	37	12.9	49.1776	123.1160	3.971
8	<i>Betula papyrifera</i>	Birch	38	6.0	49.1774	123.1160	2.289
9	<i>Betula papyrifera</i>	Birch	5 x 26	2.2	49.1775	123.1160	4.211
10	<i>Betula papyrifera</i>	Birch	36 & 30	19.3	49.1775	123.1159	3.25
11	<i>Betula papyrifera</i>	Birch	23	19.3	49.1775	123.1159	3.01
12	<i>Betula papyrifera</i>	Birch	28	6.2	49.1776	123.1160	9.739
13	<i>Betula papyrifera</i>	Birch	24 & 18	10.7	49.1776	123.1159	8.297
14	<i>Betula papyrifera</i>	Birch	36	13.0	49.1776	123.1159	3.25
15	<i>Betula papyrifera</i>	Birch	24	7.7	49.1776	123.1158	6.615
16	<i>Betula papyrifera</i>	Birch	36	9.6	49.1777	123.1157	6.615
17	<i>Betula papyrifera</i>	Birch	17	7.7	49.1776	123.1157	4.211
18	<i>Betula papyrifera</i>	Birch	21	4	49.1776	123.1157	4.692
19	<i>Betula papyrifera</i>	Birch	27	16.8	49.1775	123.1158	-0.114
20	<i>Betula papyrifera</i>	Birch	40	18.4	49.1774	123.1158	4.211
21	<i>Betula papyrifera</i>	Birch	32	28.6	49.1775	123.1159	-0.595
22	<i>Betula papyrifera</i>	Birch	46 & 2 x 19	12.3	49.1775	123.1158	4.211
23	<i>Betula papyrifera</i>	Birch	36	16.1	49.1775	123.1158	2.529
24	<i>Betula papyrifera</i>	Birch	21	3.6	49.1775	123.1157	0.607
25	<i>Betula papyrifera</i>	Birch	28	10.5	49.1775	123.1156	3.731
26	<i>Betula papyrifera</i>	Birch	33 & 30	23.1	49.1776	123.1156	10.22
27	<i>Betula papyrifera</i>	Birch	35	33.2	49.1775	123.1156	10.7
28	<i>Betula papyrifera</i>	Birch	26	13.0	49.1775	123.1157	1.808
29	<i>Betula papyrifera</i>	Birch	23	9.5	49.1774	123.1156	1.087

	Tree Species		Diameter (dbh, cm)	Height (m)	Latitude (°)	Longitude (°)	Elevation* (masl)
30	<i>Betula papyrifera</i>	Birch	48 & 24	12.8	49.1775	123.1154	2.049
31	<i>Betula papyrifera</i>	Birch	36	18.6	49.1776	123.1155	3.49
32	<i>Betula papyrifera</i>	Birch	30	5.3	49.1776	123.1156	2.77
33	<i>Betula papyrifera</i>	Birch	22	16.3	49.1776	123.1156	2.289
34	<i>Prunus spp.</i>	Cherry	27	10.5	49.1774	123.1152	2.529
35	<i>Prunus spp.</i>	Cherry	48	17.3	49.1776	123.1154	2.049
36	<i>Prunus spp.</i>	Cherry	26	12.5	49.1776	123.1155	4.932
37	<i>Betula papyrifera</i>	Birch	43	13.2	49.1777	123.1155	3.971
38	<i>Betula papyrifera</i>	Birch	25	13.3	49.1777	123.1154	7.095
39	<i>Betula papyrifera</i>	Birch	2 x 25	14.5	49.1779	123.1156	5.413
40	<i>Betula papyrifera</i>	Birch	30	15.5	49.1780	123.1156	-3.479
41	<i>Prunus spp.</i>	Cherry	29	16.3	49.1780	123.1154	-2.037
42	<i>Prunus spp.</i>	Cherry	46	17.0	49.1780	123.1153	n/a
43	<i>Pseudotsuga menziesii</i>	Douglas Fir	90	29.0	49.1787	123.1151	2.529
44	<i>Pseudotsuga menziesii</i>	Douglas Fir	80	11.7	49.1788	123.1152	-1.316
45	<i>Thuja plicata</i>	Cedar	60	21.6	49.1784	123.1152	0.126
46	<i>Malus spp.</i>	Apple	2 x 26, 3 x 14	11.0	49.1779	123.1153	3.731
47	<i>Prunus spp.</i>	Cherry	17 & 15 & 12	11.0	49.1779	123.1153	2.289
48	<i>Betula papyrifera</i>	Birch	30 & 14	9.5	49.1779	123.1153	3.731
49	<i>Betula papyrifera</i>	Birch	17	7.8	49.1778	123.1153	n/a
50	<i>Betula papyrifera</i>	Birch	22 & 13	10.6	49.1778	123.1153	10.22
51	<i>Prunus spp.</i>	Cherry	23	14.7	49.1778	123.1153	9.979
52	<i>Prunus spp.</i>	Cherry	22	19.1	49.1778	123.1153	10.22
53	<i>Prunus spp.</i>	Cherry	17 & 10	12.8	49.1777	123.1153	n/a
54	<i>Betula papyrifera</i>	Birch	29	13.0	49.1779	123.1156	n/a
55	<i>Betula papyrifera</i>	Birch	40	25.0	49.1778	123.1152	1.087
56	<i>Alnus rubra</i>	Alder	16	8.2	49.1778	123.1152	13.104
57	<i>Betula papyrifera</i>	Birch	28	12.9	49.1777	123.1153	13.344
58	<i>Betula papyrifera</i>	Birch	31	22.6	49.1776	123.1151	9.979
59	<i>Betula papyrifera</i>	Birch	24	9.4	49.1777	123.1150	12.623
60	<i>Betula papyrifera</i>	Birch	33	10.4	49.1776	123.1151	11.662
61	<i>Betula papyrifera</i>	Birch	21	12.3	49.1780	123.1160	8.778
62	<i>Betula papyrifera</i>	Birch	20	10.0	49.1780	123.1159	6.374
63	<i>Pseudotsuga menziesii</i>	Douglas Fir	34	18.8	49.1780	123.1158	2.049
64	<i>Betula papyrifera</i>	Birch	17	7.1	49.1778	123.1163	14.305
65	<i>Betula papyrifera</i>	Birch	21	10.2	49.1779	123.1161	13.104

*masl = metres above sea level

Note: For some trees, more than one trunk was assessed if the sum was greater than 15 cm.

2.3.1 Habitat Area 1 – Hardhack-Fireweed-Blackberry Open Habitat

The Hardhack-Fireweed-Blackberry vegetative area encompassed about one-sixth of the site, situated north of the deciduous forest, south of the edge of the residential area (lawn) as indicated on the Habitat Survey (Figure 1, Appendix A). Hardhack (*Spiraea douglasii*) and fireweed (*Chamerion angustifolium*) composed the dominant shrub layer in the central part of this area, with thick brambles of blackberries (*Rubus discolor*) on the edges. The absence of overstorey tree vegetation limits songbird nesting habitat, but the hardhack thickets may be used for cover and feeding by species such as flycatchers (Tyrannidae), bushtits (*Psaltiriparus minimus*), and black-capped chickadees (*Poecile atricapillus*). Where the over-storey opens and plant species diversity is higher under the tall shrubs, small mammals may find forage and cover habitat, however none were observed.

2.3.2 Habitat Area 2 – Deciduous-Dominated Mixed Community

This vegetative area encompassed about two-thirds of the site as indicated on the Habitat Survey (Figure 1, Appendix A). Vegetation was dominated by a mature tree canopy composed of paper birch (*Betula papyrifera*), with minor components of ornamentals such as cherry (*Prunus spp.*) and apple trees (*Malus spp.*). Coniferous trees were rare, including western red cedar (*Thuja plicata*), pine (*Pinus spp.*) and Douglas fir (*Pseudotsuga menziesii*) that were intentionally planted by homeowners. Epiphytes (mosses and lichens) were prominent on trunks and branches. Epiphytic growth on wildlife trees may also provide songbird shelter and thermal protection.

Numerous wildlife trees, including snags or dead stands, were scattered throughout the study area. Wildlife trees may provide nesting and perching locations for foraging raptors (including owls), while the cavities may provide roosting and nesting opportunities for secondary cavity nesters. The abundance of fruited vegetation in the understorey provided potential food for song birds and small mammal species.

The dominant shrub layer consisted of Himalayan blackberry (*Rubus discolor*) and Sitka mountain-ash (*Sorbus sitchensis*) throughout the forested area. The Himalayan blackberry, an invasive species, had formed thickets which precluded other native species from establishing. Also present in the shrub layer, Indian-plum (*Oemleria cerasiformis*) and salal (*Gaultheria shallon*) provide food for song-birds and small mammals. The herbaceous layer in the forested area (where breaks in the canopy allowed for sunlight penetration) was dominated by bracken fern (*Pteridium aquilinum*).

2.4 February 2014 Vegetation Survey

In order to augment our July 2013 Habitat Survey, detailed vegetation survey was conducted on February 5, 2014. Three quadrats (approximately 10m by 10m square) in Habitat 2 were randomly selected in the field (Figure 1, Appendix A). Once the quadrats were marked out, the quadrat was traversed in a systematic fashion, by walking parallel transects, roughly east to west, equally spaced across the quadrat. Plants on the south side of the transect line were identified and counted, and the quadrat was traversed in this manner until the north side of the quadrat was reached. Three quadrats, one generally in the center of Habitat 2 (102 m²), one in the west portion (85 m²) and one in the east portion (61 m²) were surveyed to represent the variations in vegetation in Habitat 2.

In order to generalize the vegetation present across Habitat 2, the results of the vegetation survey were extrapolated. Plant species counts were totaled across the three quadrats, then multiplied by a ratio of the total area of Habitat 2 (8,254 m²) over the total area surveyed (248 m²) to extrapolate the counts and represent the entire area of Habitat 2. Figure 1 (Appendix A) shows the location of the three quadrats sampled.

It is understood that February is not the preferred time of year to be conducting a vegetation survey. However, using bark, branching patterns, and leaf buds to identify plants, the results show that generally those plants that were present during the July 2013 survey were still present during the February 2014 survey.

The results of this vegetation survey are presented below in Table 2-5. These counts were then extrapolated to reflect the entire Habitat 2 (Deciduous-Dominated Mixed Community); see section 3.2 for further details.

Since Habitat 1 was generally impenetrable due to the dense growth of blackberries, a smaller area (1m by 1m) of hardhack and fireweed was counted, and the blackberry density was extrapolated assuming a maximum density of 525 canes/m² (California Invasive Plant Council, 2014) was present in nine-tenths of Habitat 1. It is understood that the blackberry is an invasive species, and is undesirable as vegetation cover and wildlife habitat.

Table 2-5 Vegetation Present in Study Quadrats – February 5, 2014

		Species Counts		
Common Name	Scientific Name	Quadrat 1 (centre) Area = 101.65 m	Quadrat 2 (East) Area = 85 m ²	Quadrat 2 (West) Area = 61 m ²
Trees				
Birch	<i>Betula papyrifera</i>	17	10	12
Western White Pine	<i>Pinus monticola</i>	1	-	-
Red Alder	<i>Alnus rubra</i>	1	-	-
Bitter Cherry	<i>Prunus emarginata</i>	1	2	10
Shrubs				
Himalayan blackberry	<i>Rubus discolor</i>	40025*	10	25620*
Oval-leaved blueberry	<i>Vaccinium ovalifolium</i>	98	-	-
Mountain Ash	<i>Sorbus sitchensis</i>	8	23	2
Alaskan Blueberry	<i>Vaccinium alaskanse</i>	31	-	-
Indian Plum	<i>Oemeleria cerasiformis</i>	5	10	-
Raspberry	<i>(Rubus idaeus / Rubus strigosus)</i>	4	31	11
Pacific yew	<i>Taxus brevifolia</i>	-	1	1
Un-identified Blueberry	<i>Vaccinium spp</i>	-	1	7
Holly	<i>Ilex aquifolium</i>	-	19	19
Groundcover				
Bracken Fern	<i>Pteridium aquilinum</i>	1	-	1
Ivy	<i>Hedera spp.</i>	1	319*	-

Note: Counts indicated with an asterisk are estimated from percent cover.

A secondary goal of the February 2014 Site visit was to investigate any current evidence of owls (barn owls (*Tyto alba*) and barred owls (*Strix varia*)) using the Site for roosting and hunting. Trees of a suitable size (>51 cm dbh [Allen, 1987]) required for owls to roost were not present on Site. Any evidence of habitat use by owls ("white-wash" i.e., feathers at the base of the tree, owl regurgitate i.e. pellets) was not noted on Site, nor were any small mammal burrows noted. Conversations with the resident indicated that they had seen owls flying between the residences on-Site in a north-south direction in the early mornings and evenings recently and frequently within the past year.

2.5 Wildlife

Wildlife utilization of a specific habitat area may be determined by a combination of field surveys (July 29, 2013 and February 5, 2014) and a review of the capability and suitability of habitat to support wildlife (RISC 1999). The BC Wildlife Habitat Rating Standards define “Habitat **Capability**” as the ability of a habitat, under the optimal natural (seral) conditions, to provide life requisites for a species irrespective of the current condition of the habitat. “Habitat **Suitability**” is defined as the ability of a habitat in its current condition to provide the life requisites of a species.

Two classification systems are used in conjunction to describe wildlife utilization within BC, the Ecoregion Classification System (ESC) and the Biogeoclimatic Ecosystem Classification (BEC) system (RISC 1999). The ESC is used to differentiate wildlife utilization within physiographically distinct units sustaining similar BEC components to complement the BEC system (Meidinger and Pojar, 1991).

Significant sampling effort would be required to ensure that all wildlife species within a study area are identified, therefore the assessment was limited to review of the habitat suitability to sustain wildlife based on an evaluation of habitat units (Meidinger and Pojar 1991). Site assessment used the known requirements of specific species of interest (RISC 1999) to evaluate suitability. The assessment of wildlife habitat values was undertaken primarily during transect sampling. Wildlife habitat attributes, direct observations, and incidental observations were recorded at the time of the field survey.

The application of direct and incidental observations to the assessment of wildlife suitability of the area was limited by the time of year during which the observations were made, providing only a qualitative “snap-shot” measure of wildlife species and diversity. The observations also enabled identification of habitats for critical life requirements (i.e., breeding) for various wildlife species. Other habitat attributes located within and adjacent to the Site were considered as they pertain to species of concern life requisites for breeding, such as canopy structure, percent cover, coarse woody debris and standing snags using methodology outlined in the MoF Handbook No. 25 (2010).

Habitat/vegetation units for the study area were defined and each unit was cross-referenced and rated for its value to potentially present wildlife species of concern using methodologies outlined in RISC 1999. Wildlife species were chosen based on each species’ life requirements

and the habitat available on or immediately surrounding the Site relative to the species of focus (i.e., plot-in-context). Species-specific surveys (i.e., trapping, electrofishing, or other population study methods or RISC sampling protocols) were not conducted at the time of the field survey.

Table 2-6 presents the wildlife species at risk that have the potential to occur in the study area. Potential breeding and/or forage habitat was found to be present for 6 of the 25 species on-Site.

2.5.1 Birds

Black-capped chickadee (*Poecile atricapillus*), flickers (*Colaptes auratus*), cedar waxwings (*Bombycilla cedrorum*), robins (*Turdus migratorius*), red-tailed hawk (*Buteo jamaicensis*) and goldfinches (*Carduelis spp.*) were sighted in the deciduous forest. During the July 29, 2013 field survey, two nests were sighted in birch trees in the central portion of the deciduous forest. They were observed for approximately 20 minutes with no birds observed using the nest, and no evidence nest being active was observed (i.e., white wash, feathers, etc.). An active flicker nest was observed within a dead birch hollow along the Alexandra Rd. right-of-way and adjacent to the west of the Site. No raptors, or evidence of, were observed during the field survey.

The presence of barn owls (*Tyto alba*) and barred owls (*Strix varia*) has been documented by owl specialist Sofi Hindmarch in 2010 on the Site utilizing the trees as roosts. While evidence of the presence of owls was not noted during the July 29, 2013 or the February 5, 2014, residents have spotted owls flying through the area recently.

2.5.2 Herpetofauna (Amphibians and Reptiles)

No amphibian or reptilian species were observed during the field surveys.

2.5.3 Small Mammals

Adult and juvenile muskrats (*Ondatra zibethicus*) were noted in the ditch immediately adjacent to 9740 Alexandra Rd. (Figure 1, North side), just beyond the property line, during the July 29, 2013 field survey. No small mammals were sighted on-Site during either field survey.

Table 2-6 Provincial Red- and Blue-listed Animal Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Provincial Status	SARA Status	COSEWIC Status	Habitat Features Present	Comments ¹
<i>Accipiter gentilis laingi</i>	northern goshawk, laingi subsp.	Red	Threatened	Threatened	No	Occupies coastal western hemlock and coastal Douglas-fir forests with large stands of mature trees and dense canopies, but with open understoreys.
<i>Brachyramphus marmoratus</i>	marbled murrelet	Blue	Threatened	Threatened	No	Found in coastal areas, mainly in salt water within 2 km of shore, including bays and sounds; not uncommon up to 5 km offshore.
<i>Contopus cooperi</i>	olive-sided flycatcher	Blue	Threatened	Threatened	Yes	Most nesting sites contain dead standing trees. During the northern winter, this species occurs in a variety of forest, woodland, and open situations with scattered trees, especially where tall dead snags are present.
<i>Falco peregrinus anatum</i>	peregrine falcon, anatum subsp.	Red	Threatened	Special Concern	No	Typically nest on rock cliffs above lakes or river valleys where abundant prey is nearby.
<i>Megascops kennicottii kennicottii</i>	western screech-owl, kennicottii subsp.	Blue	Special Concern	Special Concern	Yes	Found in varied habitats including semi-open woodlands, treed suburban areas, and cactus desert. Generally found at lower elevation forested areas close to water.
<i>Patagioenas fasciata</i>	band-tailed pigeon	Blue	Special Concern	Special Concern	Yes	North American Coastal populations usually found below 1000 m in a variety of forest types, especially pine-oak, spruce, fir, Douglas-fir, redwood, cedar, hemlock and alder.
<i>Strix occidentalis</i>	spotted owl	Red	Endangered	Endangered	No	Dense forest and deep wooded canyons; generally in mature stands or old growth. Nests on broken tree tops, cliff ledges, and natural tree cavities/platforms.

Scientific Name	Common Name	Provincial Status	SARA Status	COSEWIC Status	Habitat Features Present	Comments ¹
<i>Tyto alba</i>	barn owl	Blue	Special Concern	Threatened	Yes	Prefers low elevation open country; especially agricultural areas, such as open fields, grasslands, farmsteads and orchards. Sometimes along edges of open woodlands and grassy estuaries and occasionally spotted in suburban areas. Use of suitable foraging habitat is limited by nest cavity requirements. Most often nests are located in human-made structures such as in wooden barns, concrete silos, church spires, airport hangers, water towers, bridges and nest boxes.
<i>Catostomus spp. 4</i>	Salish sucker	Red	Endangered	Endangered	No	Found in lakes, reservoirs, or small, lowland streams.
<i>Rhinichthys cataractae</i>	nooksack dace	Red	Endangered	Endangered	No	Riverine species. Adult habitat is riffles, typically with a loose coarse-gravel Substrate.
<i>Aplodontia rufa rufa</i>	mountain beaver, rufa subsp.	Blue	Special Concern	Special Concern	No	Associated with coniferous, mixed, and red alder forests on moist slopes or hillsides. It is commonly found near small streams or seeps.
<i>Sorex bendirii</i>	pacific water shrew	Red	Endangered	Endangered	No	Generally found in riparian and wetland habitats associated with skunk cabbage marshes, red alder riparian habitat, and dense wet forests of western red cedar.
<i>Danaus plexippus</i>	monarch	Blue	Special Concern	Special Concern	Yes	Utilises patches of milkweed for breeding in North America.
<i>Euphyes vestries</i>	dun skipper	Blue	Threatened	Threatened	No	Generally found in wetlands riparian zones, and grassland.
<i>Allogona townsendiana</i>	Oregon forestsnail	Red	Endangered	Endangered	Yes	Occupies mixed wood and deciduous forests, typically dominated by bigleaf maple.
<i>Chrysemys picta</i> pop. 1	western painted turtle - Pacific Coast pop. 1	Red	Endangered	Endangered	No	Aquatic species found in the shallow waters of ponds, lakes, marshes, and slow-moving stream reaches. Suitable wetlands have muddy substrates, an abundance of emergent vegetation, and numerous basking sites, such as logs and accessible banks.

Scientific Name	Common Name	Provincial Status	SARA Status	COSEWIC Status	Habitat Features Present	Comments ¹
<i>Rana pretiosa</i>	Oregon spotted frog	Red	Endangered	Endangered	No	Highly aquatic frog generally avoids dry uplands. It is rarely found far from permanent quiet water. Usually it occurs in vegetated shallows or grassy margins of streams, lakes, and ponds.
<i>Anaxyrus boreas</i>	Western Toad	Blue	Special Concern	Special Concern	No	Observed in a variety of aquatic and terrestrial habitats. They breed in shallow, littoral zones of lakes, temporary and permanent pools and wetlands, bogs and fens, and roadside ditches (i.e., toads may be found in all lacustrine and palustrine habitats).
<i>Ascaphus truei</i>	Coastal Tailed Frog	Blue	Special Concern	Special Concern	No	Clear, cold swift-moving mountain streams with coarse substrates. Primarily in older forest sites.
<i>Rana aurora</i>	Northern Red-legged Frog	Blue	Special Concern	Special Concern	No	Previously observed 2.2km from the site. Observed in a variety of aquatic and terrestrial habitats. They breed in shallow, littoral zones of lakes, temporary and permanent pools and wetlands, and bogs and fens regardless of size but in close proximity to forest.
<i>Aplodontia rufa rainieri</i>	mountain beaver, rainieri subsp.	Blue	Special Concern	Special Concern	No	Only common beavers have been observed in the surrounding wetlands and are trapped and removed where they create dams that may impinge stormwater flow.
<i>Ardea herodias fannini</i>	great blue heron, fannini subsp.	Blue	Special Concern	Special Concern	No	Observed in area foraging. The species is known to nest up to five kilometres from foraging grounds.
<i>Asio flammeus</i>	short eared owl	Blue	Special Concern	Special Concern	No	Broad expanses of open land with low vegetation for nesting and foraging are required.

¹ Habitat requisites were extracted from the BC Ministry of the Environment, Species and Ecosystem Explorer and Conservation Data Centre website, BC Conservation Data Centre: Species Summary Reports unless otherwise cited (CDC 2011a).

2.5.4 Large Mammals

No direct observations of large mammals occurred during the field surveys. Connectivity between the ESA on Site and the surrounding areas is limited to the south (Alderbridge Way is a busy, four-lane thoroughfare), the north (dense housing complex) and east (No. 4 Road is also a busy, multi-lane street); to the west, contiguous forest is broken by the open grass field on the next property. Due to the discontinuity of forest, the habitat range required by large mammals is not present on-Site.

2.5.5 Invertebrates

Flying insects such as dragonflies (Odonata) and butterflies (Lepidoptera) were observed in the study area during the July 29, 2013 field survey. One of the butterfly sightings was tentatively identified as a monarch butterfly (*Danaus plexippus*) or a viceroy butterfly (*Limenitis archippus*). Based on the area's habitat attributes, the Site has the potential to be butterfly habitat (open meadow), although it is not ideal monarch butterfly habitat (no milkweed present). Given that foraging opportunities for either the monarch or the viceroy butterfly are very limited in the area, this invertebrate species at risk are unlikely to be resident within the project footprint.

Table 2-7 lists all animal species observed during the field survey or on previous occasions in the study area.

