



# COMMITTEE OF THE WHOLE AGENDA

Tuesday, February 4, 2025, 11:00 a.m.

Council Chambers

City Hall, 11995 Haney Place

All meetings are hybrid, allowing virtual or in person participation.  
Online participation via zoom <https://mapleridge-ca.zoom.us/j/89860004010>  
The meeting is live streamed and recorded by the City of Maple Ridge.

---

Pages

**1. CALL TO ORDER**

**Territory Acknowledgement**

The City of Maple Ridge carries out its business on the traditional and unceded territories of the Katzie (q'icəy) First Nation and the Kwantlen (q'wa:nə'ən) First Nation.

**2. APPROVAL OF AGENDA**

Committee of the Whole Agenda - February 4, 2025

RECOMMENDATION:

THAT the February 4, 2025 Committee of the Whole Agenda be approved as circulated.

**3. ADOPTION OF MINUTES**

5

Committee of the Whole Minutes - January 21, 2025

RECOMMENDATION:

THAT the minutes of the January 21, 2025 Committee of the Whole be adopted as circulated.

**4. PRESENTATIONS AT THE REQUEST OF COUNCIL**

**5. DELEGATIONS**

**6. PUBLIC COMMENT ON AGENDA ITEMS**

**7. STAFF REPORTS**

- 7.1 2022-195-RZ, 24340 and 24360 102 Avenue, RS-3 to R-3** 9
- To rezone the subject properties from RS-3 (Single Detached Rural Residential) to R-3 (Single Detached (Intensive) Urban Residential) to permit a future subdivision of five lots.
- RECOMMENDATION:  
 THAT the February 4, 2025, report titled "2022-195-RZ, 24340 and 24360 102 Avenue, RS-3 to R-3, Second Reading for Zone Amending Bylaw No. 7903-2023" be forwarded to the next Regular Council Meeting.
- 7.2 2023-163-RZ, 20235, 20247 and 20265 Patterson Avenue, RS-1 to RM-1** 24
- To rezone the subject properties from RS-1 (Single Detached Residential) to RM-1 (Low Density Townhouse Residential) to allow the future development of 28 townhouse units.
- RECOMMENDATION:  
 THAT the February 4, 2025, report titled "2023-163-RZ, 20235, 20247 and 20265 Patterson Avenue, RS-1 to RM-1 Second Reading Zone Amending Bylaw No. 7946-2023" be forwarded to the next Regular Council Meeting.
- 7.3 2021-556-DP, 22020 119 Avenue, Development Permit** 60
- For the construction of a proposed triplex on the subject property.
- RECOMMENDATION:  
 THAT the February 4, 2025, report titled "Application 2021-556-DP for 22020 119 Avenue, Development Permit" be forwarded to the next Regular Council Meeting.
- 7.4 2024-342-VP, 24689 124 Avenue, Development Variance Permit** 83
- To vary the maximum depth of the Farm Home Plate and to vary the maximum permitted height of the Accessory Building.
- RECOMMENDATION:  
 THAT the February 4, 2025, report titled "Application for 2024-342-VP for 24689 124 Avenue Development Variance Permit" be forwarded to the next Regular Council Meeting.
- 7.5 North East Albion Land Use and Servicing Review: Follow Up** 103
- Servicing review results for the proposed land use changes and intensification of the North East Albion Area.
- RECOMMENDATION:  
 THAT the February 4, 2025, report titled "North East Albion Land Use and Servicing Review: Follow Up" be forwarded to the next Regular Council

Meeting.

**7.6 City of Maple Ridge Housing Target Progress Report: July 1 – December 31, 2024** 121

Update on Housing Target Progress in accordance with the Housing Supply Act and Regulations.

RECOMMENDATION:

THAT the February 4, 2025, report titled "City of Maple Ridge Housing Target Progress Report: July 1 – December 31, 2024" be forwarded to the next Regular Council Meeting.

**7.7 Zero Carbon Step Code Implementation** 142

Amendment to Maple Ridge Building Bylaw No. 6925-2012 to enable Zero Carbon Step Code.

RECOMMENDATION:

THAT the February 4, 2025, report titled "Zero Carbon Step Code Implementation" be forwarded to the next Regular Council Meeting.

**7.8 Adaptable Housing: An Update on the Adaptable Unit Provisions in the 2024 BC Building Code** 351

Update on adaptable Housing standards and the implementation process for adaptable unit provisions in the City of Maple Ridge.

RECOMMENDATION:

THAT the February 4, 2025, report titled "Adaptable Housing: An Update on the Adaptable Unit Provisions in the 2024 BC Building Code" be forwarded to the next Regular Council Meeting.

**8. OTHER MATTERS DEEMED EXPEDIENT**

**9. NOTICE OF CLOSED MEETING**

Resolution to Exclude the Public

RECOMMENDATION:

The meeting will be closed to the public pursuant to Sections 90(1) of the Community Charter as the subject matter being considered is related to the following:

Section 90(1)(e) - the acquisition, disposition or expropriation of land or improvements, if the council considers that disclosure could reasonably be expected to harm the interests of the municipality;

Section 90(1)(l) - discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 [annual municipal report];

Any other matter that may be brought before the Council that meets the requirements for a meeting closed to the public pursuant to Sections 90(1) and 90(2) of the Community Charter or Freedom of Information and Protection of Privacy Act.

**10. ADJOURNMENT**



**COMMITTEE OF THE WHOLE  
MEETING MINUTES**

**January 21, 2025, 1:00 p.m.  
Council Chambers  
City Hall, 11995 Haney Place**

**Council Present:** Mayor D. Ruimy  
Councillor K. Carreras  
Councillor O. Dozie  
Councillor J. Dueck  
Councillor S. Schiller  
Councillor A. Yousef

**Absent:** Councillor J. Tan

**Staff Present:** S. Hartman, Chief Administrative Officer  
C. Mushata, Director of Legislative Services and Corporate Officer  
E. Davies, Committee Clerk  
A. Vukovic, Committee Clerk  
V. Richmond, Director of Facilities, Parks & Properties  
J. Stiver, Director of Building, Development and Planning  
B. Van Der Heijden, Planner 2  
C. Neufeld, Manager of Parks Planning & Development

---

**1. CALL TO ORDER – 11:01 pm  
Territory Acknowledgement**

Councillor A. Yousef, Chair called the meeting to order and provided the territory acknowledgement.

**2. APPROVAL OF AGENDA**

Committee of the Whole Agenda - January 21, 2025

**R/2025-CW-005**

**Moved by:** Councillor Dozie

**Seconded by:** Councillor Schiller

THAT the agenda of the Committee of the Whole Meeting of January 21, 2025, be approved as circulated.

**CARRIED**

**3. ADOPTION OF MINUTES**

Committee of the Whole Minutes - January 7, 2025

**R/2025-CW-006**

**Moved by:** Councillor Dueck

**Seconded by:** Councillor Dozie

THAT the minutes of the January 7, 2025 Committee of the Whole Meeting, be adopted as circulated.

**CARRIED**

**4. PRESENTATIONS AT THE REQUEST OF COUNCIL**

**5. DELEGATIONS**

**6. PUBLIC COMMENT ON AGENDA ITEMS**

**7. STAFF REPORTS**

**7.1 2024-213-DP/VP, 22075 Loughheed Highway, Development Variance Permit and Multi-Family Development Permit**

Principal structure setback variances to permit the installation of retractable balcony enclosures.

The Planner 2 gave a detailed presentation and answered questions of Council. The Director of Building, Development and Planning answered questions of Council.

**R/2025-CW-007**

**Moved by:** Councillor Dueck

**Seconded by:** Councillor Schiller

THAT the January 21, 2025, report titled "2024-213-VP/DP, 22075 Loughheed Highway, Development Variance Permit and Multi-Family Development Permit" be forwarded to the next Regular Council Meeting.

**CARRIED**

**7.2 Silver Valley Trail Improvements - Update**

Update on the community engagement results and next steps for Silver Valley trail improvements

The Manager of Parks Planning and Development gave a detailed presentation and answered questions of Council. The of Director of Facilities, Parks and Properties answered questions of Council.

**R/2025-CW-008**

**Moved by:** Councillor Dozie

**Seconded by:** Councillor Schiller

THAT the January 21, 2025, report titled "Silver Valley Trail Improvements - Update" be forwarded to the next Regular Council Meeting.

**CARRIED**

**8. OTHER MATTERS DEEMED EXPEDIENT**

**9. NOTICE OF CLOSED MEETING**

Resolution to Exclude the Public

**R/2025-CW-009**

**Moved by:** Councillor Dueck

**Seconded by:** Councillor Dozie

The meeting will be closed to the public pursuant to Sections 90(1) of the Community Charter as the subject matter being considered is related to the following:

- Section 90(1)(a) - personal information about an identifiable individual who holds or is being considered for a position as an officer, employee or agent of the municipality or another position appointed by the municipality;
- Section 90 (1)(k) - negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public;
- Section 90(1)(l) - discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 [annual municipal report];
- Section 90(2)(b) - the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party;

Any other matter that may be brought before the Council that meets the requirements for a meeting closed to the public pursuant to Sections 90(1) and 90(2) of the Community Charter or Freedom of Information and Protection of Privacy Act.

**CARRIED**

**10. ADJOURNMENT – 1:48 pm**

---

D. Ruimy, Mayor

---

C. Mushata, Corporate Officer

DRAFT



**2022-195-RZ, 24340 and 24360 102 Avenue, RS-3 to R-3  
Second Reading for *Zone Amending Bylaw No. 7903-2023***

**Recommendations:**

**THAT *Zone Amending Bylaw No. 7903-2023* be given second reading and be forwarded to Public Hearing;**

**THAT staff be directed to work with the applicant to address the outstanding terms and conditions as set out in the February 4, 2025, report and any other as identified by Council, prior to recommending bylaw adoption; and**

**THAT Council require, as a condition of subdivision approval, the developer to pay to the City an amount that equals 5% of the market value of the land, as determined by an independent appraisal, in lieu of parkland dedication in accordance with Section 510 of the *Local Government Act*.**

**Report Purpose and  
Summary Statement:**

To rezone the properties located at 24340 and 24360 102 Avenue from RS-3 (Single Detached Rural Residential) to R-3 (Single Detached (Intensive) Urban Residential)

**Previous Council Action:**

First Reading on January 24, 2023

**Proposed Variances:**

*Zoning Bylaw No. 7600-21019*

Part 6, Section 603.4(1)(b)(iii):

- To vary the minimum lot width for a corner lot with lane access from 13.5 m to 11.9 m for Lot 1.

Part 6, Section 603.4(1)(c)(i):

- To vary the minimum lot depth for lots with lane access from 30 m to 28.2 m for Lots 1, 2 and 3; and,
- To vary the minimum lot depth for lots with lane access from 30 m to 28.1 m for Lots 4 and 5.

Part 6, Section 603.7(2)(e):

- To vary the minimum setback between the principal building (house) and accessory building (garage) from 4.5 m to 3.5 m.

*Subdivision and Development Services Bylaw No. 4800-1993*

Schedule "C" Required Right-of-Way Widths Part 3 Through local Street, Urban Standard

- To vary the required road right-of-way from 18 m to 17.9 m.

**Strategic Alignment:**

Liveable Community

To: Mayor and Council

File number: 2022-195-RZ

## 2022-195-RZ, 24340 and 24360 102 Avenue, RS-3 to R-3 Second Reading for Zone Amending Bylaw No. 7903-2023

### BACKGROUND:

Applicant:	Aplin & Martin Consultants Ltd (Steven Dindo)	
Legal Description:	Lot 24 Section 3 Township 12 New Westminster District Plan 21429 Lot 25 Section 3 Township 12 New Westminster District Plan 21429	
OCP:	Existing:	<i>Medium Density Residential</i>
	Proposed:	<i>Medium Density Residential</i> [no change]
Within Urban Area Boundary:	Yes	
Area Plan:	Albion Area Plan	
OCP Major Corridor:	Yes	
Zoning:	Existing:	RS-3 (Single Detached Rural Residential)
	Proposed:	R-3 (Single Detached (Intensive) Urban Residential)
Surrounding Uses:		
North:	Use:	Single Detached Dwelling
	Zone:	R-3 (Single Detached (Intensive) Urban Residential)
	Designation:	<i>Medium Density Residential</i>
South:	Use:	Single Detached Dwelling
	Zone:	R-3 (Single Detached (Intensive) Urban Residential)
	Designation:	<i>Medium Density Residential</i>
East:	Use:	Single Detached Dwelling
	Zone:	R-3 (Single Detached (Intensive) Urban Residential)
	Designation:	<i>Medium Density Residential</i>
West:	Use:	Single Detached Dwelling
	Zone:	R-3 (Single Detached (Intensive) Urban Residential)
	Designation:	<i>Medium Density Residential</i>

Existing Use of Properties:	Single Detached Dwelling
Proposed Use of Properties:	Single Detached Dwelling [no change]
Site Area:	1,687.4 m <sup>2</sup> (0.17 ha)
Access:	Lane
Servicing Requirement:	Urban Standard
Flood Plain:	No
Fraser Sewer Area:	Yes

## **ANALYSIS:**

### **Discussion:**

This rezoning application is being considered for second reading only as the application was received prior to July 25, 2023, when *Development Procedures Bylaw No. 5879-1999* was amended to require a complete rezoning application for consideration of first and second reading. As the application was received before November 30, 2023, the application also requires a Public Hearing.

Pursuant to *Council Policy 6.31*, this application is subject to the Community Amenity Contribution (CAC) Program at a rate of \$9,200 per lot. The development is proposing 5 lots which requires an estimated CAC amount of \$27,600.00, or such rate applicable at third reading of this application would be required.

### **Project Description:**

The subject properties, located at 24340 102 Avenue and 24360 102 Avenue, are approximately 1,687.4 m<sup>2</sup> (0.17 ha) in size and are located at the corner of 102 Avenue and 243B Street (Attachments A and B). The subject properties are located in the Albion Area Plan of the Official Community Plan (OCP), and are bounded by single detached residential (Attachment C). The properties are currently being accessed from 102 Avenue but also have rear lane access. There are existing single detached dwellings and accessory buildings located on the properties, with few trees located along the periphery. Removal of the existing dwellings will be required for the future subdivision application to proceed.

The applicant is proposing to rezone the subject properties from RS-3 to R-3 to permit the subdivision of approximately 5 lots (Attachment D). The proposed site is consistent with the surrounding neighbourhood and continues with a similar lot size and layout along 102 Avenue.

### **Planning Analysis:**

#### **Official Community Plan:**

The OCP designates the subject properties as *Medium Density Residential* and the properties are within the Albion Area Plan. The *Medium Density Residential* designation allows for a range of housing styles and densities, including smaller lot single detached housing. The R-3 zone is supported by the Albion Area Plan for properties designated *Medium Density Residential*.

#### **Zoning Bylaw:**

The application proposes to rezone the subject properties from RS-3 to R-3 to permit a future subdivision of five lots (Attachment E). The minimum permitted lot size for the current RS-3 zone is 0.8 hectares (1.98 acres), and the minimum lot size for the proposed R-3 zone is 255 m<sup>2</sup> (0.06 ac). All of the proposed lots meet the minimum lot area requirements: Lot 1 is 327 m<sup>2</sup> in area, and proposed Lots 2 to 5 are 255 m<sup>2</sup> in area respectively.

### **Off-Street Parking and Loading Bylaw:**

According to the *Maple Ridge Off-Street Parking and Loading Bylaw No. 4350-1990*, a minimum of two parking spaces per dwelling unit are required. The applicant is providing the required parking spaces in the garages.

One parking space per dwelling unit is required to be roughed-in and capable of providing level 2 charging for electric vehicles. The applicant is providing the required EV charging infrastructure.

### **Proposed Variances:**

The applicant is requesting the following variances:

#### Zoning Bylaw No. 7600-2019

Part 6, Section 603.4(1)(b)(iii):

- To vary the minimum lot width for a corner lot with lane access from 13.5 m to 11.9 m for Lot 1.

Part 6, Section 603.4(1)(c)(i):

- To vary the minimum lot depth for lots with lane access from 30 m to 28.2 m for Lots 1, 2 and 3; and,
- To vary the minimum lot depth for lots with lane access from 30 m to 28.1 m for Lots 4 and 5.

Part 6, Section 603.7(2)(e):

- To vary the minimum setback between the principal building (house) and accessory building (garage) from 4.5 m to 3.5m.

#### Subdivision and Development Services Bylaw No. 4800-1993

Schedule "C" Required Right-of-Way Widths Part 3 Through Local Street, Urban Standard

- To vary the required road right-of-way from 18 m to 17.9 m

The proposed variances are being supported by staff and will be the subject of a future Council report for consideration.

### **Development Permits:**

Pursuant to Section 8.8 of the OCP, an Intensive Residential Development Permit application is required for all new intensive residential development (i.e., triplex, fourplex and courtyard housing) to ensure the following:

- Neighbourhood cohesiveness and connectivity should be maintained through the design of varied yet compatible buildings, in materials used and in architectural styles, in landscapes and recreational areas, and by facilitating a range of transportation choices.
- A vibrant street presence is to be maintained through a variety of housing styles, by maintaining street parking and by directing garage structures and off-street parking to the rear of a property accessible by a lane.

The proposed development is similar in size to the adjacent lots.

### **Parkland Requirement:**

As there are more than three additional lots proposed to be created, the developer will be required to comply with the park dedication requirements of Section 510 of the *Local Government Act* prior to subdivision approval.

For this project, there is no suitable land for park dedication on the subject properties, and it is therefore recommended that the Council require the developer to pay the City an amount in lieu equal to the market value of 5% of the land being proposed for subdivision. The amount payable to the City in lieu of park dedication must be derived by an independent appraisal at the developer's expense.

### **Conditions to be Met Prior to Adoption:**

Staff have advised the applicant that adoption of the zone amending bylaw will not be recommended unless the following conditions, and any others that Council identifies, are met:

- i. Registration of a Rezoning Servicing Agreement as a Restrictive Covenant and receipt of the security, as outlined in the Agreement;
- ii. Road dedication on 102 Avenue, as required;
- iii. Road dedication off the lane, as required;
- iv. Consolidation of the subject properties;
- v. Registration of a Restrictive Covenant for the Geotechnical Report (and/or floodplain report), which addresses the suitability of the subject property(ies) for the proposed development;
- vi. Removal of existing buildings;
- vii. Statement, a disclosure statement must be submitted by a Professional Engineer advising whether there is any evidence of underground fuel storage tanks on the subject properties. If so, a Stage 1 Site Investigation Report is required to ensure that the subject property is not a contaminated site; and,
- viii. That a voluntary contribution, in the amount of \$27,600.00 (\$9,200/lot, or such rate applicable at third reading of this application, be provided in keeping with the Council Policy 6.31 with regard to Community Amenity Contributions.

**Environmental Implications:**

An arborist report has been provided by the applicant in accordance with the *Maple Ridge Tree Protection and Management Bylaw No. 7133-2015*. A tree permit will be required for the removal, protection and/or compensation of trees. All Engineering servicing and building design shall be coordinated with the approved tree retention/protection, landscaping, and stormwater management plan.

**Engineering Department:**

The Engineering Department has indicated that the following servicing upgrades will be required through the Rezoning Servicing Agreement:

- Road dedication as required to meet the design criteria of the *Subdivision and Development Bylaw No. 4800-1993*;
- Utility servicing as required to meet the design criteria of the *Subdivision and Development Bylaw No. 4800-1993*; and
- Frontage upgrades to the applicable road standard.

**External Referrals:**

**School District No. 42:**

Pursuant to Section 476 of the *Local Government Act*, consultation with School District No. 42 is required. A referral was sent to School District No. 42, and they provided a response noting the catchment schools and their capacities on January 10, 2024 (Attachment F).

**CONCLUSION:**

It is recommended that second reading be given to *Zone Amending Bylaw No 7903-2023*, and that application 2022-195-RZ be forwarded to Public Hearing.

It is further recommended that Council require, as a condition of subdivision approval, that the applicant to pay to the City an amount that equals 5% of the market value of the land, as determined by an independent appraisal, in lieu of parkland dedication.

“Rosario Perez”

---

Prepared by: Rosario Perez, Planning  
Technician

**Attachments:**

- (A) – Subject Map
- (B) – Ortho Map
- (C) – OCP Map
- (D) – *Zone Amending Bylaw No. 7903-2023*
- (E) – Site Plan
- (F) – SD42 Letter

## Report Approval Details

Document Title:	2022-195-RZ, 24340 and 24360 102 Ave, RS-3 to R-3.docx
Attachments:	<ul style="list-style-type: none"><li>- Attachment A - Subject Map.pdf</li><li>- Attachment B - Ortho Map.pdf</li><li>- Attachment C - OCP Map.pdf</li><li>- Attachment D - Zoning Amending Bylaw No. 7903-2023.pdf</li><li>- Attachment E - Site Plan.pdf</li><li>- Attachment F - SD42 Letter.pdf</li></ul>
Final Approval Date:	Jan 23, 2025

This report and all of its attachments were approved and signed as outlined below:

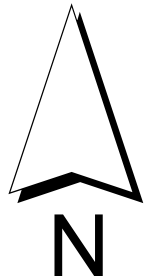
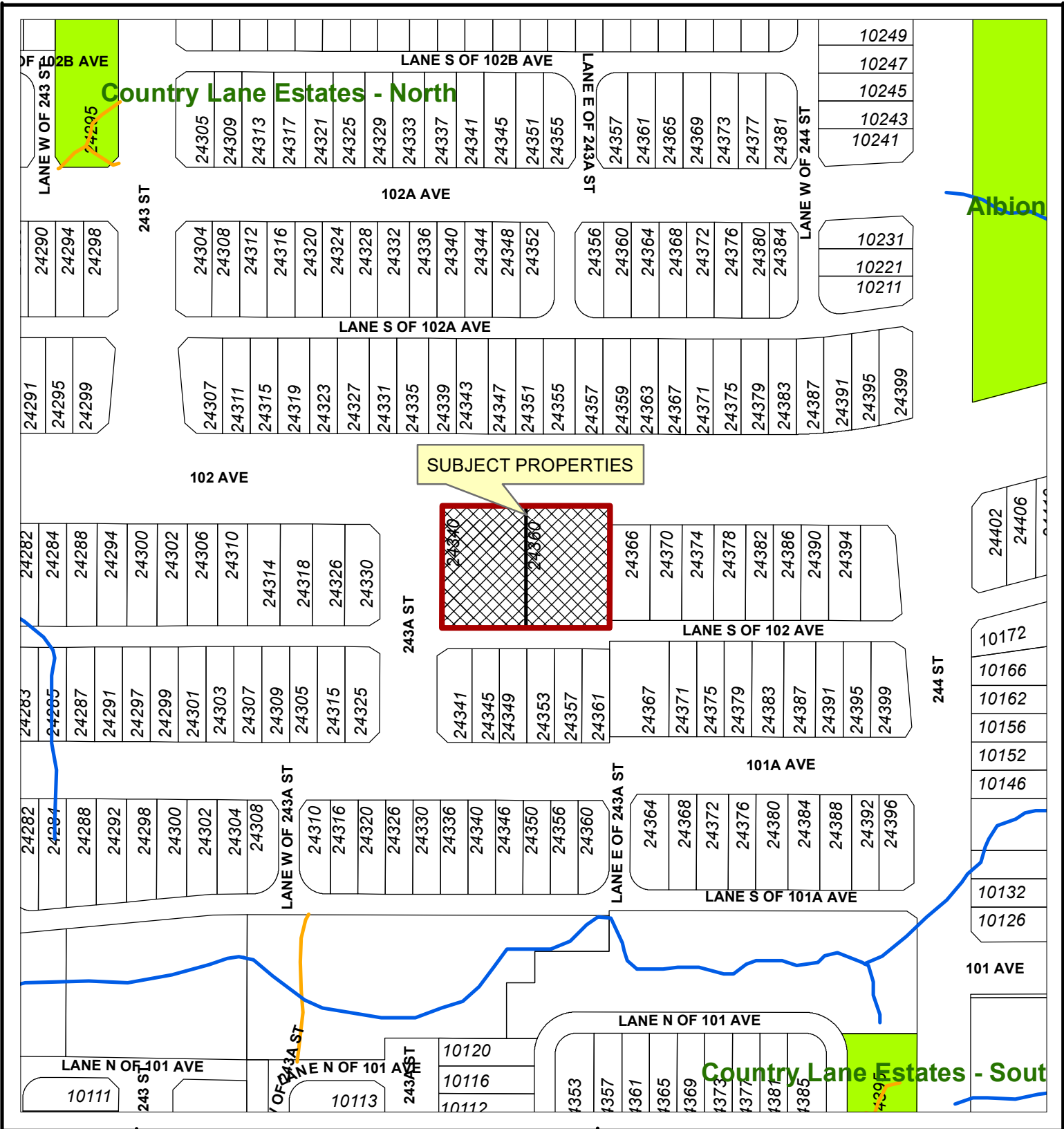
Alyssa Lillyman, Administrative Assistant

Hasib Nadvi, Associate Director of Building, Development and Planning





James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

Scott Hartman, Chief Administrative Officer



**Legend**

-  Stream
-  Existing Trails
-  Active Applications (RZ/SD/DP/VP)
-  Municipal Park

Scale: 1:1,500

**24340 & 24360 102 AVENUE  
ACTIVE APPLICATIONS IN AREA**

PLANNING DEPARTMENT

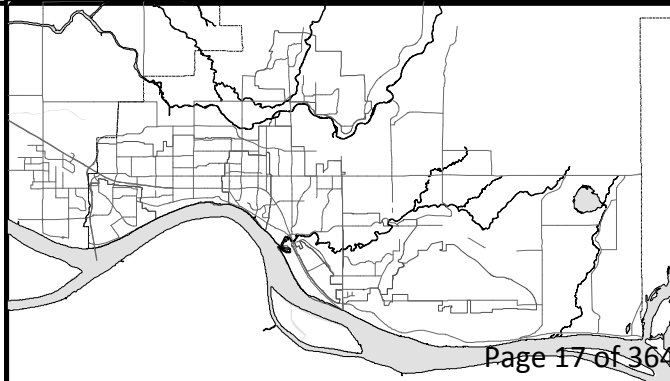
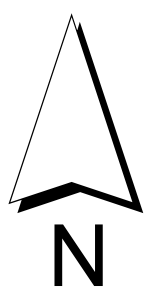