Table 2-7 Animal Species Observed/Reported in the Study Area

Scientific Name	Common Name	Sign Observed
Mammals		
<i>Ondatra zibethicus</i>	Muskrat	Sighted in ditch in front of property
Birds		
<i>Parus atricapillus</i>	Black capped chickadee	Call /Sighted
<i>Colaptes auratus</i>	Flicker	Sighted
<i>Bombycilla cedrorum</i>	Cedar waxwing	Sighted
<i>Turdus migratorius</i>	Robin	Sighted
<i>Carduelis spp.</i>	Goldfinch	Sighted
Trochilidae	Hummingbird	Sighted
<i>Buteo jamaicensis</i>	Red-tailed hawk	Sighted

3. ENVIRONMENTAL BALANCE SHEET

3.1 Introduction

At the City of Richmond's request, an environmental balance sheet to parameterized the current habitat on Site, and compare it to the future habitat as designed by ETA landscape architecture (Figure 2, Appendix A), was conducted. While the City of Richmond does not have a structured environmental balance sheet in place with which to evaluate habitats, suggestions (pers. comm. Kaitlin Kazmierowski, January 22, 2014) included:

- area extent of habitat present, removed, replaced
- number trees present, removed, replaced
- area extent of enhancement
- comments on the intent of the enhancement (e.g. species selected to enhance use by birds for example)

In order to collect the data required for the environmental balance sheet, a vegetation survey was conducted on February 5, 2014 (Section 2.4).

3.2 Development of Environmental Balance Work Sheet

Based on the guidance provided by the City of Richmond, 20 parameters were selected for use in the Environmental Balance Sheet.

1. Percentage planted area/ total area

- For the current scenario, this was the sum of the areas of Habitat 1 and 2 (9,419 m²) over the total area (12,136 m²)
- For the future scenario, this was the sum of the Habitat buffer and Planted area throughout the Site (1,960 m²) over the total area (12,136 m²)
- For this parameter, if the future scenario was greater than the current scenario it scores a "+1"; if the future scenario is less than the current scenario, it scores a "-1"

2. Density of planting (plants/ total area)

- Either the extrapolated number of plants currently present on-Site or the total number of plants planned in the landscapers drawing, over the total area of the Site

- If the future scenario was greater than the current scenario it scores a “+1”; if the future scenario is less than the current scenario, it scores a “-1”

3. Density of planting (plants/ planted area)

- The extrapolated number of plants currently present or the total number of plants planned in the landscapers drawing, over the total planted area of the Site (9,419 m² currently, 1,960 m² in the future)
- If the future scenario was greater than the current scenario it scores a “+1”; if the future scenario is less than the current scenario, it scores a “-1”.

4. Number of habitats present

- Currently on-Site, two distinct habitats are present (Hardhack-Fireweed-Blackberry Open Habitat and Deciduous-Dominated Mixed Community)
- In the landscaper’s drawing, planned habitats include natural habitat buffers on the east, south and west sides of the Site, flowering gardens, and a rock garden/bioswale
- Lawns are not included as habitats
- If the future scenario was greater than the current scenario it scores a “+1”; if the future scenario is less than the current scenario, it scores a “-1”.

5. Number of desirable trees

- The total number of trees either present or planned that were not paper birch¹.
- If the future scenario was less than the current scenario it scores a “+1”; if the future scenario is greater than the current scenario, it scores a “-1”

6. Percentage of invasive species

- The total number of invasive plants (blackberry species, holly, ivy) over the total number of plants (current and future)
- If the future scenario was less than the current scenario it scores a “+1”; if the future scenario is greater than the current scenario, it scores a “-1”

¹ The paper birch is not considered to be a desirable tree due to its propensity to become infested with bronze birch borer beetle (*Agrilus anxius*), resulting in reduced health of the trees and possibly death.

7. Plant species diversity

- A count of the number of species present/planned
- If the future scenario was greater than the current scenario it scores a “+1”; if the future scenario is less than the current scenario, it scores a “-1”

8. Percentage of plants on City of Richmond's 'recommended' list

- As part of City of Richmond's *Criteria for the Protection of Environmentally Sensitive Areas* (2001) and the current guideline for assessing developments, 50% of the plants should be those listed under ‘Native Plants Recommended for Planting’
- Current and future species lists scored “+1” for having greater than 50% of the listed plants, a score of “0” was rated if 50% to 20% of the plants present/listed were on the list, and “-1” if less than 20% of the plants were on recommended list

9. Percentage of native plants/total plants

- Native plants are important to sustaining BC's ecosystems, and hence are advantageous/recommended
- Current and future species lists scored “+1” for having greater than 50% native plants, a score of “0” was rated if 50% to 20% of the plants present/listed were native, and “-1” if less than 20% of the plants were native

10. Percentage of fruit bearing plants/total plants

- Fruit-bearing plants provide a food source for songbirds and other desirable wildlife
- Current and future species lists scored “+1” for having greater than 50% fruit-bearing plants, a score of “0” was rated if 50% to 20% of the plants present/listed were fruit-bearing, and “-1” if less than 20% of the plants were fruit-bearing

11. Percentage of flowering plants/total plants

- Flowering plants provide a food source for pollinators such as butterflies and bees
- Current and future species lists scored “+1” for having greater than 50% flowering plants, a score of “0” was rated if 50% to 20% of the plants present/listed were flowering, and “-1” if less than 20% of the plants were flowering

12. Average tree height

- The average height of all the trees was calculated (survey conducted July 2013)
- Tree height is an important component of suitable habitat for songbirds; an average tree height of 15 m or greater is required for the habitat to be suitable for black-capped chickadees (Schroeder, 1983)
- If the tree height average is 15 m or greater it scores a “+1”; if it’s less than 15 m, it scores a “0”

13. Number of trees

- A count of the number of trees was tallied (conducted July 2013)
- If the future scenario was greater than the current scenario it scores a “+1”; if the future scenario is less than the current scenario, the “-1”

14. Number of trees >51cm (diameter at breast height [dbh])/ planted area (ha)

- The diameter of all the trees was measured (survey conducted July 2013)
- Tree diameter is an important component of suitable habitat for owls; a tree diameter of 51 cm or greater is required for barred owls to roost in, and five or more tree of this size are required for the area to contain suitable habitat (Allen, 1987)
- If five or more trees have diameters of 51 cm or greater, the scenario scores a “+1”; if it’s less than the required criteria, it scores a “0”

15. Number of snags >51cm (at dbh)/ planted area (ha)

- Dead trees (snags) with a tree diameter of 51 cm or greater can also serve as habitat for barred owls (Allen, 1987). Note: barred owls were assumed to be a good surrogate species for barn owls
- If five or more trees have diameters of 51 cm or greater, the scenario scores a “+1”; if it’s less than the required criteria, it scores a “0”

16. Number of snags between 10 - 25cm (at dbh)/ planted area (ha)

- Tree diameter is an important component of suitable habitat for chickadee reproduction; an average tree diameter of 10 to 25 cm is required, and five or more trees of this size are required for the area to contain suitable habitat (Schroeder, 1983)

- If five or more trees have diameters of 10 to 25 cm, the scenario scores a "+1"; if it's less than the required criteria, it scores a "0"

17. Percentage of canopy closure (area/total area)

- Canopy cover was estimated from aerial photographs and landscapers drawings
- Adequate canopy cover provides for suitable feeding and refuge habitat for chickadees (Schroeder, 1983)
- If canopy cover was 50 to 75% it scored a "+1"; if it's less than 50%, it scores a "0"

18. Planted area vs robin home range

- The minimum home range of the American robin is 70 m² (Environment Canada, 2012)
- If the planted area was 70 m² or greater it scored a "+1"; if it's less than 70 m², it scores a "0"

19. Planted area vs chickadee home range

- The average home range of the chickadees is 20,000 m² (Schroeder, 1983)
- If the planted area was 20,000 m² or greater it scored a "+1"; if it's less than 20,000 m², it scores a "0"

20. Planted area vs barred owl home range (barred owls were assumed to be a good surrogate species for barn owls)

- The average home range of the barred owl is 2.3 km² (Allen, 1987)
- If the planted area was 2.3 km² or greater it scored a "+1"; if it's less than 2.3 km², it scores a "0"

Within each parameter, the scores were evaluated ("+" / "-"), and then (if applicable) the score from the future scenario was subtracted from the current scenario for all parameters. All parameters were weighted evenly.

3.3 Results and Recommendations

The comparison of the current vegetation and the future planned landscape is presented in Table 3-1.

Table 3-1 Environmental Balance Sheet

		Positive +1	Neutral 0	Negative -1	Current		Future	
					value	score	value	score
1	Percentage planted area/ total area	Future> Current	-	Future< Current	78%	-	16%	-
2	Density of planting (plants/ total area)	Future> Current	-	Future< Current	230	-	0.98	-
3	Density of planting (plants/ planted area)	Future> Current	-	Future< Current	296	-	6.0	-
4	Number of habitats present	Future> Current	-	Future< Current	2	-	3	-
5	Number of desirable trees (i.e. not birch)	Future< Current	-	Future> Current	49	-	0	-
6	Percentage of invasive species	Future< Current	-	Future> Current	99%	-	0%	-
7	Plant species diversity (i.e. number of species)	Future> Current	-	Future< Current	27	-	51	-
8	Percentage of plants on City of Richmond's 'recommended' list	> or = 50%		<50%	0.4%	-1	29%	-1
9	Percentage of native plants/total plants	>50%	50-20	<20	0.7%	-1	54%	+1
10	Percentage of fruit bearing plants/total plants	>50%	50-20	<20	99%	+1	31%	0
11	Percentage of flowering plants/total plants	>50%	50-20	<20	99%	+1	76%	+1
12	Average tree height (m)	15m	<15m	0	13.4	0	44.5	+1
13	Number of trees	Future> Current	Future< Current	-	65	-	118	-
14	Number of trees >51cm (at dbh)/ planted area (ha)	> or = 5	<5	-	3	0	0	0
15	Number of snags >51cm (at dbh)/ planted area (ha)	> or = 5	<5	-	0	0	0	0
16	Number of snags between 10 - 25cm (at dbh)/ planted area (ha)	> or = 5	<5	-	14	+1	0	0
17	Percentage of canopy closure (area/total area)	50-75%	1 - 49%	0%	~60%	+1	5%	0
18	Planted area vs robin home range	> 70m ²	< 70m ²	-	>	+1	>	+1
19	Planted area vs chickadee home range	> 20,000m ²	< 20,000m ²	-	<	0	<	0
20	Planted area vs barred owl home range	> 2.3km ²	< 2.3m ²	-	<	0	<	0
	SUM					3		5
	+/-							2

It is understood the proposed development will have a reduced vegetated area. Currently, 9,149 m² is vegetated, while future landscaping plans estimate 1,960 m² will be vegetated (these area totals do not include maintained lawn). Vegetated areas are currently dominated by Himalayan blackberry, an invasive species that prevents native species from spreading and flourishing, and birch trees that are prone to birch borer infestation. Replacement of these problematic plant species with native plants is considered a benefit to wildlife habitat on-Site and on surrounding areas.

Additional habitat benefits of the proposed landscape plan include:

- More diverse habitat types and vegetation species present.
- Vegetated buffers around Site provide wildlife habitat and maintain connectivity to adjacent properties.
- Invasive plant (i.e., Himalayan blackberries, ivy and holly) removal and management plan to prevent re-establishment of invasive plants.
- Increased number and variety of both fruiting and flowering plants in the area, and improved habitat values present.
- Planned stormwater management system to direct stormwater to dedicated areas on-Site, providing wetted areas and habitat diversity.

4. RECOMMENDATIONS

Based on the biophysical assessment conducted, the following are recommendations for future Site development planning to mitigate the effects associated with vegetation clearing:

- Fruit-bearing shrubs such as trailing blackberry (*Rubus ursinus*) provide songbird food source and habitat. Retention of these shrubs during development, or designing planting designs to include native species, such as thimbleberry/salmonberry (*Rubus spp.*) and red-osier dogwood (*Comus sericea*), rather than ornamentals would improve the likelihood of songbirds continuing to reside in this habitat.
- Since songbirds have been identified on-Site, it is recommended that the future planting plan focus on the enhancement of the landscaping as habitat for songbird and other pollinators (such as bees, butterflies and dragonflies). Increasing the size of the vegetation strip between this Site and the adjacent property to the west, 9580-9680 Alexandra Road (also currently planned for development), and at the southern edge of the properties (bordering Alderbridge Way), would increase the both the square area of habitat, as well as a habitat refuge corridor, where songbirds would be less likely to be disturbed by predators such as domestic cats. Pollinators such as mason bees (*Osmia spp.*) could also be encouraged to frequent the property and pollinate the flowers with the placement of mason bee homes.
- The Migratory Birds Convention Act (1994) protects songbirds, such as waxwings and flickers, from harm. Consideration for these species during construction must be given, including abstaining from removing trees during nesting period (so as not to kill nestlings) and not depositing substances that are harmful to migratory birds on-Site.
- Incorporating replacement wildlife tree snags amongst vegetated areas in the final development plan can replace the many birch trees and snags present on-Site that provide wildlife habitat.
- Recommendations for planting to provide food sources (seeds, insects, fruits) and roosting habitat for songbirds include the following vegetation species:

Scientific Name	Common Name
Deciduous Trees	
<i>Acer circinatum</i>	vine maple
<i>Acer macrophyllum</i>	big leaf maple
<i>Alnus rubra</i>	red alder
<i>Amelanchier canadensis</i>	serviceberry
<i>Betula papyrfera</i>	Paper birch
<i>Crataegus douglasii</i>	black hawthorn
<i>Malus fusca</i>	Pacific crabapple
Coniferous Trees	
<i>Picea sitchensis</i>	Sitka spruce
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Thuja plicata</i>	Western red cedar
Shrubs	
<i>Cornus sericea</i>	red-osier dogwood
<i>Cornus stolonifera</i>	red-twig dogwood
<i>Myrica pensylvanica</i>	bayberry
<i>Oemleria cerasiformis</i>	Indian plum
<i>Ribes sanguinem</i>	red flowering currant
<i>Rosa rugosa</i>	rose
<i>Rubus parviflorus</i>	thimbleberry
<i>Rubus spectabilis</i>	salmonberry
<i>Sambucus racemosa</i>	red elderberry
<i>Sorbus sitchensis</i>	Sitka mountain-ash
<i>Symphoricarpus albus</i>	snowberry
Herbaceous Cover	
<i>Epilobium angustifolium</i>	fireweed
<i>Mainantheum dilatatum</i>	false-lily -of the-valley
<i>Fritillaria camschatcensis</i>	black lily
<i>Fritillaria lanceolata</i>	chocolate lily
<i>Cornus canadensis</i>	bunchberry
<i>Fragaria chiloensis</i>	coastal strawberry
<i>Arctostaphylos uva-ursi</i>	kinnikinnick

- Plantings should be in accordance with the City of Richmond's *Criteria for the Protection of Environmentally Sensitive Areas* (2000). While this guidance is now out-dated, the City of Richmond still evaluates planning plans against the plant species listed in 'Native Plants Recommended for Planting', and requires that at least 50% of the proposed plant species be from that list.
- Retention of the mountain-ash/birch setback from Alderbridge Way as required by the City of Richmond. The City's *Criteria for the Protection of Environmentally Sensitive Areas* indicates that "All development across the road from sites designated as an agricultural land reserves must provide a minimum of 5 m (16.4 feet) landscaped strip as measured from the back of curb, or, in the case of an unopened road, from the property line abutting the road right of way."
- Retention or development of green space, particularly as corridors between adjacent green spaces, is recommended in order to improve connectivity of habitats. In addition, ideally plantings in these green spaces would include native plant species and be representative of the forest successional stages and current habitats present on Site (i.e., plantings of fireweed and hardhack for butterfly habitat, forested areas with understory for songbird and small mammal habitat). All planting is required to conform to "BCSLA/BCNTA planting standards," as per the City of Richmond (1999).
- Connectivity of vegetation corridors to allow for migration of birds and mammals, which in turn improves biodiversity, should be considered as part of the proposed landscaping plans. Since the Site and the neighbouring Site (9580-9680 Alexandra Road, adjacent to the west) are undergoing development at the same time, green space is planned to be maximized by abutting the vegetation perimeters of the two properties, doubling the vegetated square area and exponentially improving the wildlife habitat potential.
- In order to develop the Site into multi-family residences, the Site will require pre-load fill in order for the soil present to support the new development and elevate the grade. As such, much of the current vegetation on-Site will require removal; one Douglas fir in the centre of the Site will be retained (as per landscapers design) and is should be protected by establishing a perimeter about the trunk, preventing preload from damaging the roots. Prior to Site clearing, liaison with Richmond's Tree Preservation Coordinator should occur, with the aim of identifying other significant trees (especially healthy trees and those important for wildlife) for their preservation or future replacement.

- As barn owls and barred owls were previously documented as on-Site, and still use the corridor between residents as part of their flight path, considerations to create owl habitat during construction would improve the future habitat. These considerations could include the construction of one or more free standing barn owl nest boxes, (i.e. on top of telephone-type poles, 4 metres above the ground), preferably towards the south end of the Site, situated near an open area, and with a 15m buffer of rough vegetation to provide some minimal cover for the owl (and to help prevent vandalism). These nest boxes should be cleaned out every few years, in order to maintain the nesting area within the nest box. Also, the addition of more wild features in the landscaping, particularly in the vicinity of the nest box, such as undergrowth, rough grass and dead trees/brush, was also recommended to improve the habitat for owls in the area. If building nest boxes on the property are not possible, the possibility of constructing nest boxes off-Site in suitable habitat should be explored.
- A project invasive plant species management plan should be created to mitigate potential adverse effects to the park following Site clearing activities, with these areas re-seeded with native seed mixes and planted with native shrubs, as soon as possible after disturbance to discourage the re-establishment of invasive species. The Himalayan blackberry should be cleared from the Site, and prevented from re-establishing. Dense plantings of native species are another possible means of preventing re-introduction of invasive species. A management/ maintenance and monitoring plan should be implemented that covers the first three years after installation. The plan should incorporate sufficient instructions for the future land owners to continue appropriate monitoring and maintenance (trimming, removal of invasive species) of the landscaped areas.
- On-Site stormwater management is recommended, including bioswales, permeable sidewalks and water features that incorporate stormwater flow into water features. Current plans present a “natural element” that will have rain leaders that lead to a rock bed and provide habitat for animal species, as well as a bioswales in the border between this development and the proposed development adjacent (to the west). Incorporating bioswales and wetlands provide multiple benefits to the Site: (a) stormwater runoff is managed, which minimizes erosion and diminishes the “flash” of water influx into the stormwater system (as well as minimizing the total volume of water that enters the stormwater system), (b) the demand for irrigation is reduced, and (c) the diversity of the habitats present on the property increases, resulting in an increase in wildlife diversity.

5. PROFESSIONAL STATEMENT

This report has been prepared and reviewed by Keystone Environmental Ltd.² approved personnel who have the credentials and knowledge of the applicable public laws, regulations and/or policies which apply to this report.

Findings presented in this report are based upon (i) reviews of available documentation and discussions with available personnel and regulatory representatives, (ii) review of available records and the terms and conditions for the planned construction, and (iii) observations of the Site and surrounding lands. Consequently, while conclusions and recommendations documented in this report have been prepared in a manner consistent with that level of care and skill normally exercised by other members of the environmental science and engineering profession, practising under similar circumstances in the area at the time of the performance of the work, this report is intended to provide information and to suggest mitigative strategies to reduce, but not necessarily eliminate, the potential for environmental impacts to occur as a result of planned construction activities at the Site. This report is meant to be a living and flexible document that can be used to provide guidance in the environmental assessment process.

This report has been prepared solely for the internal use of Polygon Development pursuant to the agreement between Keystone Environmental Ltd. and the Polygon Development as its submittal to the City of Richmond for the use by its Environmental Review Committee. By using this report, Polygon Development and the City of Richmond agree that they will review and use the report in its entirety. Any use which other parties make of this report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

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We certify that the work described herein fulfills standards acceptable of a Professional Biologist.

April 17, 2014
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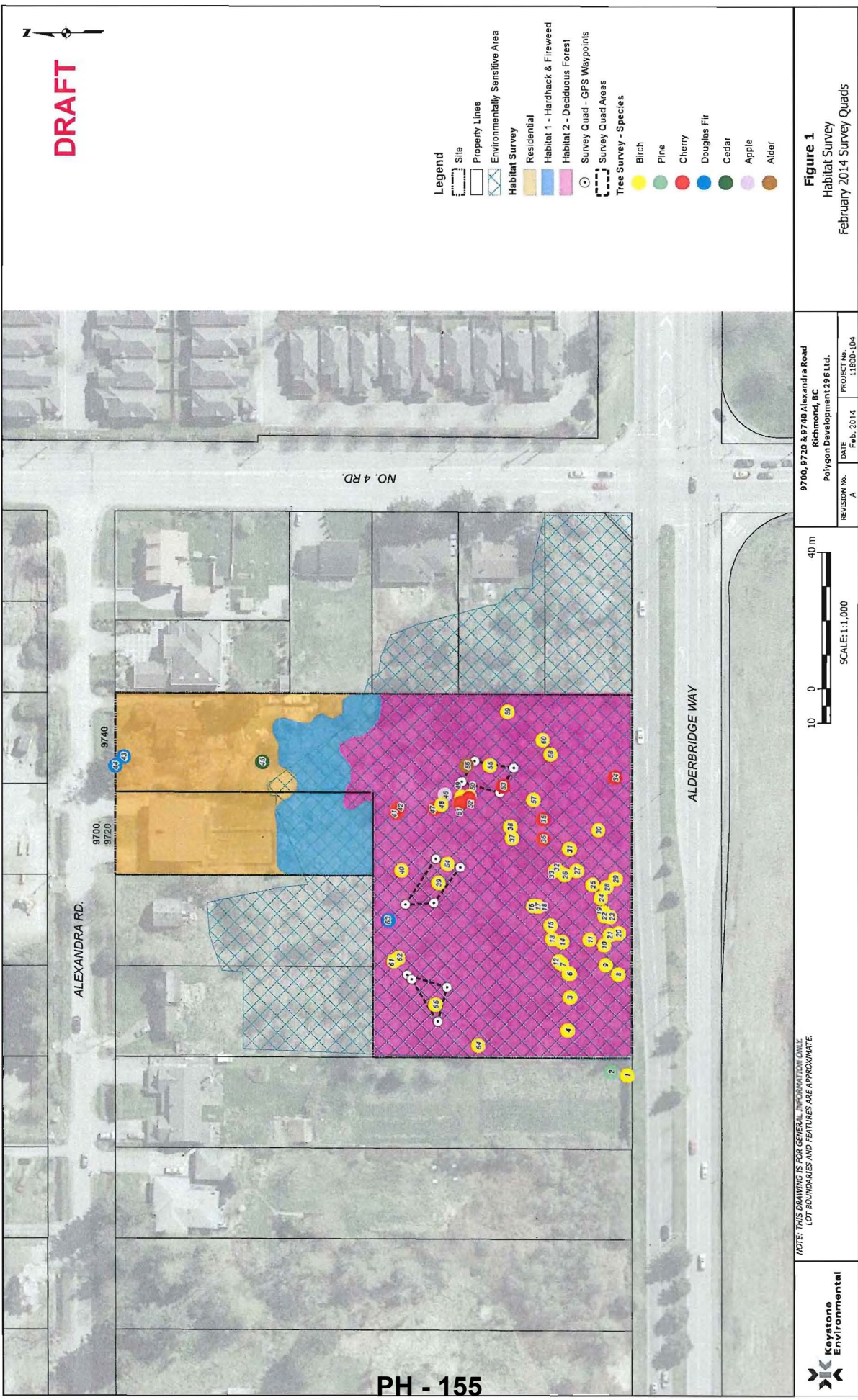
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APPENDIX A

FIGURES



DRAFT

- Legend**
- Site
 - Property Lines
 - Environmentally Sensitive Area
 - Habitat Survey
 - Residential
 - Habitat 1 - Hardhack & Fireweed
 - Habitat 2 - Deciduous Forest
 - Survey Quad - GPS Waypoints
 - Survey Quad Areas
 - Tree Survey - Species
 - Birch
 - Pine
 - Cherry
 - Douglas Fir
 - Cedar
 - Apple
 - Alder



NOTE: THIS DRAWING IS FOR GENERAL INFORMATION ONLY.
LOT BOUNDARIES AND FEATURES ARE APPROXIMATE.

DRAWN BY: JM Document Path: L:\11800-11800\Phase 000104 - BioPhys Asst\Figs\Jan. 2014\11800-104-Fig1-Habitat Survey Feb 2014 Update-RA.mxd



REVISION No.	A	DATE	Feb. 2014	PROJECT No.	11800-104
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Figure 1
Habitat Survey
February 2014 Survey Quads



POLYGON

eta

1000 West 2nd Avenue
Denver, CO 80202

1. $PE_1 = 1.476$
 2. $PE_2 = 1.473$
 3. $PE_3 = 1.473$

JAYDEN MENS

Richmond, BC

CONCEPTUAL AREAS

LAYOUT

Project #:	21322	Sheet No.	06	Scale	1" = 20'-0"	Project Title	L1.0
Project Manager	DT/CGB	Drawn By	DT	Checked By		Date	08.13.2013

EIA Code:
 074212
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APPENDIX B

PHOTOGRAPHIC PLATES



Photograph 1: Mixed deciduous-dominant forest habitat composed predominately of birch.
A dense understorey of blackberries and mountain-ash is evident.



Photograph 2: Dense understory of Himalayan and Oval-leaved Blackberries present throughout Habitat 2.



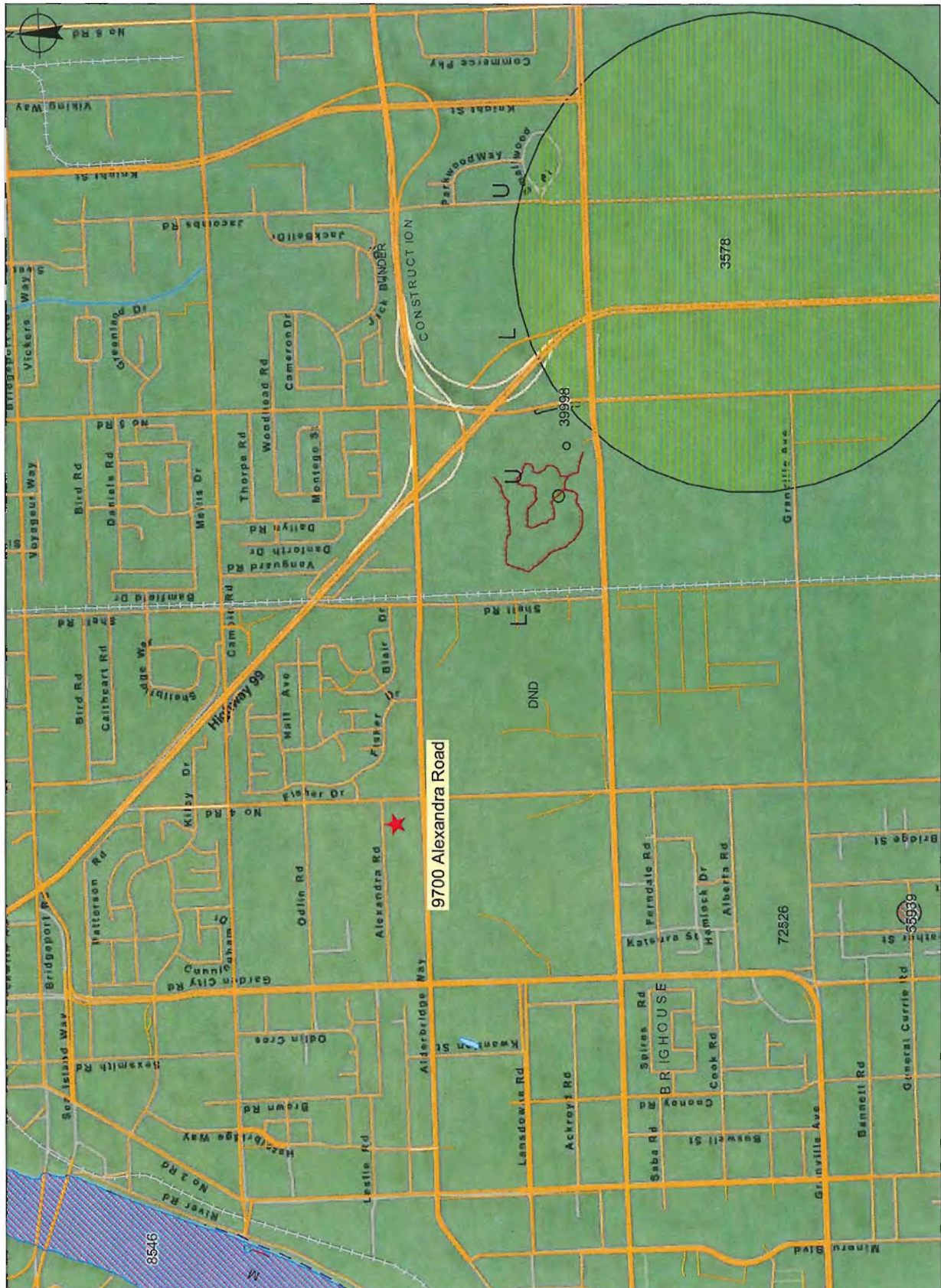
Photograph 3: Looking south from the Residential area (lawn) to Habitat 1 – fireweed/hardhack/blackberries (foreground) and Habitat 2 – Deciduous forest (background). Snags were present throughout Habitat 2, and nests were sighted in two trees.



Photograph 4: Snag along the adjacent property and road right of way to the west had two nesting cavities. A brood of flicker fledglings were sighted here during the field survey.

APPENDIX C

CONSERVATION DATA CENTRE SEARCH RESULTS



BC Species and Ecosystems Explorer Search Results

Scientific Name	English Name	Provincial	BC List	Status			Global	CF Priority
				COSEWIC	SARA			
<i>Accipiter gentilis laingi</i>	Northern Goshawk, <i>laingi</i> subspecies	S2B (2010)	Red	T (2013)	1-T (2003)	G5T2 (2008)		1
<i>Acipenser medirostris</i>	Green Sturgeon	S1N (2004)	Red	SC (1987)	1-SC (2006)	G3 (2004)		2
<i>Allogona townsendiana</i>	Oregon Forestsnail	S1S2 (2008)	Red	E (2013)	1-E (2005)	G3G4 (2010)		1
<i>Anaxyrus boreas</i>	Western Toad	S3S4 (2010)	Blue	SC (2012)	1-SC (2005)	G4 (2008)		2
<i>Aplodontia rufa rainieri</i>	Mountain Beaver, <i>rainieri</i> subspecies	S3 (2006)	Blue	SC (2012)	1-SC (2003)	G5T4 (1996)		1
<i>Aplodontia rufa rufa</i>	Mountain Beaver, <i>rufa</i> subspecies	S3 (2006)	Blue	SC (2012)	1-SC (2003)	G5T4? (1996)		2
<i>Ardea herodias fannini</i>	Great Blue Heron, <i>fannini</i> subspecies	S2S3B,S4N (2009)	Blue	SC (2008)	1-SC (2010)	G5T4 (1997)		1
<i>Ascaphus truei</i>	Coastal Tailed Frog	S3S4 (2010)	Blue	SC (2011)	1-SC (2003)	G4 (2004)		1
<i>Asio flammeus</i>	Short-eared Owl	S3B,S2N (2009)	Blue	SC (2008)	1-SC (2012)	G5 (2008)		2
<i>Bidens amplissima</i>	Vancouver Island beggarticks	S3 (2008)	Blue	SC (2001)	1-SC (2003)	G3 (1988)		1
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	S3B,S3N (2010)	Blue	T (2012)	1-T (2003)	G3 (2013)		1
<i>Catostomus</i> sp. 4	Salish Sucker	S1 (2010)	Red	T (2012)	1-E (2005)	G1 (2011)		1
<i>Chrysemys picta</i> pop. 1.	Painted Turtle - Pacific Coast Population	S2 (2012)	Red	E (2006)	1-E (2007)	G5T2 (2007)		2
<i>Contopus cooperi</i>	Olive-sided Flycatcher	S3S4B (2009)	Blue	T (2007)	1-T (2010)	G4 (2008)		2
<i>Danaus plexippus</i>	Monarch	S3B (2013)	Blue	SC (2010)	1-SC (2003)	G5 (2011)		2
<i>Euphyes vestris</i>	Dun Skipper	S2 (2013)	Red	T (2013)	1-T (2003)	G5 (2006)		2
<i>Falco peregrinus anatum</i>	Peregrine Falcon, <i>anatum</i> subspecies	S2?B (2010)	Red	SC (2007)	1-SC (2012)	G4T4 (2006)		2
<i>Fissidens pauperculus</i>	poor pocket moss	S1 (2011)	Red	E (2011)	1-E (2003)	G3? (2012)		2
<i>Haliotis kamtschatkana</i>	Northern Abalone	S2 (2002)	Red	T (2000)	1-T (2003)	G3G4 (2010)		2
<i>Lupinus rivularis</i>	streambank lupine	S1 (2009)	Red	E (2002)	1-E (2005)	G2G4 (2009)		1
<i>Megascops kennicottii</i>	Western Screech-Owl,	S3 (2009)	Blue	T (2012)	1-SC	G5T4		1

<i>kennicottii</i>	<i>kennicottii</i> subspecies				(2005)	(2003)	
<i>Patagioenas fasciata</i>	Band-tailed Pigeon	S3S4B (2009)	Blue	SC (2008)	1-SC (2011)	G4 (2000)	2
<i>Rana aurora</i>	Northern Red-legged Frog	S3S4 (2010)	Blue	SC (2004)	1-SC (2005)	G4 (2008)	1
<i>Rana pretiosa</i>	Oregon Spotted Frog	S1 (2010)	Red	E (2011)	1-E (2003)	G2 (2011)	1
<i>Rhinichthys cataractae</i> - <i>Chehalis lineage</i>	Nooksack Dace	S1 (2010)	Red	E (2007)	1-E (2003)	G3 (1996)	1
<i>Sorex bendirii</i>	Pacific Water Shrew	S1S2 (2010)	Red	E (2006)	1-E (2003)	G4 (2011)	1
<i>Strix occidentalis</i>	Spotted Owl	S1 (2009)	Red	E (2008)	1-E (2003)	G3 (2007)	2
<i>Tyto alba</i>	Barn Owl	S3 (2009)	Blue	T (2010)	1-SC (2003)	G5 (1996)	2

Search Summary

Time Thu Jul 25 12:58:35 PDT 2013

Performed

Results 28 records.

Search Search Type: Plants & Animals

Criteria AND BC Conservation Status:Red (Extirpated, Endangered, or Threatened) OR Blue (Special Concern)
AND SARA Schedule 1 Status:True OR Provincial Wildlife Act Status:True
AND COSEWIC Status:Endangered OR Threatened OR Special Concern
AND Forest Districts:Chilliwack Forest District (DCK) (Restricted to Red, Blue, and Legally designated species)
AND MOE Regions:2- Lower Mainland (Restricted to Red, Blue, and Legally designated species)
AND Regional Districts: Metro Vancouver (MVRD) (Restricted to Red, Blue, and Legally designated species)
AND BGC Zone:CWH
Sort Order:Scientific Name Ascending

Notes 1. Citation: B.C. Conservation Data Centre. 2013. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed Jul 25, 2013).

2. Forest District, MoE Region, Regional District and habitat lists are restricted to species that breed in the Forest District, MoE Region, Regional District or habitat (i.e., species will not be placed on lists where they occur only as migrants).

BC Species and Ecosystems Explorer Search Results

Scientific Name	English Name	Biogeoclimatic Units	Status			Identified Wildlife	Land Use Objectives	CF Priority
			Provincial	BC List	Global			
<i>Carex lasiocarpa</i> - <i>Rhynchospora alba</i>	slender sedge - white beak-rush	CDFmm/Wf53 CWHmm1/Wf53 CWHmm2/Wf53 CWHxm1/Wf53 CWHxm2/Wf53	S2 (2004)	Red	G2			1
<i>Carex sitchensis</i> - <i>Oenanthe sarmientosa</i>	Sitka sedge - Pacific water-parsley	CWHvh2/Wm50 CWHwm/Wm50 CWHxm1/Wm50	S3 (2004)	Blue	G3		Haida Gwaii LUO	2
<i>Distichlis spicata</i> var. <i>spicata</i> Herbaceous Vegetation	seashore saltgrass Herbaceous Vegetation	CDFmm/Em03 CWHxm1/Em03	S2S3 (2008)	Red	GNR (2008)			2
<i>Leymus mollis</i> ssp. <i>mollis</i> - <i>Lathyrus japonicus</i>	dune wildrye - beach pea	CDFmm CWHdm CWHds1 CWHms2 CWHvh1 CWHvh2 CWHvm CWHvm1 CWHwh1 CWHwm CWHws1 CWHxm1 CWHxm2	S1S2 (2008)	Red	GNR			1
<i>Myrica gale</i> / <i>Carex sitchensis</i>	sweet gale / Sitka sedge	CDFmm/Wf52 CWHmm1/Wf52 CWHmm2/Wf52 CWHvh2/Wf52 CWHwm/Wf52 CWHxm1/Wf52 CWHxm2/Wf52	S2 (2004)	Red	G3		Haida Gwaii LUO	3
<i>Picea sitchensis</i> / <i>Rubus spectabilis</i> Very Dry Maritime	Sitka spruce / salmonberry Very Dry Maritime	CWHxm1/08 CWHxm2/08	S2 (2004)	Red	G3		Central and North Coast LUO South Central Coast LUO	2
<i>Pinus contorta</i> / <i>Sphagnum</i> spp. Very Dry Maritime	lodgepole pine / peat-mosses Very Dry Maritime	CWHxm1/11 CWHxm2/11	S3 (2004)	Blue	GNR			3
<i>Populus trichocarpa</i> - <i>Alnus rubra</i> / <i>Rubus spectabilis</i>	black cottonwood - red alder / salmonberry	CDFmm/08 CWHdm/09 CWHds1/09 CWHds2/09 CWHmm1/09 CWHms1/08 CWHms2/08 CWHvm1/10 CWHwm/06 CWHws1/08 CWHws2/08 CWHxm1/09 CWHxm2/09	S3 (2010)	Blue	GNR		Central and North Coast LUO South Central Coast LUO	2
<i>Populus trichocarpa</i> / <i>Salix sitchensis</i>	black cottonwood / Sitka willow	CWHdm/10 CWHxm1/10 CWHxm2/10	S2S3 (2004)	Blue	GNR		Central and North Coast LUO South Central Coast LUO	2

<i>Pseudotsuga menziesii</i> / <i>Mahonia nervosa</i>	Douglas-fir / dull Oregon-grape	CDFmm/01 CWHxm1	S2 (2010)	Red	G2	Y		1
<i>Pseudotsuga menziesii</i> - <i>Pinus contorta</i> / <i>Racomitrium canescens</i>	Douglas-fir - lodgepole pine / grey rock-moss	CWHxm1/02	S2 (2004)	Red	GNR			2
<i>Pseudotsuga menziesii</i> / <i>Polystichum munitum</i>	Douglas-fir / sword fern	CWHdm/04 CWHxm1/04 CWHxm2/04	S2S3 (2013)	Blue	G2G4		Central and North Coast LUO South Central Coast LUO	2
<i>Pseudotsuga menziesii</i> - <i>Tsuga heterophylla</i> / <i>Gaultheria shallon</i> Dry Maritime	Douglas-fir - western hemlock / salal Dry Maritime	CWHdm/03 CWHxm1/03 CWHxm2/03	S2S3 (2013)	Blue	G3G4		Central and North Coast LUO South Central Coast LUO	2
<i>Rhododendron groenlandicum</i> / <i>Kalmia microphylla</i> / <i>Sphagnum</i> spp.	Labrador tea / western bog-laurel / peat-mosses	CDFmm/Wb50 CWHdm/Wb50 CWHxm1/Wb50 CWHxm2/Wb50	S3 (2004)	Blue	G4			4
<i>Schoenoplectus acutus</i> Deep Marsh	hard-stemmed bulrush Deep Marsh	BGxh1/Wm06 BGxh2/Wm06 BGxw1/Wm06 BGxw2/Wm06 CDFmm/Wm06 CWHxm1/Wm06 ICHwk1/Wm06 IDFdk1/Wm06 IDFdk3/Wm06 IDFdk4/Wm06 IDFdk5/Wm06 IDFdm2/Wm06 IDFmw1/Wm06 IDFxm1/Wm06 IDFxm2/Wm06 IDFxm/Wm06 IDFxm/Wm06 MSdk/Wm06 MSdm2/Wm06 PPxh1/Wm06 PPxh2/Wm06 PPxh3/Wm06 SBPSmk/Wm06 SBPSxc/Wm06 SBSmk2/Wm06	S3 (2004)	Blue	G5			4
<i>Selaginella wallacei</i> / <i>Cladina</i> spp.	Wallace's selaginella / reindeer lichens	CDF CWHxm1 CWHxm2	S3	Blue	GNR			
<i>Sidalcea hendersonii</i> Tidal Marsh	Henderson's checker-mallow Tidal Marsh	CWHxm1/00	S1 (2004)	Red	G1			1
<i>Thuja plicata</i> / <i>Carex obnupta</i>	western redcedar / slough sedge	CWHdm/15 CWHxm1/15 CWHxm2/15	S2S3 (2013)	Blue	GNR			2
<i>Thuja plicata</i> / <i>Lonicera involucrata</i>	western redcedar / black twinberry	CWHdm/14 CWHxm1/14 CWHxm2/14	S1 (2010)	Red	GNR		Central and North Coast LUO South Central Coast LUO	1

<i>Thuja plicata</i> - <i>Picea sitchensis</i> / <i>Lysichiton americanus</i>	western redcedar - Sitka spruce / skunk cabbage	CWHdm/12 CWHds1/12 CWHds2/12 CWHmm1/12 CWHms1/11 CWHms2/11 CWHvh1/13 CWHvh2/13 CWHvm1/14 CWHwh1/12 CWHwh2/06 CWHws1/11 CWHxm1/12 CWHxm2/12	S3? (2004)	Blue	G3?	Central and North Coast LUO South Central Coast LUO	3
<i>Thuja plicata</i> / <i>Polystichum munitum</i> Very Dry Maritime	western redcedar / sword fern Very Dry Maritime	CWHxm1/05 CWHxm2/05	S2S3 (2009)	Blue	GNR	Central and North Coast LUO South Central Coast LUO	2
<i>Thuja plicata</i> / <i>Rubus spectabilis</i>	western redcedar / salmonberry	CWHdm/13 CWHxm1/13 CWHxm2/13	S1S2 (2009)	Red	GNR	Central and North Coast LUO South Central Coast LUO	1
<i>Thuja plicata</i> / <i>Tiarella trifoliata</i> Very Dry Maritime	western redcedar / three-leaved foamflower Very Dry Maritime	CWHxm1/07 CWHxm2/07	S2S3 (2013)	Blue	G3	Central and North Coast LUO South Central Coast LUO	2
<i>Tsuga heterophylla</i> - <i>Pseudotsuga menziesii</i> / <i>Eurhynchium oreganum</i>	western hemlock - Douglas-fir / Oregon beaked-moss	CWHxm1/01 CWHxm2/01	S2 (2013)	Red	G3G4	Central and North Coast LUO South Central Coast LUO	2
<i>Tsuga heterophylla</i> - <i>Thuja plicata</i> / <i>Blechnum spicant</i>	western hemlock - western redcedar / deer fern	CWHdm/06 CWHxm1/06 CWHxm2/06	S2 (2013)	Red	G2G3	Central and North Coast LUO South Central Coast LUO	2
<i>Typha latifolia</i> Marsh	common cattail Marsh	BGxh1/Wm05 BGxh2/Wm05 BGxw1/Wm05 BWBSmw/Wm05 CDFmm/Wm05 CWHdm/Wm05 CWHxm1/Wm05 CWHxm2/Wm05 IDFdk1/Wm05 IDFdk2/Wm05 IDFdk3/Wm05 IDFdk5/Wm05 IDFdm1/Wm05 IDFdm2/Wm05 IDFmw1/Wm05 IDFmw2/Wm05 IDFxh1/Wm05 IDFxh2/Wm05 IDFxx/Wm05 PPdh2/Wm05 PPxh1/Wm05 PPxh2/Wm05	S3 (2004)	Blue	G5		1

Search Summary

Time Performed Fri Jul 26 09:38:52 PDT 2013

Results 26 records.

Search Criteria Search Type: Ecological Communities
AND BC Conservation Status:Red (Extirpated, Endangered, or Threatened) OR Blue (Special Concern)
AND Forest Districts:Chilliwack Forest District (DCK)
AND MOE Regions:2- Lower Mainland
AND Municipalities: Richmond
AND BGC Zone, Subzone, Variant, Phase:CWHxm1
Sort Order:Scientific Name Ascending

Notes 1. Citation: B.C. Conservation Data Centre. 2013. BC Species and Ecosystems Explorer. B.C. Minist. of Environ. Victoria, B.C. Available: <http://a100.gov.bc.ca/pub/eswp/> (accessed Jul 26, 2013).

2. Biogeoclimatic Site Unit(s): This column indicates the BGC unit(s) on which each ecological community is known to occur (future inventories may indicate range extensions). The two digit number following the slash (01 and up) indicates that the ecological community occurs on a site series that is part of the B.C. Ministry of Forests (MOF) site series classification (see [MOF Regional Field Guides to Site Identification and Interpretation](#) for more information). A two digit number of '00' indicates that the ecological community occurs on a site unit that is not part of the MOF site series classification but is recognized from other vegetation and site classifications, and ecosystem mapping projects.

[Modify Search](#) | [New Search](#) | [Results](#)

APPENDIX D

KEYSTONE ENVIRONMENTAL LTD. GENERAL TERMS AND CONDITIONS FOR SERVICES

KEYSTONE ENVIRONMENTAL LTD.
GENERAL TERMS AND CONDITIONS FOR SERVICES

The terms and conditions set forth below govern all work or services requested by CLIENT as described and set forth in the Proposal of Keystone Environmental Ltd. ("Keystone") attached hereto, any Purchase Order issued by CLIENT or Agreement between Keystone and CLIENT. The provisions of said Proposal or Agreement govern the scope of services to be performed, including the time schedule, compensation, and any other special terms. The terms and conditions contained herein shall otherwise apply expressly stated to the contract or inconsistent with said Proposal or Agreement.

1. COMPENSATION

Unless otherwise stated in Keystone's Proposal, CLIENT agrees to compensate Keystone in accordance with Keystone's published rate schedules in effect on the date when the services are performed. Copies of the schedules currently in effect are attached hereto. Keystone's rate schedules are revised periodically; and Keystone will notify CLIENT of any such revisions and the effective date thereof which shall not be less than thirty (30) days after receipt of such notice. As to those services for which no schedule exists, Keystone shall be compensated on a time and materials basis as set forth in any change order executed pursuant to this Agreement.

2. PAYMENT

Unless otherwise agreed to in writing, invoices will be submitted monthly. Payment of invoices is due within thirty (30) days of receipt of the invoice. Invoices not paid within (30) days after date of receipt shall be deemed delinquent.

3. INDEPENDENT CONTRACTOR

Keystone shall be an independent contractor and shall be fully independent in performing the services of work and shall not act or hold themselves out as an agent, servant or employee of CLIENT.

4. KEYSTONE'S LIMITED WARRANTY

The sole and exclusive warranty which Keystone makes with respect to the services to be provided in the performance of the work is that they shall be performed in accordance with generally accepted professional practices and CLIENT's standards and specifications to the extent accepted by Keystone and shall be performed in a skillful manner.

In the event Keystone's performance of work, or any portion thereof, fails to conform with the above stated limited warranty, Keystone shall, at its discretion and its expense, proceed expeditiously to reperform the nonconforming, or upon the mutual agreement of the parties, refund the amount of compensation paid to Keystone for such nonconforming work. In no event shall Keystone be required to bear the cost of gaining access in order to perform its warranty obligations.

5. CLIENT WARRANTY

CLIENT warrants that: it will provide to Keystone all available information regarding the site, structures, facilities, buildings, and land involved with the work and that such information shall be true and correct; it will provide all licences and permits required for the work; that all work which it performs shall be in accordance with generally accepted professional practices; and it has title to or will provide right of entry or access to all property necessary to perform the work.