**Maple Ridge**





SUBJECT PROPERTIES



24340 & 24360 102 AVENUE  
ORTHO

PLANNING DEPARTMENT



**Maple Ridge**

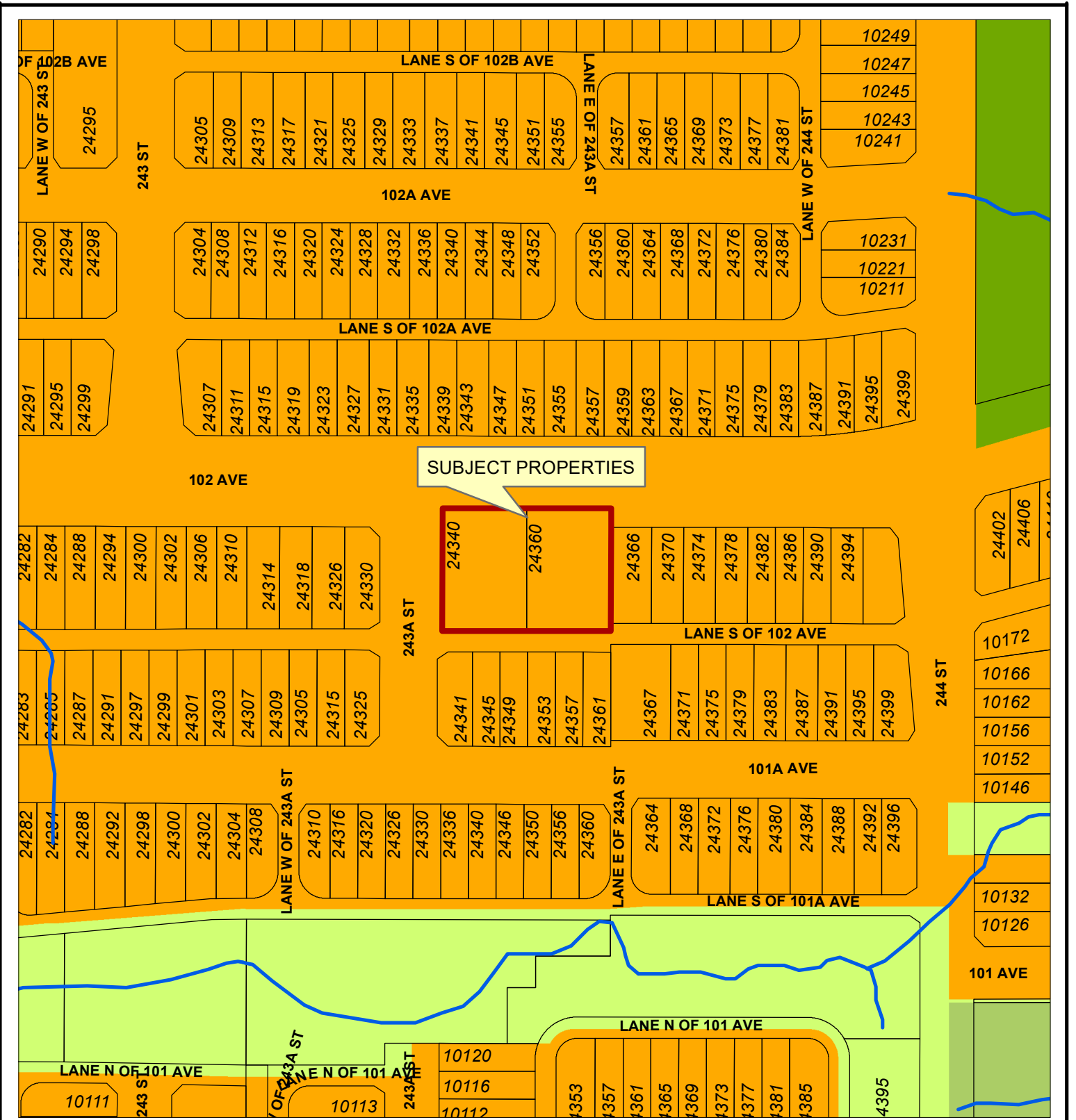
FILE: 2022-195-RZ  
DATE: Jan 15, 2025

BY: DM

Scale: 1:1,500

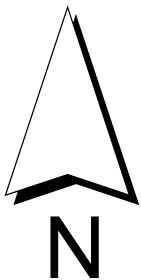
Page 17 of 364

Aerial Imagery from the Spring of 2023



SUBJECT PROPERTIES

24340  
24360



**Legend**

- MEDIUM DENSITY RESIDENTIAL
- CONSERVATION
- PARK
- Agricultural

24340 & 24360 102 AVENUE  
LAND USE

PLANNING DEPARTMENT

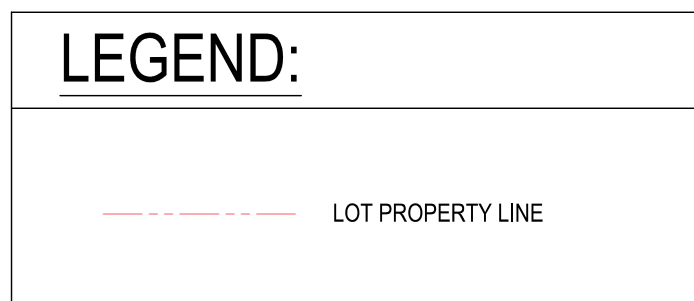
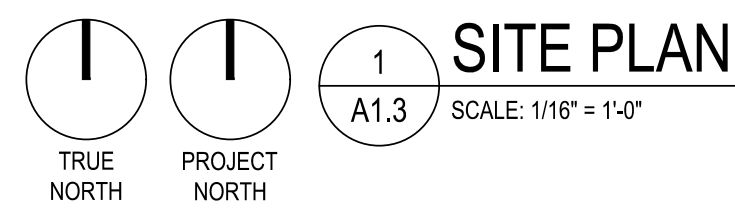
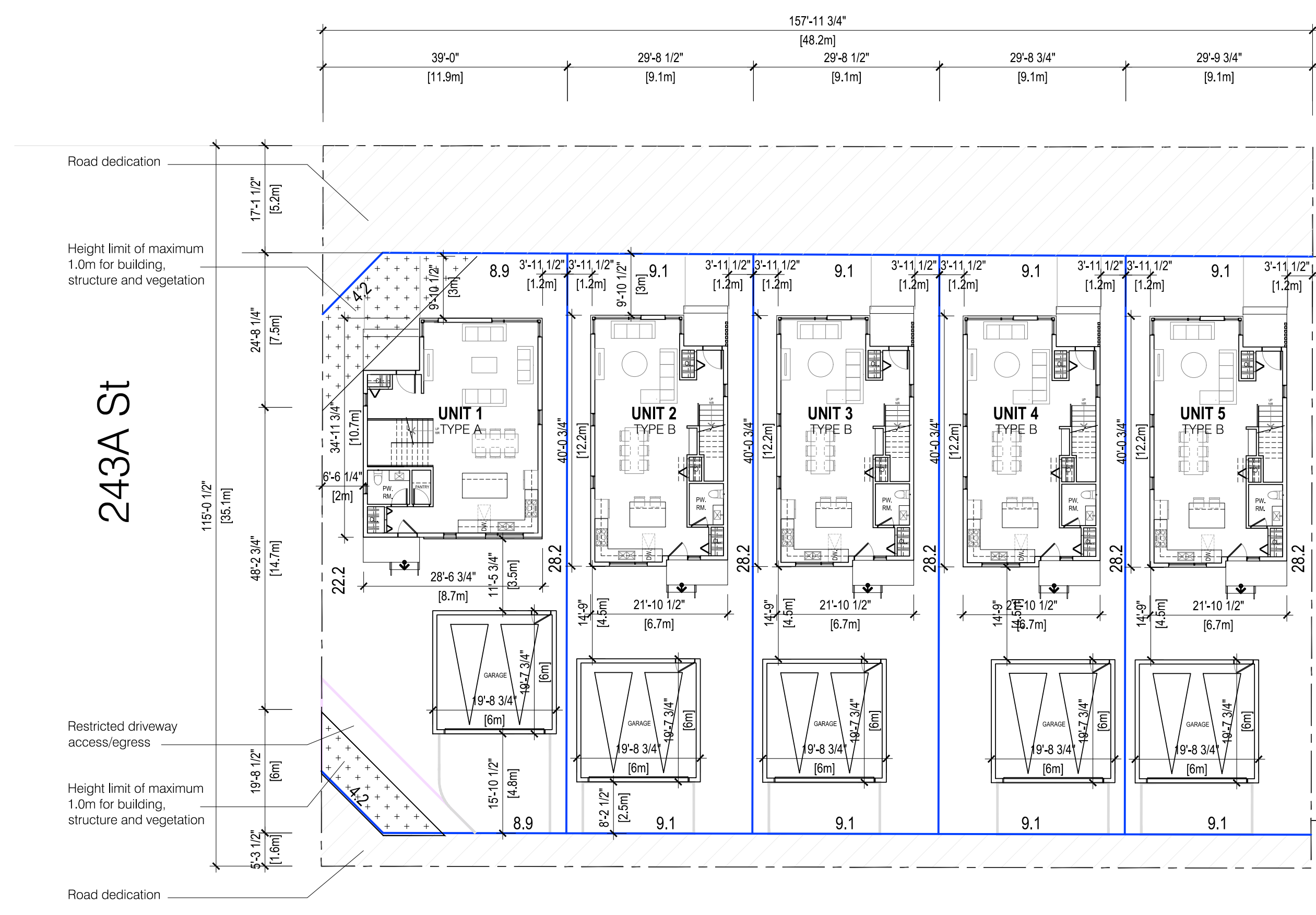


**Maple Ridge**





102 Ave



ZONING INFORMATION	
<b>PROPERTY INFORMATION</b>	
CIVIC ADDRESS:	24340 & 24360 102nd Avenue, Maple Ridge
LEGAL DESCRIPTION:	Lot 24, Section 3, Township 12, New Westminster District, Plan NWP21429 PID 004-053-061 Lot 25, Section 3, Township 12, New Westminster District, Plan NWP21429 PID 002-081-083
ZONING:	R-3 Single Detached (Intensive)

REV	DATE	DESCRIPTION	DR	RV
1	SEP.23	ISSUED FOR DP	PS	HR




DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE THE PROPERTY OF APLIN & MARTIN CONSULTANTS LTD. THE COPYRIGHT IN THE SAME BEING RESERVED TO THEM. NO REPRODUCTION IS ALLOWED WITHOUT THE PERMISSION OF APLIN & MARTIN CONSULTANTS LTD. AND WHEN MADE MUST BEAT ITS NAME. ALL PRINTS TO BE RETURNED.

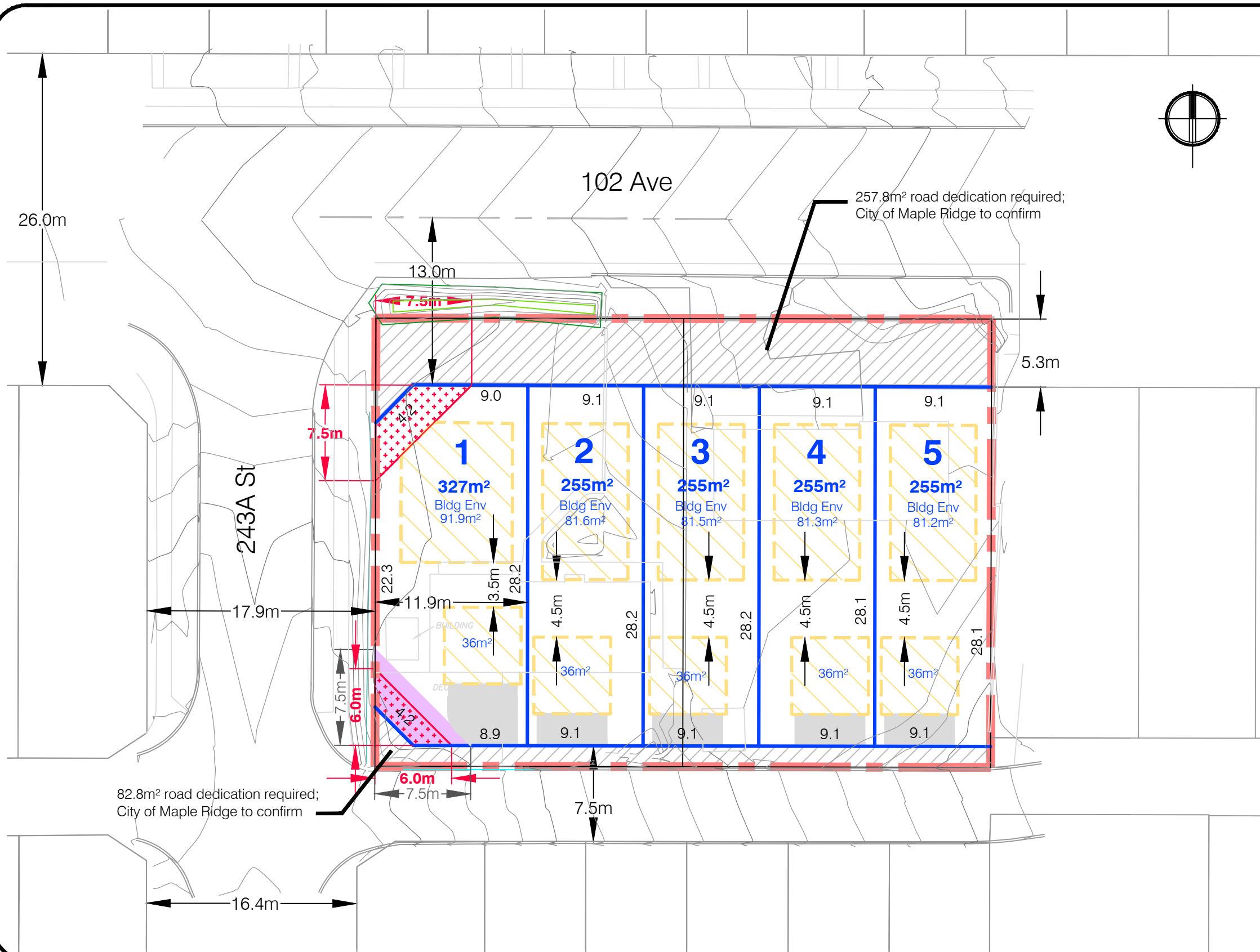
THIS DRAWING MUST NOT BE SCALED. THE CONTRACTOR IS TO VERIFY ALL DRAWING DIMENSIONS AND DATA NOTED HEREIN WITH CONDITIONS ON THE SITE AND IS HELD RESPONSIBLE FOR REPORTING DISCREPANCIES TO APLIN & MARTIN CONSULTANTS LTD. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNLESS SIGNED BY THE CONSULTANT.

PROJECT:  
**SINGLE-FAMILY DEVELOPMENT**  
24340 & 24360 102nd Avenue, Maple Ridge  
L.A. Rehab Holdings Ltd.

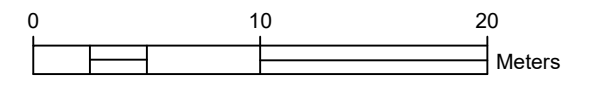
SHEET TITLE:	
<b>SITE PLAN</b>	
SCALE: 1/16" = 1'-0"	REVISION: 1
DRAWING NO. <b>A1.3</b>	PROJECT NO. 21-249

# CONCEPT

-  Building Envelope
-  Height limit of maximum 1.0m for building, structure & vegetation
-  Restricted driveway access/egress



NOTE: All lots require a Development Variance Permit for lot depth reduction from 30.0m to minimum 28.1m  
Lot 1 requires a Development Variance Permit for lot width reduction from 13.5m to minimum 11.9m & garage setback from principal use from 4.5m to 3.5m

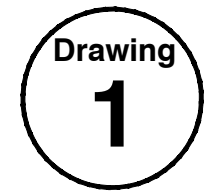


**LEGAL DESCRIPTION**  
PID 004-053-061  
Lot 24, Section 3, Township 12, New Westminster District, Plan NWP21429  
  
PID 002-081-083  
Lot 25, Section 3, Township 12, New Westminster District, Plan NWP21429

**GROSS SITE AREA**  
0.17 hectares / 0.42 acres  
  
**NET SITE AREA**  
0.13 hectares / 0.33 acres  
(excludes 340.6m<sup>2</sup> for road dedication)

**EXISTING DESIGNATIONS**  
AP: Medium Density Residential  
Zoning: RS-3 Single Family Detached Rural  
  
**PROPOSED DESIGNATIONS**  
AP: no change  
Zoning: R-3 Single Detached (Intensive) Urban Residential

**LOT YIELD**  
Existing: 2 lots  
Proposed: 5 lots  
  
**DENSITY**  
Gross: 29.4 uph / 11.9 upa  
Net: 38.5 uph / 15.2 upa



January 10, 2024

City of Maple Ridge  
11995 Haney Place  
Maple Ridge, BC V2X 6A9

Attention: Rosario Alvarado

Re: File: 2022-195-RZ  
Legal: Lot 24, Section 3, Township 12, Plan NWP21429  
Lot 25, Section 3, Township 12, Plan NWP21429  
Location: 24340 102 AVE & 24360 102 AVE  
From: RS-3 (Single Detached Rural Residential)  
To: R-3 (Single Detached (Intensive) Urban Residential)

The proposed application would affect the student population for the catchment areas currently served by Albion Elementary and Samuel Robertson Technical Secondary School.

Albion Elementary School has an operating capacity of 421 students. For the 2023-24 school year the student enrolment at Albion Elementary School is 509 students (121% utilization) including 186 students from out of catchment.

Samuel Robertson Technical Secondary School has an operating capacity of 600 students. For the 2023-24 school year the student enrolment at Samuel Robertson Technical School is 775 students (129% utilization) including 140 students from out of catchment.

Based on the density estimates for the various land uses at build out the following would apply:

- For the construction of 5.0 lots, the estimated number of school age residents is 2.

Sincerely,

Richard  
Rennie

Digitally signed by  
Richard Rennie  
Date: 2024.01.10 13:44:52  
-08'00'

Richard Rennie  
Secretary Treasurer

The Board of Education of School District No. 42 (Maple Ridge – Pitt Meadows)

cc: Louie Giroto, Director, Facilities  
David Vandergugten, Assistant Superintendent  
Rebecca Lyle, Executive Coordinator

## 2023-163-RZ, 20235, 20247 and 20265 Patterson Avenue, RS-1 to RM-1 Second Reading Zone Amending Bylaw No. 7946-2023

### Recommendation:

**THAT *Zone Amending Bylaw No. 7946-2023* be given second reading and forwarded to Public Hearing; and**

**THAT staff be directed to work with the applicant to address the outstanding terms and conditions as outlined in the Staff report dated February 4, 2025, and any other as identified by Council, prior to recommending bylaw adoption.**

### Report Purpose and Summary Statement:

Council consideration of second reading to rezone 20235, 20247 and 20265 Patterson Avenue from RS-1 (Single Detached Residential) to RM-1 (Low Density Townhouse Residential) to allow the future development of 28 townhouse units.

### Previous Council Action:

First Reading – July 25, 2023

### Proposed Variances:

- Increase the building height of Building Type C to accommodate the staircases to rooftop patio areas
- Reductions to building setbacks along all property lines

### Strategic Alignment:

Liveable Community



To: Mayor and Council

File number: 2023-163-RZ

**2023-163-RZ, 20235, 20247 and 20265 Patterson Avenue, RS-1 to RM-1  
Second Reading Zone Amending Bylaw No. 7946-2023**

**BACKGROUND:**

Applicant: Lovick Scott Architects Ltd.

Legal Description: Lots 50, 51 and 52 District Lot 222 Group 1 New Westminster District Plan 35806

OCP Designation:  
     Existing: *Low Density Multi-Family*  
     Proposed: *Low Density Multi-Family [no change]*

Within Urban Area: Yes

Boundary:  
 Area Plan: Hammond  
 OCP Major Corridor: No

Zoning:  
     Existing: RS-1 (Single Detached Residential)  
     Proposed: RM-1 (Low Density Townhouse Residential)

Surrounding Uses:

North:	Use: Restaurant/ Vacant Zone: CS-1 (Service Commercial) Designation: <i>Commercial</i>
South:	Use: Single Detached Residential/ Future Apartment Residential Zone: RS-1 (Single Detached Residential)/ RM-2 (Medium Density Apartment Residential) Designation: <i>Low Density Multi-Family/ Medium Density Multi-Family</i>
East:	Use: Single Detached Residential Zone: RS-1 (Single Detached Residential) Designation: <i>Medium Density Multi-Family</i>
West:	Use: Single Detached Residential Zone: RS-1 (Single Detached Residential) Designation: <i>Low Density Multi-Family</i>

Existing Use of Property: Single Detached Residential  
 Proposed Use of Property: Townhouse Residential

Site Area:	0.56 ha (1.38 ac)
Net Site Area after dedication:	0.53 ha (1.31 ac)
Proposed Vehicular Access:	Patterson Avenue
Servicing Requirement:	Urban Standard
Flood Plain:	No
Fraser Sewer Area:	Yes

## **INTRODUCTION:**

### **Site Characteristics:**

The three properties subject to this zone amending application are located in West Maple Ridge within the Hammond neighbourhood, and are relatively flat and slope upward from west to east. Currently, each property has a single detached residential dwelling (Attachment A). Together the properties create a 0.56 ha (1.38 ac) development site that is currently surrounded by single detached residential dwellings on the east, south, and west, and a large 2.3 ha (5.7 ac) commercial parcel to the north. The parcel located to the north is currently used for a Burger King restaurant, however that parcel is largely vacant.

The development site is located near a high activity area along Major Corridors (i.e., 203 Street and Lougheed Highway), which offer commercial services and public transit routes, including a R3 route bus stop and a planned future Bus Rapid Transit stop. Patterson Avenue is in transition towards a higher density use. A Development Permit has been issued for an 88-unit, four-storey apartment building at 20282 Patterson Avenue, which is just south east of the subject properties at the corner of Patterson Avenue and 203 Street. The western half of Patterson Avenue has been recently designated as a Transit Oriented Area (TOA) by provincial housing legislation (Bill 47) due to the proximity to the Maple Meadows West Coast Express Station. Under the new legislation a TOA designation allows a higher density and building height and no residential parking requirements (Attachment B).

### **Project Description:**

The application proposes to rezone the subject properties from RS-1 to RM-1 to allow the future construction of 28 three-storey townhome units. The site design includes three variations of a three-bedroom townhouse unit:

- 12 units fronting Patterson Avenue with private front yards/entrance and rear entrance garages from the internal lane;
- 12 units with front doors and garages from the internal lanes and private rear yards on grade; and
- 4 units with front doors and garages from the internal lanes and private outdoor amenity areas provided on rooftop patios.

All townhouse units provide double car garages on the ground floor, living areas on the second floor, and three bedrooms on the upper floor. The development has been designed around a centrally-located programmed Outdoor Amenity Area that provides a space for residents to gather, which features a toddler play area, seating and bike parking.

**PLANNING ANALYSIS:**

**Background:**

Pursuant to Section 464 of the *Local Government Act*, a Public Hearing must be held for the subject application to allow the public the opportunity to comment on the proposed bylaw and the development. The Bill 44 exemption that prohibits public hearings for residential developments, which are consistent with the Official Community Plan (OCP), does not apply to rezoning applications that received first reading before November 30, 2023 (i.e., the date that Bill 44 came into effect). Council granted first reading for the subject rezoning application on July 25, 2023, and therefore this application does not qualify for the public hearing exemption.

**Official Community Plan:**

The development site is located within the Hammond Area Plan within the North Hammond precinct and is currently designated *Low Density Multi-Family* (Attachment C). The *Low Density Multi-Family* designation supports the proposed townhouse development under the proposed RM-1 zone, therefore this application does not require an OCP amendment.

The current *Low Density Multi-Family* designation permits a fourplex, courtyard or townhouse form of development, and encourages an increase in density and expanding residential form.

The Hammond Area Plan Key Guideline Concepts and how the development proposal (Attachments D and E) meets those guidelines are summarized below:

**1. Street and Block Pattern**

The proposed increase to the residential density in this area provides a complimentary housing style to the existing, proposed and anticipated higher density forms on Patterson Avenue. A new sidewalk, ornamental street lighting and street trees that are being proposed in front of the development site will improve the overall pedestrian connection to 203 Street and beyond.

**2. Typical Lot Size and Layout**

The proposed townhouses along Patterson Avenue are ground-oriented and street fronting. They are limited to four-unit blocks to break up the massing along the street frontage. The proposed height of the buildings along Patterson Avenue is 9.5 m which is consistent with permissible building heights in urban infill single detached zones.

**3. Greenspace and Landscaping**

A comprehensive landscaping plan includes 47 new trees being planted on-site in addition to the street trees along Patterson Avenue. The landscaping has been designed to provide private outdoor areas with most units offering a fenced yard and patio and four units which provide a private rooftop patio area. The patios and some paving in the drive aisles are permeable to better accommodate water management and runoff on the site.

#### **4. Housing and Heritage Features**

Townhouse units along Patterson Avenue are street facing and feature a front yard connecting to the street. Access to the units and off-street parking is provided by a single access off of Patterson Avenue. Exterior finishes include articulated lighting, horizontal wood articulation and bump-outs on the side façade to enhance the architectural distinction of the heritage materials and enhance the overall visual appeal.

#### **Development Permits:**

Pursuant to Section 8.13 of the OCP, a Hammond Development Permit is required for properties designated *Low Density Multi-Family* to ensure that the proposed development maintains the unique character within each precinct, supports high quality design, and improves connectivity and pedestrian safety within the neighbourhood. The applicant has submitted a Development Permit application complete with a Hammond Development Area Plan Guidelines Checklist. The Hammond Area Development Permit addressing the form and character of the development will be the subject of a future report to Council for consideration.

#### **Zoning Bylaw:**

*Zone Amending Bylaw No. 7946-2023* (Attachment F) proposes to rezone the subject properties from RS-1 to RM-1. The proposed development is required to meet the requirements of the City's Zoning Bylaw including the regulations pertaining to the proposed RM-1 zone. The development site exceeds the minimum lot area and dimension requirements for the RM-1 zone and is approximately 0.56 ha (1.38 ac) in area, 105.6 m in width and 52.9 m in depth before road dedication.

The maximum density permitted in the RM-1 zone is 0.60 FSR (Floor Space Ratio) and this proposal is slightly below that at 0.59 FSR. A maximum building height of 9.5 m is permitted and is being met in all buildings except the four-plex building (Building Type C) which proposes a building height variance to accommodate the stair towers to access the rooftop patios.

Common Open Area, Outdoor Amenity and Private Outdoor Area requirements have all been met with each unit featuring a private outdoor area and a central common amenity area. 42% of the development site will be landscaped with a permeable surface, which meets the Zoning Bylaw requirement.

#### **Off-Street Parking and Loading Bylaw:**

The provided parking meets the requirements of the *Maple Ridge Off-Street Parking and Loading Bylaw No. 4350-1990* and the Zoning Bylaw. Each townhouse unit features a double garage which has been designed to provide a storage area, bike parking and garbage/recycling container storage.

Six visitor parking stalls, including one accessible sized stall, have been provided on-site. Current electric vehicle (EV) Charging requirements include a minimum of one space per townhouse unit and 50% of visitor spaces be provided with roughed-in infrastructure capable of Level 2 charging.

### **Environmental Considerations:**

The subject properties do not have any site conditions which require an Environmental Development Permit. Although none of the existing trees on the development site will be retained due to building envelope and servicing requirements, there are 47 new trees included in the proposed landscaping design. As per the City's Tree Bylaw, healthy significant trees greater than 50 DBH that are not retained on the site will require replacement trees to meet the City's Tree Canopy Targets or cash-in-lieu compensation for each tree that is not retained.

### **Proposed Variances:**

A Development Variance Permit application has been received for this project and involves the following proposed relaxations:

**1. Maple Ridge Zoning Bylaw No. 7600-2019 (Part 6, Section 617.8)**

To increase the allowable building height for principal buildings in the RM-1 zone from 9.5 m to 9.75 m for Proposed Building Type C.

**2. Maple Ridge Zoning Bylaw No. 7600-2019 (Part 6, Section 617.7.2)**

To vary the minimum setback for principal buildings as follows:

- a. Reduce the front lot line setback from 6.0 m to 5.3 m;
- b. Reduce the rear lot line setback from 7.5 m to 3.8 m;
- c. Reduce the interior side lot line setback (east) from 7.5 m to 6.2 m; and
- d. Reduce the interior side lot line setback (west) from 7.5 m to 7.1 m.

The proposed building height variance to Building C is being supported by staff to allow the internal access stairs to the private rooftop patio areas. The proposed setback variances are also supported by staff to allow a site layout that provides double car garages for each unit, sizeable yard space for units, and a sufficient setback to neighbouring properties. The requested variances will be the subject of a future Council report for consideration.

### **Development Information Meeting:**

In accordance with Council Policy 6.20, a Development Information Meeting (DIM) was hosted by the developer at Hammond Elementary on December 13, 2024. It was attended by five people. Attendees of the meeting raised concerns regarding school capacity in the area, vehicle access and road safety, and a preference for larger sized units to maintain streetscape character. A summary of the main comments and discussions with the attendees at the DIM was provided by the developer and is provided as Attachment G.

The notification requirements for the DIM included a mail-out to neighbouring properties, newspaper advertisements in two editions of the Maple Ridge-Pitt Meadows News (November 29 and December 6, 2024) and notice on the development sign posted at the development site. Due to the postal strike the mailed notifications of the meeting, which were mailed to nearby property owners and occupants, were delayed in receipt until after the DIM. Staff are satisfied that the developer met the requirement to mail the notices which was delayed by an indeterminate service disruption outside of their control. Contact information for the developer

and the Planning Department was included in the notification and at the time of report writing no additional communication has been received by City staff since the DIM.

**Advisory Design Panel:**

This application was presented to the Advisory Design Panel (ADP) on November 20, 2024. The application was positively received by the ADP, and a minor clarification regarding landscaping materials was provided to address the ADP comments. The ADP’s resolution and comments with the corresponding response from the applicant are attached (Attachment H). Staff are satisfied with the response to the ADP recommendations.

**Conditions to be Met Prior to Adoption:**

Staff have advised the applicant that adoption of the Zone Amending Bylaw will not be recommended unless the following conditions, and any others that Council identify, are met:

1. Registration of a Rezoning Servicing Agreement as a Restrictive Covenant and receipt of the security, as outlined in the Agreement;

The following servicing upgrades will be required through the Rezoning Servicing Agreement:

- Road dedication as required to meet the design criteria of the *Subdivision and Development Bylaw No. 4800-1993*.
  - Utility servicing as required to meet the design criteria of the *Subdivision and Development Bylaw No. 4800-1993*.
  - Frontage upgrades to the applicable road standard.
2. Approval from the Ministry of Transportation and Transit;
  3. Road dedication on Patterson Avenue,a as required;
  4. Consolidation of the subject properties;
  5. Registration of a Restrictive Covenant for the Geotechnical Report, which addresses the suitability of the subject properties for the proposed development;
  6. Registration of a Restrictive Covenant for Stormwater Management;
  7. A disclosure statement must be submitted by a Professional Engineer advising whether there are any existing septic fields on the properties. If so, the septic fields must be removed according to Ministry of Health standards;
  8. In addition to the Ministry of Environment Site Disclosure Statement, a disclosure statement must be submitted by a Professional Engineer advising whether there is any evidence of underground fuel storage tanks on the subject properties. If so, a Stage 1 Site Investigation Report is required to ensure that the subject property is not a contaminated site; and
  9. That a voluntary contribution, in the amount of \$207,200 (\$7,400/unit x 28 units), or such rate applicable at third reading of this application, be provided in keeping with the *Council Policy 6.31* with regard to Community Amenity Contributions.

## **Internal/ External Referrals:**

### **School District No. 42:**

This application was referred to School District No. 42 and their referral response received on November 21, 2024, indicates that the catchment schools, Hammond Elementary and Westview Secondary are at 99% and 63% utilization respectively (Attachment I).

### **Ministry of Transportation and Transit:**

As the subject properties are located within 800 m of Lougheed Highway, a referral has been sent to the Ministry of Transportation and Transit (formerly the Ministry of Transportation and Infrastructure). The Ministry has granted preliminary approval of the Zone Amending Bylaw; Ministry approval is required prior to the adoption of the proposed Bylaw.

## **CONCLUSION:**

The proposed development will add 28 family-sized townhouse units into a well-established area of the community with access to services, transportation routes, and public transit. The proposed rezoning to the RM-1 zone is supported by the current OCP designation. It is therefore recommended that second reading be given to *Zone Amending Bylaw No. 7946-2023* and that application 2023-163-RZ be forwarded to a Public Hearing.

"Erin Mark"

---

Prepared by: Erin Mark, Planning Technician

### **Attachments:**

- (A) Ortho Map
- (B) Transit Oriented Area Map
- (C) OCP Map
- (D) Architectural Plans
- (E) Landscape Plans
- (F) *Zone Amending Bylaw No. 7946-2023*
- (G) Development Information Meeting (DIM) Comments
- (H) Advisory Design Panel Review and Response
- (I) School District No. 42 Referral Response

## Report Approval Details

Document Title:	2023-163-RZ, 20235, 20247 and 20265 Patterson Ave, RS-1 to RM-1.docx
Attachments:	<ul style="list-style-type: none"><li>- Attachment A - Ortho Map.pdf</li><li>- Attachment B - Maple Meadows Transit Oriented Area Map.pdf</li><li>- Attachment C - OCP Map.pdf</li><li>- Attachment D - Architectural Plans.pdf</li><li>- Attachment E - Landscape Plans.pdf</li><li>- Attachment F - Zone Amending Bylaw 7946-2023.pdf</li><li>- Attachment G - DIM Summary Patterson (Redacted).pdf</li><li>- Attachment H - ADP Resolution and Response.pdf</li><li>- Attachment I - SD42 Referral Response.pdf</li></ul>
Final Approval Date:	Jan 29, 2025

This report and all of its attachments were approved and signed as outlined below:

Alyssa Lillyman, Administrative Assistant

Hasib Nadvi, Associate Director of Building, Development and Planning

James Stiver, Director of Building, Development and Planning

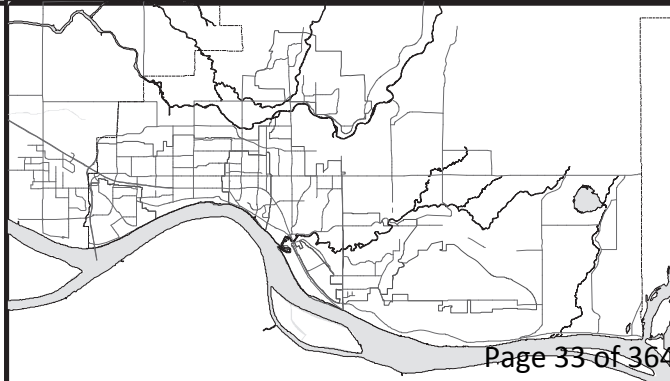
Carolyn Mushata, Director of Legislative Services and Corporate Officer

Scott Hartman, Chief Administrative Officer





Aerial Imagery from the Spring of 2020



### 20235/47/65 PATTERSON AVENUE ORTHO



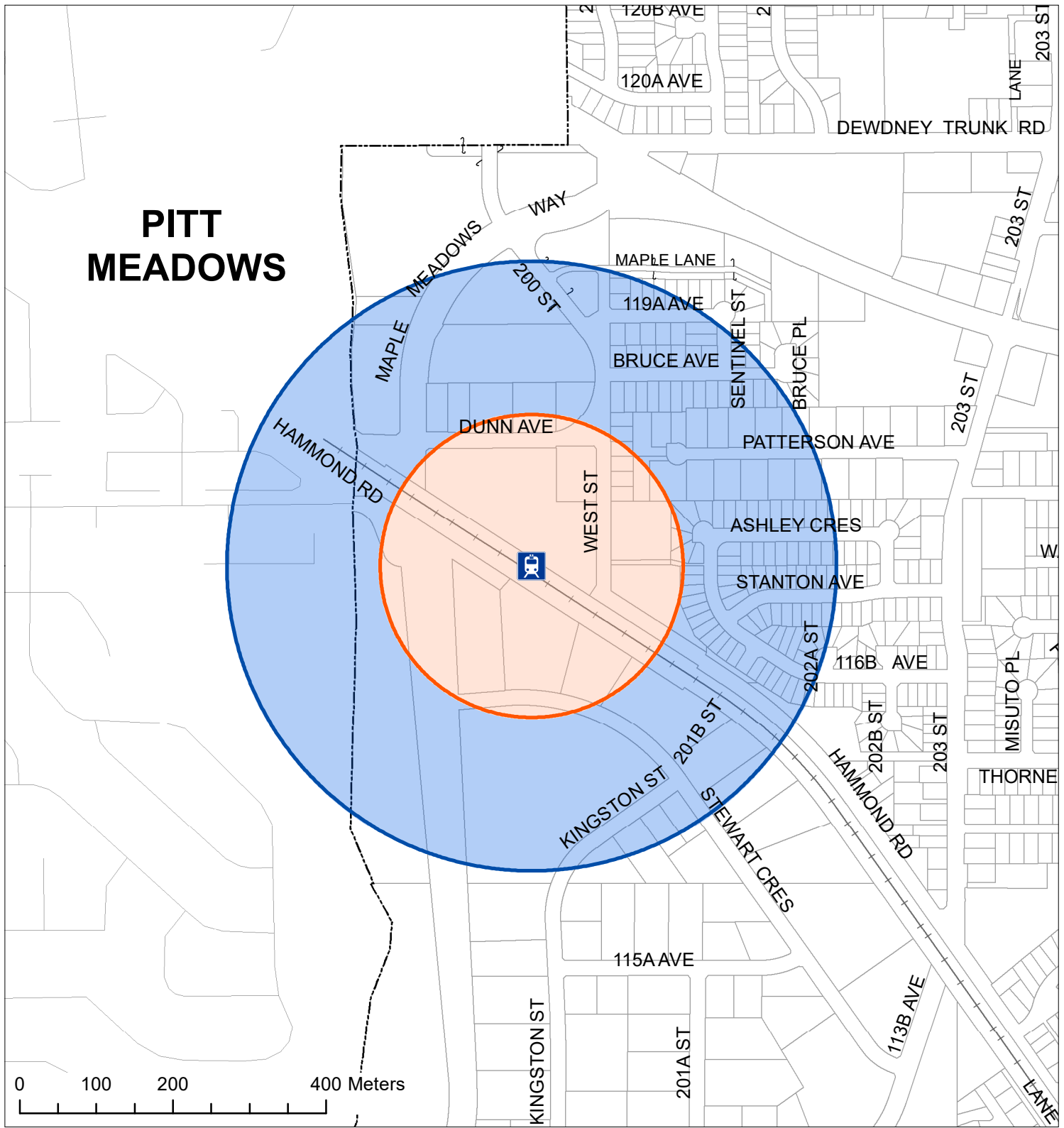
Scale: 1:2,500

Page 33 of 364

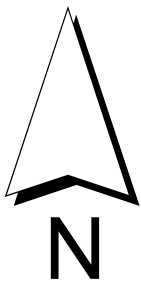
FILE: 2023-163-RZ  
DATE: May 11, 2023

BY: AL




# PITT MEADOWS



0 100 200 400 Meters



## Legend

-  Maple Meadows Station
-  200 Metre Tier
-  400 Metre Tier

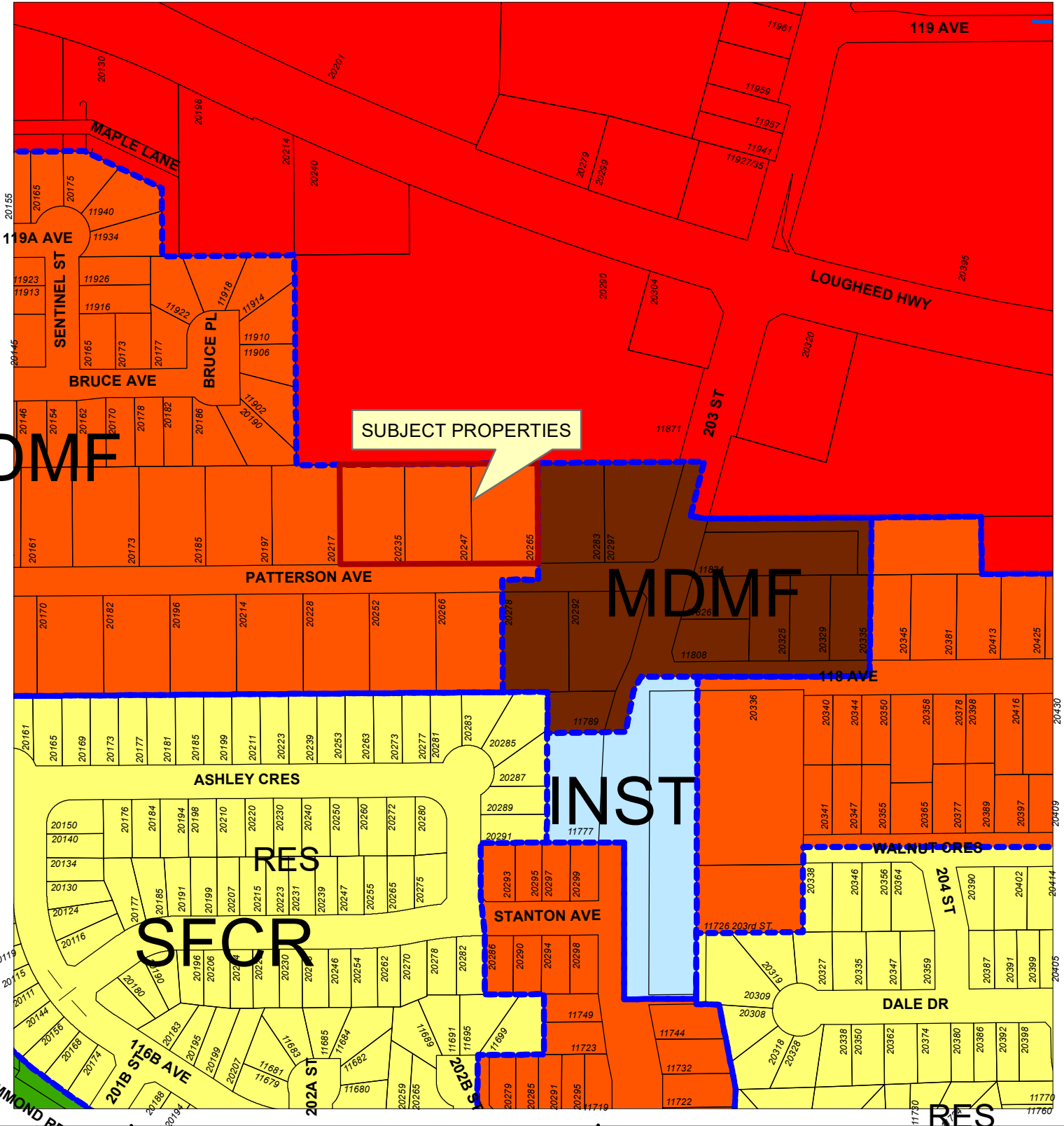
Scale: 1:7,000

Bylaw No, 7600-2019  
 Schedule 'H' (4 of 4)  
 Maple Meadows Station

PLANNING DEPARTMENT



# Maple Ridge



SUBJECT PROPERTIES

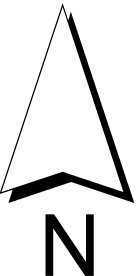
DMF

MDMF

INST

RES  
SFCR

RES



**Legend**

- Single-Family & Compact Residential
- Low Density Multi-Family
- Medium Density Multi-Family
- Institutional
- Parks & Open Space
- Commercial

20235/47/65 PATTERSON AVENUE LAND USE







ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.  
 THIS SET SHOULD BE USED FOR BEST CLARITY ENGINEERING.  
 DRAWINGS ARE PLOTTED IN COLOR.

PLAN SYMBOL:	
	TAG DETAIL
	TAG ELEVATION
	TAG BUILDING SECTION
	TAG WALL SECTION
	DRAWING NOTE
	FLOOR AREA IN (S/F)
	DATE
	WINDING NUMBER
	FLOOR TO WINDING OR ROOM
	SPOT ELEVATION
	REPEATED LINE
	BUILDING SYMBOL

WALL LEGEND:	
	BRICK WALL
	CONCRETE WALL
	MASONRY WALL
	GLASS WALL
	METAL WALL
	WOOD WALL
	OTHER WALL

F.R.R. LEGEND:	
	R-1
	R-2
	R-3
	R-4
	R-5
	R-6
	R-7
	R-8
	R-9
	R-10
	R-11
	R-12
	R-13
	R-14
	R-15
	R-16
	R-17
	R-18
	R-19
	R-20
	R-21
	R-22
	R-23
	R-24
	R-25
	R-26
	R-27
	R-28
	R-29
	R-30
	R-31
	R-32
	R-33
	R-34
	R-35
	R-36
	R-37
	R-38
	R-39
	R-40
	R-41
	R-42
	R-43
	R-44
	R-45
	R-46
	R-47
	R-48
	R-49
	R-50
	R-51
	R-52
	R-53
	R-54
	R-55
	R-56
	R-57
	R-58
	R-59
	R-60
	R-61
	R-62
	R-63
	R-64
	R-65
	R-66
	R-67
	R-68
	R-69
	R-70
	R-71
	R-72
	R-73
	R-74
	R-75
	R-76
	R-77
	R-78
	R-79
	R-80
	R-81
	R-82
	R-83
	R-84
	R-85
	R-86
	R-87
	R-88
	R-89
	R-90
	R-91
	R-92
	R-93
	R-94
	R-95
	R-96
	R-97
	R-98
	R-99
	R-100

CONTRACTOR SHALL VERIFY ELEVATIONS IN THE CHANGING PLAN NOT BE SHOWN.

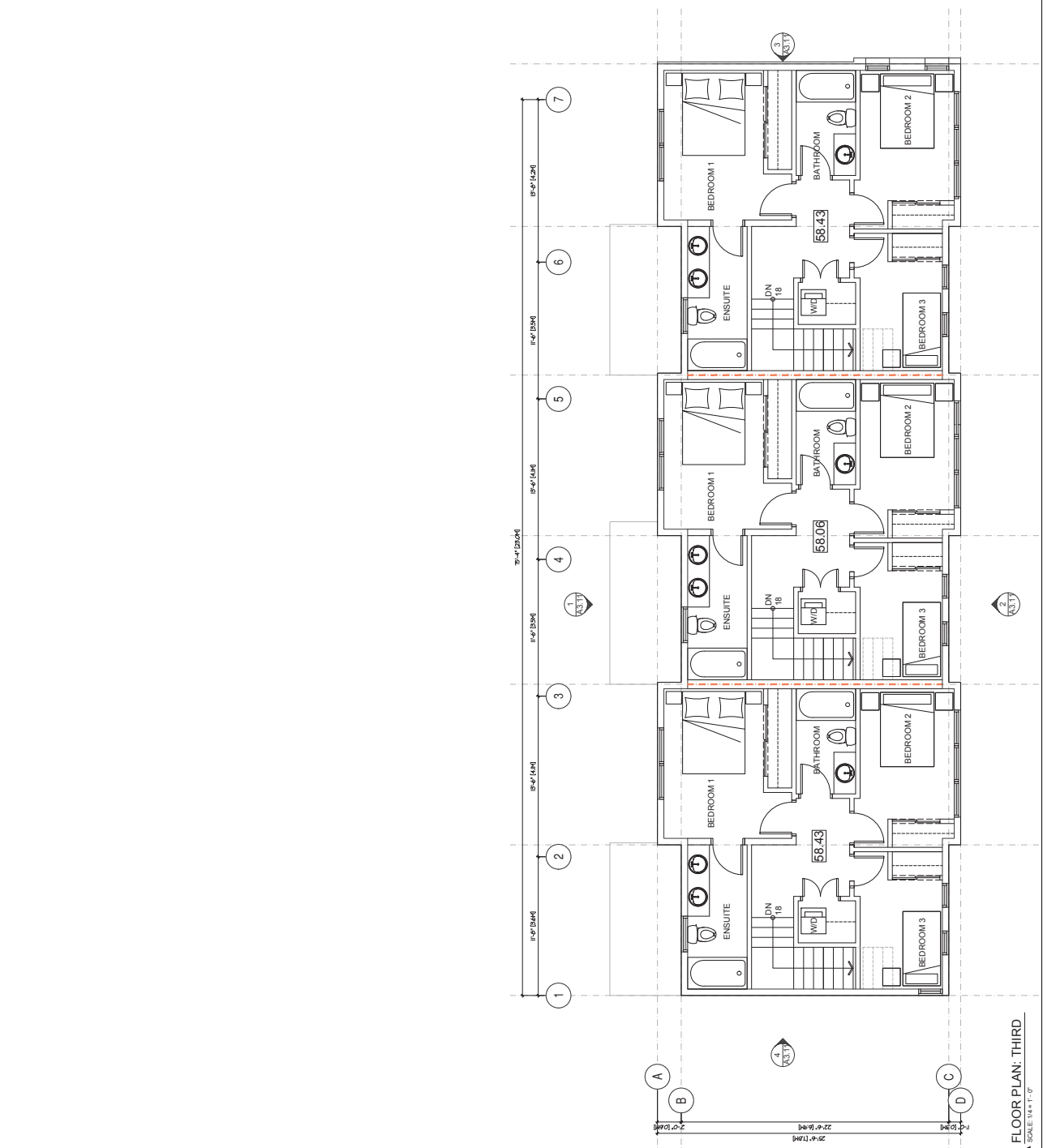
**LOVICK SCOTT ARCHITECTS**

3707 1ST AVENUE  
 BURBANK, CA 91502  
 TEL: 626.336.1100  
 FAX: 626.336.1101  
 WWW.LOVICKSCOTT.COM  
 MEMBER OF THE AIBC, AIA, SAA, MAA  
 ARCHITECTURAL BOARD

**PADDINGTON - PATTERSON**

20247 PATERSON AVE, WAKEFIELD  
 BUILDING TYPE A  
 FLOOR PLAN  
 THIRD FLOOR

PROJECT NUMBER: 23-443  
 DATE: AS NOTED  
 PROJECT START: 2023.08.29  
 PROJECT END: 2024.04.17



**A FLOOR PLAN: THIRD**  
 SCALE: 1/4" = 1'-0"





















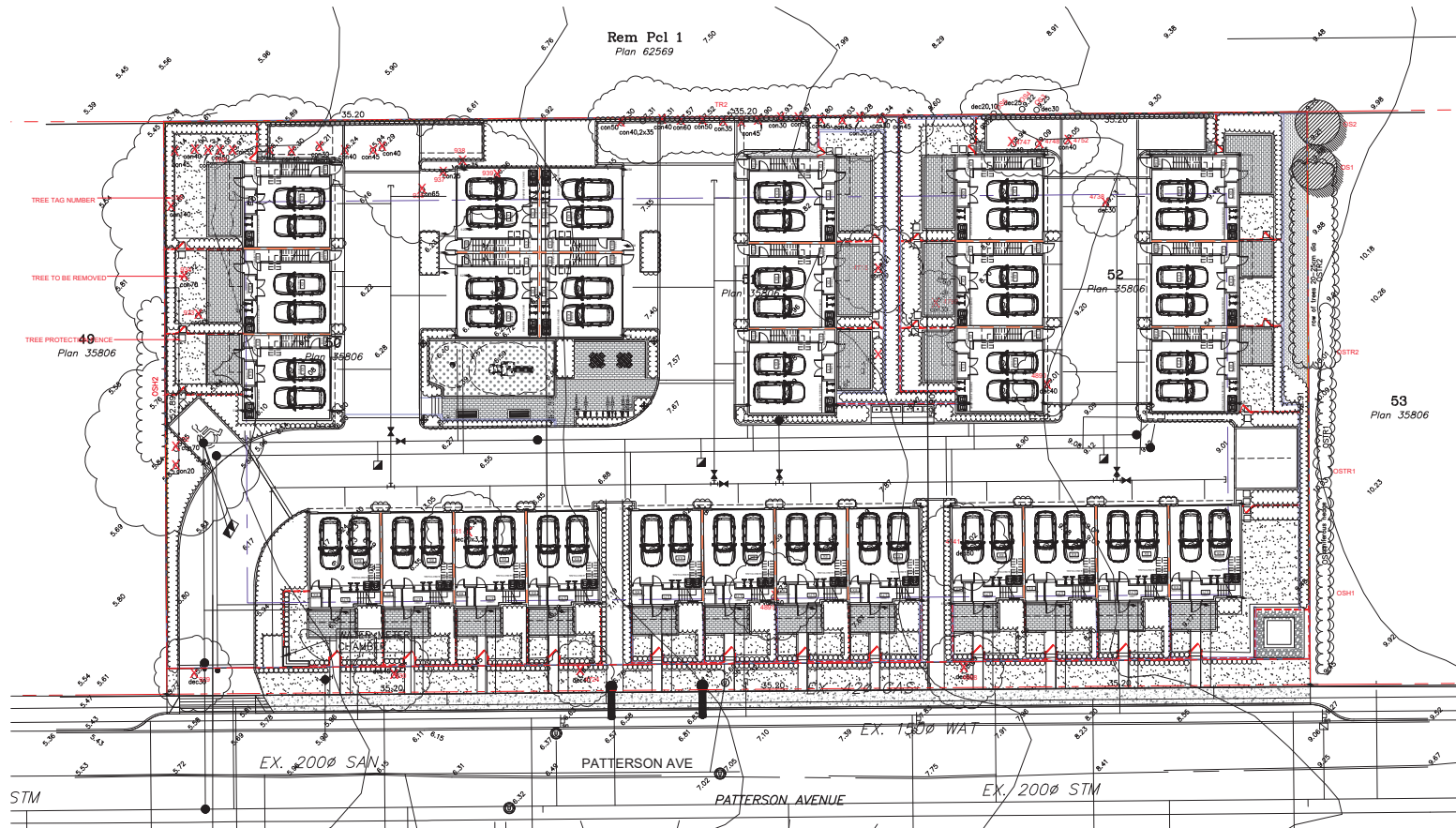




© Copyright reserved. This drawing and design is the property of PMG Landscape Architects and may not be reproduced or used for other projects without their permission.

**pmg**  
LANDSCAPE  
ARCHITECTS  
Suite C100 - 4185 Sili Creek Drive  
Burnaby, British Columbia V5C 6G9  
p. 604-294-0111 • f. 604-294-0022

SEAL:



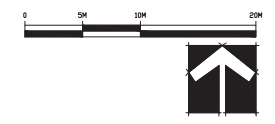

8	24 OCT 28	COMMENTS/ NEW SITE PLAN	MM
7	24 AUG 26	NEW SITE PLAN	MM
6	24 JUN 25	RE ISSUED FOR S/P	MM
5	23 APR 22	NEW SITE PLACEMENTS	MM
04	23 OCT 21	NEW SITE PLAN	ML
03	23 SEP 20	ISSUED FOR S/P	MM
02	23 SEP 19	NEW SITE PLAN	ML
01	23 APR 20	GRADING PLAN/ NEW SITE PLAN	ML
NO.	DATE	REVISION DESCRIPTION	DR.

CLIENT:



PROJECT:  
**TOWNHOUSE DEVELOPMENT**  
20247 PATTERSON AVENUE  
MAPLE RIDGE, BC

DRAWING TITLE:  
**TREE MANAGEMENT PLAN**



DATE: 23.APR.19 DRAWING NUMBER:  
SCALE: 1:200  
DRAWN: JR **L1**  
DESIGN: JR  
CHKD: MCY **OF 9**

PMG PROJECT NUMBER: 22-180

SEAL:


8	24 OCT 28	COMMENTS: NEW SITE PLAN	MM
7	24 AUG 26	NEW SITE PLAN	MM
6	24 JUN 25	REVISION FOR SP	MM
5	23 APR 23	NEW SITE PLAN/COMMENTS	MM
4	23 OCT 23	NEW SITE PLAN	NC
3	23 SEP 23	HOURLY FOR SP	MM
2	23 SEP 23	NEW SITE PLAN	MM
1	23 APR 26	GRADING PLAN, NEW SITE PLAN	NC

NO. DATE REVISION DESCRIPTION DR.

CLIENT:



PROJECT:

**TOWNHOUSE DEVELOPMENT**

20247 PATTERSON AVENUE  
MAPLE RIDGE, BC

DRAWING TITLE:

**LANDSCAPE PLAN**

DATE: 23 APR 19

SCALE: 1:200

DRAWN: JR

DESIGN: JR

CHKD: MCY

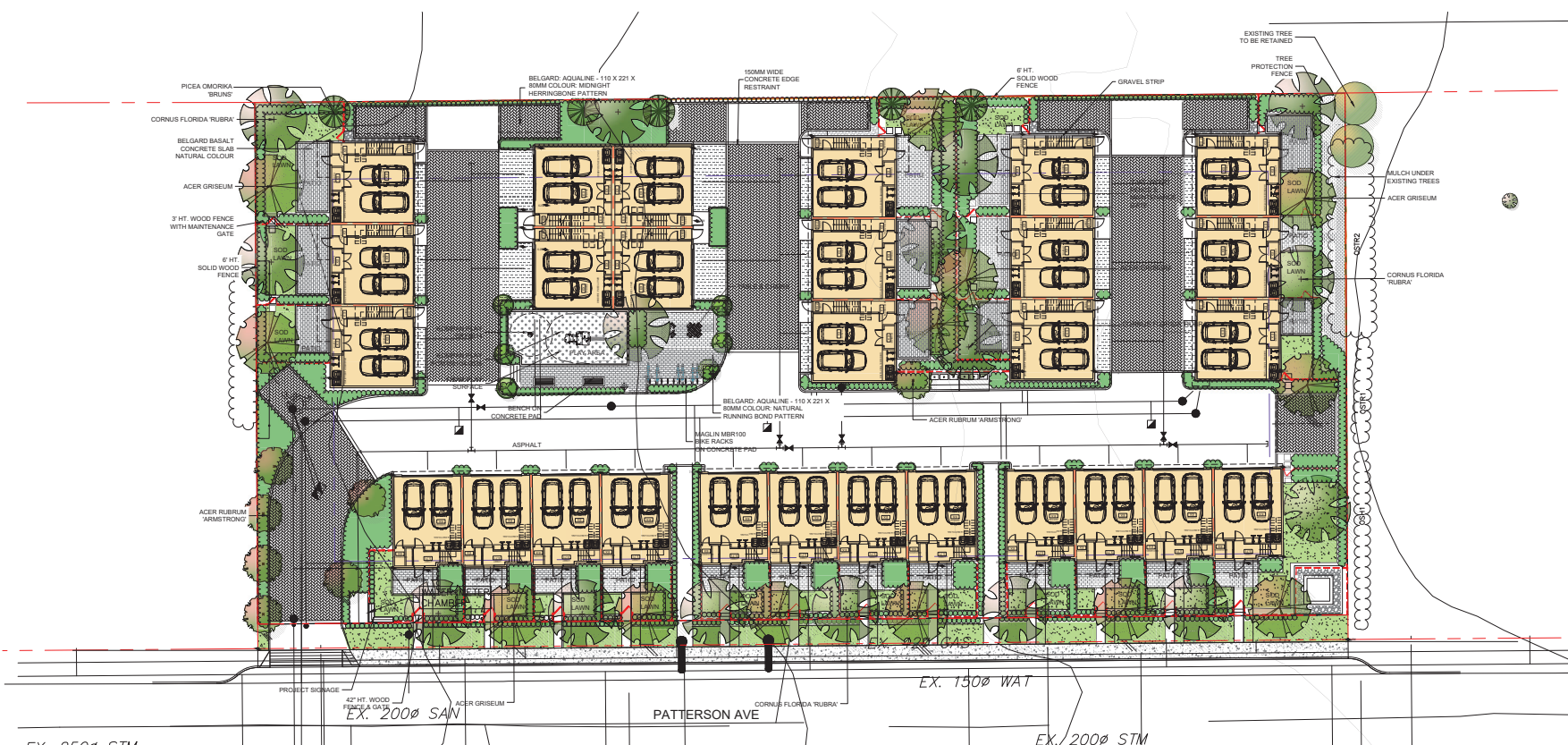
PMG PROJECT NUMBER:

DRAWING NUMBER:

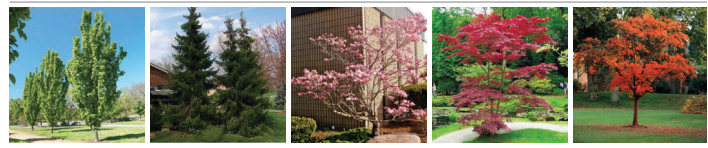
**L2**

OF 9

PMG PROJECT NUMBER: 22-180



**TREE**



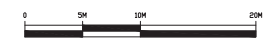
**FURNITURE**



PLANT SCHEDULE				PMG PROJECT NUMBER: 22-180
KEY	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS
TREE	13	ACER GRISEUM	PAPERBARK MAPLE	6CM CAL; 1.8M STD; B&B
	6	ACER PALMATUM	JAPANESE MAPLE	5CM CAL; B&B
	7	ACER RUBRUM 'ARMSTRONG'	COLUMNAR ARMSTRONG MAPLE	6CM CAL; 2M STD; B&B
	16	CORNUS FLORIDA 'RUBRA'	PINK FLOWERING DOGWOOD	6CM CAL; 1.80M STD; B&B
	5	PICEA OMORIKA 'BRUNS'	BRUNS SERBIAN SPRUCE	2.5M HT; B&B

NOTES: \* PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNLA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. \* REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. \* SEARCH AND REVIEW: MAKE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. \* SUBSTITUTIONS OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS. TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD. DEFINITION OF CONDITIONS OF AVAILABILITY. \* ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. \* ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. \* BIO-SOLIDS NOT PERMITTED IN GROWING MEDIUM UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT.