6. INDEMNITY

a. Subject to the limitations of Section 7 below, Keystone agrees to indemnify, defend and hold harmless CLIENT (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, claims, suits, and the costs and expenses incident thereto (including legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders, to the extent caused by or arising out of: (i) Keystone's errors or omissions or (ii) negligence on the part of Keystone in performing services hereunder.

b. CLIENT agrees to indemnify and hold harmless Keystone (including its officers, directors, employees and agents) from and against any and all losses, damages, liabilities, claims, suits and the costs and expenses incident thereto (including legal fees and reasonable costs of investigation) which any or all of them may hereafter incur, become responsible for or pay out as a result of death or bodily injuries to any person, destruction or damage to any property, private or public, contamination or adverse effects on the environment or any violation or alleged violation of governmental laws, regulations, or orders,

caused by, or arising out of in whole or in part: (i) any negligence or willful misconduct of CLIENT, (ii) any breach of CLIENT of any warranties or other provisions hereunder, (iii) any condition including, but not limited to, contamination existing at the site, or (iv) contamination of other property arising or alleged to arise from or be related to the site provided, however, that such indemnification shall not apply to the extent any losses, damages, liabilities or expenses result from or arise out of: (i) any negligence or willful misconduct of Keystone; or (ii) any breach of Keystone of any warranties hereunder.

7. **LIMITATION OF LIABILITY**

Keystone's total liability, whether arising from or based upon breach of warranty, breach of contract, tort, including Keystone's negligence, strict liability, indemnity or any other cause of basis whatsoever, is expressly limited to the limits of Keystone's insurance coverage. This provision limiting Keystone's liability shall survive the termination, cancellation or expiration of any contract resulting from this Proposal and the completion of services thereunder. After three (3) years of completion of Keystone's services, any legal costs arising to defend third party claims made against Keystone in connection with the project defined in the Proposal or Agreement will be paid in full by the CLIENT.

8. **INSURANCE**

Keystone, during performance of this Agreement, will at its own expense carry Worker's Compensation Insurance within limits required by law; Comprehensive General Liability Insurance for bodily injury and for property damage; Professional Liability Insurance for errors omissions and negligence; and Comprehensive Automobile Liability Insurance for bodily injury and property damage. At CLIENT'S request, Keystone shall provide a Certificate of Insurance demonstrating Keystone's compliance with this section. Such Certificate of Insurance shall provide that said insurance shall not be cancelled or materially altered until at least ten (10) days after written notice to CLIENT.

9. **CONFIDENTIALITY**

Each party shall retain as confidential all information and data furnished to it by the other party which relate to the other party's technologies, formulae, procedures, processes, methods, trade secrets, ideas, improvements, inventions and/or computer programs, which are designated in writing by such other party as confidential at the time of transmission and are obtained or acquired by the receiving party in connection with work or services performed subject to this Proposal or Agreement, and shall not disclose such information to any third party.

However, nothing herein is meant to prevent nor shall it be interpreted as preventing either Keystone or CLIENT from disclosing and/or using said information or data; (i) when the information or data is actually known to the receiving party before being obtained or derived from the transmitting party; or (ii) when the information or data is generally available to the public without the receiving party's fault; or (iii) where the information or data is obtained or acquired in good faith at any time by the receiving party from a third party who has the right to disclose such information or data; or (iv) where a written release is obtained by the receiving party from the transmitting party; or (v) as required by law.

10. **PROTECTION OF INFORMATION**

Keystone specifically disclaims any warranties expressed or implied and does not make any representations regarding whether any information associated with conducting the work, including the report, can be protected from disclosure in responses to a request by a federal, provincial or local government agency, or in response to discovery or other legal process during the course of any litigation involving Keystone or CLIENT. Should Keystone receive such request from a third party, it will immediately advise CLIENT.

11. **FORCE MAJEURE**

Neither party shall be responsible or liable to the other for default or delay in the performance of any of its obligations hereunder (other than the payment of money for services already rendered) caused in whole or in part by strikes or other labour difficulties or disputes; governmental orders or regulations; war, riot, fire, explosion; acts of God; acts of omissions of the other party; any other like causes; or any other unlike causes which are beyond the reasonable control of the respective party.

In the event of delay in performance due to any such cause, the time for completion will be extended by a period of time reasonably necessary to overcome the effect of the delay. The party so prevented from complying shall within a reasonable time of its knowledge of the disability advise the other party of the effective cause, the performance suspended or affected and the anticipated length of time during which performance will be prevented or delayed and shall make all reasonable efforts to remove such disability as soon as possible, except for labour disputes, which shall be solely within said party's discretion. The party prevented from complying shall advise the other party when the cause of the delay or default has ended, the number of days which will be reasonably required to compensate for the period of suspension and the date when performance will be resumed. Any additional costs or expense accruing or arising from the delaying event shall be solely for the account of the CLIENT.

12. **NOTICE**
Any notice, communication, or statement required or permitted to be given hereunder shall be in writing and deemed to have been sufficiently given when delivered in person or sent by facsimile, wire, or certified mail, return receipt requested, postage prepaid, to the address of the party set forth below, or to such address for either party as the party may be written notice designate.
13. **ASSIGNMENT/SUBCONTRACT**
Neither party hereto shall assign this Agreement or any part thereof or any interest therein without the prior written approval of the other party hereto except as herein otherwise provided. Keystone shall not subcontract the performance of any work hereunder without the written approval of CLIENT. Subject to the foregoing limitation, the Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of the parties hereto.
14. **ESTIMATES**
To the extent the work requires Keystone to prepare opinions of probable cost, for example, opinions of probable cost for the cost of construction, such opinions shall be prepared in accordance with generally accepted engineering practice and procedure. However, Keystone has no control over construction costs, competitive bidding and market conditions, costs of financing, acquisition of land or rights-of-way and Keystone does not guarantee the accuracy of such opinion of probable cost as compared to actual costs or contractor's bid.
15. **DELAYED AGREEMENTS AND OBLIGATIONS**
The performance by Keystone of its obligations under this Agreement depends upon the CLIENT performing its obligations in a timely manner and cooperating with Keystone to the extent reasonably required for completion of the Work. Delays by CLIENT in providing information or approvals or performing its obligations set forth in this Agreement may result in an appropriate adjustment of contract price and schedule.
16. **CONSTRUCTION PHASE**
To the extent the work is related to or shall be followed by construction work not performed by Keystone, Keystone shall not be responsible during the construction phase for the construction means, methods, techniques, sequences or procedures of construction contractors, or the safety precautions and programs incident thereto, and shall not be responsible for the construction contractor's failure to perform the work in accordance with the contract documents. Keystone will not direct, supervise or control the work of the CLIENT'S contractors or the CLIENT'S subcontractors.
17. **DOCUMENTATION, RECORDS, AUDIT**
Keystone when requested by CLIENT, shall provide CLIENT with copies of all documents relating to the service(s) of work performed. Keystone shall retain true and correct records in connection with each service and/or work performed and all transactions related thereto and shall retain all such records for twelve (12) months after the end of the calendar year in which the last service pursuant to this Agreement was performed. CLIENT, at its expense and upon reasonable notice, may from time to time during the term of this Agreement, and at any time after the date the service(s) were performed up to twelve (12) months after the end of the calendar year in which the last service(s) were performed, audit all records of Keystone in connection with all costs and expenses which it was invoiced.
18. **REPORTS, DOCUMENTS AND INFORMATION**
All field data, field notes, laboratory test data, calculations, estimates and other documents prepared by Keystone in performance of the work shall remain the property of Keystone. If required as part of the work, Keystone shall prepare a written report addressing the items in the work plan including the test results. Such report shall be the property of CLIENT, Keystone shall be entitled to retain three (3) copies of such report for its internal use and reference.

All drawings and documents produced under the terms of this Agreement are the property of Keystone, and cannot be used for any reason other than to bid and construct the project as described in the Proposal or Agreement.
19. **LIMITED USE OF REPORT**
Any report prepared as part of the work will be prepared solely for the internal use of CLIENT. Unless otherwise agreed by Keystone and CLIENT, parties agree that third parties are not to rely upon the report.
20. **SAMPLE MANAGEMENT**
Ownership of all samples obtained by Keystone from the project site is maintained by the CLIENT. Keystone will store such samples in a professional manner in a secure area for the period of time necessary to complete the project. Upon completion of the project, Keystone will return any unused samples or

portions thereof to the CLIENT or at Keystone's option dispose of the samples in a lawful manner and bill the CLIENT for all costs related thereto. Keystone will normally store samples for thirty (30) days. Written notice will be given to the CLIENT before finally disposing of samples.

21. **ACKNOWLEDGMENT AND RECOGNITION OF RISK**

CLIENT recognizes and accepts the work to be undertaken by Keystone may involve unknown undersurface conditions and hazards. CLIENT further recognizes that environmental, geologic, hydrological, and geotechnical conditions can and may vary from those encountered by Keystone at the times and locations where it obtained data and information and that limitations on available data may result in some uncertainty with respect to the interpretation of these conditions. CLIENT recognizes that the performance of services hereunder or the implementation of recommendations made by Keystone in completing the work required may alter the existing site conditions and affect the environment in the site area.

Unknown undersurface conditions, including underground utility services, tanks, pipes, cables and other works (Underground Works) may be present at the site. Keystone will conduct utility locates to obtain available information regarding the location of Underground Works in accordance with industry practice. Utility locates are not a guarantee of the location of, or existence of, Underground Works and as a result damage to Underground Works may occur. Keystone relies on utility locates and Client provided "as-built" and record drawings to determine the location and existence of Underground Works. CLIENT recognizes that the use of utility locates is not a guarantee or warranty that Underground Works may not be damaged and acknowledges that Keystone is not responsible for any damage caused to Underground Works or the repair of such damage or any resulting or related damage and any costs related to such damage.

22. **DISPOSAL OF CONTAMINATED MATERIAL**

It is understood and agreed that Keystone is not, and has no responsibility as, a generator, operator or storer of pre-existing hazardous substances or wastes found or identified at work sites. Keystone shall not directly or indirectly assume title to such hazardous or toxic substances and shall not be liable to third parties.

CLIENT will indemnify and hold harmless Keystone from and against all incurred losses, damages, costs and expenses, including but not limited to attorneys' fees, arising or resulting from actions brought by third parties alleging or identifying Keystone as a generator, operator, storer or owner of pre-existing hazardous substances or wastes found or identified at work sites.

23. **SUSPENSION OR TERMINATION**

In the event the work is terminated or suspended by CLIENT prior to the completion of the services contemplated hereunder, Keystone shall be paid for: (i) the services rendered to the date of termination or suspension, (ii) the demobilization costs, and (iii) the costs incurred with respect to noncancelable commitments.

24. **GOVERNING LAW**

This Agreement shall be governed by and interpreted pursuant to the laws of the Province of British Columbia.

25. **HEADINGS AND SEVERABILITY**

Any heading preceding the text of sections hereof is inserted solely for convenience or reference and shall not constitute a part of the Agreement and shall not effect the meanings, context, effect or construction of the Agreement. Every part, term or provision of this Agreement is severable from others. Notwithstanding any possible future finding by duly constituted authority that a particular part, term or provision is invalid, void or unenforceable, this Agreement has been made with the clear intention that the validity and enforceability of the remaining parts, terms and provision shall not be affected thereby.

26. **ENTIRE AGREEMENT**

The terms and conditions set forth herein constitute the entire Agreement and understanding of the parties relating to the provision of work or services by Keystone to CLIENT, and merges and supersedes all prior agreements, commitments, representation, writings, and discussions between them and shall be incorporated in all work orders, purchase orders and authorization unless otherwise so stated therein. The terms and conditions may be amended only by written instrument signed by both parties.



Keystone Environmental

Knowledge-Driven Results

June 3, 2014

Mr. David Brownlee
City of Richmond
6911 No. 3 Road
Richmond, BC
V6Y 2C1

Dear Mr. Brownlee:

**Re: Habitat Assessment in Environmentally Sensitive Area
9700 & 9740 Alexandra Road, Richmond, BC
Project No. 11800**

This letter summarizes *DRAFT Report of Findings – Biophysical Assessment*, Keystone Environmental, April 15, 2014, and provides details regarding our assessment of the site (9700 & 9740 Alexandra Road, Richmond).

Based on mapping layers provided by the City of Richmond Interactive Map¹ and the biophysical assessment conducted by Keystone Environmental in July 2013², the Environmentally Sensitive Area (ESA) present on site was split into two distinct Habitats. Habitat 1 consisted of 831 m² of 'Hardhack-Fireweed-Blackberry Open Habitat' contained within the ESA, while Habitat 2 consisted of 8,253m² of 'Deciduous-Dominated Mixed Community', also within the ESA (Table 1). It is our opinion that Habitat 1 and a 1,318 m² portion of Habitat 2 (Figure 1) do not meet the criteria for ESA Upland Forest as defined by the City of Richmond. Table 1 summarizes the habitat values present in both areas.

	Fish and Fish Habitat	Vegetation Diversity and Health	Wildlife Habitat Connectivity	Invasive Species Presence	Overall Rank
Habitat 1	N/A	Low	Low	High	Low
Habitat 2	N/A	Moderate	Low	High	Low

Table 1: Summary of Habitat Values - 9700 & 9740 Alexandra Road.

The remaining 6,935 m² area in Habitat 2 is considered low value habitat due to a high density of invasive Himalayan blackberries and die-back of paper birch (possibly due to birch borer infestation). This area has ornamental fruit trees interspersed throughout, and does not have significant representation of other tree species listed in the ESA definition of Upland Forest (i.e. western red cedar, western hemlock, black cottonwood, etc.). Based on the City of Richmond requirement to provide an

¹ <http://rim.richmond.ca/rim/Viewer.aspx?Site=RIM&ReloadKey=True>, accessed July 2013

² Keystone Environmental (2014) *DRAFT Report of Findings – Biophysical Assessment*. 9700 & 9740 Alexandra Road, Richmond, BC. Project No. 11800 (v2.0). April 15, 2014.

aerial based assessment and overall habitat balance for proposed development within an ESA, we are recommending a replacement habitat ratio of 1:0.25 (impact habitat to replacement habitat) to represent the low ESA habitat values or components present on-site. Using this calculation, 1,733 m² of habitat will be present at the completion of the proposed development.

The landscape plans, developed by ETA landscape architecture, are presented in Figure 2. Based on this figure, the total retained habitat, habitat buffer area and planted areas throughout the development is approximately 1,750 m². The planned landscaping includes enhanced habitat values (including a stormwater collection area for wetland species), including native species and fruiting species, and orients green spaces north and south to serve as potential wildlife corridors, allowing for connectivity with green spaces located to the northwest of the site across Alexandra Road and south of the site across Alderbridge Way.

Sincerely,

Keystone Environmental Ltd.

Original signed by

Original signed by

Craig S. Patterson, B.Sc.
Project Manager

Jennifer Trowell, M.ET.
Risk Assessment and Biology Department

cc. Chris Ho, Polygon Development 296 Ltd.

I:\11800-11899\11800\Phase 000104 - Biophys Assmt\City Correspondence\11800 140603 Revised ESA Habitat Balance.docx

DRAFT

- Legend**
- Site
 - Property Lines
 - Environmentally Sensitive Area
 - Non-ESA Habitat
 - Habitat Survey
 - Residential
 - Habitat 1 - Hardhack & Fireweed
 - Habitat 2 - Deciduous Forest
 - Survey Quad - GPS Waypoints
 - Survey Quad Areas
 - Tree Survey - Species
 - Birch
 - Pine
 - Cherry
 - Douglas Fir
 - Cedar
 - Apple
 - Alder

Figure 1

Habitat Survey

February 2014 Survey Quads

9700, 9720 & 9740 Alexandra Road
Richmond, BC
Polygon Development 296 Ltd.
REVISION No. A
DATE June 2014
PROJECT No. 11800-104

10 0 40 m
SCALE: 1:1,000

NOTE: THIS DRAWING IS FOR GENERAL INFORMATION ONLY.
LOT BOUNDARIES AND FEATURES ARE APPROXIMATE.



DRAWN BY: JM Document Path: I:\11800-11800\11800\Phase 000104 - Biophys Asmnt\Figs\Jm. 2014\11800-104-Fig1-Habitat Survey June 2014-PA.mxd

PH - 176

Arborist Report

Client: Att: Chris Ho
Polygon Homes Ltd.
900-1333 West Broadway
Vancouver, B.C.
V6H 4C2
Tel: 604-871-4181

Subject Property: Jayden Mews
9700 – 9740 Alexandra Rd.
Richmond, B.C.

Prepared by: Pacific Sun Tree Services
1126 Stevens Street
White Rock, B.C. V4B 4X8
604-323-4270
andermatt.forest@shaw.ca
www.pacificsuntree.com

Dave Andermatt
ISA Certification: PN6285A
Certified Tree Risk Assessor: No. 364



Project Overview

Pacific Sun Tree Services has been retained by Polygon Homes Ltd. to conduct an assessment of the tree inventory on the subject property. Trees identified in the previous report prepared by Pacific Sun Tree Services, Preliminary Assessment Arborist Report, dated January 10, 2014, have been surveyed and have been fully assessed for inclusion within this report. The majority of the trees on site are in the currently undeveloped portion of the property (essentially the southern half). As requested by the city of Richmond, given the poor condition and large number of these trees, a survey of these trees and individual details is not required. Instead, the trees required tallying and grouping for general description by the project arborist. These findings are provided in this report in conjunction with the detailed assessment of the surveyed trees.

Pacific Sun Tree Services was provided with a site plan of the property including tree locations. A site visit was conducted on May 12 & 15, 2014.

Findings

Details of tree condition and recommendations for retention or removal are provided in the following table. Note that the 'Health' rating for the trees is based on the tree's growth history and vigour, and accounts for any disease or abiotic factors afflicting the health of the tree. A tree's 'Form' refers to its structural condition and includes identifying natural deformities as well as man-made defects such as poor/damaging pruning practices. Trees that are significantly compromised due to health and/or form are not recommended for retention.

As outlined above in the Project Overview, the trees in the undeveloped portion of the Jayden Mews property have been tallied. These trees have also been delineated into four different groups based on geographic distribution. These findings are listed in the table 'Non Surveyed Trees'. Note that some of the trees shown on the survey are under permit size and are accordingly not included in this report. Also, some of the surveyed trees are poor condition and consistent with the non surveyed tree category and have been tallied under and addressed in this section of the report. Below is a summary of all permit trees on site:

Tree Tally Summary

Tree Category	Number of Permit Size Trees
Surveyed Trees	19
Non Surveyed Trees (4 Groups)	68
Total	87

Also one tree (#312) is on city property to the west. Therefore a total of 88 trees addressed.



Surveyed Tree Findings

Tree I.D.	Species	DBH (cm)	Crown Radius (m)	Health	Form	Observations & Recommendations
149	Shore Pine (<i>Pinus contorta</i> var. <i>contorta</i>)	30	3	Poor	Very Poor	Southward lean. Very poor basal stem formation, particularly on the north side where some compression failure has occurred and significant decay is present. Column of decay extends 2+ metres on the west side. Significant stem deformation also at 3.5m. Very Low quality tree not suitable for retention. Recommendation: Remove Tree.
150	English Oak (<i>Quercus robur</i>)	27	3.8	Moderate – Good	Good	Narrow crown due to adjacent tree competition. Natural thinning (shading) resulting in raised crown to about 5m. Overall narrow and raised crown as well as uncommon species contribute toward being a candidate for retention. Recommendation: Retain Tree.
151	Birch (<i>Betula</i>)	23 x2 +17+19 +25	5	Good	Moderate – Good	Four of the five stems are growing southward (phototropic lean) with essentially their entire canopy south of the tree base. The exception is a northward growing stem with extensive decay in the lower 1.5m as well as top dieback in the crown. Given the orientation of the tree crown, this tree could be retained. Recommendation: Retain Tree.
304	Douglas-fir (<i>Pseudotsuga menziesii</i>)	80	7.5	Moderate	Moderate – Poor	Fairly poor crown formation. Low aesthetics. Not a good candidate for long term retention. This large tree is adjacent to the planned Building 1 and will not be possible to retain. Recommendation: Remove Tree.
305	Western Hemlock (<i>Tsuga heterophylla</i>)	80	6.5	Poor	Very Poor	Historically topped/broken @ 8m. Secondary stem broken off @ 4m on west side beside small, dead stem. Also a dead/broken stem on south side. Very poor aesthetics. Not a good candidate for long term retention. This large tree is too close to the planned Building 1 for retention to be possible. Low quality tree not suitable for retention. Recommendation: Remove Tree.
312	Birch (<i>Betula</i>)	56	5.5	Good	Moderate	Growing at south edge of open ditch with slight lean northward in lower half of crown. Some historical topping cuts to reduce branch length but overall crown is in fairly good condition. <u>City Tree</u> Recommendation: Retain Tree.



Tree I.D.	Species	DBH (cm)	Crown Radius (m)	Health	Form	Observations & Recommendations
329	Western Redcedar (<i>Thuja plicata</i>)	130	7	Moderate – Good	Moderate – Poor	Large codominant stems with attachment @ 1.5m. Eastern stem historically topped or broken @ 7m resulting in 2 stems regrowth with one dominant. The smaller, but still fairly large stem has a poorly structured vertical attachment. Not suitable for long term retention given risk level for failure. Too close to planned Building 3 for feasible retention. Recommendation: Remove Tree.
330	Western Redcedar (<i>Thuja plicata</i>)	68	5.5.	Moderate – Poor	Poor	Historically topped @ 5.5m Main stem has regrown on north side, another large stem on east side has been cut in years past @ about 2m from point of origin. Secondary stems, signs of low vigour. Not suitable for long term retention. Located just inside envelope of planned Building 3. Recommendation: Remove Tree.
336	Sycamore Maple (<i>Acer pseudoplatanus</i>)	27+28	5.4	Good	Moderate	Base of tree is growing against the foundation of the existing house. Codominant stems attached @ 1m. Not possible to retain during demolition of existing house. Tree is located within the planned Jayden Mews roadway. Recommendation: Remove Tree.
337	Sycamore Maple (<i>Acer pseudoplatanus</i>)	30+37	6	Moderate	Moderate – Good	Codominant stems attached @ ½ m. Advanced decay at point of attachment on east side and down into root crown and to north side. Hazardous tree. Located at foundation of planned Building 3. Recommendation: Remove Tree.
340	Cherry (<i>Prunus</i>)	25+30	6	Moderate	Moderate	Secondary stem attached @ 1m. Lower half of crown has died back from shading due to adjacent tree competition. Tree is located midway within the planned Jayden Mews roadway. Recommendation: Remove Tree.
341	Cherry (<i>Prunus</i>)	40	6	Moderate – Good	Moderate – Good	Multi-stemmed structure with attachment @ 1.5+m. Some dieback in shaded lower crown, particularly on north and east sides, otherwise fairly full crown. Tree is located midway within the planned Jayden Mews roadway. Recommendation: Remove Tree.



Tree I.D.	Species	DBH (cm)	Crown Radius (m)	Health	Form	Observations & Recommendations
342	Cherry (<i>Prunus</i>)	20 x2 +15	5	Moderate – Good	Moderate	Basal stem attachment; codominant @ 1m. Some inner crown dieback , lower north side due to shading from competition. Tree is located at edge of planned Jayden Mews roadway and within planned parking space. Recommendation: Remove Tree.
365	Sycamore Maple (<i>Acer pseudoplatanus</i>)	18+19+ 21+22+ 12 x2	5.8	Good	Moderate	Multi-stemmed tree with basal attachments. Across from outdoor play area. <u>Shared tree with Neighbour.</u> Recommendation: Retain Tree.
366	Sycamore Maple (<i>Acer pseudoplatanus</i>)	25+30	4	Moderate – Good	Poor	Basal attachment with union around old decaying stump, not structurally sound. Confined crown development due to adjacent trees' competition. Recommendation: Remove Tree.
367	Sycamore Maple (<i>Acer pseudoplatanus</i>)	28+43+ 31 x2	7	Good	Moderate – Poor	Four stems with basal attachment along a well defined north-south alignment. Fairly good structure except northern stem - significant included bark between the northern two stems. North stem is codominant @ 1.5m, with significant included bark. Recommendation: Remove Tree.
376	Cherry (<i>Prunus</i>)	45	5.5	Moderate – Good	Moderate – Good	Slight lean to southeast. Some vine growing into crown. Fairly good condition. Located close to the planned Building 9, Jayden Mews roadway and a parking stall. Not possible to retain. Recommendation: Remove Tree.
380	Douglas-fir (<i>Pseudotsuga menziesii</i>)	36	4.6	Good	Moderate – Good	Slight lean southeast. Lower 4m of crown has largely died back from shading. Nice condition, healthy young tree. Recommendation: Retain Tree.
386	Birch (<i>Betula</i>)	20+26	4	Moderate – Good	Moderate – Poor	Very pronounced lean southward and weak stem structure. Poor quality tree for retention. Recommendation: Remove Tree.
387	Birch (<i>Betula</i>)	18	2.7	Moderate – Good	Moderate	Significant lean southward with correction only near top. Leans out over Alderbridge, but generally fair condition. Adjacent to planned green space. Recommendation: Retain Tree.



Non Surveyed Tree Findings

Group	Species			Total Permit Size Trees
	Birch	Cherry	Other	
East	12	5	4	21
Alderbridge	32	2	1	35
Open	3	0	0	3
Northwest	9	0	0	9
Total	56	8	5	68

* See attached 'Tree Location Overview Plan' for delineation of Group areas.

Non Surveyed Tree Groups – Description

East Group

Predominantly Birch trees, this area also has a significant portion of Cherry. The remaining trees are Maple and Crab-apple. The birch are in varying degrees of decline with top dieback found on all and in some cases very extensive where the top half of the crown or more has died and often already broken apart. The Cherry trees are fairly numerous in the south central portion of this group, however, most are young, non-permit sized trees. The permit sized trees have poor crown development due to the high stand density.

Alderbridge Group

Slightly more than half the non-surveyed trees are found in this group. Almost entirely comprised of Birch trees, a number of which are of relatively large size (30 to 40 cm dbh). However, regardless of size, the Birch are again declining and in poor quality.

Open Group

It is expected that this area was previously occupied by predominantly Birch but the trees have already declined and failed leaving only dense underbrush that has prevented almost any new tree establishment – the one notable exception is the Douglas-fir (Tree #380) which has been selected for retention in the new development.

Northwest

Continuation of declining, poor quality Birch.



Tree Protection: Detailed Recommendations

The Tree Protection Zones (TPZ) are delineated by the location of the Tree Protection Barriers which are identified on the attached Tree Location & Protection Plan. No work is permitted within the TPZ as well as no access by machinery or storage of soil (including site loading), equipment or any other materials.

Any underground service installation must be done outside of the TPZ outlined by this report, or additional arborist assessment is required as directed by the city once utility service line locations are available. Retaining walls with continuous footings are prohibited within the TPZ. If a retaining wall is planned for installation within a TPZ, the specifications relating size and location of post footings is required for additional arborist assessment or as required by the city once this information is available.

Tree #150:

The Tree Protection Barrier is located 6m north and south of the tree. The east side of the Barrier is 4.2m from the property line. (See Tree Protection Plan #1)

Tree #151:

North stem removal

The north stem requires removal by the project arborist. This should be conducted concurrent with clearing activity on the site.

The Tree Protection Barrier begins 4m east of the tree and extends further east to 6.5m then turns south for 6.5m, then turns west for 13m. The Barrier then turns north 6.5m (directly west of the tree) and then angles to meet a point 4m north of the tree. The Barrier then turns at an angle to connect with the beginning point. (See Tree Protection Plan #1)

Tree #312:

The Tree Protection Barrier is located to protect roots within the area adjacent to the open ditch. The Barrier begins at the northwest corner of the property, extends north to the break-line (approximately 4.8m), then turns west parallel to the road then south alongside the end of the open ditch until just east of the tree. (See Tree Protection Plan #2)

Tree #365:

The Tree Protection Barrier is located at the property line both 6m north and south of the center of the tree, and extends at an angle to a point 7m east of the tree. (See Tree Protection Plan #2)



Tree #380:

The Tree Protection Barrier is located around the tree at a 5.5m radius. (See Tree Protection Plan #1)

Crown Pruning

The project arborist should conduct pruning to raise the crown to approximately 4m height to remove dead and poor quality branches due to natural shading dieback.

Tree #387:

The Tree Protection Barrier is located 3.5m west, north and east of the tree. The south side of the Barrier is 4m from the tree. (See Tree Protection Plan #1)

All Protected Trees**Tree #150, 151, 312, 365, 380 & 387:****Excavation Supervision**

Arborist supervision during the excavation in the area adjacent (within 10 feet) to the identified TPZ (Tree Protection Barriers) to reduce or eliminate fracturing along roots into the TPZ. Concurrently, the arborist will conduct an assessment of damaged roots near the TPZ boundary and implement root pruning as required to facilitate wound closure, and promote new root development. A summary of the impact on the tree, the mitigating treatments conducted and any further recommendations will be prepared and submitted to the client and/or city staff.

Root Zone Drainage

With the alteration of soil hydrology on the site surrounding the TPZ, and in particular the raised grades, it is critical for the tree's survival to ensure proper drainage. The tree well area, or at a minimum, the area identified as the TPZ, must have permanent installed drainage that maintains natural water table levels. If necessary, due to surrounding grade increases and location of available storm drain connections, the root zone area may require installation of a pump to remove excess water.

Ensure Adherence to Tree Protection Bylaw No. 8057.

Prior to undertaking any works on the site:

trees recommended for removal in this report must also be given approval and issued permitting for removal by the city;

all trees proposed for retention must be properly protected; and

protection measures must be inspected and approved by the City's Tree Protection Staff.



Attachments

Item	Pages
Tree Management Plan	1
Non-Surveyed Tree Groups	1
Tree Protection Plan #1	1
Tree Protection Plan #2	1
Total	4

Limitations

The arboricultural assessment of the trees discussed in this report has been conducted to determine their health and condition and consequently their viability for retention. The report and its recommendations are based on the field observations made on the date that they were assessed and on the plans received by Pacific Sun Tree Services. The inspection is limited to external signs and sounding within the lower portion of the trees.

All trees pose a risk and not all conditions can be accounted for. The recommendations and opinions outlined in this report are applicable to the conditions identified on the day of assessment only. Trees should be reassessed on a regular schedule. Pacific Sun Tree Services does not, unless specifically engaged to do so, have any inspection or supervisory responsibility for any trees discussed in this report. Inspections on the property are limited to those relevant to the proposed development described in this report, and are recorded, presented in this report, and submitted to the client.

If there are any questions regarding this report, please contact Pacific Sun Tree Services.

Dave Andermatt, RPF
ISA Certified Arborist


Signature



Tree Management

Plan - Jarden Mews

Retain Tree

Remove Tree

Crown
Dripline

100

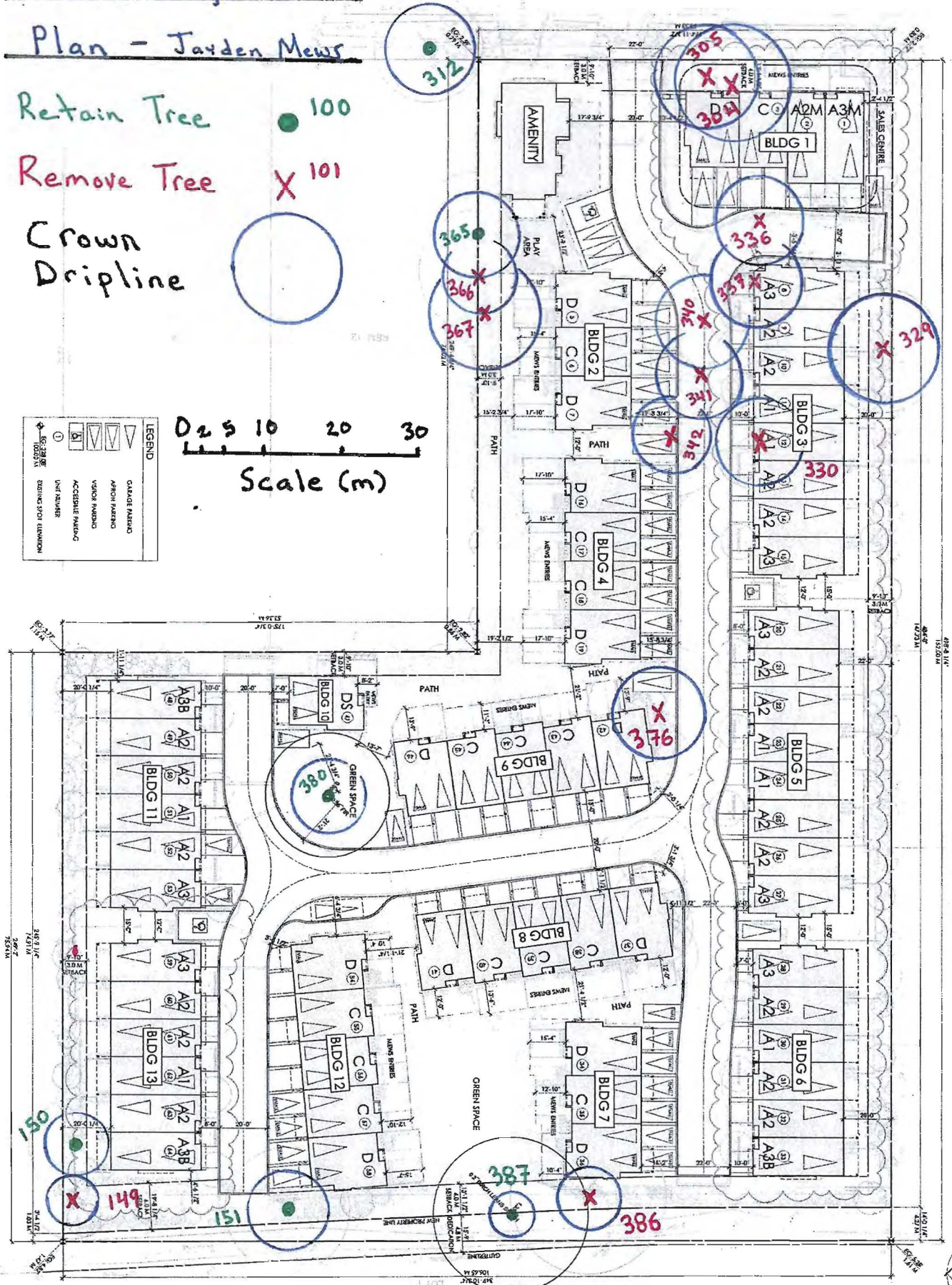
X 101

0 2 5 10 20 30

Scale (m)

LEGEND	
	CARRIAGE PARKING
	ACCESSION PARKING
	VISITOR PARKING
	ACCESSIBLE PARKING
	UNIT NUMBER
	EXISTING SPOT ELEVATION

ALEXANDRA ROAD

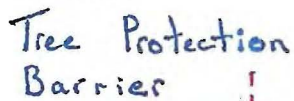


ALDEPHRI 186 WAY

MEDIAN TO BE PLANTED PER CITY

MEDIAN TO BE PLANTED PER CITY

Jayden News



Crown
Dripline

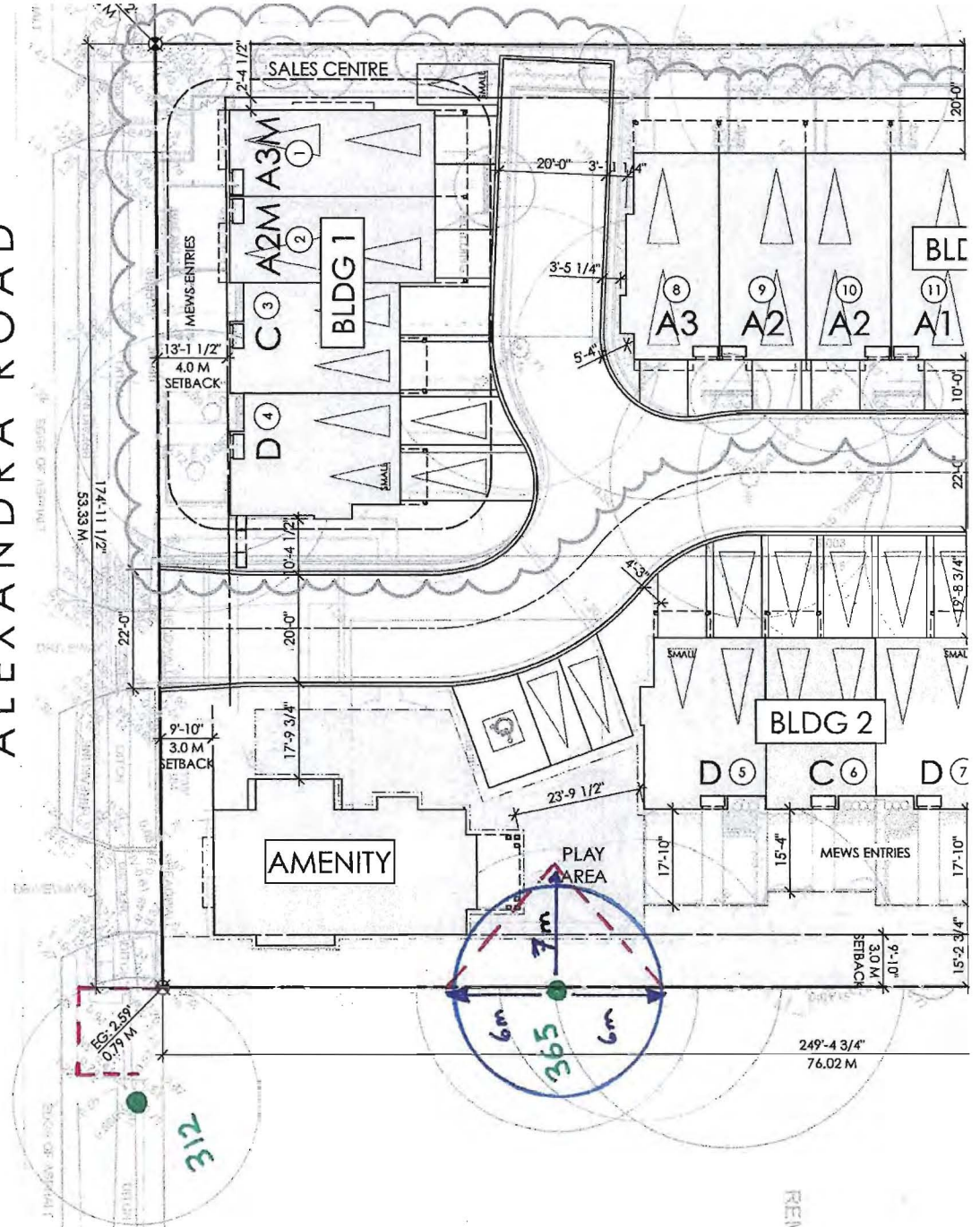


ALDERBRIDGE WAY

PH - 187

Tree Protection Plan #2 - Jordan Mews

ALEXANDRA ROAD



0 2 5 10
Scale (m)

PH - 188

Tree Protection
Barrier

Crown
Dripline

REM. 12



document shows the location of the trees and features with 1:1 to the location of the trees and features. It may be used to define any lines or property corners, should be used in conjunction with a current site map to determine any changes that may affect the site.

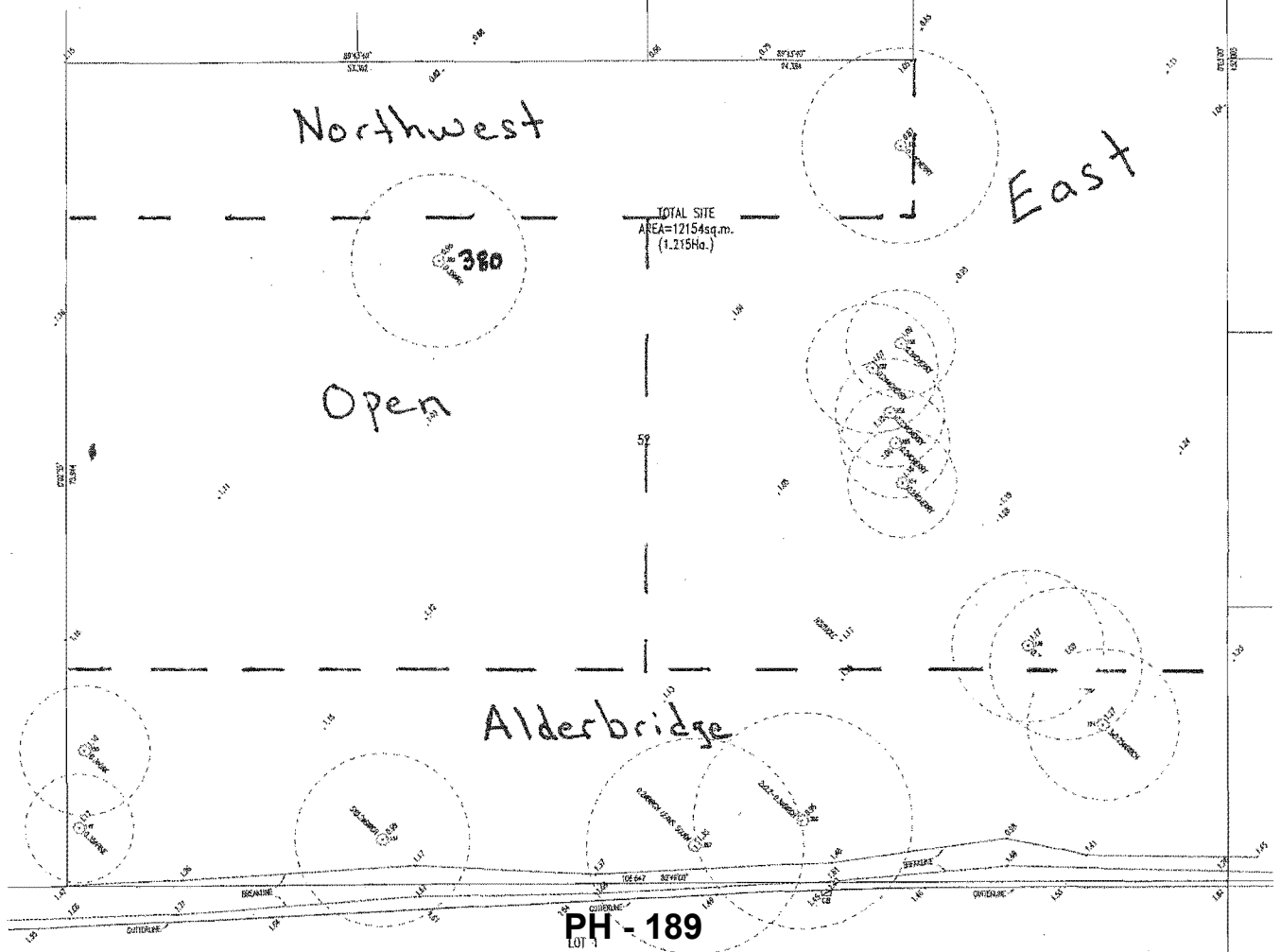
BOUNDARIES ARE FROM THE SURVEY

ALEXANDRA ROAD

Non-Surveyed Tree

Groups - Jarden Mews

Approximate Group Boundary Location





Rezoning Considerations

Development Applications Division
6911 No. 3 Road, Richmond, BC V6Y 2C1

Address: 9700 and 9740 Alexandra Road

File No.: RZ 13-649641

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9159, the developer is required to complete the following:

1. Land dedication along the entire Alderbridge Way frontage (approximately 1.5 m wide at the eastern limit of the site and such width reduces to approximately 1.2 m wide at the western limit) in order to accommodate the road cross section inclusive of a 1.5 m wide treed boulevard and a 3.3 m wide shared cyclist/pedestrian path.
2. Consolidation of all the lots into one development parcel (which will require the demolition of all the existing dwellings).
3. 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.
4. Registration of an aircraft noise sensitive use covenant on title.
5. Registration of a legal agreement on title identifying that the proposed development must be designed and constructed to meet or exceed Ener-guide 82 criteria for energy efficiency and that the dwellings are pre-ducted for solar hot water heating. A report by a qualified professional prepared to the satisfaction of the Director of Development is to be submitted certifying that the units meet the Ener-guide 82 criteria and that the solar heating pre-ducting has been installed.
7. Registration of a flood plain covenant on title identifying a minimum habitable elevation of 2.6 m GSC.
8. Registration of a legal agreement on title ensuring that, with the exception of emergency vehicles, there will be no vehicle access to Alderbridge Way.
9. With the exception of specific hazard trees or trees preventing building demolitions, on-site trees within the designated ESA shall not be removed until a Development Permit has been issued.
10. City acceptance of the developer's offer to voluntarily contribute \$0.77 per buildable square foot (e.g. \$70,162.85) to the City's Public Art fund based on a buildable area of 91,120.59 ft².
11. City acceptance of the developer's offer to voluntarily contribute cash-in-lieu of built affordable housing units. The cash contribution in the amount of \$678,107.00 to be deposited entirely (100%) to the City's capital Affordable Housing Reserve.
12. City acceptance of the developer's offer to voluntarily contribute the following amounts for Community and Engineering Planning Costs of \$0.07 per buildable square foot (e.g. \$6,378.44 based on 91,120.59 ft²). (Account 3132-10-520-00000-0000). Contribution estimates will be recalculated through the Development Permit once the final buildable space has been refined.
13. City acceptance of the developer's offer to voluntarily contribute the following amounts for Child Care Contribution of \$0.60 per buildable square foot (e.g. \$54,672.35 based on 91,120.59 ft²) (Account 7600-80-060-90158-0000). Contribution estimates will be recalculated through the Development Permit once the final buildable space has been refined.
14. City acceptance of the developer's offer to voluntarily contribute the following amounts for City Beautification contribution of \$0.60 per buildable square foot (e.g. \$54,672.35 based on 91,120.59 ft²). Note that the amount of the City Beautification contribution may be reduced once the value of the frontage improvements have been determined through the Servicing Agreement (Account 2264-10-000-90582-000). Contribution estimates will be recalculated through the Development Permit once the final buildable space has been refined.
15. Registration of a legal agreement on title prohibiting the conversion of the tandem parking area into habitable space.

16. Discharge of Covenant AD285974 from title (a covenant that restricts the use on 9700 Alexandra Road to Two Family Dwelling).
17. The submission and processing of a Development Permit* completed to a level deemed acceptable by the Director of Development.
18. Enter into a Servicing Agreement* for the design and construction of frontage improvements. Works include, but may not be limited to:

Sanitary

The developer is responsible for the following sanitary works:

1. Construct a 200 mm diameter gravity sanitary sewer at 0.40% (min) along Alexandra Road from the east property line of the development site to May Drive.
2. Construct a 375 mm diameter sanitary sewer along May Drive from Alexandra Road to Tomicki Avenue and connect to existing system on Tomicki Avenue.
 - a) Existing manhole SMH52070 will need to be shifted approximately 4 m to the south to accommodate the ultimate alignment of system on Tomicki Avenue.
 - b) A minimum 6.0 m wide Statutory Right of Way (SRW) for utility purposes is required for the proposed sanitary sewer within the future May Drive connecting Alexandra Road and Tomicki Avenue. The required SRW is located within 9451 and 9471 Alexandra Road and is to be measured 6.0 m from the east property lines of these two properties.

Water

1. Using the OCP Model, there is 212 L/s available at 20 psi residual on Alexandra Road and 522 L/s available at 20 psi residual on Alderbridge Way. Based on your proposed rezoning, your site requires a minimum fire flow of 220 L/s. Once you have confirmed your building design at the Building Permit stage, you must submit fire flow calculations signed and sealed by a professional engineer based on F.U.S or ISO to confirm that there is adequate available flow.
2. If adequate flow is not available, then upgrades beyond the development site frontage may be required, which could include constructing a 200 mm diameter watermain along May Drive from Alexandra Road to Tomicki Avenue or from Alexandra Road to Alderbridge Way.
3. Replacement of existing AC watermain is required from the west property line of the development site to No 4 Road; the replacement may need to extend west of the development site frontage due to the required off-site improvements.
4. Additional fire hydrants are required to achieve minimum spacing requirement for the mutli-family areas.