REPLACEMENT TREES REQUIRED: 40 TREES PER HECTARE  
SITE IS 1.38M ACRES = 550 HECTARES  
TOTAL REPLACEMENT TREES REQUIRED - 223



22180-9.2P

SEAL:

NO.	DATE	REVISION DESCRIPTION	DR.
1	23 APR 23	NEW SITE PLAN	MM
2	23 APR 23	NEW SITE PLAN	MM
3	23 APR 23	NEW SITE PLAN	MM
4	23 APR 23	NEW SITE PLAN	MM
5	23 APR 23	NEW SITE PLAN	MM
6	23 APR 23	NEW SITE PLAN	MM
7	23 APR 23	NEW SITE PLAN	MM
8	23 APR 23	NEW SITE PLAN	MM
9	23 APR 23	NEW SITE PLAN	MM
10	23 APR 23	NEW SITE PLAN	MM
11	23 APR 23	NEW SITE PLAN	MM
12	23 APR 23	NEW SITE PLAN	MM
13	23 APR 23	NEW SITE PLAN	MM
14	23 APR 23	NEW SITE PLAN	MM
15	23 APR 23	NEW SITE PLAN	MM
16	23 APR 23	NEW SITE PLAN	MM
17	23 APR 23	NEW SITE PLAN	MM
18	23 APR 23	NEW SITE PLAN	MM
19	23 APR 23	NEW SITE PLAN	MM
20	23 APR 23	NEW SITE PLAN	MM

NO.	DATE	REVISION DESCRIPTION	DR.
1	23 APR 23	NEW SITE PLAN	MM
2	23 APR 23	NEW SITE PLAN	MM
3	23 APR 23	NEW SITE PLAN	MM
4	23 APR 23	NEW SITE PLAN	MM
5	23 APR 23	NEW SITE PLAN	MM
6	23 APR 23	NEW SITE PLAN	MM
7	23 APR 23	NEW SITE PLAN	MM
8	23 APR 23	NEW SITE PLAN	MM
9	23 APR 23	NEW SITE PLAN	MM
10	23 APR 23	NEW SITE PLAN	MM
11	23 APR 23	NEW SITE PLAN	MM
12	23 APR 23	NEW SITE PLAN	MM
13	23 APR 23	NEW SITE PLAN	MM
14	23 APR 23	NEW SITE PLAN	MM
15	23 APR 23	NEW SITE PLAN	MM
16	23 APR 23	NEW SITE PLAN	MM
17	23 APR 23	NEW SITE PLAN	MM
18	23 APR 23	NEW SITE PLAN	MM
19	23 APR 23	NEW SITE PLAN	MM
20	23 APR 23	NEW SITE PLAN	MM

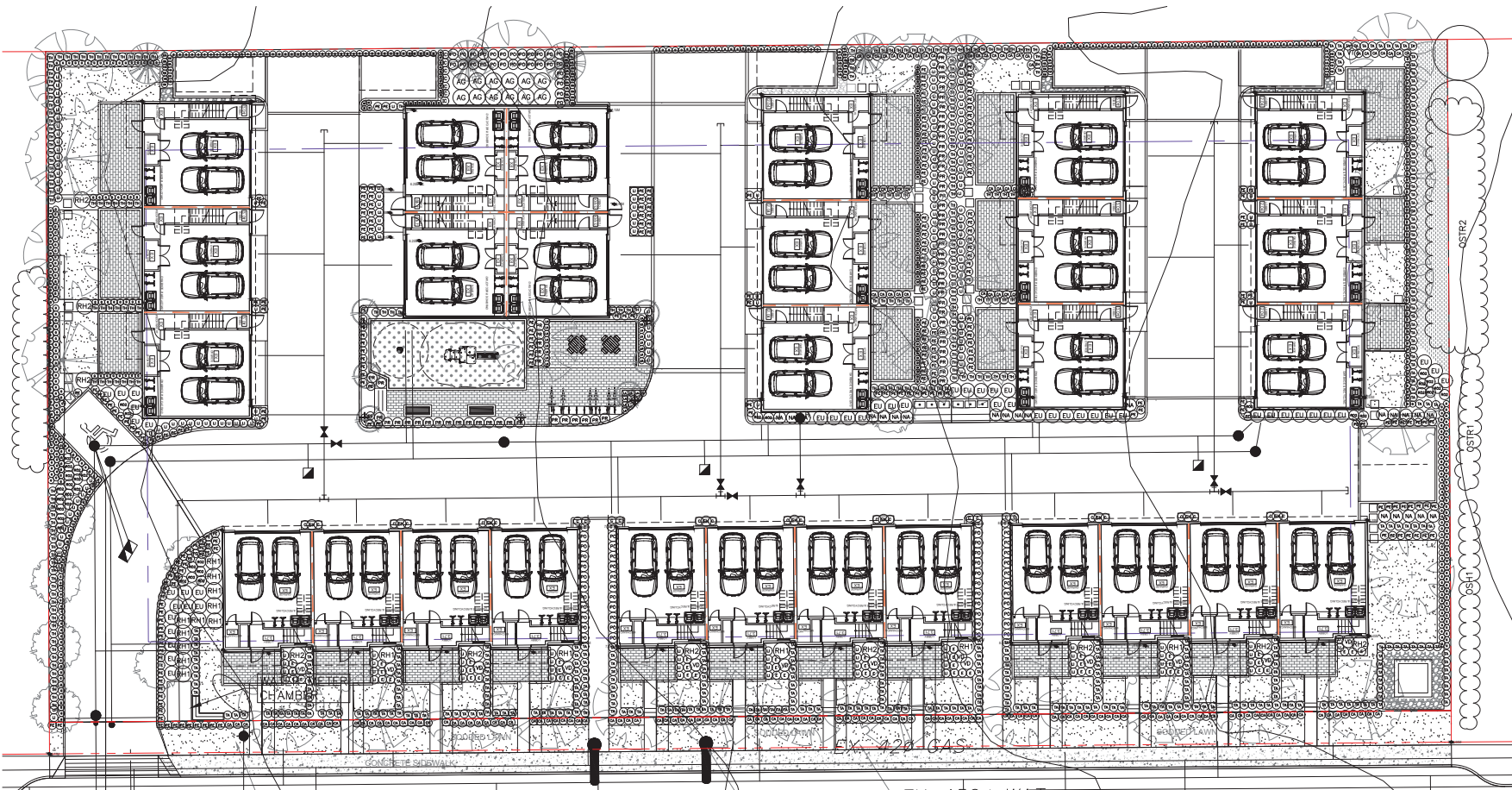
CLIENT: **Paddington Properties**

PROJECT:  
**TOWNHOUSE DEVELOPMENT**  
20247 PATTERSON AVENUE  
MAPLE RIDGE, BC

DRAWING TITLE:  
**SHRUB PLAN**

DATE: 23 APR 19 DRAWING NUMBER:  
SCALE: 1:150  
DRAWN: JR  
DESIGN: JR  
CHKD: MCV  
**L3**  
OF 9

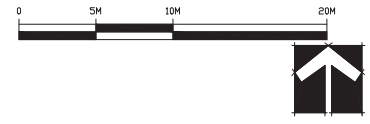
PMG PROJECT NUMBER: 22-180



PLANT SCHEDULE				PMG PROJECT NUMBER: 22-180	
KEY	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS	
SHRUB					
12		AUCUBA JAPONICA 'GOLDSTRIKE'	MALE JAPANESE AUCUBA	#3 POT: 50CM	
48		EUONYMUS ALATA 'COMPACTUS'	COMPACT WINGED BURNING BUSH	#3 POT: 50CM	
13		LEUCODIHOE FONTANESIANA 'SCARLETTA'	LEUCODIHOE, RED NEW GROWTH	#3 POT: 50CM	
22		NANDINA DOMESTICA	HEAVENLY BAMBOO	#3 POT: 50CM	
62		PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL	#3 POT: 50CM	
16		RHODODENDRON 'NAHAI KRUSCHKE'	RHODODENDRON	#3 POT: 50CM	
10		RHODODENDRON 'MRS. FURUNVAL'	RHODODENDRON, ROSE PINK, MAY	#3 POT: 50CM	
35		ROSA 'MIDLAND RED'	MIDLAND ROSE, RED	#2 POT: 40CM	
9		SKIMMIA JAPONICA (90% MALE)	JAPANESE SKIMMIA	#2 POT: 30CM	
328		TAKUS 'MIDIA 'HICKSI'	HICKS YEW	1.2M B&B	
200		THUJA OCCIDENTALIS 'SMARAGD'	EMERALD GREEN CEDAR	1.8M HT. B&B	
1		VIBURNUM TINUS 'SPRING BOUQUET'	DWARF VIBURNUM	#3 POT: 50CM	

PLANT SCHEDULE				PMG PROJECT NUMBER: 22-180	
KEY	QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS	
GRASS					
172		CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	#1 POT	
30		CAREX OSHIMENSIS 'EVERGOLD'	EVERGOLD JAPANESE SEDGE	#1 POT	
59		HAKONECHLOA MACRA 'AUREOLA'	GOLD VARIEGATED JAPANESE FOREST GRASS	#1 POT	
7		IMPERATA CYLINDRICA 'RED BARON'	BLOOD GRASS	#1 POT	
251		PENNISETUM ALOPECUROIDES 'LITTLE BUNNY'	LITTLE BUNNY FOUNTAIN GRASS	#1 POT	
GENERAL					
75		IBERIS 'SEMPERVIRENS' 'SNOWFLAKE'	SNOWFLAKE EVERGREEN CANDYTUFT	9CM POT	
23		LAVENDULA 'DARLEVENISIS' 'HIDCOTE BLUE'	ENGLISH LAVENDER; COMPACT; DEEP PURPLE	#1 POT	
49		ERICA 'X DARLEVENISIS' 'KRAMER'S RED'	WINTER HEATH, RED	#1 POT	
448		GALTHERIA 'SHALLON'	SALAL	#1 POT: 20CM	
199		LONGICERA 'FILEATA'	PRIVET 'HONEYBUCKLE'	#2 POT: 40CM	
72		POLYSTICHUM 'MUNITIUM'	WESTERN SWORD FERN	#1 POT: 25CM	

NOTES: \* PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNA STANDARD. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. \* REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. \* SEARCH AND REVIEW: MAKE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. \* SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD. \* DEFINITION OF CONDITIONS OF AVAILABILITY. \* ALL LANDSCAPE MATERIAL AND WORKMANSHIP MUST MEET OR EXCEED BC LANDSCAPE STANDARD AND CANADIAN LANDSCAPE STANDARD LATEST EDITION. \* ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. \* B&B SOLIDS NOT PERMITTED IN GROWING MEDIUM UNLESS AUTHORIZED BY LANDSCAPE ARCHITECT.



© Copyright reserved. This drawing and design is the property of PMG Landscape Architects and may not be reproduced or used for other projects without their permission.

**pmg**  
LANDSCAPE ARCHITECTS  
Suite C100 - 4185 Still Creek Drive  
Burnaby, British Columbia, V5C 6G9  
p. 604 294-0011 - f. 604 294-0022

SEAL:


8	24 OCT 28	COMMENTS/ NEW SITE PLAN	MM
7	24 AUG 26	NEW SITE PLAN	MM
6	24 JUN 25	REVISION FOR SP	MM
5	23 APR 23	NEW SITE PLAN/COMMENTS	MM
04	23 OCT 23	NEW SITE PLAN	MC
03	23 SEP 23	ISSUES FOR SP	MM
02	23 SEP 23	NEW SITE PLAN	MC
01	23 APR 26	GRADING PLAN/NEW SITE PLAN	MC

NO. DATE REVISION DESCRIPTION DR.

CLIENT:



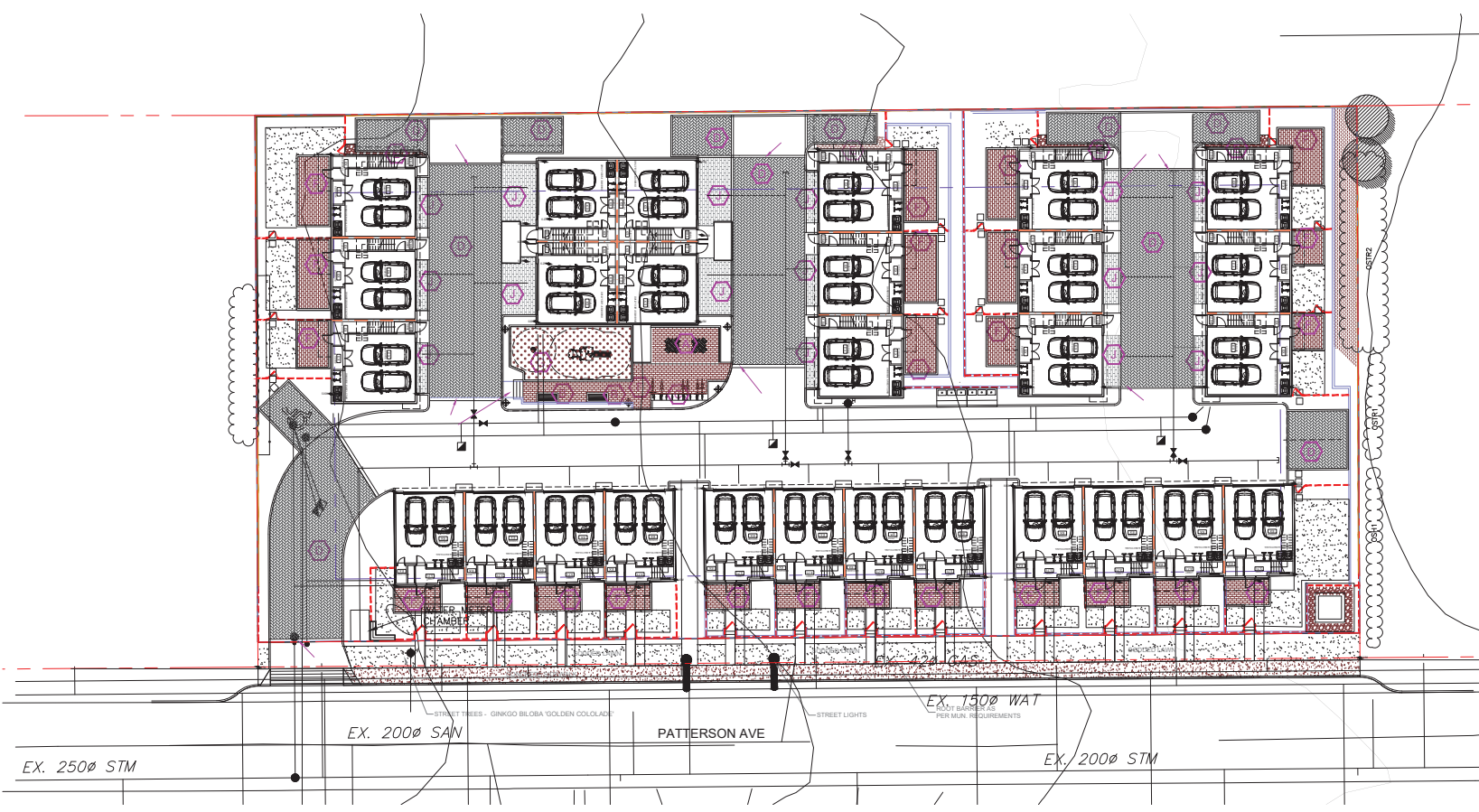
PROJECT:  
**TOWNHOUSE DEVELOPMENT**  
20247 PATTERSON AVENUE  
MAPLE RIDGE, BC

DRAWING TITLE:  
**MATERIAL PLAN**

DATE: 23 APR 19 DRAWING NUMBER:  
SCALE: 1:200  
DRAWN: JR  
DESIGN: JR  
CHKD: MCV

**L4**  
OF 9

PMG PROJECT NUMBER: 22-180



**MATERIAL LEGEND**

(A)		MAGLIN 400 GLUSTER SEATING IPE WOOD
(B)		MAGLIN BENCH 970 BACKED IPE WOOD
(C)		MAGLIN 100 BIKE RACKS COLOUR: BLACK
(D)		BELGARD AQUALINE - 110 X 221 X 80MM COLOUR: MIDNIGHT HERRINGBONE PATTERN
(E)		GRAVEL STRIP
(F)		BELGARD AQUALINE - 110 X 221 X 80MM COLOUR: NATURAL RUNNING BOND PATTERN
(G)		FIBAR PLAY SURFACE
		CONCRETE
(J)		BELGARD AQUALINE - 110 X 221 X 80MM COLOUR: MIDNIGHT RUNNING BOND PATTERN

**LIGHT LEGEND**

	BOLLARD LIGHT: LIGMAN LBX BOLLARD, MATT SILVER DARK SKY CERTIFIED
--	---

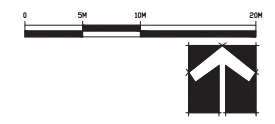
NOTE LIGHTING SPEC/LOCATION PER ELECTRICAL DWG.

**FENCE LEGEND**

	42' HT. WOOD FENCE
	6' HT. WOOD FENCE
	ENTRY SIGNAGE
	RETAINING WALL



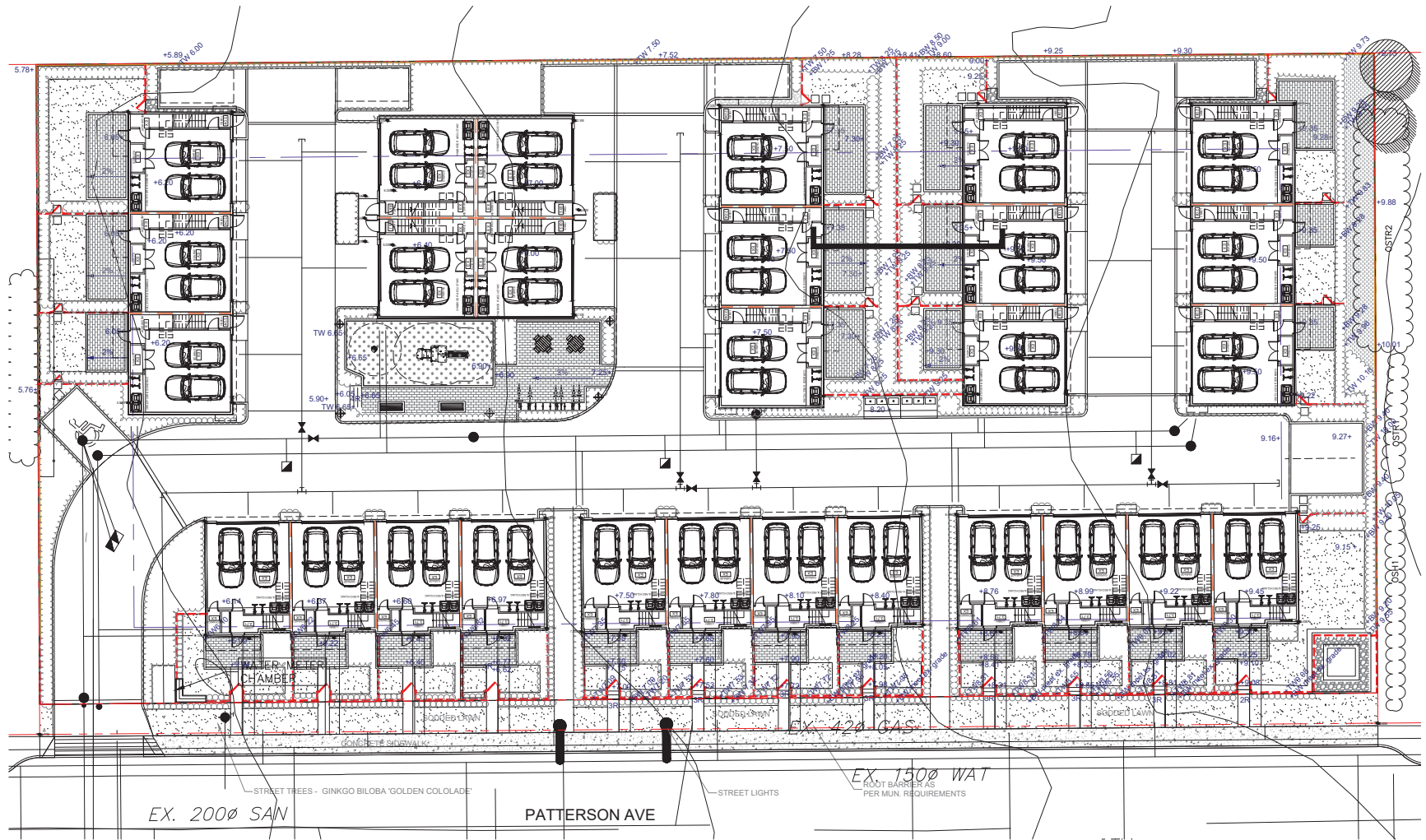
LIGMAN LBX BOLLARD LIGHT



© Copyright reserved. This drawing and design is the property of PMG Landscape Architects and may not be reproduced or used for other projects without their permission.

**pmg**  
 LANDSCAPE ARCHITECTS  
 Suite C100 - 4185 Still Creek Drive  
 Burnaby, British Columbia V5C 6G9  
 p. 604 294-0011 • f. 604 294-0022

SEAL:




8	24.OCT.28	COMMENTS: NEW SITE PLAN	MM
7	24.AUG.26	NEW SITE PLAN	MM
6	24.JUN.25	REVISION FOR SP	MM
5	23.APR.22	NEW SITE PLACEMENTS	MM
04	23.OCT.21	NEW SITE PLAN	MC
03	23.OCT.20	HOODS FOR SP	MC
02	23.OCT.19	NEW SITE PLAN	MC
01	23.APR.20	GRADING PLAN, NEW SITE PLAN	MC
NO.	DATE	REVISION DESCRIPTION	DR.

CLIENT:



PROJECT:

**TOWNHOUSE DEVELOPMENT**

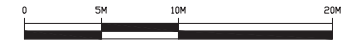
**20247 PATTERSON AVENUE  
 MAPLE RIDGE, BC**

DRAWING TITLE:

**GRADING PLAN**

DATE: 23.APR.19 DRAWING NUMBER:  
 SCALE: 1:150  
 DRAWN: JR  
 DESIGN: JR  
 CHKD: MCY

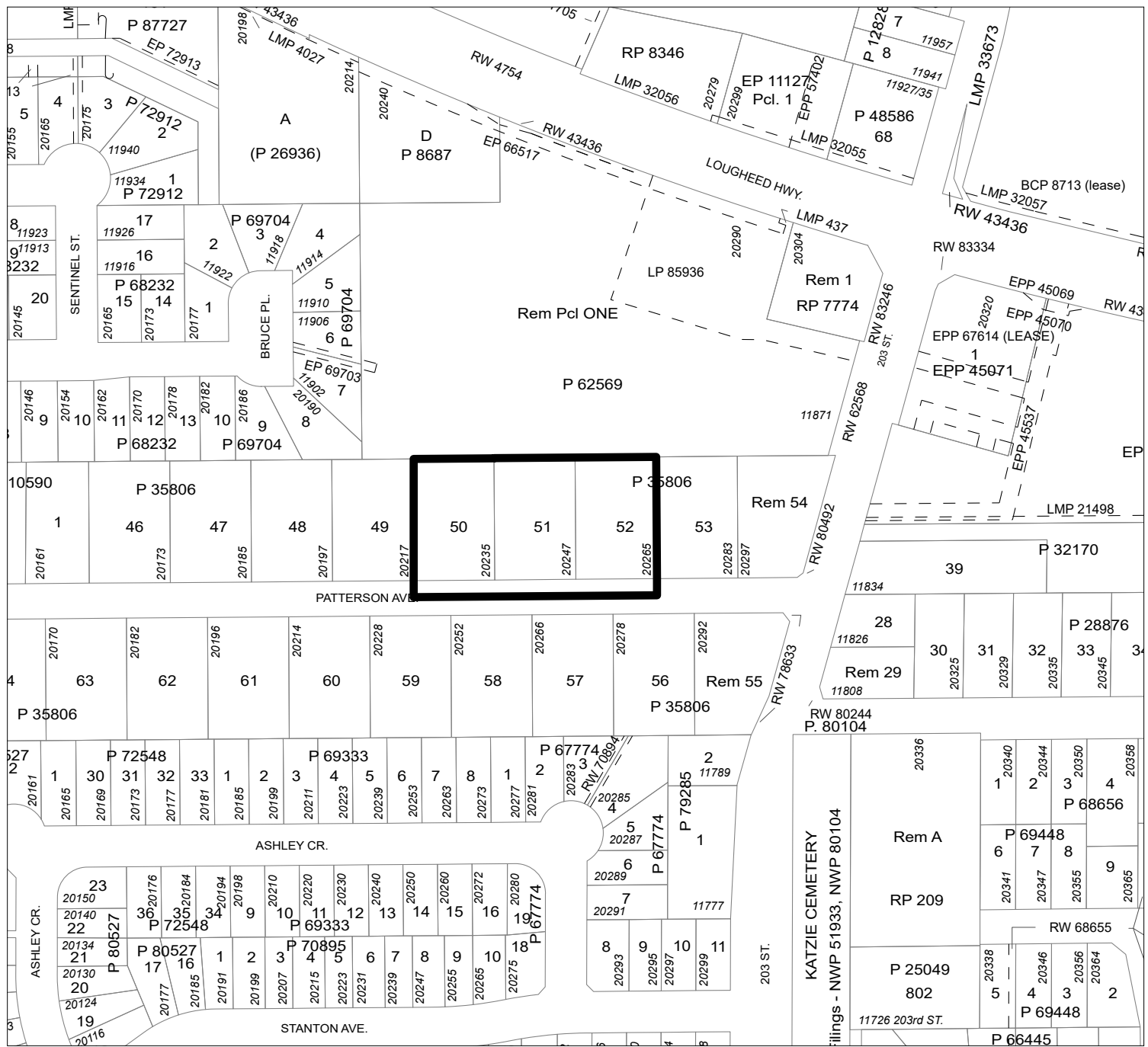
**L5**  
 OF 9



22180-9.2P

PMG PROJECT NUMBER: 22-180





# MAPLE RIDGE ZONE AMENDING

Bylaw No. 7946-2023  
 Map No. 2012  
 From: RS-1 Single Detached Residential  
 To: RM-1 Low Density Townhouse Residential



**Maple Ridge**



December 16, 2024

**City of Maple Ridge**

11995 Haney Pl

Maple Ridge, BC V2X 6A9

## Development Information Meeting Summary

---

Dear Erin,

I am pleased to provide the summary of the Development Information Meeting (DIM) held on December 13, 2024, at Hammond Elementary School. Paddington Properties presented our proposed 28-unit townhouse project located at 20235/20247/20265 Patterson Avenue, Maple Ridge.

### Meeting Overview

- **Attendance:** While the turnout was small, the meeting facilitated meaningful discussions with local residents.
  - **Feedback:** Key topics included design aesthetics, neighborhood suitability, school capacity, parking concerns, and unit size.
- 

### Community Comments and Responses

1. [REDACTED] (Patterson Avenue)

- **Concern:** [REDACTED] questioned whether this neighborhood is suitable for development.
  - **Response:** The city's **Land Use Plan** has identified this area as appropriate for development. The lands are currently underutilized, and this project supports the city's efforts to address the housing crisis.
- **Concern:** [REDACTED] raised the issue of local schools handling additional children.
  - **Response:** While we cannot predict the exact number of children from this development, we will be paying **school site fees** to support the school board's infrastructure planning and capacity needs.
- **Concern:** Street parking may become unavailable due to garages being used for storage.
  - **Response:** Our design fully complies with city bylaws, including:
    - **Visitor Parking:** Meeting city requirements.
    - **Double-Car Garages:** Ensuring adequate onsite parking to mitigate street congestion.
- **Comment on Traffic Flow:** Brenda's final point references concerns that were addressed during the **design and planning process** with the city and our civil engineering team.

2. [REDACTED] (Patterson Avenue)

- **Concern:** [REDACTED] suggested fewer, larger units to maintain streetscape character.
  - **Response:** Through discussions with the **Advisory Design Panel (ADP)** and the city, we have ensured the streetscape will enhance the character of Patterson Avenue, which currently features a mix of home styles.



- Our proposed units are appropriately sized for **market demand** and pricing objectives. Larger units would require higher price points, which could conflict with the city's goal of creating more **affordable housing options**.

## **Conclusion**

We appreciate the constructive feedback received during the meeting. Overall, we are confident this project will:

1. Bring a **new, vibrant streetscape** to Patterson Avenue.
2. Contribute to addressing the **housing crisis** in Maple Ridge.
3. Align with the city's vision for growth and sustainable development.

significant benefit to the city of Maple Ridge, as well as help to address the ongoing housing crisis in British Columbia.

## **Attachments:**

- Sign-in sheets
- Comment sheets

We look forward to continuing our collaboration with the City of Maple Ridge as we advance this project. Please let me know if further details are required.

**Sincerely,**

**Pavan Shergill**

Development Manager

Paddington Properties

#625-10833 160 Street, Surrey, BC V4N 1P3

604-328-5814 | [pshergill@paddingtonproperties.ca](mailto:pshergill@paddingtonproperties.ca)

## **November 20, 2024 Advisory Design Panel Meeting**

Development Permit No: 2023-163-DP / 20235, 20247, and 20265 Patterson Avenue

### **CITY REQUESTED COMMENTS FROM ADP**

*Please comment on the overall form and character of this development and identify issues that the applicant should be aware of.*

#### **Architectural Comments:**

Ensure required variances are reviewed by the Planning Department

#### **Landscape Comments:**

Consider using different pavers to differentiate common areas.