Additional Requirements

The developer is responsible for the under-grounding of the existing private utility pole line (subject to concurrence from the private utility companies) along Alexandra Road. Private utility companies will require rights-of-ways for their equipment (i.e. vistas, kiosks, transformers, etc.); the developer is required contact the private utility companies to learn of their requirements.

Developer responsible for the design and construction of the following:

- a) Alexandra Road frontage (from north to south):
 - Maintain the existing extruded curb on the north side;
 - Widen travel portion of the road to 8.5 m wide;
 - Construct a new 0.15 m wide curb/gutter;
 - Provide a minimum 1.2 m wide treed boulevard (Parks should be consulted on whether additional width is necessary, which would trigger a need for additional right-of-way to be secured from the subject development.);
 - Provide a 2.0 m wide sidewalk;
- Note:
- Above road cross-section is recommended based on maintaining the existing ditch on the north side of the road. Engineering should be consulted to confirm if alternate ditch treatment is required as part of this

development, which would change the location of the above road cross-section within the existing road right-of-way; and

- Outside the development frontage to No. 4 Road, 8.5 m wide pavement width and an interim 1.5m wide asphalt walkway should be provided.
- b) Alderbridge Way frontage (from existing curb to north):
- Maintain the existing curb/gutter;
 - Provide a 1.5 m wide treed boulevard; and
 - Provide a 3.3 m wide shared cyclist/pedestrian path.

Required land dedication:

- a) Alderbridge Way: A strip of land required (approximately 4.8 m wide at eastern limit of the site and such width reduces towards west) in order to accommodate the road cross-section referenced in 1b) to the back of the 3.3 m wide shared cyclist/pedestrian path (applicant to confirm the exact size of land required); and
- b) Alexandra Road: None, based on the road cross-section noted above.

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

1. Complete an acoustical and thermal report and recommendations prepared by an appropriate registered professional, which demonstrates that the interior noise levels and noise mitigation standards comply with the City's Official Community Plan and Noise Bylaw requirements. The standard required for air conditioning systems and their alternatives (e.g. ground source heat pumps, heat exchangers and acoustic ducting) is the ASHRAE 55-2004 "Thermal Environmental Conditions for Human Occupancy" standard and subsequent updates as they may occur. Maximum interior noise levels (decibels) within the dwelling units must achieve CMHC standards follows:

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

2. A Qualified Environmental Professional to undertake a pre-clearing bird nest survey and submit a summary of the findings and recommendations to the City prior to site clearing activities.
3. Developer to contact City Parks Arboriculture staff to assess tree #387 for either retention or removal and replacement.

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 Division. 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. Incorporation of accessibility measures in Building Permit (BP) plans as determined via the Rezoning and/or Development Permit processes.
3. Payment of the Supplementary Local Area DCC for the Alexandra Neighbourhood.
4. Payment of the sanitary pump station latecomer fees, plus applicable interest, in accordance with the Alexandra Neighbourhood Development Agreement (i.e. multi-family rate \$3,307.47 per unit plus interest).
5. If applicable, payment of latecomer agreement charges associated with eligible latecomer works.
6. 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 Division at 604-276-4285.

Note:

PH - 192

- * 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

ATTACHMENT 8
Letter from Mr. Sihota

Dated: 5th February 2014

To

Barry Konkin

REZONING DEPARTMENT

City of Richmond,

6911 No. 3 road, Richmond, BC

SUBJECT : 9700 -9740 ALEXANDRA ROAD REZONING APPLICATION (RZ-13649641)

Respected Sir,

As you know Polygon applied for subject property, I have big concern about this development and I want a single information city requirement and amendment by staff and copy of this file. Reason for this is I have interest in almost 50% of neighbour property. What things are going to affect to my property and as well future development of my property is also very important for me.

So I would require the file copy which I could study. Second I would request to mail me a letter when there is a meeting about subject property which possibility to attend.

It is so simple to see when a sewer line is passing and putting a pot and T to future development could cost to developer even not more than \$500. When I will be ready to pay for the costs and will be a bigger job in future. But city requirement is not there to provide sewer services to those residents. But staff should look at the public request to city council 5-6 years ago and I am surprised how the staff or council will ignore those health issues, because surrounding development their water table will be away higher than this area. So you will be forcing those residents to evict or force to sell at lower value.

So I hope you will accept my request. I shall be very thankful for this kindness.

Yours Sincerely,

Jagtar Singh Sihota

9800 Alexandra Road,

Richmond, BC

V6x 1c5

Phone ; 604 244 8881 Fax 604 273 8801 Mobile; 604 783 5491

File: city counsels.doc

CC. Polygon Development



**Richmond Zoning Bylaw 8500
Amendment Bylaw 9159 (RZ13-649641)
9700 and 9740 Alexandra Road**

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

1. Richmond Zoning Bylaw 8500 is amended by inserting Section 17.71 thereof the following:

“17.71 Town Housing (ZT71) – Alexandra Neighbourhood (West Cambie)”

17.71.1 Purpose

The **zone** provides for **town housing** with a **density bonus** for a monetary contribution to the City’s capital Affordable Housing Reserve Fund.

17.71.2 Permitted Uses

- **child care**
- **housing, town**

17.71.3 Secondary Uses

- **boarding and lodging**
- **home business**
- **community care facility, minor**

17.71.4 Permitted Density

1. The maximum **floor area ratio** (FAR) is 0.65, together with an additional:
 - a) 0.10 **floor area ratio** provided that is entirely used to accommodate **amenity space**; and
 - b) 10% of the **floor area** total calculated for the **lot** in question, which must be used exclusively for:
 - i. covered areas of the **principal building** which are open on one or more sides; or
 - ii. enclosed **balconies** provided that the total area of such enclosed **balconies** does not exceed 50% of the total area permitted by Section 17.71.4.1.b. i.
2. Notwithstanding Section 17.71.4.1, the reference to “0.65” in relation to the maximum **floor area ratio** is increased to a higher **density** of “0.72” if the **owner** has paid or secured to the satisfaction of the **City** a monetary contribution of \$678,107.00 to the **City’s** capital Affordable Housing Reserve Fund established pursuant to Reserve Fund Establishment Bylaw No. 7812.

17.71.5 Permitted Lot Coverage

1. The maximum **lot coverage** is 40% for **buildings**.

17.71.6 Yards & Setbacks

1. The minimum **front yard** is 3.0 m for the accessory amenity **building** and 4.0 m for all other **buildings**.
2. Portions of the **principal building** which are less than 5.0 m in **height** and are open on those sides which face a **road** may project into the **front yard** for a distance of not more than 1.5 m.
3. **Bay windows** may project into the **front yard** for a distance of not more than 0.6 m.
4. The minimum **side yard** is 3.0 m.
5. The minimum **rear yard** is 4.0 m.
6. **Balconies, bay windows**, enclosed and unenclosed fireplaces and chimneys may project into the **side yard** and the **rear yard** for a distance of not more than 0.6 m.

17.71.7 Permitted Heights

1. The maximum **height** for **buildings** is 12.2 m, but containing no more than 3 **storeys**.
2. The maximum **height** for **accessory buildings** is 5.0 m.
3. The maximum **height** for **accessory structures** is 9.0 m.

17.71.8 Subdivision Provisions/Minimum Lot Size

1. There are no minimum **lot width** or **lot depth** requirements.
2. The minimum **lot area** is 10,000 m².

17.71.9 Landscaping & Screening

1. **Landscaping** and **screening** shall be provided in accordance with the provisions of Section 6.0.

17.71.10 On-Site Parking and Loading

1. On-site **vehicle** and bicycle parking and loading according to the standards set out in Section 7.0, except that the basic on-site parking requirement shall be 1.5 spaces per **dwelling unit** for residents, together with 0.2 spaces per **dwelling unit** for visitor, for a total of 1.7 spaces per **dwelling unit**.

17.71.11 Other Regulations

1. In addition to the regulations listed above, the General Development Regulations in Section 4.0 and the Specific Use Regulations in Section 5.0 apply.”

2. Richmond Zoning Bylaw 8500 is amended by repealing the existing zoning designation of the following area and by designating it “**TOWN HOUSING (ZT71) – ALEXANDRA NEIGHBOURHOOD (WEST CAMBIE)**”;

 P.I.D. 003-874-117
 Lot 51 Section 34 Block 5 North Range 6 West New Westminster District Plan 35213

 P.I.D. 007-176-830
 Lot 52 Section 34 Block 5 North Range 6 West New Westminster District Plan 35213.

3. This Bylaw may be cited as “Richmond Zoning Bylaw 8500, Amendment Bylaw 9159”.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

JUL 28 2014

_____
MAYOR_____
CORPORATE OFFICER



To: Planning Committee
From: Wayne Craig
Director of Development

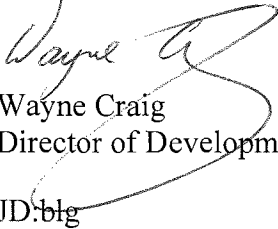
Date: July 15, 2014
File: RZ 14-656219


Re: **Application by S-8135 Holdings Ltd. for Rezoning at 9191 and
9231 Alexandra Road from RS1/F (Single-Detached) to ZMU28
(Residential/Limited Commercial)**

Staff Recommendation

1. That Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 9164, to amend Schedule 2.11A of the Richmond Official Community Plan Bylaw 7100,:
 - to create a new “Residential Mixed Use” designation and change the land use designation on the Alexandra Neighbourhood Land Use Map for 9191 and 9231 Alexandra Road from “Mixed Use” to “Residential Mixed Use”; and
 - to incorporate related text and map changes to Section 8.2 of the Area Plan,be introduced and given first reading.
2. That Bylaw 9164, having been considered in conjunction with:
 - The City’s Financial Plan and Capital Program; and
 - 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 882(3) (a) of the Local Government Act.
3. That Bylaw 9164, having been considered in accordance with OCP Bylaw Preparation Consultation Policy 5043, is hereby found not to require further consultation.

4. That Richmond Zoning Bylaw 8500, Amendment Bylaw 9163 to create the “Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)” zone and to rezone 9191 and 9231 Alexandra Road from “Single-Detached (RS1/F)” to “Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)” be introduced and given first reading.


Wayne Craig
Director of Development
JD:blg

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

Staff Report

Origin

S-8135 Holdings Ltd. has applied to the City of Richmond to rezone 9191 and 9231 Alexandra Road from “Single-Detached (RS1/F)” to a new site-specific zone, “Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)”, in order to develop 49 three-storey townhouses; including nine (9) live/work units, with an overall floor area ratio (FAR) of 0.9. Amendments of the West Cambie Area Plan (WCAP) are also required.

Site Location and Surrounding Development

The proposed development is located in the Alexandra Neighbourhood on two (2) lots lying between Tomicki Avenue and Alexandra Road (Attachment 1). The lots are currently undeveloped.

The surrounding context includes:

To the North, across Tomicki Avenue: a recently constructed, three-storey and four-storey, 259-unit, apartment-residential development.

To the East, on the adjacent property and currently under Development Permit application: an anticipated four-storey, mixed-use retail and apartment-residential development (DP 12-613293).

To the South, across Alexandra Road and currently under Development Permit application: an anticipated three-storey, internally oriented, commercial development (Smart Centres), with approximately 387,000 ft² of retail space (DP 13-650988).

To the West, on the adjacent property: an existing undeveloped lot that is designated for “Business/office” uses at 1.25 FAR in the West Cambie Area Plan.

Background

The combined area of the development site is 8,104 m² (87,227 ft²). The developer will be required to dedicate land for a road along the west side of the site to extend Dubbert Street from Tomicki Street to Alexandra Road. Smaller land dedications will also be required on Tomicki Avenue and Alexandra Road. After dedications, the net site area will be approximately 6,135 m² (66,033 ft²).

Project Description

The proposed development includes 49 three-storey townhouses, of which nine (9) are live/work units located along the Alexandra Road frontage of the site. The townhouses are arranged in six (6) clusters, one (1) each facing Alexandra Road and Tomicki Avenue, two (2) facing the new Dubbert Street and two (2) aligned with the existing east property line.

The site has two (2) vehicle access points; both from Dubbert Street, which lead to an internal drive aisle. Parking is provided beneath each unit accessed from the drive aisle. Common open space is located toward the centre of the site fronting Dubbert Street (Attachment 3).

The proposed floor area is 5,465 m² (58,825 ft²), which approximates an FAR of 0.9. The proposed development includes two, three and four bedroom townhouse units that range in size from approximately 96.8 m² to 144 m² (1042 ft² to 1,551 ft²). One (1) unit is convertible.

Findings of Fact

A Development Application Data Sheet providing basic details about the development proposal is attached (Attachment 2).

Related Policies and Studies

Official Community Plan - Bylaw 9000 and West Cambie Area Plan - Bylaw 7100: The Official Community Plan (OCP) Land Use Map designates the subject properties for “Mixed Use” development. Further, the West Cambie Area Plan designates the properties for “Mixed Use” development defined as “... abutting the High Street, medium density residential over retail and, not abutting the High Street, medium density residential” (Attachment 4). The WCAP establishes a base FAR of 1.25 for this land use designation, with a possible increase to 1.5 FAR for provision of affordable housing. These designations were established to encourage development of a “complete”, medium-density neighbourhood with a combination of commercial and residential uses on a new High Street located along Alexandra Road and Dubbert Street. Amendments to the Area Plan are required to facilitate the proposed development. These amendments are discussed in detail in the Staff Comments and Analysis sections of the report.

Alexandra District Energy Utility - Bylaw 8641: The Alexandra District Energy Utility – Bylaw 8641 (ADEU) applies to the subject site. Development on this site is required to connect to the Alexandra District Energy Utility (ADEU) and to provide 70% of its thermal energy needs using the ADEU. Legal agreements to secure the ADEU connection are required prior to adoption of the rezoning by-law.

West Cambie - Alexandra Interim Amenity Guidelines - Policy 5044: As the development site is located within the West Cambie Planning Area, the project is subject to the “West Cambie-Alexandra Interim Amenity Guidelines Policy 5044”. The Policy establishes guidelines for voluntary developer contributions toward affordable housing, community and engineering planning costs, childcare and City beautification for new developments in the Alexandra area. The general details of the amenity proposal are discussed in the Analysis section of the report.

Additional Policies: Other policies that apply to rezoning or subsequent approvals for the subject site include: OCP Section 14.2.10 - Green Buildings and Sustainable Infrastructure; Flood Plain Designation and Protection - Bylaw 8204; Tree Protection – Bylaw 8057; Aircraft Noise Sensitive Development Policy (ANS DP); Cash In Lieu of Indoor Amenity Space - Policy 5041; Richmond Public Art Program Policy, Procedures Manual and Plans; and, WCAP Section 9.3 – Alexandra Neighbourhood Implementation Policy. An overview of these policies is provided in the Analysis section of this report, along with the proposed conformance strategies.

Consultation and Public Input

Adjustments of the West Cambie Area Plan land use descriptions are being proposed in conjunction with the application. A rezoning site sign has been installed at the site. Staff have received no verbal or written public input regarding the proposed rezoning.

School District

This application was not referred to School District No. 38 (Richmond) because it does not have the potential to generate 50 or more school-aged children. According to OCP Bylaw Preparation Consultation Policy 5043, which was adopted by Council and agreed to by the School District, residential developments which generate less than 50 school aged children do not need to be referred to the School District (e.g., typically around 295 multiple-family housing units). This application only involves 49 multiple-family housing units.

Staff Comments

West Cambie Area Plan Amendments: The application proposes land uses that differ from those anticipated by the WCAP. In lieu of medium density residential development with residential over retail along the High Streets, the applicant is proposing town housing along the Dubbert Street portion of the High Street and live/work dwellings along the Alexandra Road portion of the High Street. To accommodate these changes, a new Alexandra Land Use Map designation, “Residential Mixed Use”, is being proposed for the subject site. It adds live/work dwellings to the current use provisions and does not assign specific uses to the High Street. Staff support the proposed changes, as discussed under “Land Use” in the following section.

Analysis

Commentary is provided below with respect to land use, density, proposed zoning, proposed parking and loading, urban design, district energy, green buildings and sustainable infrastructure, flood control, tree protection, aircraft noise, indoor amenity space, community amenity contributions, affordable housing, public art and the neighbourhood implementation strategy.

Land Use: In lieu of providing retail along the High Street, which includes both the Alexandra Road and Dubbert Street frontages, the applicant has proposed town housing along Dubbert Street and live/work dwellings along Alexandra Road. The proposed WCAP amendments will support this arrangement. The live/work units proposed along the Alexandra Road portion of the High Street will provide for commercial uses at grade, in keeping with the intent of the Area Plan. Legal agreement registered on title will identify the work portion of these units and ensure the work portion is not converted to residential living quarters. Live/work uses are not proposed on Dubbert Street as the realignment of the High Street, as part of the Smart Centres application, focuses the retail activity towards Alexandra Road.

Density (FAR): The proposed FAR is 0.90, which is less than the Land Use Map medium density FAR range of 1.25 to 1.50 (with affordable housing). The applicant has explored various approaches to developing the site to higher densities than that proposed, but has concluded such a project would not be viable due to a mismatch between the size and configuration of the site, the inclusion of retail uses and the size and configuration of the related parking structure.

Proposed Zoning: The proposed zoning for this site includes: an FAR of 0.90, maximum 45% lot coverage for buildings, minimum setbacks from the street frontages of 3.0 m (9.8 ft.), a maximum height of the lesser of 12.0 m or three storeys, and a minimum site size of 0.60 ha (roughly based on the area of the subject site). Provisions of note that are supported by staff include:

- The 3.0 m (9.8 ft.) setback on all street frontages, because it is consistent with the 3.0 m build-to-line promoted by the Alexandra Character Area guidelines for the High Street and it will provide the applicant with flexibility to achieve larger usable private open space to the rear of street fronting units as well as more visual interest along the drive aisles.

Proposed Parking and Loading: The proposed development will conform to Section 7.0 of the Richmond Zoning Bylaw, with the following site-specific parking provisions proposed:

- 1.5 spaces/unit, which is the common standard for the West Cambie Neighbourhood given its proximity to the City Centre and transit; and
- A tandem parking ratio of 55% of the total number of residential units, given that this site does not abut single-family neighbourhoods and should not create overflow parking issues.

Urban Design: Except for issues that relate directly to the proposed new zoning schedule, detailed urban design review with respect to adjacencies, site planning, functional planning, architectural form and character, landscape form and character and liveability will occur at the Development Permit stage. The proposal also will be reviewed by the Advisory Design Panel at the Development Permit stage.

Alexandra District Energy Utility (ADEU): The proposed development will meet the requirements of the Alexandra District Energy Utility Bylaw and the developer is expecting to use the ADEU for space heating and cooling as well as domestic hot water pre-heating, noting that cooling is necessary to address the Aircraft Noise Development Requirements.

Green Buildings and Sustainable Infrastructure: OCP Section 14.2.10, Development Permit Guidelines – General, outlines expectations related to green buildings and sustainable infrastructure and includes provisions regarding energy efficiency, water conservation, building materials, health and air quality and urban agriculture. At the Development Permit stage, the project will be expected to address these guidelines.

Flood Construction Elevation and Road Elevation Requirements: The West Cambie Area Plan establishes a minimum Flood Construction Level within the Alexandra Neighbourhood of 2.6 m GSC and a minimum elevation of 2.0 m GSC for all new roads within the neighbourhood. Roads should be established at the highest possible elevations within the constraints of functional road design. Detailed design will occur at subsequent stages of the approval process

Tree Protection: The Tree Protection Bylaw addresses tree retention, protection and replacement on the subject site and the surrounding City property. The site has been assessed as follows:

- There are five (5) bylaw-size trees on site, none of which is a good candidate for retention. Replacement trees are provided in the landscape plan beyond the 2:1 replacement ratio established by the OCP.
- There is one (1) tree located on City property in poor condition and conflicting with proposed development. It is proposed to be removed a contribution of \$1,300 toward the City's Tree Compensation Fund is provided.

Aircraft Noise Policy: The subject property is located within “Area 2” of the Aircraft Noise Sensitive Development Policy Areas. All aircraft noise sensitive land uses except new single-family may be considered within Area 2. The proposed townhouse development conforms to this policy and rezoning adoption will require registration of restrictive covenants, submission of an acoustic report and incorporation of noise mitigation in construction such as mechanical ventilation and central air conditioning.

Indoor Amenity Space: Payment of cash, in-lieu of providing indoor amenity space for multi-family developments, may be provided as an option as part of the Development Permit process (Cash In Lieu of Indoor Amenity Space Policy 5041). The developer proposes to provide a cash-in-lieu contribution of \$80,000.00 to the Recreation Facility Reserve.

Community Amenity Contributions: The developer will contribute to community amenities, pursuant to the West Cambie-Alexandra Interim Amenity Policy 5044 and based on the proposed floor area ratio of 0.9, as follows:

- Community and engineering planning costs at \$0.07/ft² (i.e. at \$4,160.08).
- Child care at \$0.60/ft² (i.e. \$35,657.82).
- City beautification at \$0.60/ft² (i.e. \$35,657.82).

The project may qualify for a reduction in the City Beautification contribution, based on the cost of off-site beautification works included in the Servicing Agreement, as determined by the Director of Development.

Affordable Housing Contribution: The developer will contribute to affordable housing, pursuant to the West Cambie-Alexandra Interim Amenity Policy 5044 and based on the proposed floor area ratio of 0.9, as follows:

- Affordable Housing costs at \$5.10/ft² (i.e. \$303,091.47).

The affordable housing contribution will be added to the West Cambie Affordable Housing Reserve Fund.

Public Art: Richmond’s Public Art Policy requires that the developer submit a Public Art Plan or make a financial contribution for the provision of Public Art on the site or in the City. A voluntary contribution to the City’s Public Art fund, based on a maximum FAR of 0.9 and a contribution of \$0.77/ft² (\$45,302.95) is included in the rezoning considerations.

Neighbourhood Implementation Strategy: Neighbourhood infrastructure expectations are articulated in Section 9.3 of the WCAP. The requirements that apply to the subject site include frontage improvements on Tomicki Avenue, Dubbert Street and Alexandra Road as well as various water, sanitary and drainage works. These are described in more detail in the Rezoning Considerations (Attachment 5).

Financial Impact or Economic Impact

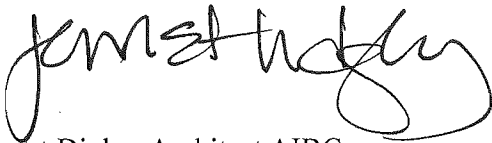
The Operating Budget Impact (OBI) for engineering and transportation works is \$5,000.

Conclusion

The proposed development provides for three-storey, ground-oriented town housing with live/work units fronting Alexandra Road. The proposed OCP amendments will support the addition of live/work dwellings to the current land uses and will permit residential uses fronting the High Street. The proposed site-specific zone, "Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)" will provide for development with a FAR of 0.9, a height of 12.0 m (40 ft.), a residential parking ratio of 1.5 spaces per unit and a provision to allow for 55% of the units to incorporate a tandem parking arrangement.

Based on the information submitted, it is recommended that:

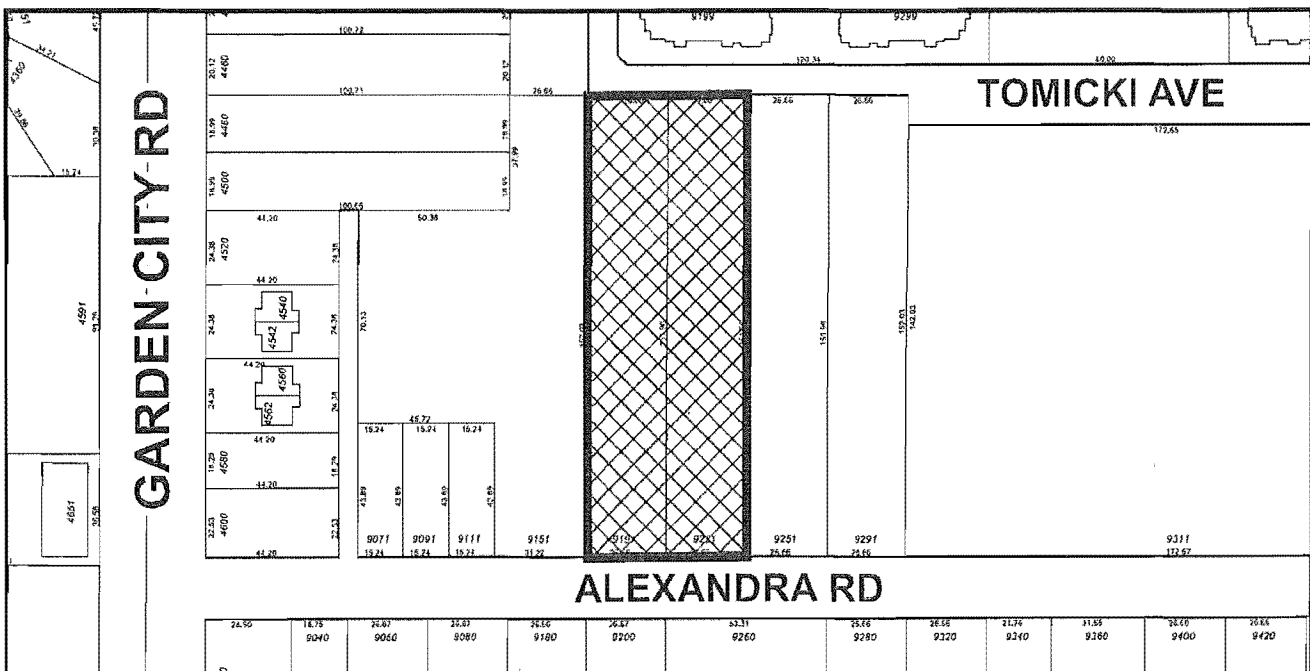
- a) Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 9164, to revise the provisions of the West Cambie Area Plan, be introduced and given first reading; and
- b) Richmond Zoning Bylaw 8500, Amendment Bylaw 9163, to create the zone "Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)" and to rezone 9191 and 9231 Alexandra Road from "RS1/F" to "ZMU28" be introduced and given first reading.



Janet Digby, Architect AIBC
Senior Planner 3-Urban Design
(604-276-4620)

JD:blg

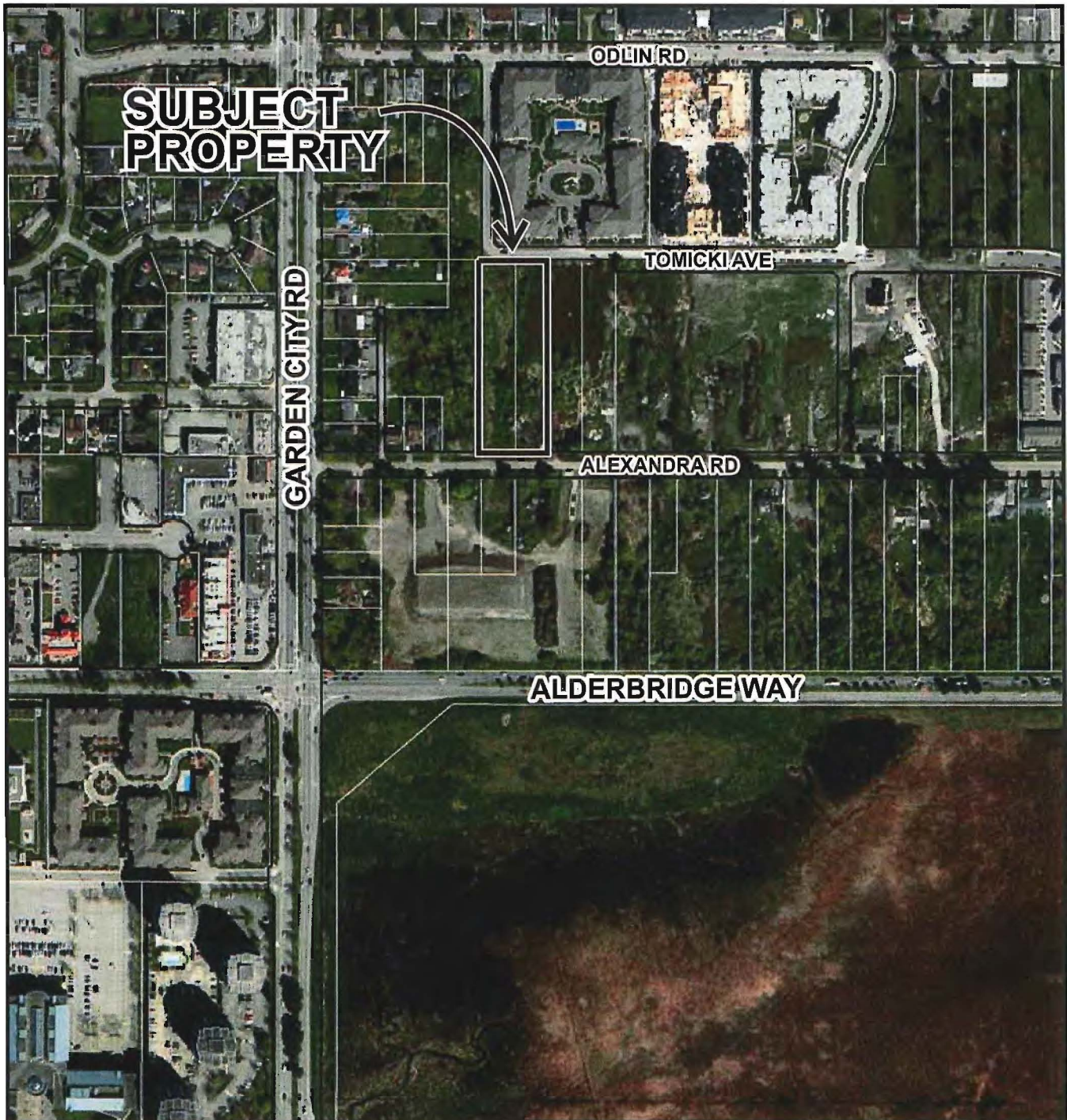
Attachment 1: Aerial View and Location Map
Attachment 2: Development Application Data Sheet
Attachment 3: Conceptual Development Drawings
Attachment 4: Alexandra Neighbourhood Land Use Map
Attachment 5: Rezoning Considerations

[illegible]

Note: Dimensions are in METRES



City of
Richmond



RZ 14-656219

Original Date: 03/06/14

Revision Date:

Note: Dimensions are in METRES



**City of
Richmond**

Development Application Data Sheet
Development Applications Division

RZ 14-656219

Attachment 2

Address: 9191 and 9231 Alexandra Road

Applicant: S-8135 Holdings Ltd.

Planning Area(s): West Cambie Area Plan

	Existing	Proposed
Owner:	S-8135 Holdings Ltd.	S-8135 Holdings Ltd.
Site Size (m ²):	8,103.7 m ² (0.81 ha / 2.0 acres)	6,134.7 m ² (0.61 ha / 1.5 acres) after road dedications
Land Uses:	Single-Family	Mixed Use
OCP Designation:	Commercial / Mixed Use	Mixed Use
Area Plan Designation:	Mixed Use – (retail and residential)	Mixed Use – (live/work and residential)
Zoning:	Single-Detached (RS1/F)	Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)
Number of Units:	0	49

On Future Subdivided Lots	Bylaw (ZMU28)	Proposed (Application)	Variance
Floor Area Ratio:	Max. 0.9	0.891	none permitted
Lot Coverage – Building:	Max. 45%	43.5%	none
Lot Size (min. area):	0.60 ha	0.61 ha	none
Setback – Front Yard / Road (m):	3.0 m Min.	3.0 m Min.	none
Setback – External Side (m):	3.0 m Min.	3.0 m Min.	none
Setback – Internal (m):	3.0 m Min.	3.0 m Min.	n/a
Setback – Rear (m):	3.0 m Min.	3.0 m Min.	none
Height (m):	12.0 m	10.67 m	none
Off-street Parking Spaces – Residential / Visitor / Live/Work:	$\frac{1.5(R)+0.2(V)+0.5(LW)}{\text{Unit}}$	$\frac{1.5(R)+0.2(V)+0.5(LW)}{\text{unit}}$	none
Off-street Parking Spaces – Total:	89	89	none
Tandem Parking Spaces:	55%	55%	none

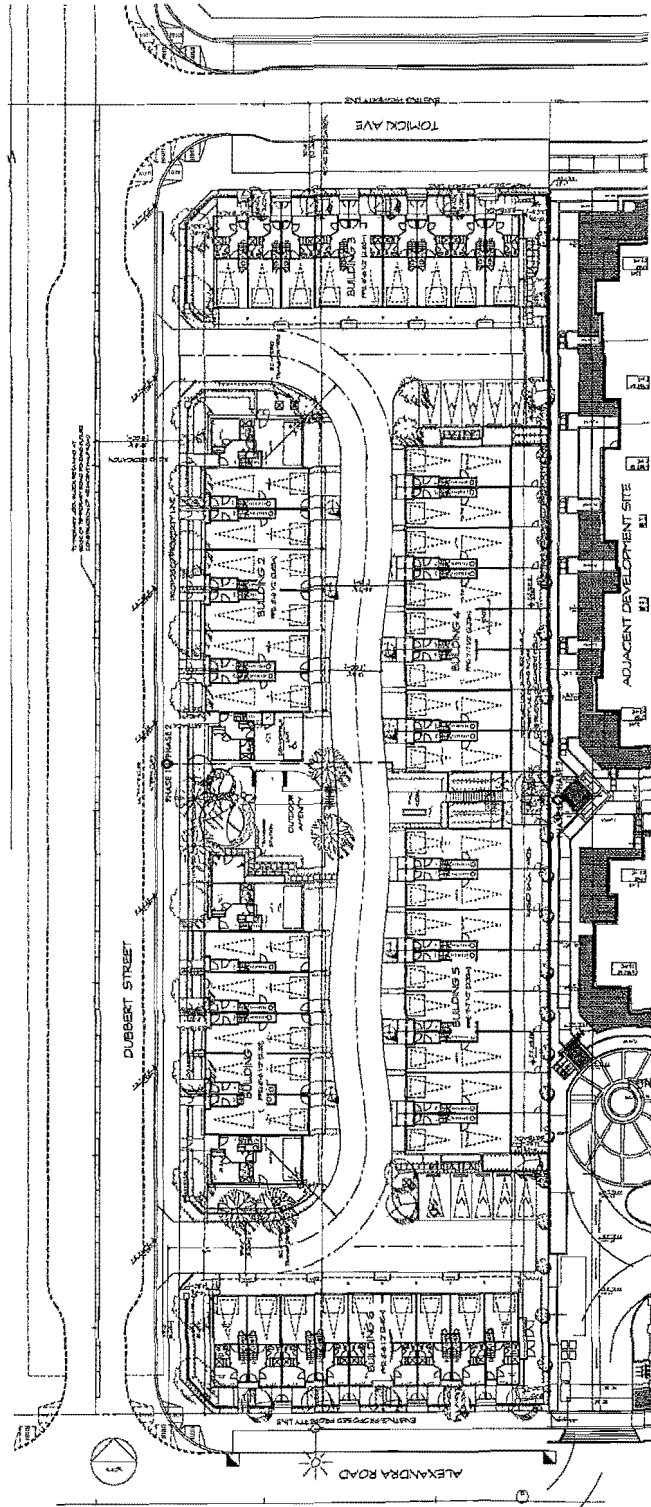
June 27, 2014

- 2 -

RZ 14-656219

On Future Subdivided Lots	Recommendation (OCP)	Proposed (Application)	Variance
On-site	5 trees / 2:1 replacement	10 plus trees	n/a
Off-site	1 tree / 2:1 replacement	\$1,300	n/a

ALEXANDRIA TOWNHOMES PROJECT STATISTICS		TOTAL LIMITS		TOTALS	
DESCRIPTION	QUANTITY	PERCENT	PERCENT	PERCENT	PERCENT
GROSS SITE AREA	70,000 sq ft	100%	100%	70,000 sq ft	100%
DEVELOPABLE AREA	60,000 sq ft	85.7%	85.7%	60,000 sq ft	85.7%
NET SITE AREA	60,000 sq ft	85.7%	85.7%	60,000 sq ft	85.7%
PROMPTED FAR	1.5 FAR	1.5 FAR	1.5 FAR	1.5 FAR	1.5 FAR
PROMPTED FAR	0.95 FAR	0.95 FAR	0.95 FAR	0.95 FAR	0.95 FAR
COVERAGE	40.00%	40.00%	40.00%	40.00%	40.00%
FLOOR AREA	63,361.2 sq ft	90.5%	90.5%	63,361.2 sq ft	90.5%
UNIT COUNT	49	49	49	49	49
OUTDOOR AREA	6,638.8 sq ft	9.5%	9.5%	6,638.8 sq ft	9.5%
RESIDENT PARKING	1.5/UNIT	1.5/UNIT	1.5/UNIT	1.5/UNIT	1.5/UNIT
SMALL CHAIR ACCESSIBLE	MAX 50% RESID STALLS	MAX 50% RESID STALLS	MAX 50% RESID STALLS	MAX 50% RESID STALLS	MAX 50% RESID STALLS
VISITOR PARKING	100 UNIT	100 UNIT	100 UNIT	100 UNIT	100 UNIT
TANDEM PARKING	54	54	54	54	54
STREET PARKING	125 STALLS/LANE	125 STALLS/LANE	125 STALLS/LANE	125 STALLS/LANE	125 STALLS/LANE

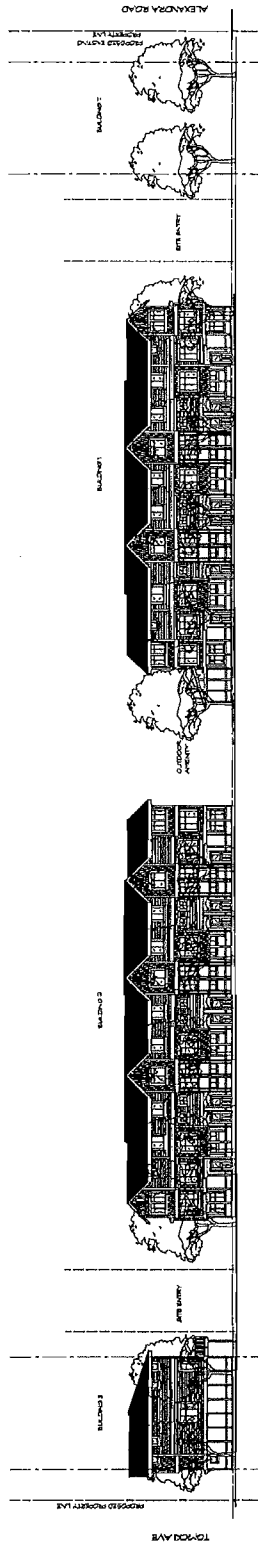


PH - 210

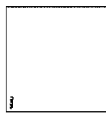
CONCEPTUAL ONLY

CONCEPTUAL ONLY
 THIS DRAWING IS A CONCEPTUAL DESIGN AND IS NOT A FINAL DESIGN. IT IS NOT TO BE USED FOR CONSTRUCTION OR FOR ANY OTHER PURPOSE. THE DESIGNER ASSUMES NO LIABILITY FOR ANY ERRORS OR OMISSIONS. THE CLIENT ASSUMES ALL RESPONSIBILITY FOR THE DESIGN AND FOR ANY CHANGES TO THE DESIGN. THE DESIGNER'S SERVICES ARE LIMITED TO THE DESIGN AND FOR THE PREPARATION OF THE DESIGN DOCUMENTS. THE DESIGNER DOES NOT PROVIDE ANY OTHER SERVICES.

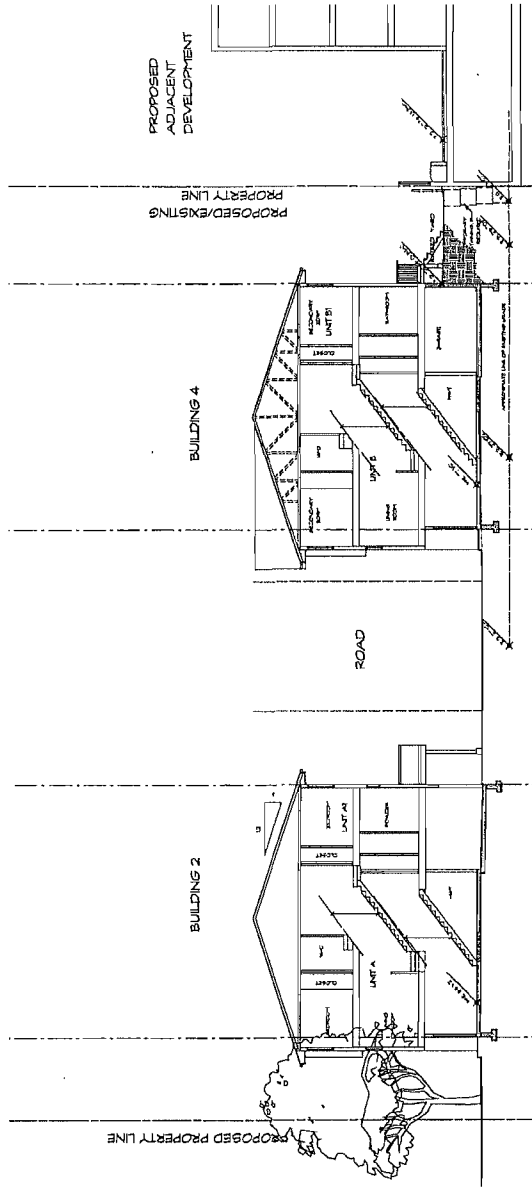
REVISIONS
 NO. DATE DESCRIPTION
 1 1/1/2020 INITIAL DESIGN



1. STREETSCAPE (DUBBERT STREET)
 A1.1 ROAD VIEW



RCA
 Robert C. Czarz Architecture Inc.
 200 - 2375 Columbia Street
 Vancouver, BC
 Canada V6J 1Y5
 Tel: (604) 687-4741
 Fax: (604) 687-4741
 admin@rcaczarzarchitecture.com

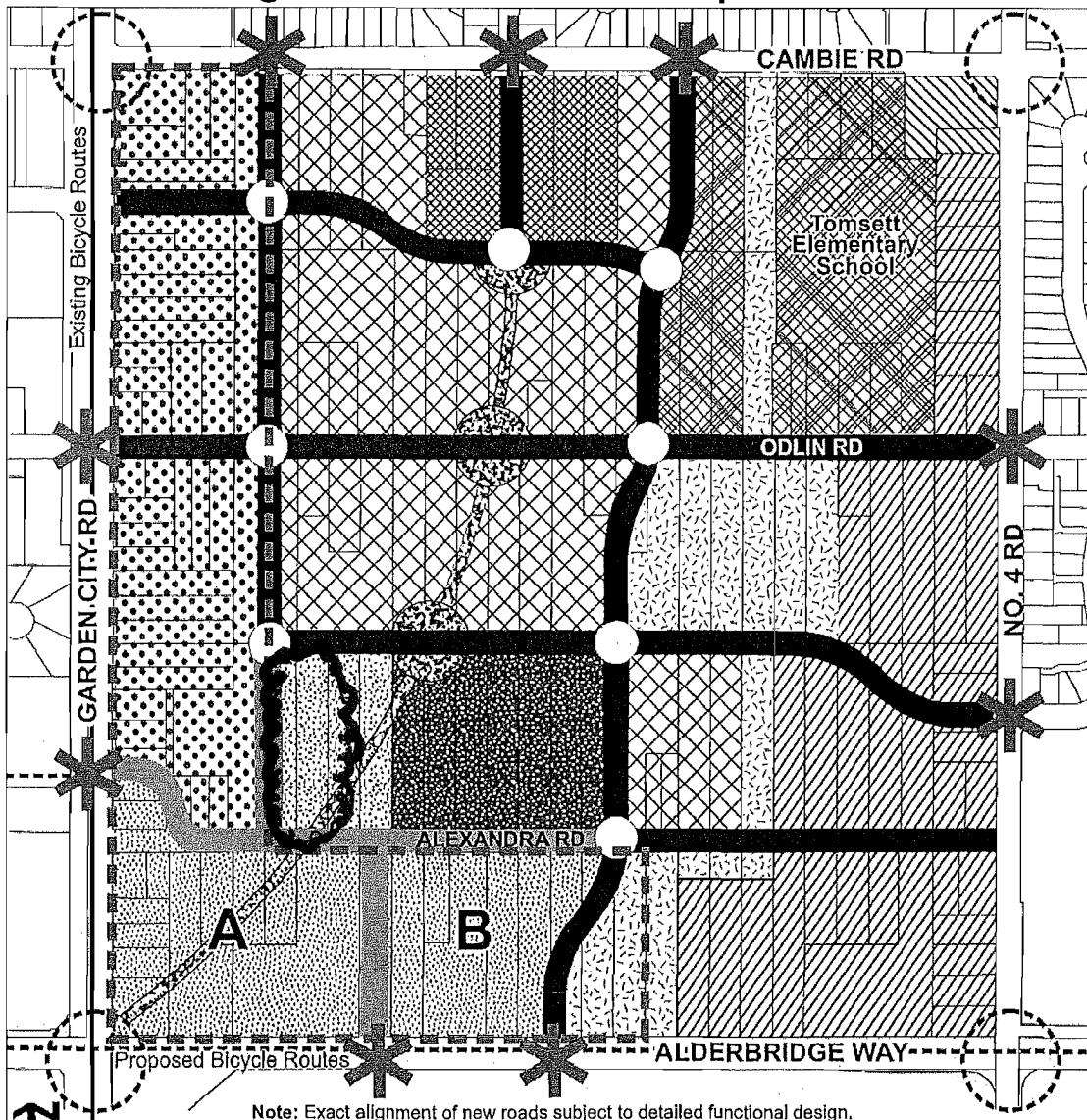


2. SITE SECTION
 A1.1 ROAD VIEW

ALEXANDRA	
PROJECT NO.	200-2375 COLUMBIA STREET
DATE	1/1/2020
Streetscape and Site Section	
SCALE	A1.1

City of Richmond

Alexandra Neighbourhood Land Use Map

Bylaw 9021
2013/10/15

<p>Area of No Housing Affected by Aircraft Noise</p> <p>Business/Office - office over retail FAR up to 1.25</p> <p>Convenience Commercial</p> <p>Residential Area 1 1.50 base FAR (Max. 1.70 FAR with density bonusing for affordable housing). Townhouse, low-rise Apts. (4-storey typical)</p> <p>Residential Area 1A 1.50 base FAR (Max. 1.75 FAR with density bonusing for affordable housing). Townhouse, low-rise Apts. (6-storey maximum).</p> <p>Residential Area 1B 1.68 base FAR (Max. 1.88 FAR with density bonusing for affordable housing) (6-storey maximum).</p>	<p>Residential Area 2 0.65 base FAR (Max. 0.75 FAR with density bonusing for affordable housing). 2 & 3-storey Townhouses.</p> <p>Mixed Use: Hotel, office and streetfront retail commercial. Area A: Min. 1.25 FAR up to 2.0 Area B: Large and small floor plate up to 1.0 FAR</p> <p>Mixed Use: • abutting the High Street, medium density residential over retail; • not abutting the High Street, medium density residential. 1.25 base FAR. Building heights low to mid-rise. (Max. 1.50 FAR with density bonusing for affordable housing).</p> <p>Community Institutional</p>	<p>Park: North Park Way, Central Park, South Park Way</p> <p>Alexandra Way (Public Rights of Passage Right-of-way)</p> <p>Proposed Roadways</p> <p>High Street</p> <p>New Traffic Signals</p> <p>Feature Intersections - details to be developed</p> <p>Feature Landmarks in Combination with Traffic Calming Measures</p>
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Also refer to Section 8.4.5 – Alexandra District Energy Unit regarding district energy density bonusing policies.