#### **R/2024-ADP-030**

It was moved and seconded

**That the application be supported as presented and the applicant proceed to Council.**

CARRIED

### **Response to ADP Resolution from Applicant**

To address the ADP comment regarding the pavers, a different colour and pattern of permeable paver has been identified on Landscape Drawing L4 to differentiate the Common Amenity Area.

November 21, 2024

City of Maple Ridge  
11995 Haney Place  
Maple Ridge, BC V2X 6A9

Attention: Erin Mark

**Re: File:** 2023-163-RZ  
**Legal:** Lots 50-52 District Lot 222, New Westminster District Plan 35806  
**Location:** 20235/47/65 PATTERSON AVE  
**From:** RS-1 (Single Detached Residential)  
**To:** RT-1 (Low Density Townhouse Residential)

The proposed application would affect the student population for the catchment areas currently served by Hammond Elementary and Westview Secondary School.

Hammond Elementary School has an operating capacity of 444 students. For the 2023-24 school year the student enrolment at Hammond Elementary School was 440 students (99% utilization) including 187 students from out of catchment.

Westview Secondary School has an operating capacity of 1200 students. For the 2023-24 school year the student enrolment at Westview Secondary was 759 students (63% utilization) including 144 students from out of catchment.

Based on the density estimates for the various land uses at build out the following would apply:

- For the construction of 28 townhouse units, the estimated number of school age residents is 11.

Sincerely,

**Richard  
Rennie**

Digitally signed by Richard Rennie  
Date: 2024.11.21 13:47:11 -08'00'

Richard Rennie

Secretary Treasurer

The Board of Education of School District No. 42 (Maple Ridge – Pitt Meadows)

cc: Louie Giroto, Director, Facilities  
Sam Elliott, Manager, Facilities Planning  
David Vandergugten, Assistant Superintendent  
Rebecca Lyle, Executive Coordinator

## **Application 2021-556-DP for 22020 119 Avenue, Development Permit**

### **Recommendation:**

**THAT the issuance of Development Permit 2021-556-DP for 22020 119 Avenue be approved.**

### **Report Purpose and Summary Statement:**

Council authorization of Ground-Oriented Residential Infill Development Permit 2021-556-DP for a proposed triplex at 22020 119 Avenue.

### **Previous Council Action:**

Rezoning Application (2021-556-RZ)

- First Reading – April 26, 2022
- Second Reading – March 12, 2024
- Public Hearing – April 16, 2024
- Third Reading – April 23, 2024

### **Proposed Variance:**

There are no proposed variances.

### **Strategic Alignment:**

Liveable Community

To: Mayor and Council

File number: 2021-556-DP

## Application 2021-556-DP for 22020 119 Avenue, Development Permit

### BACKGROUND:

Applicant: JORH PROPERTIES INC.  
 Legal Description: Lot 66 District Lot 397 Group 1 New Westminster District Plan 14891

OCP:  
 Current: *Urban Residential / Intensive Attached Residential Infill*  
 (Proposed – Lougheed Transit Corridor Area Plan)  
 Proposed: *Urban Residential / Intensive Attached Residential Infill*  
 (Proposed – Lougheed Transit Corridor Area Plan) [No change]

Within Urban Area Boundary: Yes  
 Area Plan: Lougheed Transit Corridor Area Plan (Proposed)  
 OCP Major Corridor: No

Zoning:  
 Current: RS-1 (Single Detached Residential)  
 Proposed: RS-1 (Single Detached Residential) [No change]

Surrounding Uses:

North:	Use: Single Detached Residential Zone: RS-1 (Single Detached Residential) Designation: <i>Urban Residential</i> (Current) / <i>Lougheed Transit Corridor Multi-Family</i> (Proposed – LTCAP)
South:	Use: Single Detached Residential Zone: RS-1 (Single Detached Residential) Designation: <i>Urban Residential</i> (Current) / <i>Lougheed Transit Corridor Multi-Family</i> (Proposed – LTCAP)
East:	Use: Triplex Residential Zone: RT-2 (Ground-Oriented Residential Infill) Designation: <i>Urban Residential</i>
West:	Use: Single Detached Residential Zone: RS-1 (Single Detached Residential) Designation: <i>Urban Residential</i> (Current) / <i>Lougheed Transit Corridor Multi-Family</i> (Proposed – LTCAP)

Existing Use of Property:	Single Detached Residential
Proposed Use of Property:	Urban Infill Residential (Triplex)
Site Area:	885 m <sup>2</sup>
Access:	119 Avenue and Lane
Servicing Requirement:	Urban Standard
Flood Plain:	No
Fraser Sewer Area:	Yes

## **ANALYSIS:**

### **Background:**

Development Application 2021-556-RZ proposed the rezoning of the subject property from RS-1 (Single Detached Residential) to RT-2 (Ground-Oriented Residential Infill) to allow the future construction of a triplex. The application proceeded through the rezoning process and went to Public Hearing on April 16, 2024, and received third reading by Council on April 23, 2024.

On June 25, 2024, Council adopted amendments to the Zoning Bylaw to implement the Province's Bill 44 legislation to enable Small Scale Multi-Unit Housing (SSMUH). Those Zoning Bylaw amendments included the addition of an Urban Infill Residential use for qualifying single detached residential and duplex residential zoned properties within the City's Urban Containment Boundary. The maximum number of dwelling units permitted on a property under the Urban Infill Residential use is subject to the site conditions, lot area, and Prescribed Bus Stops, and varies from three to six dwelling units.

The subject property qualifies for the Urban Infill Residential use for up to six dwelling units due to the proximity to a Prescribed Bus Stop. As this application no longer requires rezoning to build the proposed triplex, the applicant has decided to withdraw Rezoning Application 2021-556-RZ and proceed with the subject Development Permit and a future Building Permit application for the proposed triplex under the existing RS-1 zone and Urban Infill Residential use. Section 8.14 of the City's Official Community Plan (OCP) currently requires a Ground-Oriented Residential Infill (GORI) Development Permit for all new triplex housing forms on land designated *Urban Residential*. Should Council approval be given to this GORI Development Permit, the applicant can then proceed with a Building Permit application for the proposed triplex.

### **Project Description:**

This application proposes a triplex building that could be stratified to allow three separately owned primary dwelling units. Each triplex unit is approximately 218 m<sup>2</sup> (2,357 sq.ft.) in size with a main floor living area including a flex room, three bedrooms on the second floor, a lower-level recreation room, and a private south facing rear yard. Subject to meeting the *BC Building Code*, up to three secondary suites within the triplex primary dwelling units could be added for a total of six dwelling units. Secondary suites can not be stratified and would be under the same ownership of the strata dwelling unit in which they are located.

Off-street parking for the triplex units is located off a lane on the south side of the property and provides two stalls per triplex unit in a combination of detached garages and unenclosed parking.

## **PLANNING ANALYSIS:**

### **Subject Property:**

The property is relatively flat with several significant trees on the property along the perimeter of the property. The surrounding homes are mainly single detached dwellings and there is an existing triplex on the property adjacent to the east. The neighbourhood will experience increasing redevelopment over the coming years due to the proximity to main arterial roads/ transit corridors and inclusion in the future Lougheed Transit Corridor Area Plan (LTCAP) (Attachment A).

The property is located within the Fraser River Escarpment (FRE) Discharge Area and as such is subject to Council Policies 6.23 and 6.24. The City is currently undertaking a risk assessment of the FRE to determine the suitability of increased densification along this corridor, the results of which may impact the current policies in place. In-stream development applications and building permits will be subject to any updated policies or bylaws as a result of that assessment.

### **Official Community Plan:**

The subject property is currently designated *Urban Residential* (Attachment B) and is proposed under the LTCAP to be designated *Intensive Attached Residential Infill*. The proposed triplex development is permitted under the existing zoning and existing OCP designation.

Pursuant to Section 488 of the *Local Government Act*, the City's OCP requires a GORI Development Permit for triplex, fourplex and courtyard housing developments on lands designated *Urban Residential*. The purpose of the GORI Development Permit is to allow for the infill of ground-oriented residential buildings (i.e., triplex, fourplex and courtyard housing) within established residential neighbourhoods and along major corridors, in a form that is incremental and sensitive to the existing and emerging neighbourhood context.

The subject property does not have any site conditions which require an Environmental Development Permit.

### **Zoning Bylaw:**

The subject property is currently zoned RS-1 (Single Detached Residential) and qualifies for up to six dwelling units under the Urban Infill Residential use due to being located within 400 m of a Prescribed Bus Stop. The proposed triplex (Attachments C and D) must meet the Zoning Bylaw regulations for the RS-1 zone and Urban Infill Residential use, a summary of the regulations for the Urban Infill Residential use are shown below in Table 1.

**Table 1. Zoning Bylaw Urban Infill Residential Use Regulations (Section 402.29)**

	<b>Required</b>	<b>Proposed</b>
<b>Maximum Lot Coverage*</b> *Based on net site area with a 0.75 m road dedication	60%	42.75%
<b>Setbacks (Principal Structure – Triplex)</b>	Front – 5.5 m Rear – 6.0 m Interior – 1.5 m	Front – 7.5 m Rear – 16.1 m Interior – 1.5 m
<b>Setbacks (Accessory Structure – Garage)</b>	Front – 5.5 m Rear – 1.5 m Interior – 1.2 m	Front – 36.1 m Rear – 1.5 m Interior – 3.1 m
<b>Building Height</b>	Principal – 9.5 m Accessory – 4.5 m	Principal – 8.0 m Accessory – 4.45 m
<b>Private Outdoor Area</b>	45 m <sup>2</sup> / unit	64 m <sup>2</sup> to 78 m <sup>2</sup> / unit

Under Provincial Bill 16 – *Housing Statutes Amendment Act*, local governments can now require road dedications as a condition of issuing a Building Permit. It is anticipated that 0.75 m is needed to achieve the required urban local road standard and that estimated road dedication has been accounted for in the proposed design and Zoning Bylaw compliance calculations. The road dedication will be confirmed by a legal survey by the applicant prior to Building Permit issuance.

**Development Permit Guidelines:**

This application is subject to the Ground Oriented Residential Infill Guidelines found in Section 8.14 of the OCP which requires a Ground Oriented Residential Infill Development Permit for all new triplex, fourplex and courtyard development on land designated *Urban Residential* (Attachment E). The proposed development responds to the key guidelines as follows:

Siting, Building Design, Massing and Entrances

The proposed building’s design is a craftsman style which is similar in nature to single detached homes in the area. The proposed building height of 8.0 m respects the maximum building height in the current RS-1 zone and is below the permitted 9.5 m height under the Urban Infill Residential use. The setbacks for the building respect the Zoning Bylaw requirements and the second floor is stepped back from the first floor to provide additional space between the proposed building and existing homes adjacent to the property.

Comments from the Advisory Design Panel (ADP) review included a statement that the proposed building design is sensitive and appropriate for the surrounding neighbourhood which acknowledges the efforts that the designer made to have the building blend in with the neighbourhood. Entrances to each of the triplex units from the street and the rear lane are clearly defined which do not cut through the private space of another unit. Unit entrances are



clearly defined with the architecture and use of exterior materials and will include large property addressing numbers visible from the street.

#### Landscaping, Open Space and Sustainability

The application complies with the requirement of providing a permeable surface for over 40% of the lot area. The landscaping defines pedestrian corridors, and each unit offers a south-facing grassed private rear yard. Shrubs have been included along the rear parking areas to soften the appearance of these areas. Electric Vehicle (EV) charging infrastructure will be provided in the garages. The landscape design includes space for garbage and recycling receptacles in the rear yard.

A Korean fir tree in the rear of the property will be retained and all other trees on the property are planned for removal due to conflicts with the proposed building footprints and/or site servicing work. The two significant Douglas fir trees on the property are planned to be removed and are subject to the Tree Bylaw's requirement of replacement trees or cash-in-lieu payment. The Landscaping Plan proposes six new trees to be planted, and a supplementary cash-in-lieu payment will be required during the Tree Permit stage.

#### **Advisory Design Panel:**

This Development Permit application was presented to the ADP on October 18, 2023. The ADP's resolution and comments with the corresponding response from the applicant are attached (Attachment F). Staff have determined that the ADP's comments have been satisfactorily addressed by the applicant.

#### **Landscaping Security:**

In accordance with Council Policy 6.28, a refundable security equivalent to 100% of the estimated landscape cost will be provided by the applicant to ensure satisfactory provision of landscaping in accordance with the terms and conditions of the Development Permit. Based on an estimated landscape cost, the security is \$5,797.00.

#### **Off-Street Parking and Loading Bylaw:**

In accordance with the City's Parking Bylaw and the Provincial SSMUH legislation, due to the property being located within 400 m of a Prescribed Bus Stop, there are no City residential parking requirements for this development. However, the development proposal provides one enclosed parking space and one unenclosed parking space per unit as required for triplex developments, consistent as if this property was located outside of the Prescribed Bus Stop area.

The parking will be accessed off the lane on the south side of the property and consists of one single garage and one double attached garage with a single stall for the other two units. The parking configuration is similar in design to the triplex adjacent to the east.

#### **Proposed Variances:**

There are no proposed variances for this development.

**External Referrals:****Ministry of Transportation and Traffic:**

Although the subject property is within the Ministry of Transportation and Traffic (MOTT) referral area, a referral to MOTT is not required for Development Permit applications.

**CONCLUSION:**

As the application has met the Ground Oriented Residential Infill Guidelines, it is recommended that Council authorize Development Permit 2021-556-DP be issued.

"Erin Mark"

---

Prepared by: Erin Mark, Planning Technician

**Attachments:**

- (A) Ortho Map
- (B) OCP Map
- (C) Architectural Plans
- (D) Landscaping Plans
- (E) Draft Development Permit
- (F) Advisory Design Panel Review Comments and Response

## Report Approval Details

Document Title:	2021-556-DP, 22020 119 Avenue, Development Permit.docx
Attachments:	<ul style="list-style-type: none"><li>- Attachment A - Ortho Map.pdf</li><li>- Attachment B - OCP Map.pdf</li><li>- Attachment C - Architectural Plans.pdf</li><li>- Attachment D - Landscape Plans.pdf</li><li>- Attachment E - Draft Development Permit.pdf</li><li>- Attachment F - ADP Resolution and Response.pdf</li></ul>
Final Approval Date:	Jan 17, 2025

This report and all of its attachments were approved and signed as outlined below:

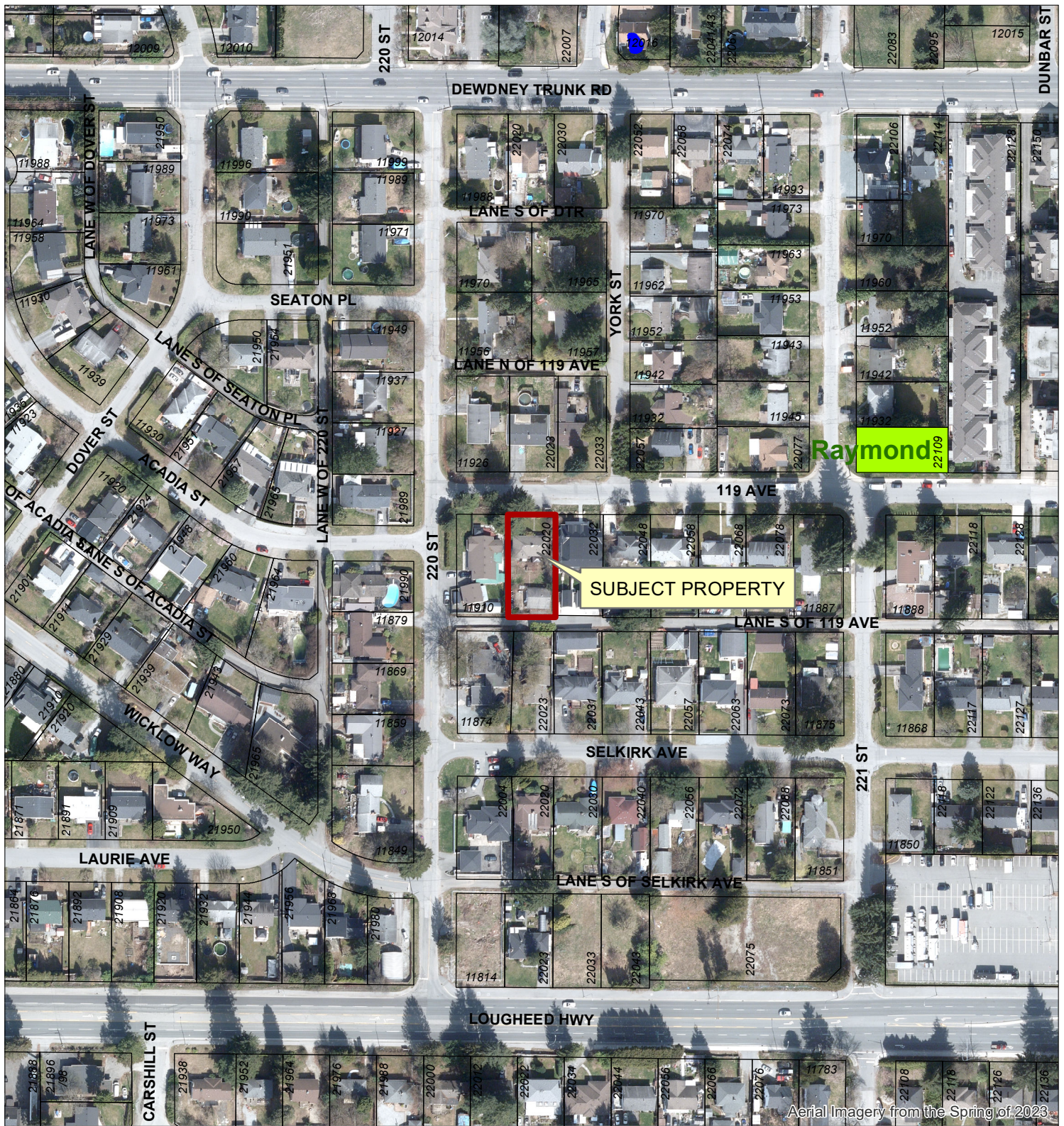
Alysa Lillyman, Administrative Assistant

Hasib Nadvi, Associate Director of Building, Development and Planning

James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

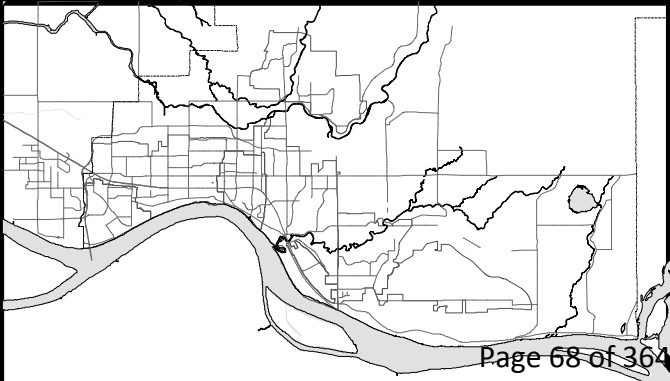
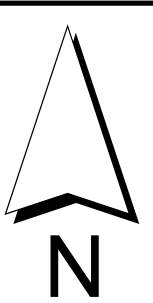
Scott Hartman, Chief Administrative Officer



SUBJECT PROPERTY

Raymond 22109

Aerial Imagery from the Spring of 2023



22020 119 AVE  
ORTHO

PLANNING DEPARTMENT



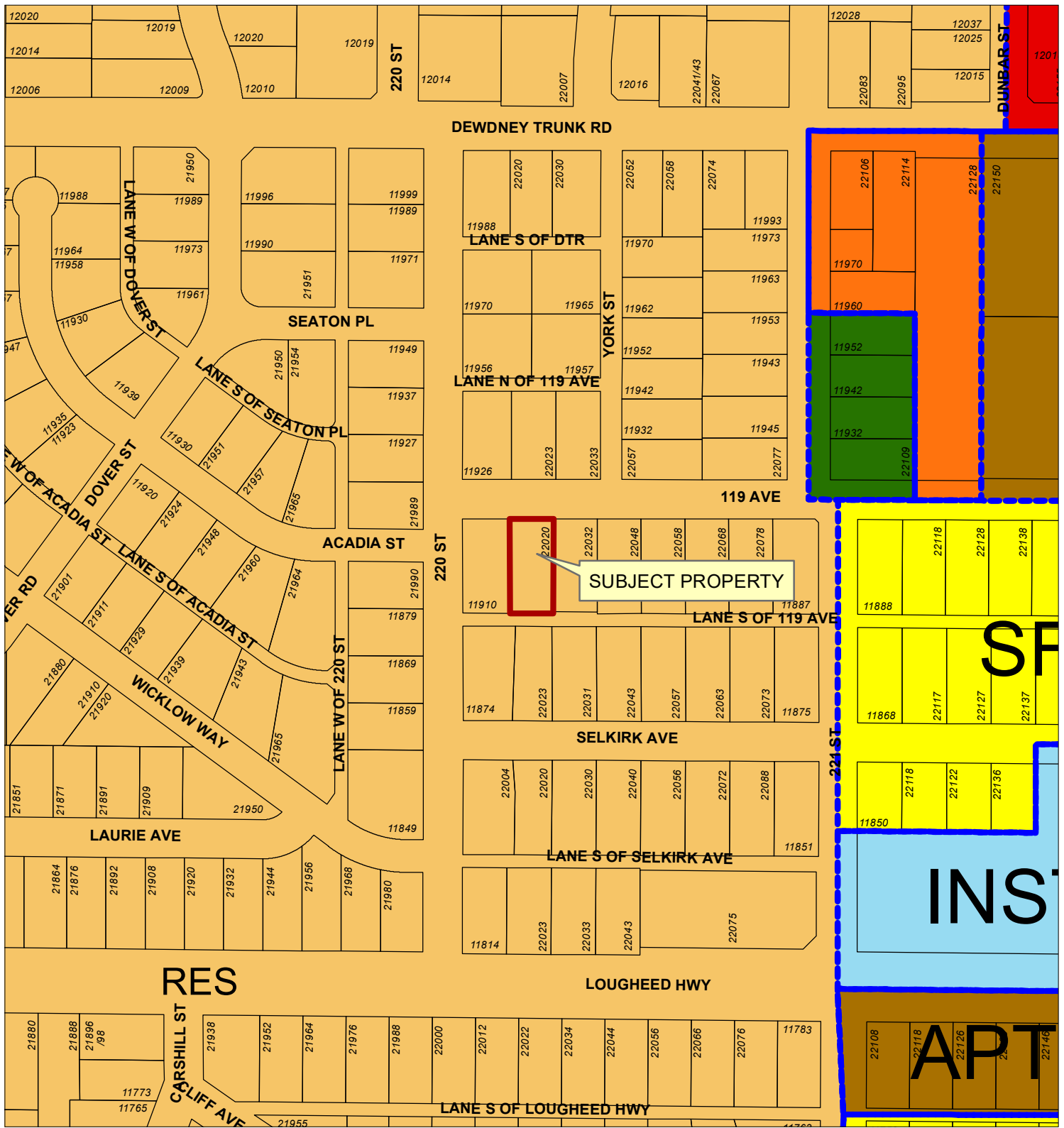
**Maple Ridge**

FILE: 2021-556-RZ  
DATE: Jan 19, 2024

BY: AL

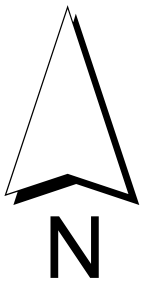
Scale: 1:2,300

Page 68 of 364



**Legend**

- Single-Family Residential
- Ground-Oriented Multi-Family
- Low-Rise Apartment
- Town Centre Commercial
- Institutional
- Park
- Urban Residential



Scale: 1:2,500

**22020 119 AVE  
LAND USE**

PLANNING DEPARTMENT



**Maple Ridge**



**STREETSCAPE**

design studio

11883 Baker Place Delta B.C. V4E 2V8  
email: gsds@eastlink.ca

22020 119 AVENUE, MAPLE RIDGE, B.C.

RS-1 (URBAN INFILL RESIDENTIAL) SECTION 402.29

DATE: JAN 07 2025

**A-0**

**CIVIC ADDRESS** 22020 119 AVENUE, MAPLE RIDGE, B.C.

**LEGAL DESCRIPTION** LOT 66 DISTRICT LOT 397, GROUP 1  
NEW WESTMINSTER DISTRICT, PLAN 14891

**ZONING** RS-1 (URBAN INFILL RESIDENTIAL) SECTION 402.29

**SETBACKS**  
PRINCIPLE BLDG.

	REQUIRED	PROPOSED
FRONT SETBACK	5.5m	7.50m
REAR SETBACK 2 STOREY	6.0m	16.09m
SIDE SETBACK WEST	1.2m	1.5m / 2.25m
SIDE SETBACK EAST	1.2m	1.51m / 2.25m

**SITE AREA** 885.09 sq.m (9527.08 sq.ft) AFTER LANE DEDICATION

**LOT COVERAGE**

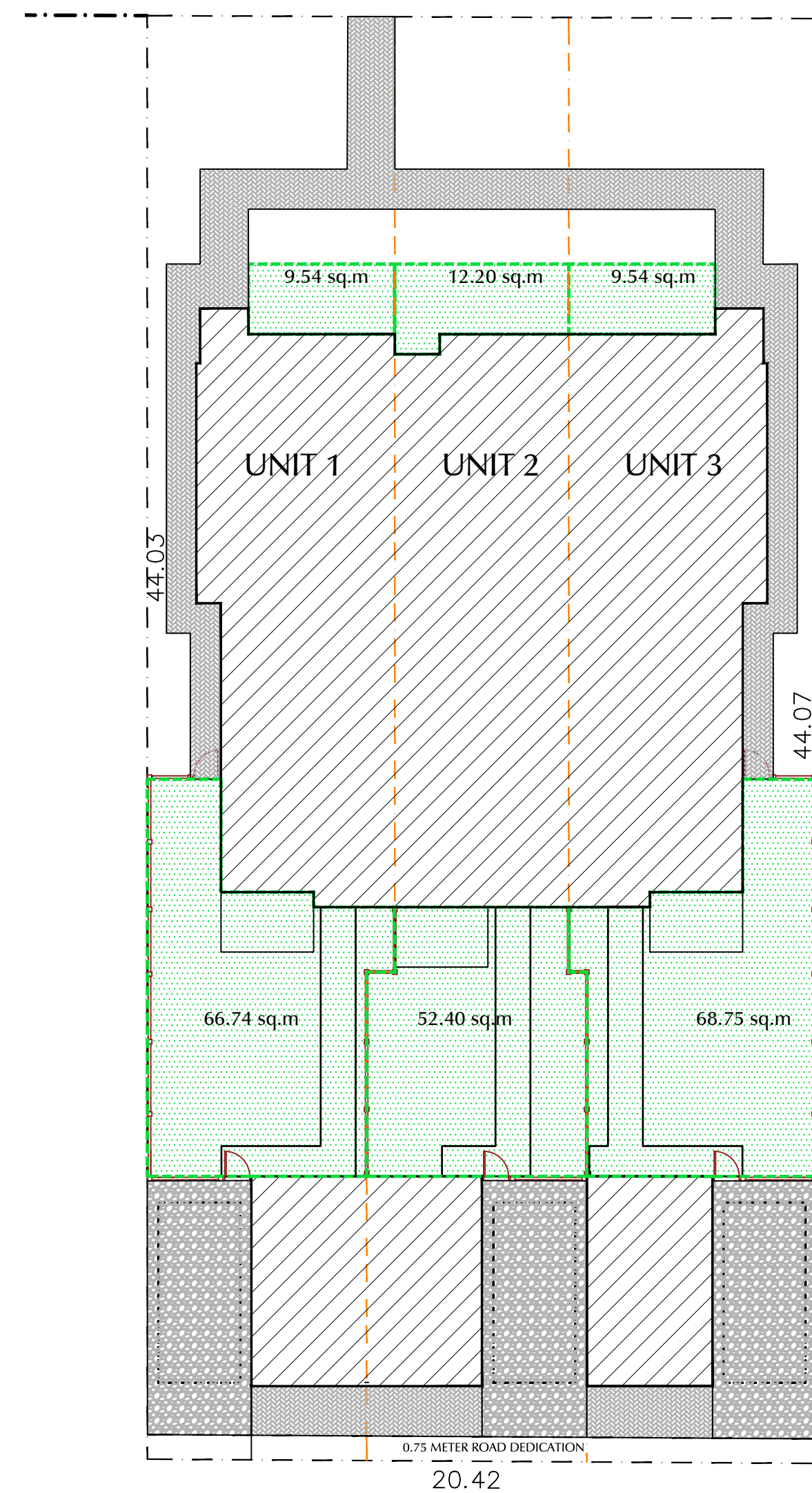
	ALLOWED	PROVIDED
@ 50% =	442.55 SQ.M (4763.51 SQ.FT)	378.39 sq.m (4073 sq.ft)

**FLOOR AREA**

	ALLOWED (PITCHED ROOF)	PROVIDED
=	9.5m	662.86 sq.m (7135 sq.ft)

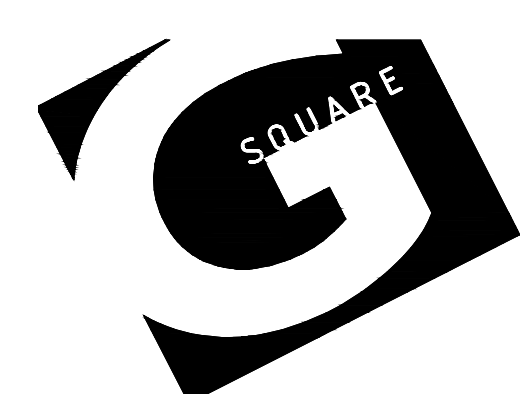
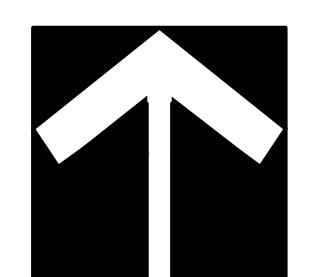
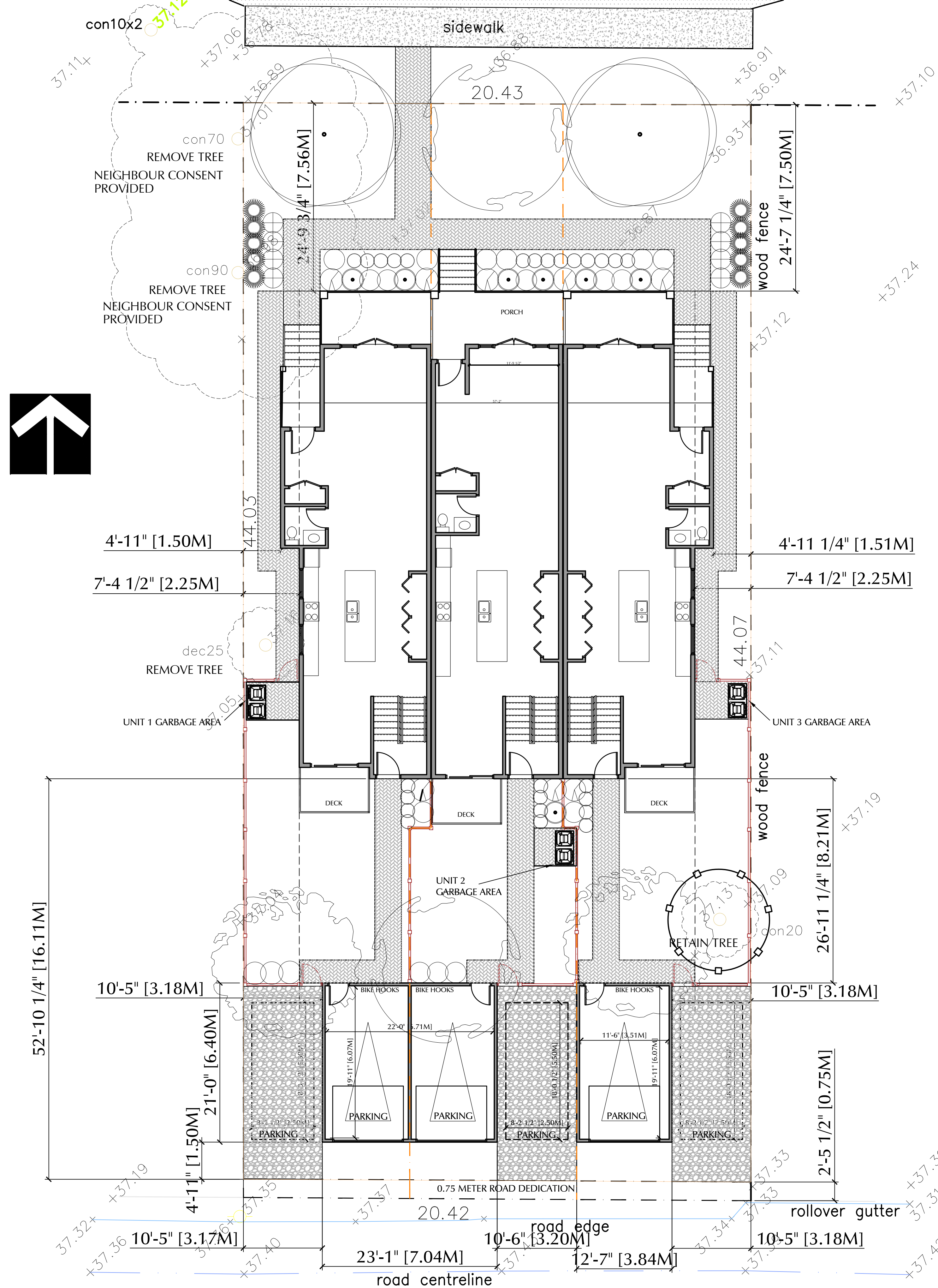
**BUILDING HEIGHT**

	ALLOWED (PITCHED ROOF)	PROVIDED
	9.5m	8.0m



**PRIVATE OUTDOOR AREA**

UNIT 1: 76.28 SQ.M  
UNIT 2: 64.60 SQ.M  
UNIT 3: 78.29 SQ.M



**SITE PLAN**

design studio  
11883 Baker Place Delta B.C. V4E 2V8  
email: gsds@eastlink.ca

22020 119 AVENUE, MAPLE RIDGE, B.C.

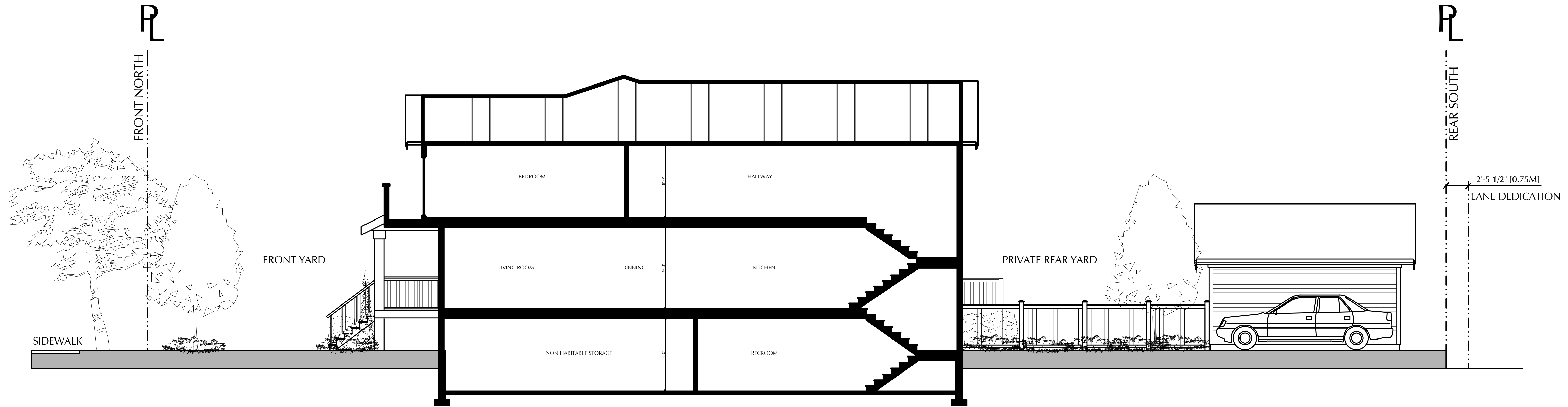
RS-1 (URBAN INFILL RESIDENTIAL) SECTION 402.29

LANE

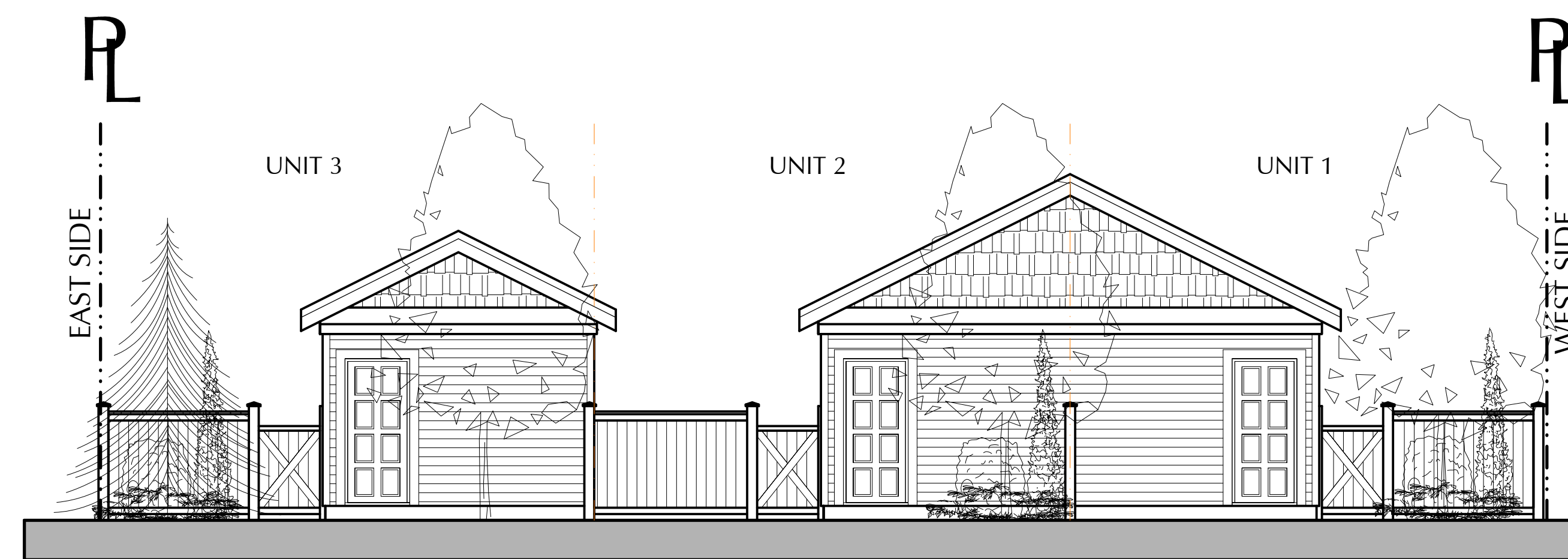
SCALE: 1/8" = 1'-00"

DATE: JAN 07 2025

**A-1**



SITE SECTION NORTH/SOUTH



SITE SECTION REAR YARD



SITE/BUILDING SECTION

design studio  
11883 Baker Place Delta B.C. V4E 2V8  
email: gsds@eastlink.ca

22020 119 AVENUE, MAPLE RIDGE, B.C.

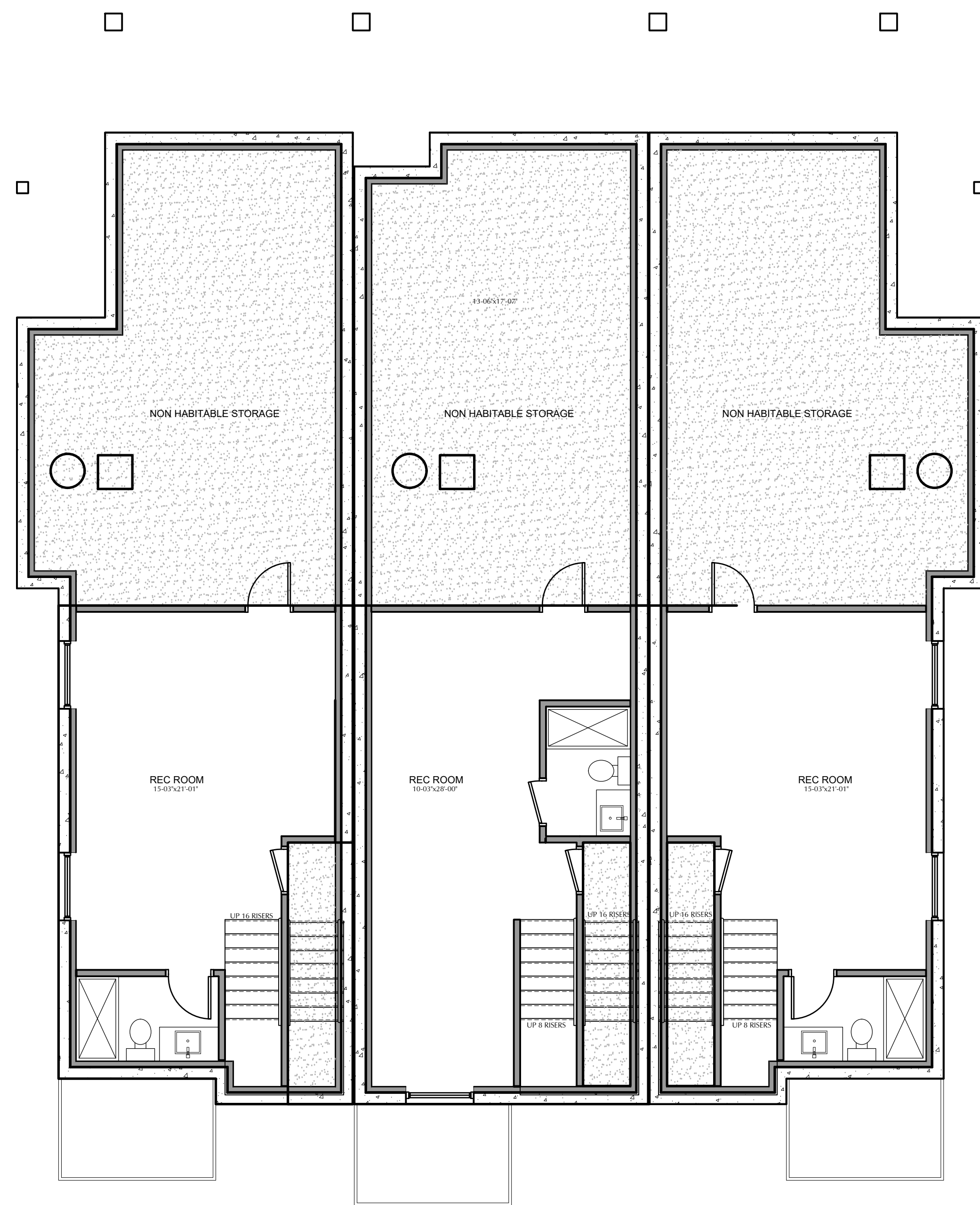
RS-1 (URBAN INFILL RESIDENTIAL) SECTION 402.29

SCALE: 1/4" = 1'-00"

DATE: JAN 07 2025

A-8



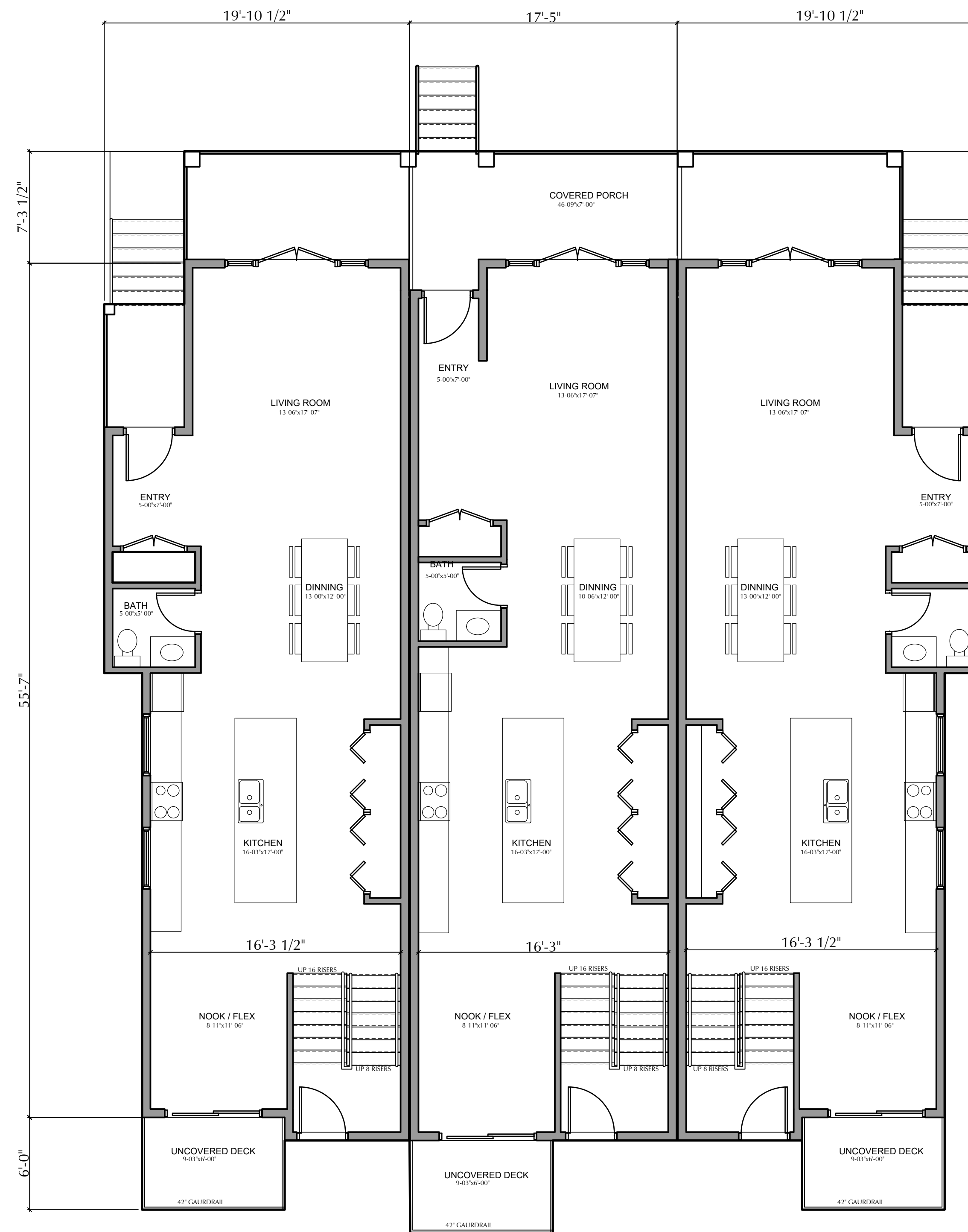


UNIT 1  
BSMT FL. 400 sqft.

UNIT 2  
BSMT FL. 400 SQFT.

UNIT 3  
BSMT FL. 400 SQFT.

BASEMENT PLAN

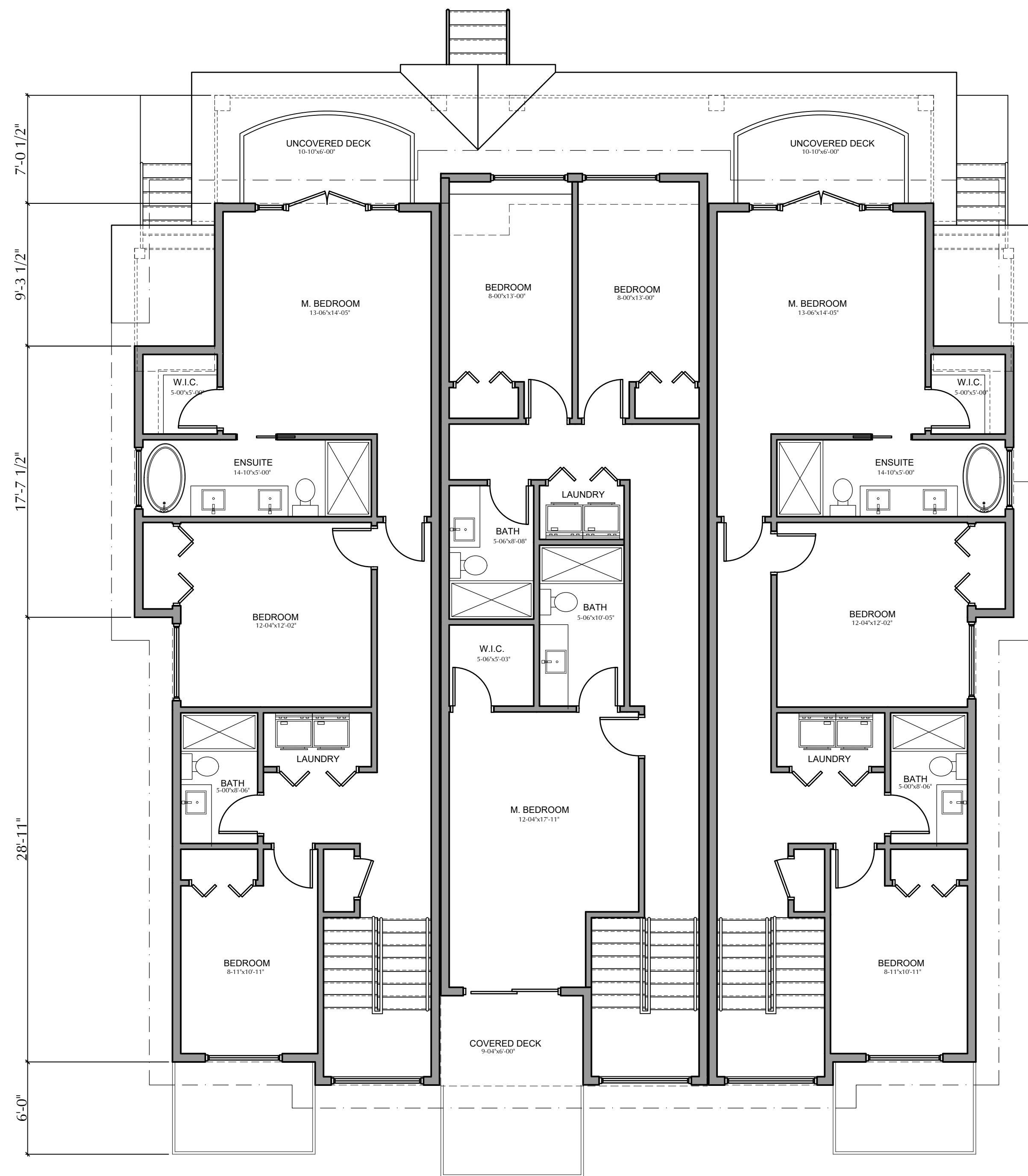


UNIT 1  
MAIN FL. 990 sqft.

UNIT 2  
MAIN FL. 984 sqft.

UNIT 3  
MAIN FL. 990 sqft.

MAINFLOOR PLAN

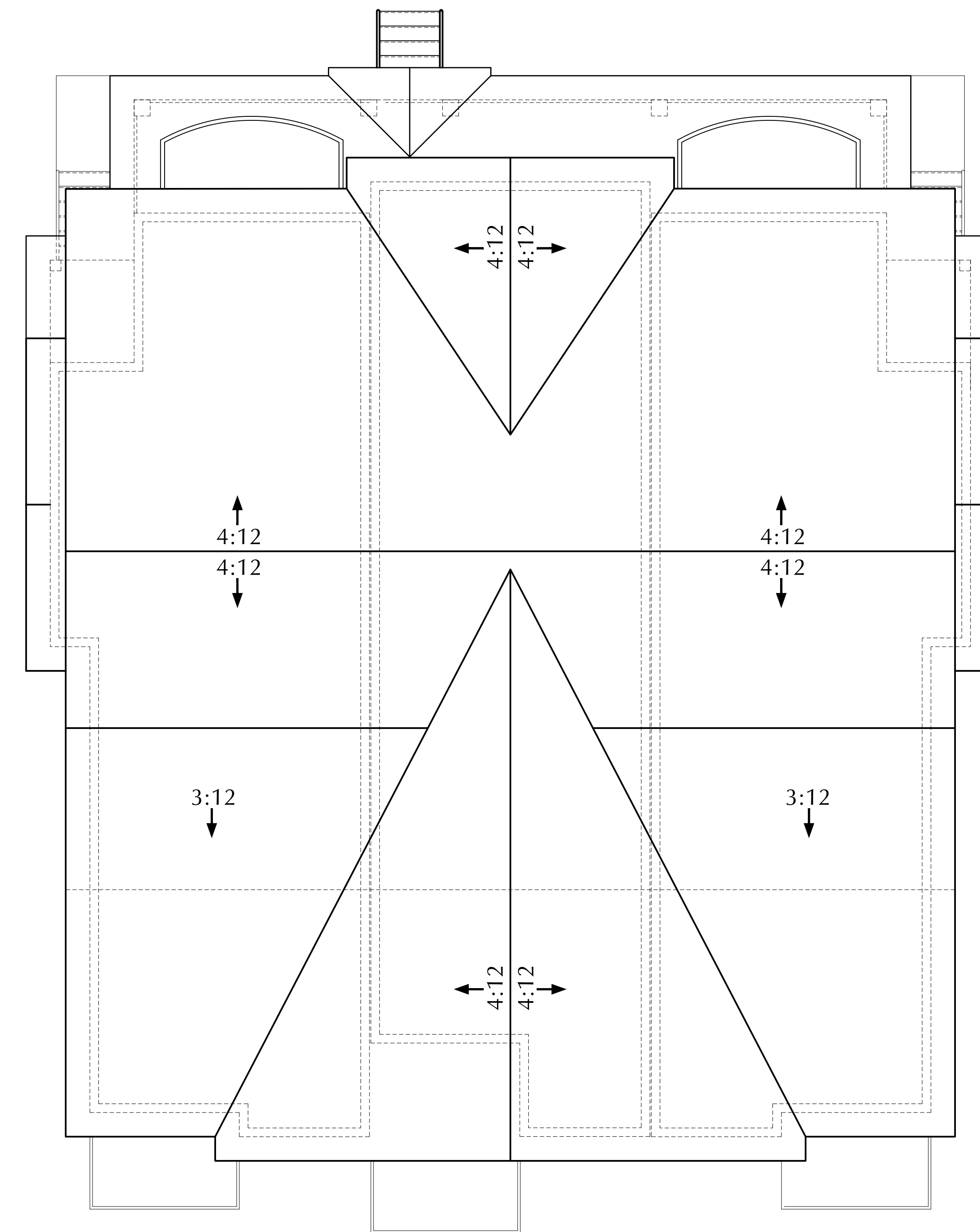


UNIT 1  
2ND FL. 999 sqft.

UNIT 2  
2ND FL. 973 sqft.

UNIT 3  
2ND FL. 999 sqft.