Original Adoption: September 12, 1988 / Plan Adoption: July 24, 2006
3186793

West Cambie Area Plan 50



SUBJECT SITE

PH - 212



City of
Richmond

Rezoning Considerations

Development Applications Division
6911 No. 3 Road, Richmond, BC V6Y 2C1

Address: 9191 and 9231 Alexandra Road

File No.: RZ 14-656219

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9163, the developer is required to complete the following:

1. Final Adoption of OCP Amendment Bylaw 9164.
2. Road dedications as follow:
 - a. Tomicki Avenue - 10 m wide strip along the full northern frontage.
 - b. Dubbert Street – 10 m wide strip along the full western frontage.
 - c. 4 m x 4 m corner cuts required at the Dubbert Street/Tomicki Avenue and Dubbert Street/Alexandra Road intersections, measured from new property lines.
3. Consolidation of all the lots into one (1) development parcel (which will require the demolition of any existing buildings).
4. Registration of a flood plain covenant on title identifying a minimum habitable elevation of 2.6 m GSC.
5. Registration of an aircraft noise sensitive use covenant on Title.
6. Registration of a legal agreement on Title prohibiting the conversion of the tandem parking area within a unit into habitable space.
7. Registration of a legal agreement(s) regarding the developer's commitment to connect to the West Cambie District Energy Utility (DEU), including the operation of and use of the DEU and all associated obligations and agreement as determined by the Director of Engineering.
8. Registration of a live/work dwelling covenant on Title identifying the portions of the live/work dwelling used for work and prohibiting the conversion of the identified portions to residential use.
9. City acceptance of the developer's offer to contribute voluntarily \$1,300 to the City's Tree Compensation Fund for the planting of replacement trees within the City.
10. City acceptance of the developer's offer to contribute voluntarily, per the West Cambie - Alexandra Interim Amenity Guidelines, \$5.10 per buildable square foot (e.g. \$303,091.47, to be recalculated through the Development Permit once the final floor area has been refined) to the West-Cambie Affordable Housing Capital Reserve (70%) and the Affordable Housing Operating Reserve Fund (30%) – Account # 7600-80-000-90151-0000 and Account # 7600-80-000-90152-0000 respectively.
11. City acceptance of the developer's offer to contribute voluntarily the following amounts per the West Cambie - Alexandra Interim Amenity Guidelines, \$0.07 per buildable square foot (e.g. \$4,160.08, to be recalculated through the Development Permit once the final floor area has been refined) toward community planning and engineering costs in the West Cambie area – Account # 3132-10-520-00000-0000.
12. City acceptance of the developer's offer to contribute voluntarily the following amounts per the West Cambie - Alexandra Interim Amenity Guidelines, \$0.60 per buildable square foot (e.g. \$35,657.82, to be recalculated through the Development Permit once the final floor area has been refined) toward childcare costs in the West Cambie area – Account # 7600-80-000-90158-0000.
13. City acceptance of the developer's offer to contribute voluntarily the following amounts per the West Cambie - Alexandra Interim Amenity Guidelines, \$0.60 per buildable square foot (e.g. \$35,657.82, to be recalculated through the Development Permit once the final floor area has been refined) toward City Beautification (High Street

Initial: _____

Streetscape Improvements) – Account # 2264-10-000-90582-0000 (which may be reduced at the discretion of the Director of Development).

14. City acceptance of a contribution of \$80,000.00 in-lieu of on-site indoor amenity space to be deposited in the Leisure Facility Reserve Fund – Account # 7600-80-90169-0000.
15. City acceptance of the developer's offer to contribute voluntarily \$0.77 per buildable square foot (e.g. \$45,302.95, to be recalculated through the Development Permit once the final floor area has been refined) to the City's Public Art fund – Account # 7600-80-000-90173-0000.
16. The submission and processing of a Development Permit* completed to a level deemed acceptable by the Director of Development.

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

1. Complete an acoustical and thermal report and recommendations prepared by an appropriate registered professional, which demonstrates that the interior noise levels and noise mitigation standards comply with the City's Official Community Plan and Noise Bylaw requirements. The standard required for air conditioning systems and their alternatives (e.g. ground source heat pumps, heat exchangers and acoustic ducting) is the ASHRAE 55-2004 "Thermal Environmental Conditions for Human Occupancy" standard and subsequent updates as they may occur. Maximum interior noise levels (decibels) within the dwelling units must achieve CMHC standards follows:

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

2. 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 installation costs. The Landscape Plan should include:
 - a. A mix of coniferous and deciduous trees.
 - b. The 10 required replacement trees with the following minimum sizes:

No. of Replacement Trees	Minimum Caliper of Deciduous Tree	or	Minimum Height of Coniferous Tree
10	6 cm		3 m

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

1. Incorporation of sustainability measures in the Building Permit (BP) drawings as determined during the Rezoning and/or Development Permit processes.
2. Incorporation of accessibility measures in Building Permit (BP) plans as determined via the Rezoning and/or Development Permit processes.
3. Incorporation of CPTED measures in Building Permit (BP) plans as determined via the Rezoning and/or Development Permit processes.
4. Payment of the Supplementary Local Area DCC for the Alexandra Neighbourhood.
5. Payment of the sanitary pump station latecomer fees, plus applicable interest, in accordance with the Alexandra Neighbourhood Development Agreement (i.e. townhouse rate of \$3,307.47 per unit plus interest).
6. If applicable, payment of other latecomer agreement charges associated with eligible latecomer agreements.
7. Enter into a Servicing Agreement* for the design and construction of servicing infrastructure and frontage improvements. Works include, but may not be limited to:

[Water Works - Water analysis is not required. However, once you have confirmed your building design at the Building Permit stage, you must submit fire flow calculations signed and sealed by a professional engineer based on the Fire Underwriter Survey or ISO to confirm that there is adequate available flow.]

Initial: _____

- a. Alexandra Road frontage:
 - i. Upgrade the existing 200 mm diameter AC watermain to 200 mm diameter PVC watermain from the west property line of 9191 Alexandra Road to East property line of 9231 Alexandra Road.
- b. Dubbert Street frontage:
 - i. Provide a new 200 mm diameter PVC watermain from the proposed watermain required on Alexandra Road to Tomicki Avenue and two (2) hydrants at a maximum distance of 75 m apart.
 - ii. The required watermain at Dubbert Street shall be designed and constructed to the ultimate condition.
- c. Tomicki Avenue frontage:
 - i. Provide a new 200 mm diameter PVC watermain from the proposed watermain required on Dubbert Street to the east property line of 9231 Alexandra Road. It should be in line with the watermain on Tomicki Avenue at May Drive. Provide a temporary tie-in from the proposed watermain to the east property line of 9291 Alexandra Road. This temporary tie-in will be connected to the watermain along the northern frontage of 9311 Alexandra Road (to be constructed under SA13-634677). Install a hydrant at the Tomicki Avenue frontage at a maximum distance of 75 m from the proposed hydrant required on Dubbert Street.

[Drainage works - Storm sewer capacity analysis is not required; however, the following storm sewer works are required.]

- d. Alexandra Road frontage:
 - i. Provide a new storm manhole at the intersection of Dubbert Street and Alexandra Road. It should be aligned with the existing storm sewer at Dubbert Street (north of Tomicki Avenue).
 - ii. Upgrade the existing ditch to a 1050 mm storm sewer from the proposed storm manhole as required at the intersection of Dubbert Street and Alexandra Road to the east property line of 9231 Alexandra Road at an offset of approx. 10m from the south property line of 9291 Alexandra Road. Provide a new storm manhole at the east end this upgrade. Interim tie-ins to either sides of the existing ditch may be required. Upgrade length is approximately 52 m.
- e. Dubbert Street frontage:
 - i. Provide a new 600 mm diameter storm sewer from proposed storm manhole required at the intersection of Alexandra Road and Dubbert Street to STMH108256 located at the intersection of Tomicki Avenue and Dubbert Street. Length of new pipe is approximately 164 m. A new adequately sized manhole is required at a maximum distance of 100 m from the proposed manhole required at the intersection of Alexandra Road and Dubbert Street as per City of Richmond Engineering Design Specs.
 - ii. The required drainage works at Dubbert Street shall be designed and constructed to the ultimate condition.

[Sanitary works - Sanitary sewer capacity analysis is not required; however, the following sanitary sewer works are required.]

- f. Dubbert Street:
 - i. Provide a new sanitary 200 mm diameter PVC sanitary sewer from existing sanitary manhole SMH 51176 at the intersection of Tomicki Avenue and Dubbert Street to approx. 75 m south from the north property line of 9191 Alexandra Road. The length of new pipe is approximately 78 m. A new adequately sized manhole is required at a maximum distance of 100 m from the proposed manhole required at south end of the proposed pipe as per City of Richmond Engineering Design Specs.
 - ii. The required sanitary works at Dubbert Street shall be designed and constructed to the ultimate condition.
 - iii. Sanitary service connection for the proposed site shall be at Dubbert Street frontage.

Initial: _____

[Additional requirements.]

- g. The developer is responsible for the under-grounding of the existing private utility pole lines along the Alexandra Road frontage. The developer shall provide private utility companies with the required rights-of-ways for their equipment (e.g. Vista, PMT, LPT, SAC Pad, kiosks, etc.) and/or to accommodate the future under-grounding of the overhead lines. This equipment must be located on private property and not within City SROWs or Public Rights-of-Passage and not impact public amenities such as sidewalks, boulevards and bike paths. The developer is responsible for coordination with private utility companies.

[Transportation works.]

- h. Applicant responsible for the design and construction of the following frontage improvements:
- i. Tomicki Avenue: Coordinate with the offsite works via RZ 12-598503 & RZ 10-534751 to complete to the road to the following ultimate standards (from south to north):
 - (a) 2 m wide concrete sidewalk
 - (b) min. 1.5 m wide treed/grassed boulevard
 - (c) curb/gutter
 - (d) minimum 8.5 m pavement width (11.2 m desired to accommodate on-street parking)
 - (e) reconstruction of the existing curb and widen the existing boulevard along the north side
 - ii. Dubbert Street: Complete to the road to the following interim standards (from east to west):
 - (a) 2 m wide concrete sidewalk
 - (b) 0.75 m wide interim treed/grassed boulevard
 - (c) Interim concrete extruded curb
 - (d) minimum 6.0 m wide pavement
 - (e) minimum 1.0 m wide shoulder with no-post barriers
 - iii. Alexandra Road: widen the road to accommodate the following (from north to south):
 - (a) 2 m wide concrete sidewalk
 - (b) min 1.5 m wide treed/grassed boulevard
 - (c) curb and gutter
 - (d) min. 6.2 m wide road pavement
 - (e) min. 1 m wide shoulder
 - (f) appropriate side slope and tie-in to the properties to the south

[Note that above is the minimum frontage works along Alexandra Road required of the development. Applicant should coordinate works required via RZ 10-528877 (Smart Center) to complete the road to the ultimate standard, which would include the following minimum road elements (from north to south):

- 2 m wide concrete sidewalk
- min 1.5 m wide treed/grassed boulevard
- curb and gutter
- min. 11.2 m wide road pavement
- curb and gutter
- min 1.5 m wide treed/grassed boulevard
- 2 m wide concrete sidewalk]

8. Refer to approved service agreement design drawings for works to be done by the City at the developer's sole cost via City Work Order.
9. Submission of a Construction Parking and Traffic Management Plan to the Transportation Division. 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.
10. 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 Division at 604-276-4285.

Initial: _____

Notes:

- * 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 comply with all relevant legislation.

Signed _____

Date _____



**Richmond Zoning Bylaw 8500
Amendment Bylaw 9163 (RZ 14-656219)
9191 and 9231 Alexandra Road**

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

1. Richmond Zoning Bylaw 8500, as amended further by inserting Section 20.28 thereof the following:

**20.28 Residential /Limited Commercial (ZMU28) – Alexandra
Neighbourhood (West Cambie)**

20.28.1 Purpose

The zone provides for low density town housing and live/work uses.

20.28.2 Permitted Uses

- housing, town
- live/work dwelling

20.28.3 Secondary Uses

- boarding and lodging
- child care
- community care facility, minor
- home business

20.28.3 Permitted Density

1. The maximum floor area ratio (FAR) is 0.90.

20.28.4 Permitted Lot Coverage

1. The maximum lot coverage is 45% for buildings.
2. No more than 70% of the lot may be occupied by buildings, structures and non-porous surfaces.
3. 20% of the lot area is restricted to landscaping with live plant material.

20.28.5 Yards & Setbacks

1. The minimum front yard, exterior side yard, interior side yard and rear yard is 3.0 m.

20.28.6 Permitted Heights

1. The maximum **height** for **buildings** is the lesser of 12.0 m or 3 storeys.
2. The maximum **height** for **accessory buildings** and **accessory structures** is 5.0 m.

20.28.7 Subdivision Provisions/Minimum Lot Size

1. The minimum **lot** area is 0.60 ha.

20.28.8 Landscaping & Screening

1. **Landscaping** and **screening** shall be provided and maintained in accordance with Section 6.0 of this bylaw.

20.28.9 On-Site Parking and Loading

1. On-site **vehicle** parking and loading shall be provided according to the standards set out in Section 7.0, except that:
 - a. the minimum number of **parking spaces** per **dwelling unit** shall be 1.5; and
 - b. the maximum number of **dwelling units** that may utilize a **tandem arrangement** is 55% of the total number of **dwelling units**.

20.28.10 Other Regulations

1. In addition to the regulations listed above, the General Development Regulations in Section 4.0 and the Specific Use Regulations in Section 5.0 apply.

2. 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 areas and by designating them "Residential/Limited Commercial (ZMU28) - Alexandra Neighbourhood (West Cambie)".

P.I.D. 012-032-441

East Half Lot 26 Block "B" Section 34 Block 5 North Range 6 West New Westminster District Plan 1224

P.I.D. 012-032-425

West Half Lot 25 Block "B" Section 34 Block 5 North Range 6 West New Westminster District Plan 1224

3. This Bylaw may be cited as "**Richmond Zoning Bylaw 8500, Amendment Bylaw 9163**".

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

JUL 28 2014



MAYOR

CORPORATE OFFICER



**Richmond Official Community Plan Bylaw 7100,
Amendment Bylaw 9164 (West Cambie Area Plan)**

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

1. Richmond Official Community Plan Bylaw 7100 is amended in Schedule 2.11A by the following:

- a) Section 8.2 Alexandra's Character Areas: Amend the legend in the Alexandra Neighbourhood Character Areas Map by deleting the following text under the term Mixed Use:

- “• abutting the High Street, medium density residential over retail;
- not abutting the High Street, medium density residential.”

and replacing it with the following:

- “• a mix of low to medium density residential with low to medium density residential over retail or live/work uses.”;

- b) Section 8.2.3 Character Area 3 – The High Street: Amend the legend in the Character Area 3 – The High Street Map by deleting the following text under the term Mixed Use:

- “• abutting the High Street, medium density residential over retail;
- not abutting the High Street, medium density residential.”

and replacing it with the following:

- “• a mix of low to medium density residential with low to medium density residential over retail or live/work uses.”;

- c) Section 8.2.3 Character Area 3 – The High Street: Add the following immediately after the fifth bullet under the subsection Land Uses:

- “• Within the area designated Residential Mixed Use, a mix of low to medium density residential with low to medium density residential over retail or live/work uses. Live/work uses would include an occupation or profession carried out by an occupant and up to one non-resident employee that is conducted in a mixed commercial/residential unit, the commercial portion of which is clearly designated as being at grade with living space above. From the building exterior, it should

present an attractive mixed use image (e.g., retail display windows at grade with residential above) and the work use should be situated at grade fronting the street.”;

- d) Section 8.2.4 Character Area 4 – Medium Density Housing: Amend the legend in the Character Area 4 – Medium Density Housing Map by deleting the following text under the term Mixed Use:

- “• abutting the High Street, medium density residential over retail;
- not abutting the High Street, medium density residential.”

and replacing it with the following:

- “• a mix of low to medium density residential with low to medium density residential over retail or live/work uses.”;

- e) Section 8.2.4 Character Area 4 – Medium Density Housing: Add the following immediately after the third bullet under the subsection Land Uses:

“• Within the area designated Residential Mixed Use, a mix of low to medium density residential with low to medium density residential over retail or live/work uses. Live/work uses would include an occupation or profession carried out by an occupant and up to one non-resident employee that is conducted in a mixed commercial/residential unit, the commercial portion of which is clearly designated as being at grade with living space above. From the building exterior, it should present an attractive mixed use image (e.g., retail display windows at grade with residential above) and the work use should be situated at grade fronting the street.”;

- f) Section 9.3 Alexandra Neighbourhood Implementation Strategy: Amend the Alexandra Neighbourhood Land Use Map:

- i. by changing the land use designation from “Mixed Use” to “Residential Mixed Use” for the area that is hatched within the lands outlined in bold in Schedule A to this bylaw, and amending the Alexandra Neighbourhood Land Use Map accordingly; and

- ii. by adding the following to the legend:

“Residential Mixed Use:

- a mix of low to medium density residential with low to medium density residential over retail or live/work uses.

Max. 1.25 FAR. Building heights low to mid-rise. (Max. 1.50 FAR with density bonusing for affordable housing).”

2. This Bylaw may be cited as **“Richmond Official Community Plan Bylaw 7100, Amendment Bylaw 9164”**.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

ADOPTED

JUL 28 2014

CITY OF RICHMOND
APPROVED by <i>iel</i>
APPROVED by Manager or Solicitor <i>[Signature]</i>

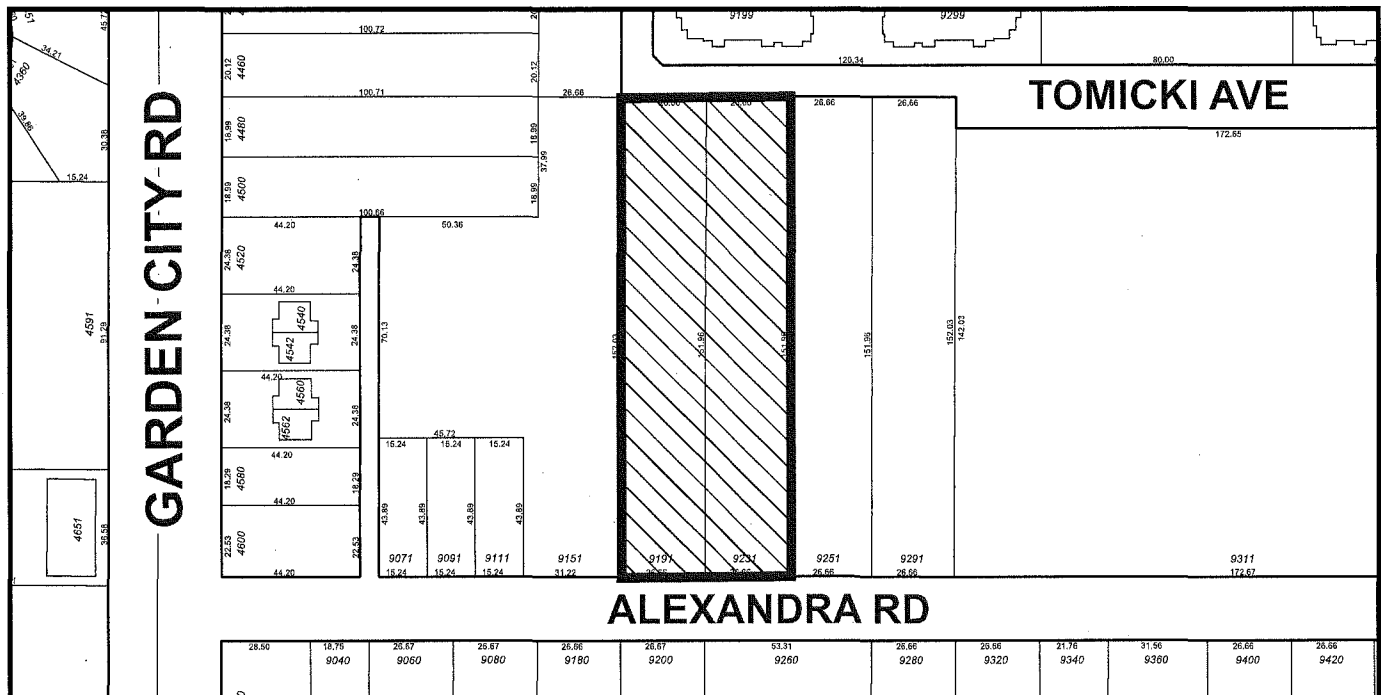
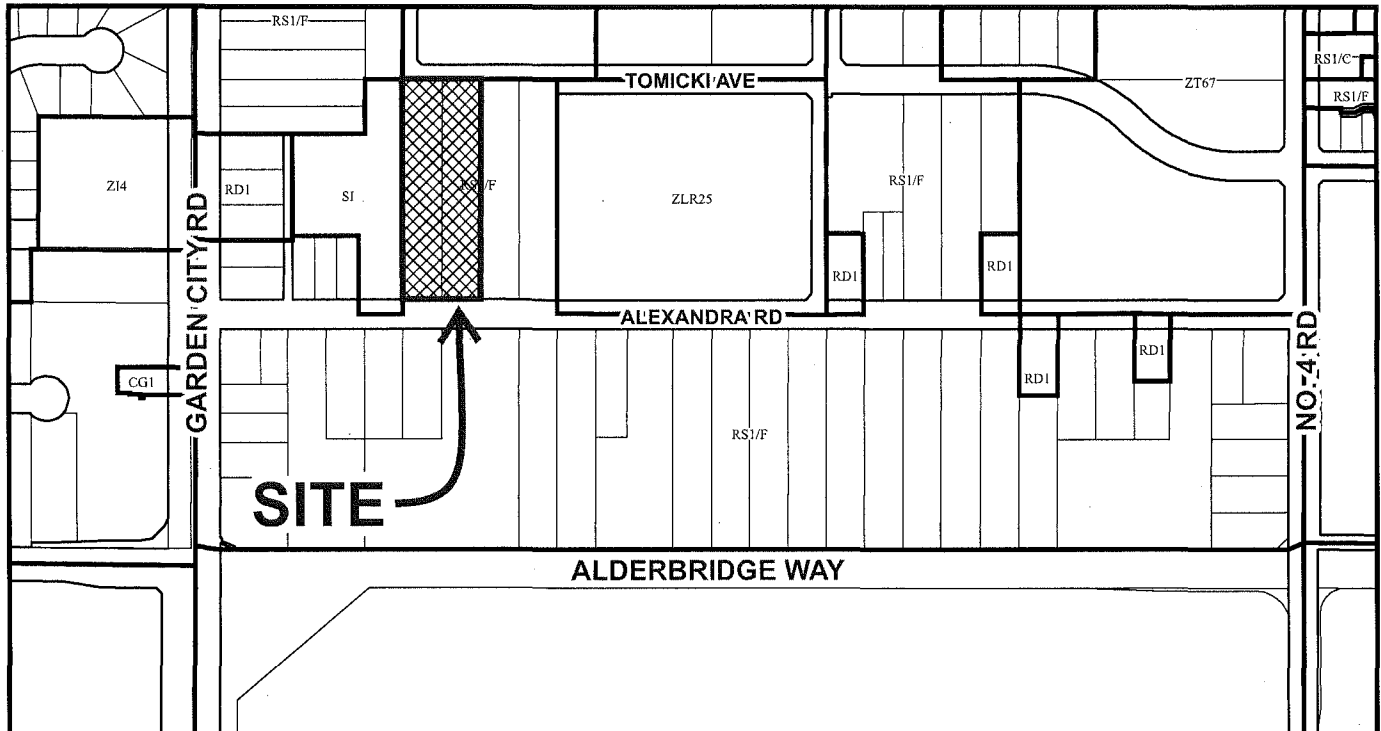
MAYOR

CORPORATE OFFICER



City of Richmond

"Schedule A" attached to and forming part of Bylaw 9164.



Proposed OCP Amendment (RZ 14-656219)

Original Date: 07/09/14

Revision Date: 07/16/14

Note: Dimensions are in METRES