2ND FLOOR PLAN



ROOF PLAN

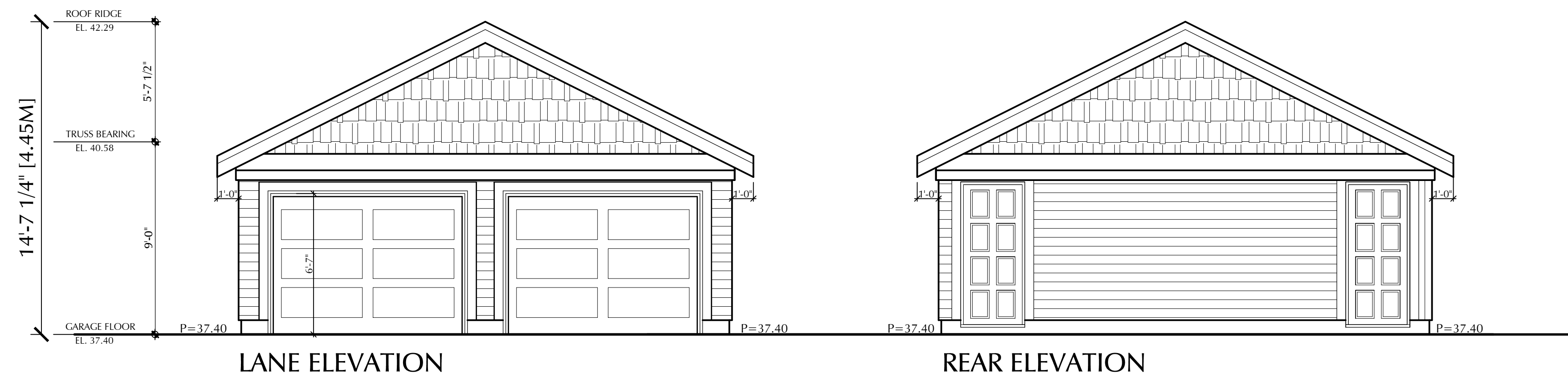
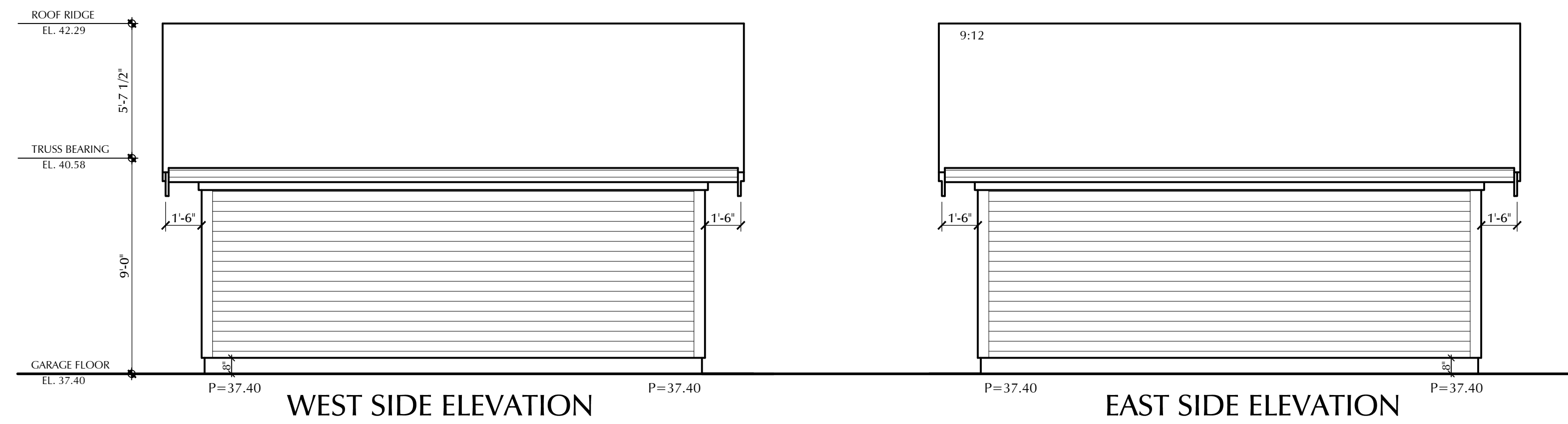
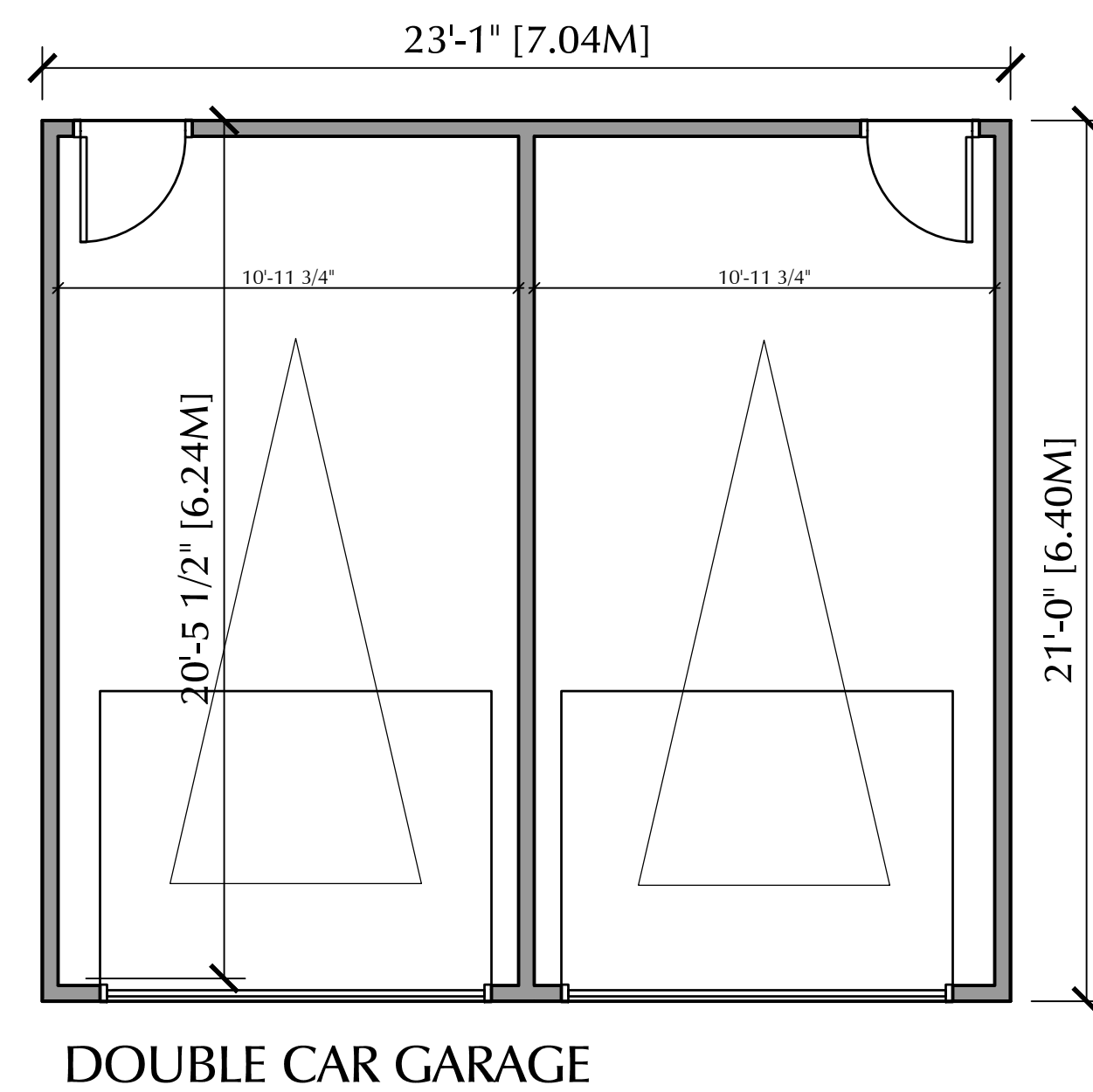
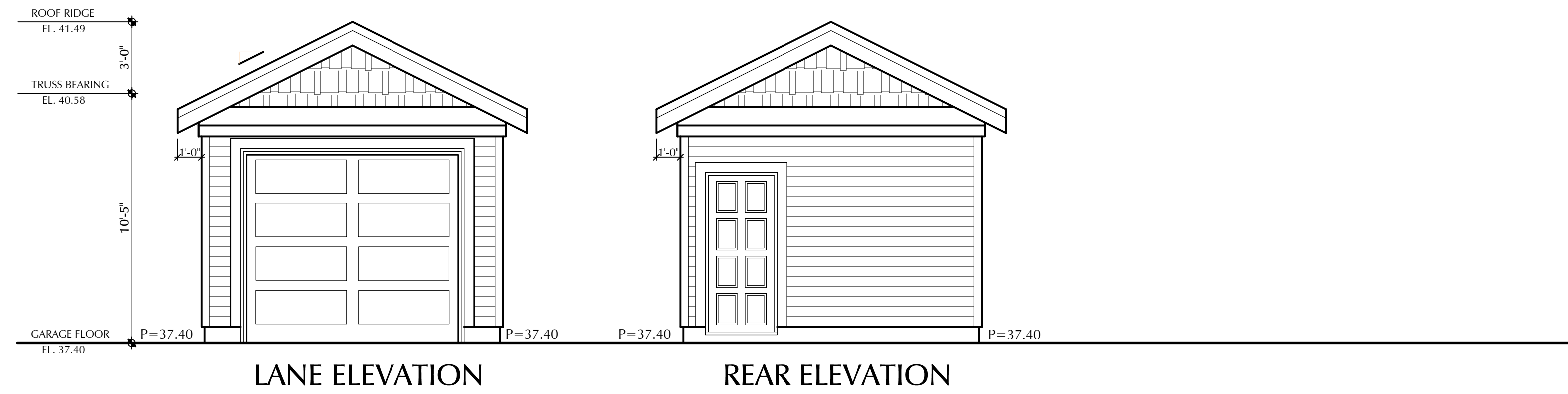
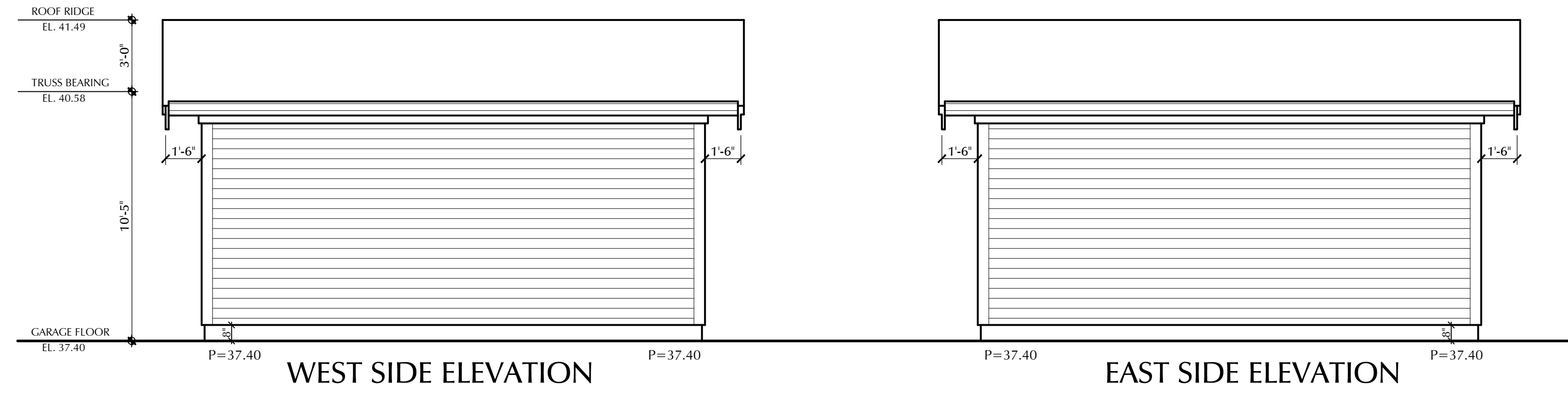
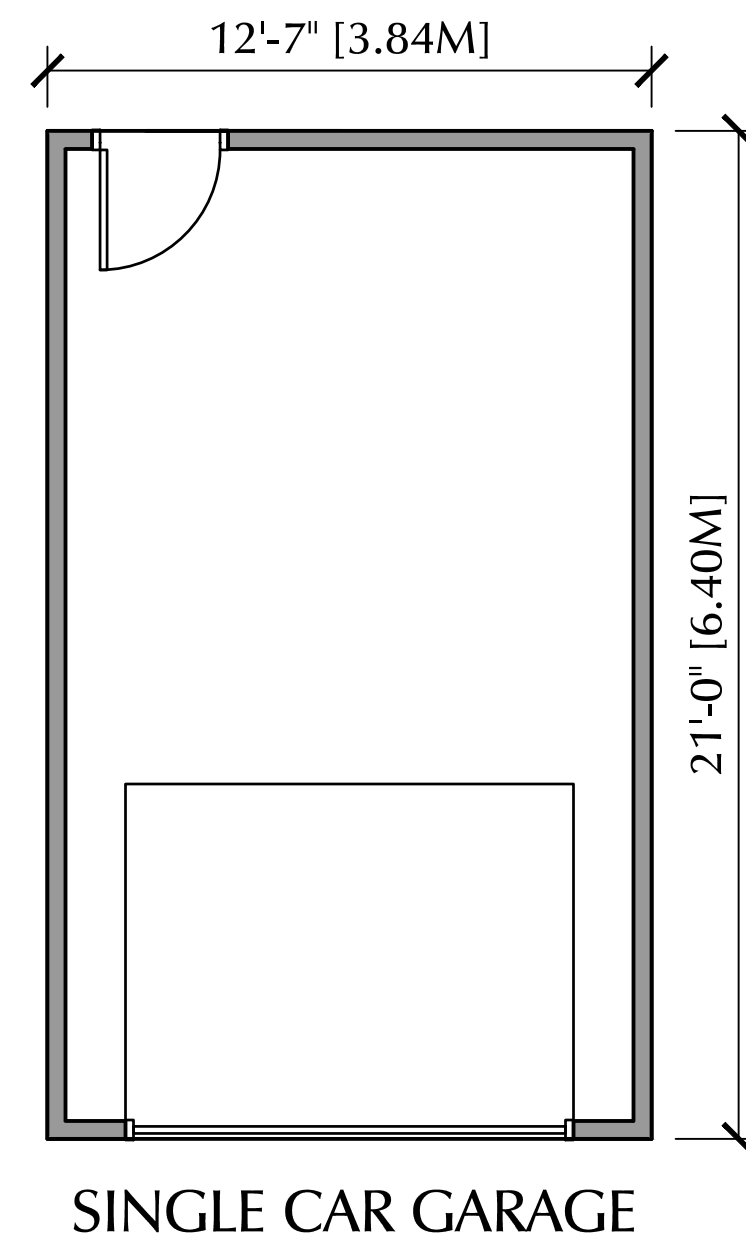


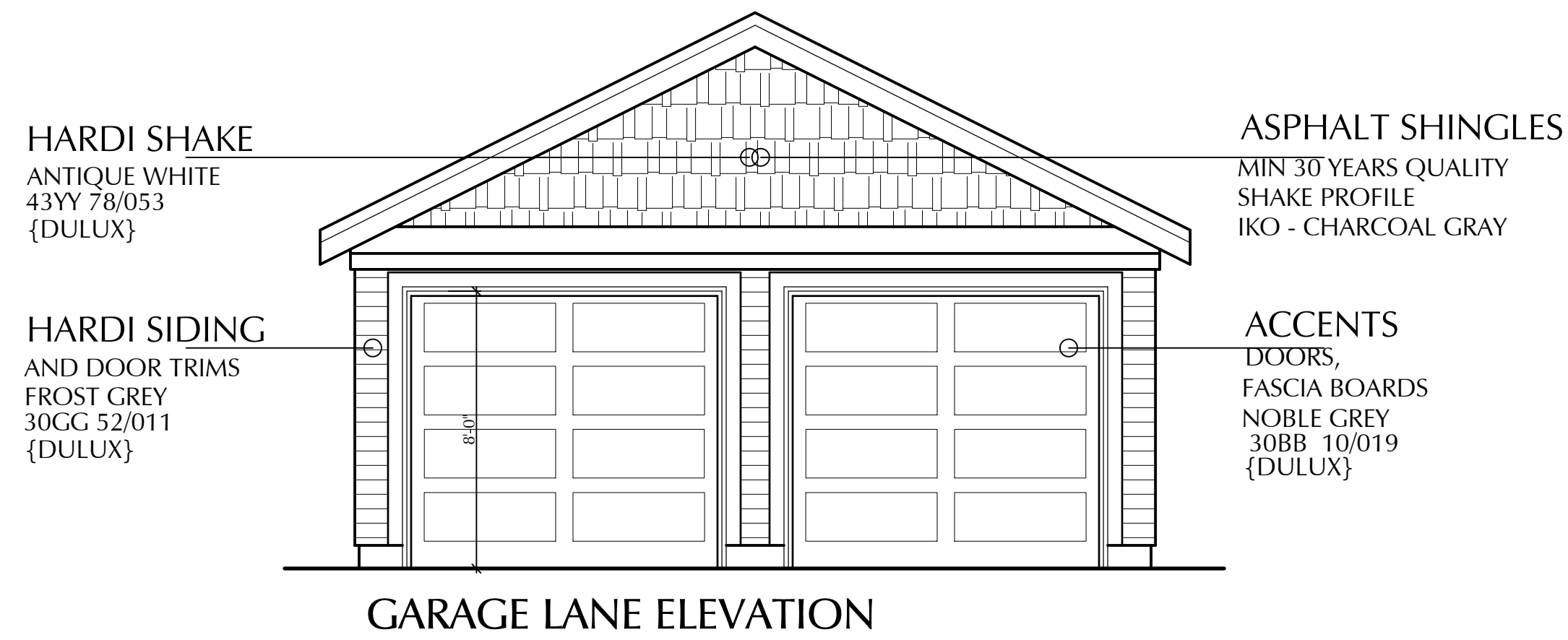


WEST SIDE ELEVATION



EAST SIDE ELEVATION





**COLORS & MATERIALS**

design studio

11883 Baker Place Delta B.C. V4E 2V8  
email: gsds@eastlink.ca

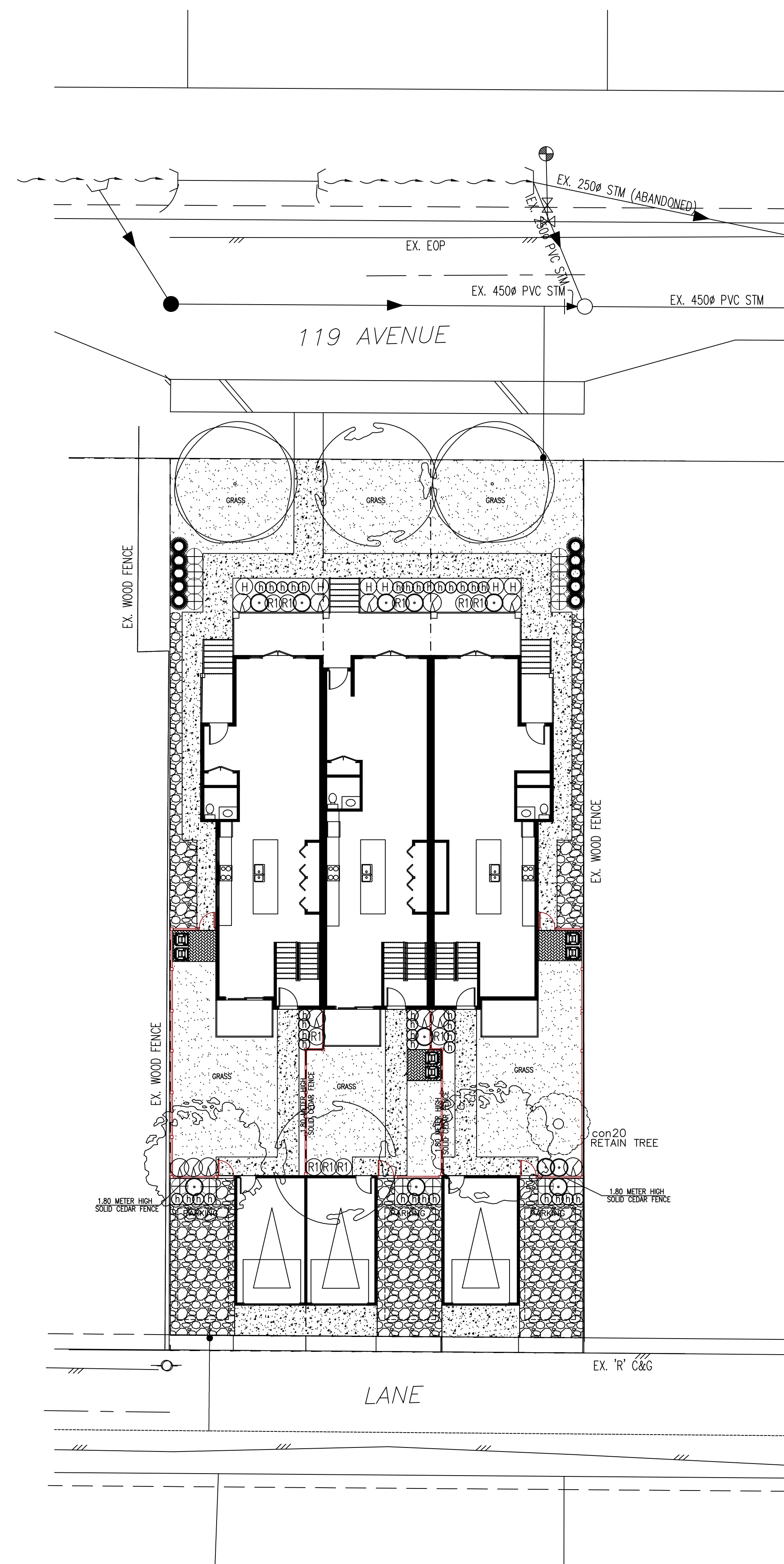
22020 119 AVENUE, MAPLE RIDGE, B.C.

RS-1 (URBAN INFILL RESIDENTIAL) SECTION 402.29

SCALE: 1/4" = 1'-00"

DATE: JAN 07 2025

**A-7**

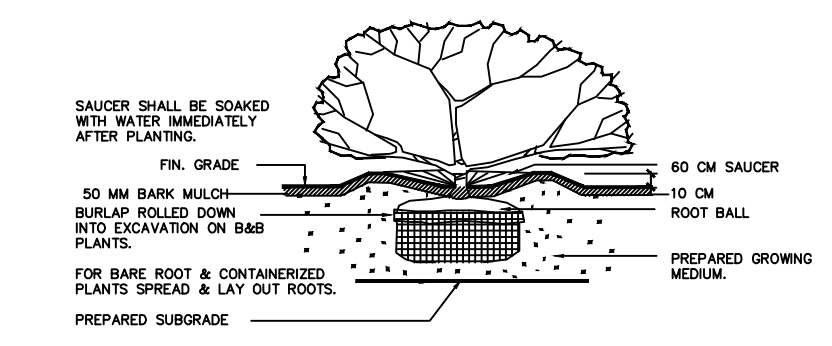


KEY	BOTANICAL NAME	COMMON NAME	QTY.	SIZE	SPACING	REMARKS
⊕	ACER PALMATUM	JAPANESE MAPLE	2	3.00 METERS	AS SHOWN	B. & B.
⊙	GINGKO BILOBA	MAIDENHAIR TREE	2	6 CM. CAL.	AS SHOWN	B. & B.
⊗	CORNUS FLORIDA 'RUBRUM'	BLOODGOOD JAP. MAPLE	2	6 CM. CAL.	AS SHOWN	B. & B.
⊕	AZALEA JAPONICA 'HINO CRIMSON'	CRIMSON AZALEA	14	#3 POT	90 CM. O.C.	
⊙	HYDRANGEA MACROPHYLLA 'NIKKO BLUE'	HYDRANGEA	12	#3 POT	90 CM. O.C.	
⊗	MEDIUM RHODODENDRON (VARIOUS)	RHODODENDRON	10	#3 POT	90 CM. O.C.	
⊕	HOSTA (VARIOUS)	HOSTA	6	#3 POT	90 CM. O.C.	
⊙	SYRINGA VULGARIS 'MICHEL BUCHNER'	LILAC	12	#3 POT	90 CM. O.C.	
⊗	THUJA OCCIDENTALIS 'SMARAGD'	EMERALD ARBORVITAE	12	1.50 METERS	70 CM. O.C.	
⊙	HEMEROCALLIS 'AUTUMN RED'	AUTUMN RED LILY	56	#3 POT	45 CM. O.C.	

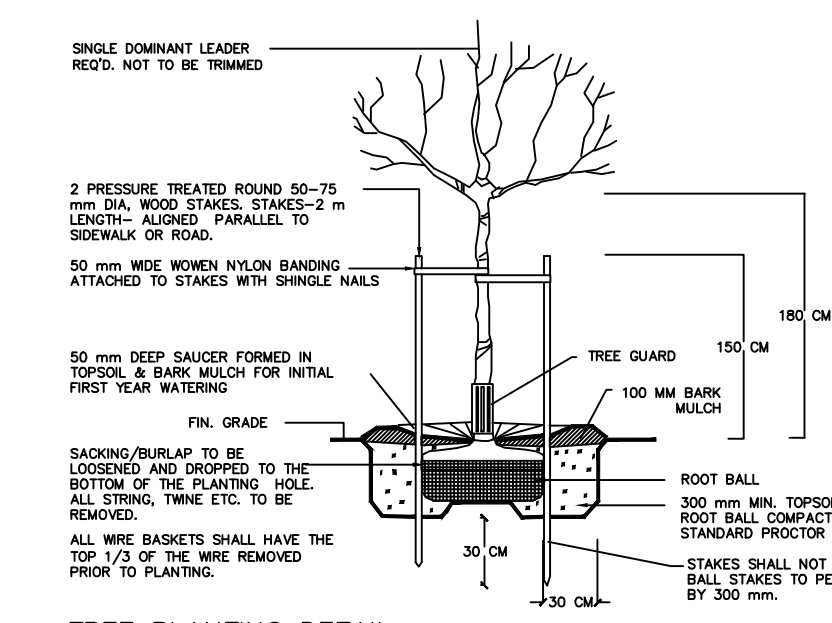
NOTES / GENERAL

- PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO BE LANDSCAPE STANDARD 'LATEST EDITION'. CONTAINER SIZES ARE SPECIFIED AS PER 'ONTA STANDARDS' BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. SEARCH AND REVIEW MAKE PLANT MATERIAL AVAILABLE FOR OPTIMAL REVIEW BY 'LANDSCAPE ARCHITECT' AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. 'SUBSTITUTIONS' MUST OBTAIN WRITTEN APPROVAL FROM THE 'LANDSCAPE ARCHITECT' PRIOR TO MAKING ANY 'SUBSTITUTIONS' TO SPECIFIED MATERIAL. UNAPPROVED 'SUBSTITUTIONS' WILL BE REJECTED. ALLOW A MINIMUM OF FIVE WORKING DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. 'SUBSTITUTIONS' ARE SUBJECT TO 'B.C. LANDSCAPE STANDARD'
- ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED 'DISEASE FREE' NURSERY. ALL PLANT MATERIAL MUST CONFORM TO THE LATEST EDITION OF THE 'B.C. LANDSCAPE STANDARD'. PROVIDE CERTIFICATION UPON REQUEST. ALL LANDSCAPING AND LANDSCAPE MATERIALS TO CONFORM TO THE LATEST EDITION OF THE B.C.M.A./B.C.S.A. 'LANDSCAPE STANDARDS'
- MIN. GROWING MEDIUM DEPTHS OVER PREPARED SUBGRADE SHALL BE:
 

LAWN AREAS	300 mm
GROUND COVER AREAS	450 mm
SHRUB AREAS	450 mm
TREE PITS	300 mm AROUND ROOT BALL
- GROWING MEDIUM SHALL HAVE PHYSICAL AND CHEMICAL PROPERTIES AS DESCRIBED IN THE STANDARDS FOR LEVEL 2 AND LEVEL 3 AREAS EXCEPT FOR AREAS OVER STRUCTURES WHERE THE MEDIUM SHALL CONFORM TO THE REQUIREMENTS FOR LEVEL 1 APPLICATIONS. PROCESSING AND MIXING OF GROWING MEDIUM COMPONENTS SHALL BE DONE OFF-SITE USING A MECHANIZED SCREENING PROCESS. PROPOSED GROWING MEDIUM SHALL BE TESTED BY A RECOGNIZED LABORATORY. THE CONTRACTOR SHALL GUARANTEE THAT THE SOIL SUBMITTED FOR TESTING IS A REPRESENTATIVE SAMPLE TAKEN FROM THE SOIL THAT WILL BE USED AT THE SITE.
- ON-SITE OR IMPORTED SOILS SHALL SATISFY THE REQUIREMENTS OF THE STANDARDS FOR GROWING MEDIUM. SOILS SHALL BE VIRTUALLY FREE FROM SUBSIL, WOOD INCL, WOODY PLANT PARTS, WEED OR REPRODUCTIVE PARTS OF WEEDS, PLANT PATHOGENIC ORGANISMS, TOXIC MATERIALS, STORES OVER 30 MM AND FOREIGN OBJECTS.
- ALL PLANTING BEDS SHALL RECEIVE MIN. 50 MM BARK MULCH.
- PLANT SPECIES AND VARIETIES MAY NOT BE SUBSTITUTED WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- THE CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) FULL YEAR FROM THE DATE OF FINAL ACCEPTANCE, UNLESS OTHERWISE SPECIFIED. ALL PLANT MATERIAL, NOT SURVIVING OR IN POOR CONDITION DURING THE GUARANTEE PERIOD SHALL BE REPLACED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- THE CONTRACTOR SHALL CLEAR AWAY FROM THE SITE ALL RUBBISH AS IT ACCUMULATES, AND SHALL, AT THE COMPLETION OF THE WORK, LEAVE THE WORK AND THE SITE THEREOF IN A CLEAN AND PRESENTABLE CONDITION, FREE FROM ALL OBSTRUCTIONS.

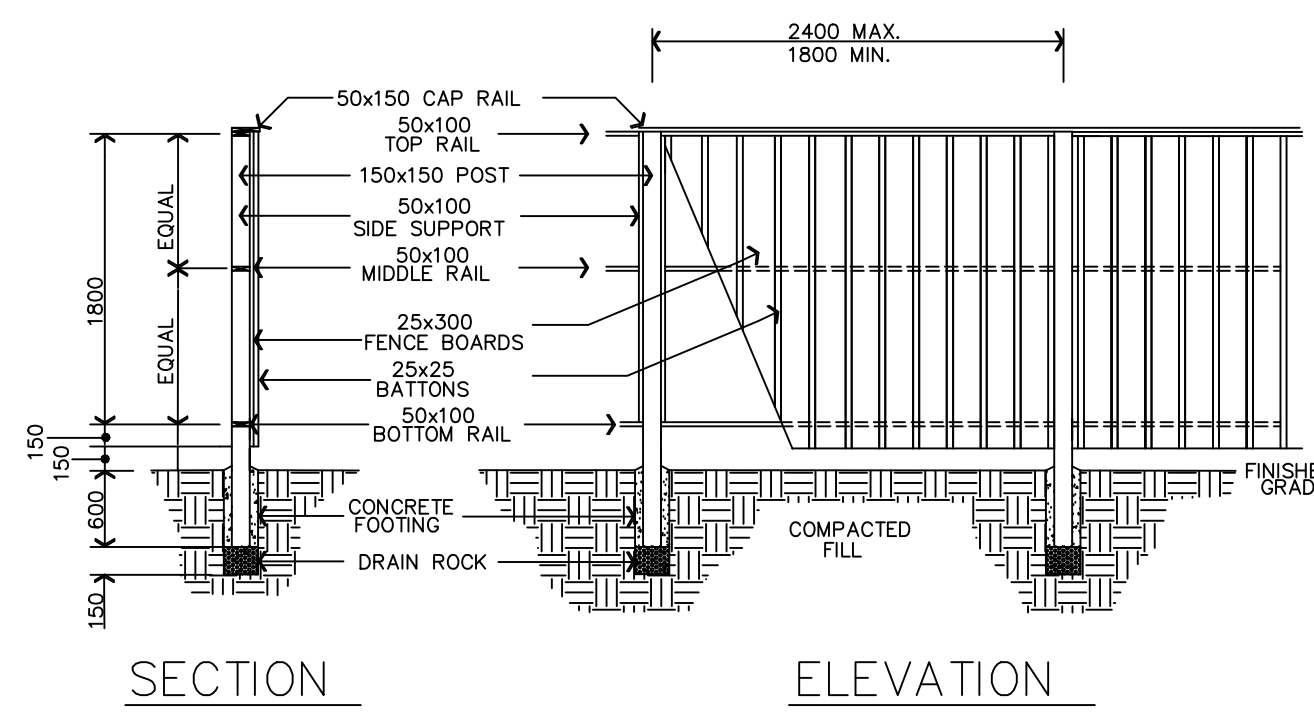


PLANTING DETAIL - SHRUBS & GRD. COVER PLANTS SECTION N.T.S.



TREE PLANTING DETAIL SECTION N.T.S.

FENCE DETAIL (DIMENSIONS IN mm) N.T.S.



N

PERMEABLE PAVERS

GRAVEL

BROOM-FINISHED CONCRETE

DATE	REMARKS	NO.

C.KAVOLINAS & ASSOCIATES INC  
BCSLA CSLA

2462 JONQUIL COURT  
ABBOTSFORD, B.C.  
V3G 3E8

PHONE (604) 857-2376

CLIENT

MR. CHAND BINNING  
JORH PROPERTIES

604-

TITLE

PLAN VIEW

LANDSCAPE PLAN  
PROPOSED  
3-PLEX  
22020 - 119 AVENUE  
MAPLE RIDGE, B.C.

SCALE 1:150	DATE NOV/23
DRAFT CH'D	
ENG. CH'D	
APPRD AS BUILT	

PRINTED	JOB No.
	DRAWING No.
	L-1

**DEVELOPMENT PERMIT NO. 2021-556-DP  
GROUND ORIENTED RESIDENTIAL INFILL**

**TO: JORH PROPERTIES INC.**  
**7295 145A ST**  
**SURREY BC V3S 2Y8**  
(the “Permittee”)

1. This Development Permit (the “Permit”) is issued subject to compliance with all the Bylaws of the City of Maple Ridge (the “City”) applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Permit applies to, and only to, those lands within the City described below and any and all buildings, structures, and other development thereon:

**Lot 66 District Lot 397 Group 1 New Westminster District Plan 14891**  
(the “Lands”)

3. As a condition of the issuance of this Permit, Council will be holding the security set out below to ensure that development, including landscape works is carried out in accordance with the terms and conditions of this Permit. The condition of the posting of the security is that should the Permittee fail to carry out the development hereby authorized, according to the terms and conditions of the Permit within the time provided, the City may use the security to carry out the work by its servants, agents or contractors. Any surplus shall be paid over to the Permittee upon verification by the Director of Planning of the City, or their designate, that the development has been completed in accordance with the terms and conditions of this Permit. There will be filed accordingly:
  - a) cash payment in the amount of \$5,797.00.
4. The Lands described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.



5. If the Permittee does not substantially start the construction with respect to which the Permit was issued within two (2) years after the date it is issued, this permit shall lapse.
6. In the event that this Permit lapses, the Permittee may request refund of the security described in Paragraph 3, and the City shall make such refund.
7. This Permit is not a Building Permit.

**AUTHORIZING RESOLUTION** passed by the Council the       day of       2025.

\_\_\_\_\_  
**CORPORATE OFFICER**

- Appendix A – Subject Map
- Appendix B – Architectural Plans dated January 7, 2025
- Appendix C – Landscape Plans dated November 2023

## **October 18, 2023 Advisory Design Panel Meeting**

R/2023-ADP-042

It was moved and seconded

**That the application be supported as the following concerns be addressed as the design develops and submitted to Planning staff for follow up.**

### **Architectural Comments:**

- The three units should have distinct characteristics; consider incorporating colour or material accents.
- The front entries should be more prominent to the street indicating it is a triplex.
- The design and style are sensitive and appropriate for the surrounding neighborhood.

### **Landscape Comments:**

- Landscaping should be introduced along the rear lane.
- It is believed there is too much grass incorporated into the design and the applicant should consider larger planting beds and/or raised gardening plots.

CARRIED

### **Response to ADP comments from the applicant:**

We have addressed this concern by bringing the hardy shake material in the center further down to the main level to provide distinct characteristics between the units along with adding unit address signage on the corner posts of the building, indicating the different units. In addition to the above notes, we have added a gable and adjusted the posts providing a more prominent entry to the middle unit.

We have introduced landscaping in the parking stalls of each unit in the rear lanes. We feel the grass provides more value especially in today's densified developments that lack green spaces. We want families to enjoy their green spaces and be connected with the natural elements of the earth. We feel there is a sufficient amount of plants, trees and green spaces, without jeopardizing the overall design, functionality and appearance of the dwellings.

## Application for 2024-342-VP for 24689 124 Avenue Development Variance Permit

### Recommendation:

**THAT the issuance of Development Variance Permit 2024-342-VP for 24689 124 Avenue be approved.**

### Report Purpose and Summary Statement:

Development Variance Permit 2024-342-VP has been received for the property located at 24689 124 Avenue for the construction of a single detached dwelling and a Detached Garden Suite above a garage in the Agricultural Land Reserve.

### Previous Council Action:

N/A

### Proposed Variance:

Zoning Bylaw No. 7600-2019

Part 4, Section 402.12(1)(b):

- To vary the maximum depth of the Farm Home Plate from 60 m to 195.46 m.

Part 6, Section 611.8(2):

- To vary the maximum permitted height for an Accessory Building and Accessory Structures from 6 m to 7.5 m.

### Strategic Alignment:

Liveable Community

### Communications:

Development Permit Notifications have been delivered to adjacent properties.

**To:** Mayor and Council

**File number:** 2024-342-VP

## Application for 2024-342-VP for 24689 124 Avenue

### BACKGROUND:

Applicant:	Rajveer Rai	
Legal Description:	Lot 1 Section 22 Township 12 New Westminster District Plan 2633	
OCP:		
Existing:	<i>Agricultural</i>	
Proposed:	<i>Agricultural</i> [no change]	
Zoning:		
Existing:	RS-3 (Single Detached Rural Residential)	
Proposed:	RS-3 (Single Detached Rural Residential) [no change]	
Surrounding Uses:		
North:	Use:	Single Detached Residential
	Zone:	RS-3 (Single Detached Rural Residential)
	Designation:	<i>Agricultural</i>
South:	Use:	Single Detached Residential and Agricultural
	Zone:	RS-3 (Single Detached Rural Residential)
	Designation:	<i>Agricultural</i>
East:	Use:	Single Detached Residential
	Zone:	RS-3 (Single Detached Rural Residential)
	Designation:	<i>Agricultural</i>
West:	Use:	Single Detached Residential and Agricultural
	Zone:	RS-3 (Single Detached Rural Residential)
	Designation:	<i>Agricultural</i>
Existing Use of Property:	Single Detached Residential	
Proposed Use of Property:	Single Detached Residential [no change]	
Site Area:	1.56 hectares (3.84 acres)	
Proposed Vehicular Access:	124 Avenue	
Fraser Sewer Area:	No	

## **ANALYSIS:**

### **Discussion:**

The proposed variance to the Farm Home Plate is for the construction of a new single detached residential dwelling and a new Detached Garden Suite (DGS) above a garage in the Agricultural Land Reserve. The Farm Home Plate is the portion of property where all residential, related buildings, and structures are located to minimize the impact on the remainder property for agricultural use.

### **Project Description:**

The subject property is at the corner of 246 Street and 124 Avenue (Attachments A and B) and is designated Agricultural (Attachment C). When the property owners purchased the property, the previous house and mobile home frontage and vehicular access were from 124 Avenue. The owners demolished the old home and the mobile home and designed their new home to front 124 Avenue as the previous house and the next-door neighbours also front 124 Avenue.

The owner applied for a building permit for the new single detached dwelling and the City issued the building permit erroneously as the front lot line was assumed to be 124 Avenue. When the owners applied for the DGS above the garage, City staff confirmed that the front lot line was adjacent to 246 Street. The owners are almost done building the single detached dwelling.

### **Planning Analysis:**

Section 402.12 of the *City of Maple Ridge Zoning Bylaw No. 7600-2019* states:

- b. the maximum depth of the Farm Home Plate shall not exceed 60.0 metres measured from the Front Lot Line to a line parallel to the Front Lot Line.*

The Zoning Bylaw defines "front lot line" as the shortest lot line common to a lot and a fronting street. Based on this, the front lot line for the subject property is the western lot line adjacent to 246 Street. This results in the DGS not meeting the maximum depth requirement of the Farm Home Plate. As such, the applicant is requesting a variance to increase the maximum depth of the Farm Home Plate from 60m to 195.46m.

The applicant applied to and attended the Board of Variance (BOV) meeting on November 5, 2024 to address this issue (Attachment D). During the BOV meeting, the applicant indicated that they had designed their new house and DGS to front 124 Avenue as they were also of the understanding that the property line along 124 Avenue was their front lot line. The primary purpose of creating a farm home plate is to protect the long-term agricultural use of the property by limiting the impact of residential and accessory residential uses. Since the single detached dwelling under construction and the proposed DGS are still contained within a compact footprint (i.e., Farm Home Plate) leaving the majority of the property available for farm use, staff were not opposed to the variance request.

In 2021, Council adopted a Zoning Bylaw Amendment increasing the maximum height to 7.5 m for DGS in RS-3 zone when the DGS is located on the second storey above an Accessory Residential Use, but only for lots located within the Agricultural Land Reserve (Section 402 of the

Zoning Bylaw). While this amendment was added to the General Regulations of the Zoning Bylaw, it was not reflected in the RS-3 zone’s broader height regulations. The applicant is seeking a variance to increase the height from 6 m to 7.5 m. Staff are in support of the variance as this change is planned to be part of a proposed future housekeeping bylaw amendment for Council’s consideration.

The neighbours to the east indicated their opposition to the variance as they had concerns about the height of the DGS and the potential loss of privacy on their property. The applicant is meeting all other zoning requirements for the RS-3 zone as well as the Agricultural Land Commission’s regulations on maximum size. The applicant is also planning to install cedar hedging for added privacy.

At the BOV meeting, the neighbours to the north indicated their opposition to the variance as they were concerned that the new septic field would be in close proximity to their existing well. The applicant has received approval from Fraser Health Authority for the size and location of the septic field (Attachment E).

**Agricultural Land Commission:**

The Agricultural Land Commission (ALC) limits the maximum total floor area of a principal residence to 500 m<sup>2</sup> and the total floor area of the DGS to 90 m<sup>2</sup>. If the DGS is above a garage, as is the case in this application, then the garage is also limited to 90 m<sup>2</sup>, must not have an internal connection to the suite above and the garage must be for the principal dwelling. The applicant is meeting the ALC regulations.

**Proposed Variances:**

The applicant is requesting the following variances (Attachment F):

<b>Bylaw</b>	<b>Variance Request</b>	<b>Reasons for Support</b>
<u>Zoning Bylaw No. 7600-2019</u>  Part 4, Section 402.142(1)(b)	To vary the maximum depth of the Farm Home Plate from 60 m measured from the Front lot Line to 193.9 m.	To keep consistent with the historic placement of the previous home and mobile home.  To keep the new home and DGS clustered together leaving the western part of the property for future agricultural use.
<u>Zoning Bylaw No. 7600-2019</u>  Part 6, Section 611.8(2)	To vary the maximum building height for an accessory building and accessory structures from 6 m to 7.5 m in the RS-3 zone.	To keep consistent with Part 4, Section 402.11(4)(b)(ii) that allows a maximum height of 7.5 m for DGS

## **CITIZEN IMPLICATIONS:**

In accordance with the *Development Procedures Bylaw No. 5879-1999*, notice of Council consideration of a resolution to issue a Development Variance Permit was delivered to all owners or tenants in occupation of all parcels, any parts of which are adjacent to the property that is subject to the proposed permit.

## **CONCLUSION:**

The proposed Development Variance Permit is being supported by staff given that the overall building and site design meet the requirements of the RS-3 zone and the Agricultural Land Commission.

It is therefore recommended that the application be favourably considered, and the issuance of Development Variance Permit 2024-342-VP be approved.

"Rosario Perez"

---

Prepared by: Rosario Perez, Planning Technician

### **Attachments:**

- (A) – Subject Map
- (B) – Ortho Map
- (C) – OCP Map
- (D) – Board of Variance Minutes – November 5, 2024
- (E) – Fraser Health Authority Septic Approval
- (F) – Site Plan and Architectural Drawings
- (G) – Draft Variance Permit

## Report Approval Details

Document Title:	2024-342-VP, 24689 124 Avenue, Development Variance Permit.docx
Attachments:	<ul style="list-style-type: none"><li>- Attachment A - Subject Map.pdf</li><li>- Attachment B - Ortho Map.pdf</li><li>- Attachment C - Land Use Map.pdf</li><li>- Attachment D - Board of Variance Minutes.docx</li><li>- Attachment E - Fraser Health Authority Septic Approval.pdf</li><li>- Attachment F - Site Plan and Architectural Drawings.pdf</li><li>- Attachment G - Draft Variance Permit.docx</li></ul>
Final Approval Date:	Jan 29, 2025

This report and all of its attachments were approved and signed as outlined below:

Alyssa Lillyman, Administrative Assistant

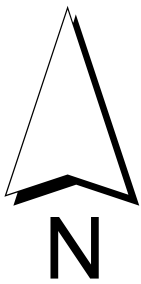
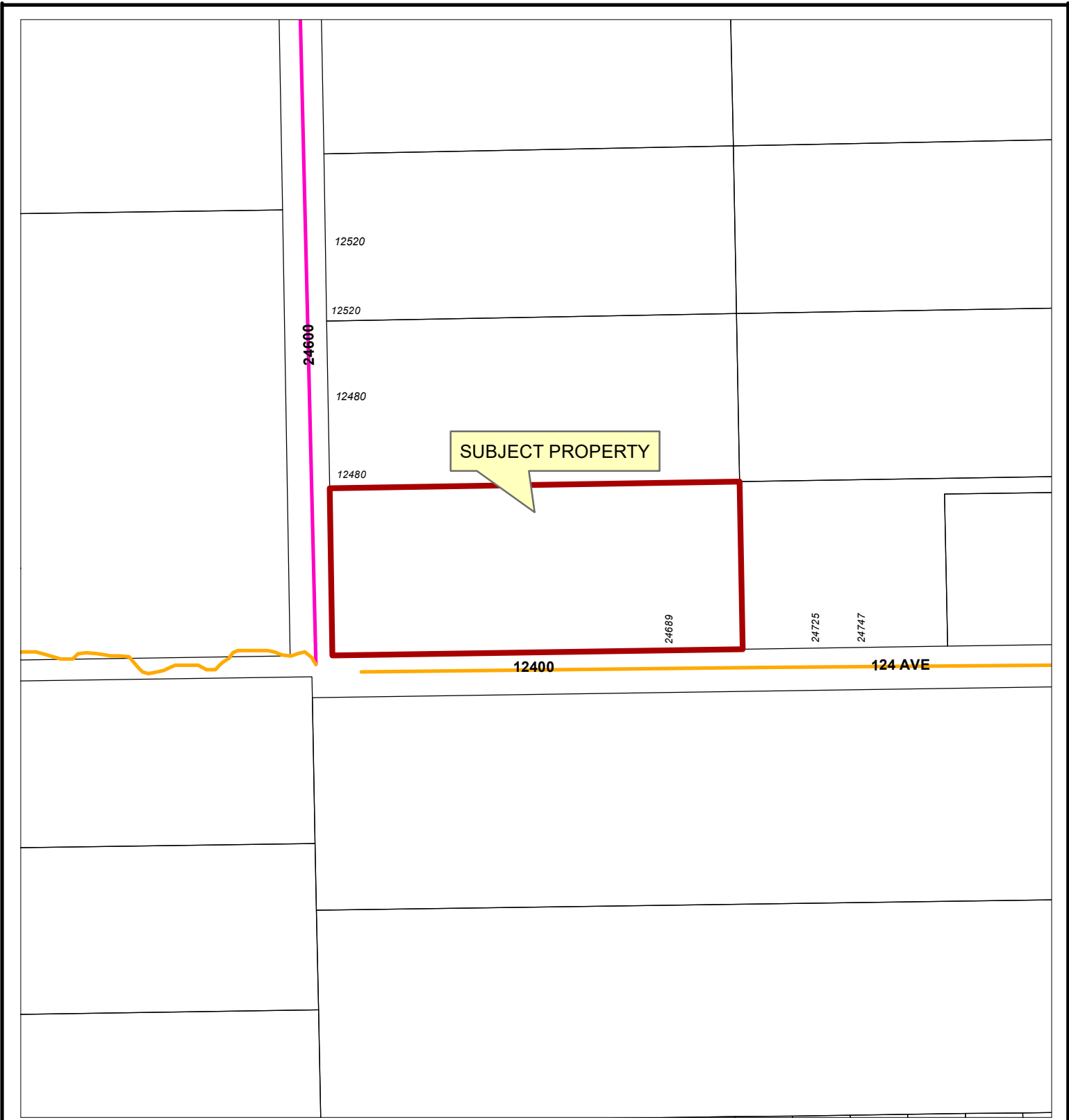
Hasib Nadvi, Associate Director of Building, Development and Planning

James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

Scott Hartman, Chief Administrative Officer





**Legend**

- Existing Trails
- Pending, Proposed, & Desired Trails

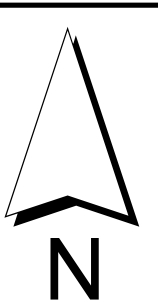
Scale: 1:2,500

24689 124 AVENUE  
ACTIVE APPLICATIONS IN AREA

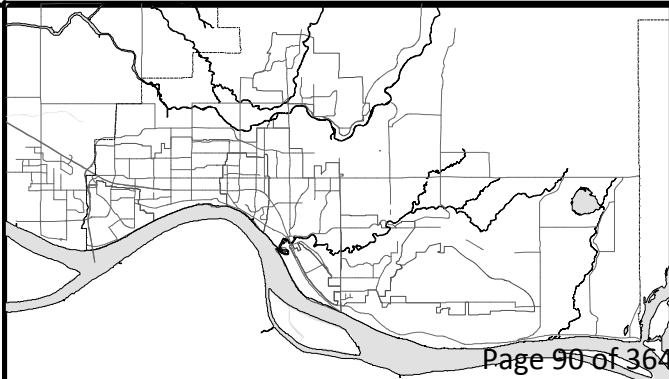
PLANNING DEPARTMENT



**Maple Ridge**



Scale: 1:2,500



24689 124 AVENUE  
ORTHO

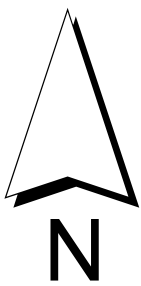
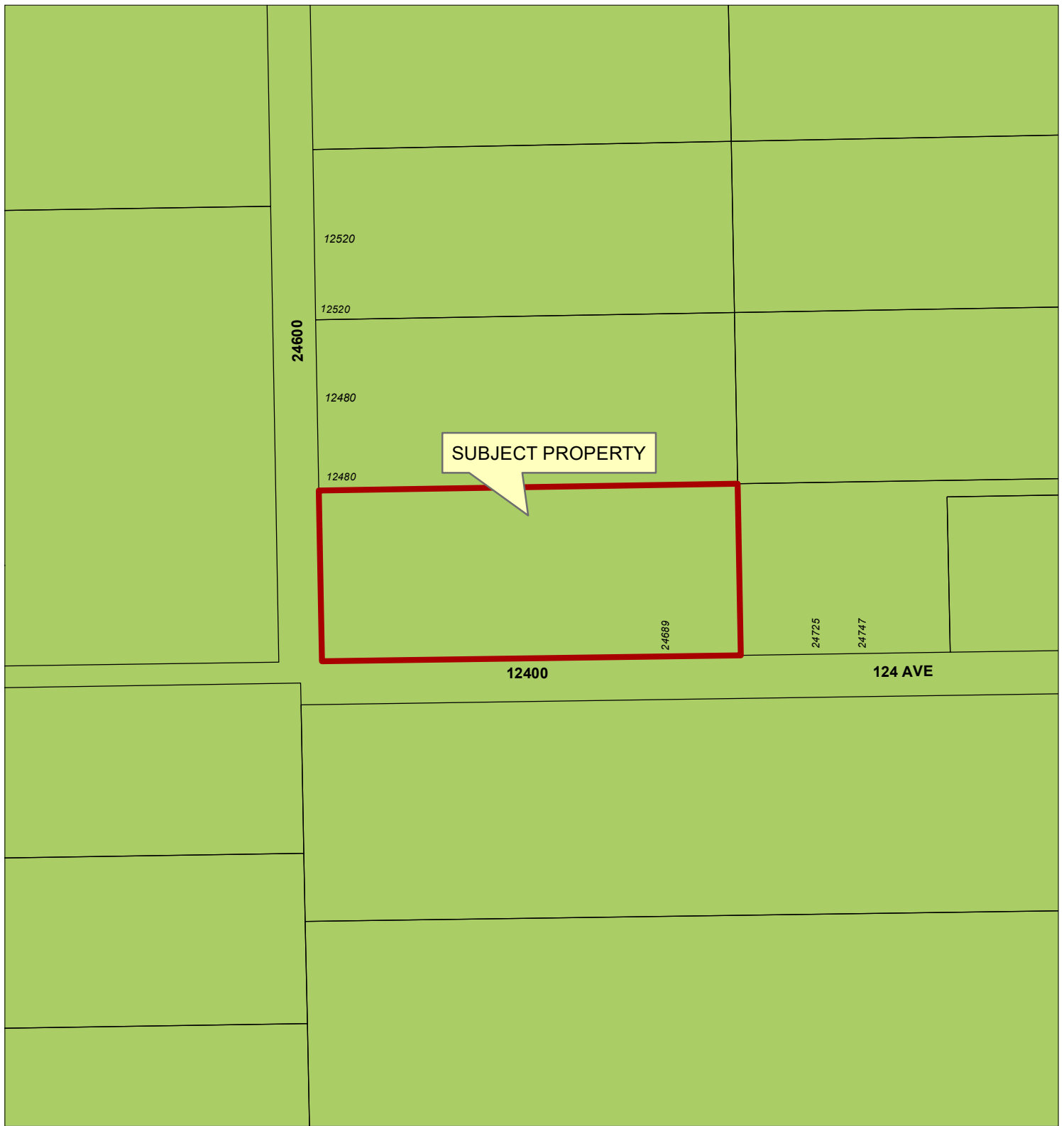
PLANNING DEPARTMENT



**Maple Ridge**

FILE: 2024-342-VP  
DATE: Nov 19, 2024

BY: DM



Scale: 1:2,500

**Legend**

 Agricultural

**24689 124 AVENUE  
LAND USE**

PLANNING DEPARTMENT



**Maple Ridge**

**City of Maple Ridge  
Board of Variance  
MEETING MINUTES**

November 5, 2024, Regular Meeting

The Minutes of the Regular Meeting of the Board of Variance held via Zoom teleconference and at Maple Ridge City Hall on Tuesday, November 5, 2024, at 9:00 am.

---

**MEMBERS PRESENT**

Tracy Spackman, Chair  
Carl Jacobsohn  
Jared Bissky  
Brad Dumaas

**MEMBERS ABSENT**

Daoud Nouri, Vice Chair

**STAFF PRESENT**

Daniel Rajasooriar	Planner 1, Staff Liaison
Rosario Alvarado	Planning Technician
Emma Lovas	Planning Assistant 2
Emily Davies	Committee Clerk
Andreea Vukovic	Committee Clerk

---

**1. CALL TO ORDER – 9:01 am**

Board of Variance Chair, T. Spackman, called the meeting to order, introduced Board members and invited staff to introduce themselves. The Chair then provided the territory acknowledgment.

**2. ADOPTION OF THE MINUTES**

R/2024-BOV-045

It was moved and seconded

**That the minutes of the Board of Variance Regular Meeting dated October 8, 2024, be adopted as circulated**

CARRIED UNANIMOUSLY

**3. UNFINISHED BUSINESS – NIL**

**4. NEW BUSINESS - NIL**

**5. APPEALS**

## **5.1 Rajveer Rai – File no. BV 2024-117055**

### **Property Location: 24689 124 Avenue**

The property is currently zoned RS-3(Single Detached Rural Residential).

**Maple Ridge Zoning Bylaw Maple Section 402.12 (1) (b)** as amended, outlines how the maximum depth of a Farm Home Plate shall not exceed 60.0 metres measured from the front lot line to a line parallel to the front lot line.

**Maple Ridge Zoning Bylaw Maple Section 402.12 (1) (e)** as amended, outlines how the maximum distance from the front lot line to any portion of the single detached residence shall not exceed 50.0 metres.

The following variances are requested:

- to allow a Farm Home Plate with a maximum depth of 195.46 metres from the front lot line to accommodate the existing/proposed residential footprint. This represents a variance of 135.46 metres.
- to allow a maximum distance of 175.1 metres from the front lot line to any portion of the single detached residence to accommodate the existing single detached residence. This represents a variance of 125.1 metres.

### **Discussion:**

The Chair provided the applicant an opportunity to comment. The Applicant, R. Rai, provided the board with more information about the property.

The Chair provided a brief overview of the appeal.

The Chair called on Board Members to ask questions of the applicant. J. Bissky inquired about the placement of the garage, and whether there were other options for the siting of the garage. The applicant informed the board members that were the garage to be moved, it would be too far from the house and necessitate either another driveway on the property or they would have to move the septic. C. Jacobsohn asked about the front lot line. R. Alvarado, Planning Technician, provided more information about the events that led to the front lot line being sited where it is. Staff informed the board that the mistake was caught once the Detached Garden Suite variance application came to the City.

The Chair provided staff with an opportunity to comment. Staff reminded the Board that the application in front of them is strictly for the Front Lot Line and Farm Home Plate siting, and that the Detached Garden Suite siting and plans are not for review at this time.

The Chair requested E. Davies to read out any correspondence submitted for this appeal. E. Davies stated that 1 piece of correspondence was submitted for the appeal. The Chair invited residents from the adjacent properties who were in attendance to share their concerns. B. Halstead raised concerns regarding the proposed Detached Garden Suite and

the size and siting of the proposed garage, which could potentially overlook the adjacent yard. Additional concerns were raised about the drainage and the ditches surrounding both the subject property and the neighboring properties, as well as potential impacts on the septic system. E. Taylor raised concerns about the wells on the adjacent property and the potential impact of flooding. There were also concerns regarding the wells if the septic field were moved to that side of the property.

During the Boards final comments, B. Dumaas noted that given the intent of the variance, it doesn't appear to be minor, and that this application seems better suited for a development variance permit. C. Jacobsohn stated that the applicant thought that the original placement of the house was the front lot line, and if the proposed accessory building stays within a small footprint, the other issues raised by neighbours – though valid – were not for the board to discuss. J. Bissky believed that hardship had been demonstrated but wasn't sure that he would be supportive of the siting of the proposed garden suite due to the setback. T. Spackman agreed with B. Dumaas, that this application exceeds what the Board can reasonably rule on.

R/2024-BOV-046

It was moved and seconded

**THAT the appeal to allow a Farm Home Plate with a maximum depth of 195.46 metres from the front lot line to accommodate the existing/proposed residential footprint at the property of 24689 124 Avenue be allowed; and**

Tied – Defeated  
J. Bissky & C. Jacobsohn in Favour  
T. Spackman & B. Dumaas Opposed

R/2024-BOV-047

It was moved and seconded

**THAT the appeal to allow a maximum distance of 175.1 metres from the front lot line to any portion of the single detached residence to accommodate the existing single detached residence at the property of 24689 124 Avenue be allowed**

Tied – Defeated  
J. Bissky & C. Jacobsohn in Favour  
T. Spackman & B. Dumaas Opposed

**5.2 Jeffrey Joel Bezugley & Gabrielle Noreen Beer – File no. BV 2024-117277**

**Property Location: 11806 Glenhurst Street**

The property is currently zoned RS-1b (Single Detached (Medium Density) Residential).

**Maple Ridge Zoning Bylaw Maple Section 607.7 (2) (d)** as amended, outlines how the minimum setback from an exterior side lot line for an accessory structure shall not be less than 3.0 metres.

The following variances are requested:

- To allow an accessory structure exterior side lot line setback of 2.0 metres to accommodate a proposed carport and detached garage. This represents a variance of 1.0 metre.

**Discussion:**

The Chair provided a brief overview of the appeal.

The Chair provided the applicant an opportunity to comment. The Applicant, G. Beer, provided more information regarding the existing structure and the plans to rebuild on the current footprint on the exterior side lot.

The Chair provided staff with an opportunity to comment, but staff had no further comment.

The Chair requested E. Davies to read out any correspondence submitted for this appeal. E. Davies stated that no correspondence was submitted for the appeal.

During the final comments, C. Jacobsohn and T. Spackman noted that since the building is pre-existing, and the variance is just to replace the structure in the same footprint, they see no issue with the variance being approved.

R/2024-BOV-048

It was moved and seconded

**THAT the appeal to allow an accessory structure exterior side lot line setback of 2.0 metres to accommodate a proposed carport and detached garage at the property of 11806 Glenhurst Street be allowed**

CARRIED UNANIMOUSLY

**5. ADJOURNMENT – 9:52 am**


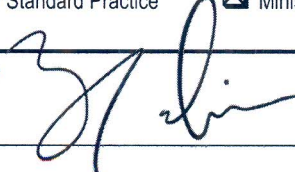
The next regular meeting of the Board will be held on Tuesday, December 3, 2024, at 9:00 am.

Certified Correct:

**Tracy Spackman, Chair**

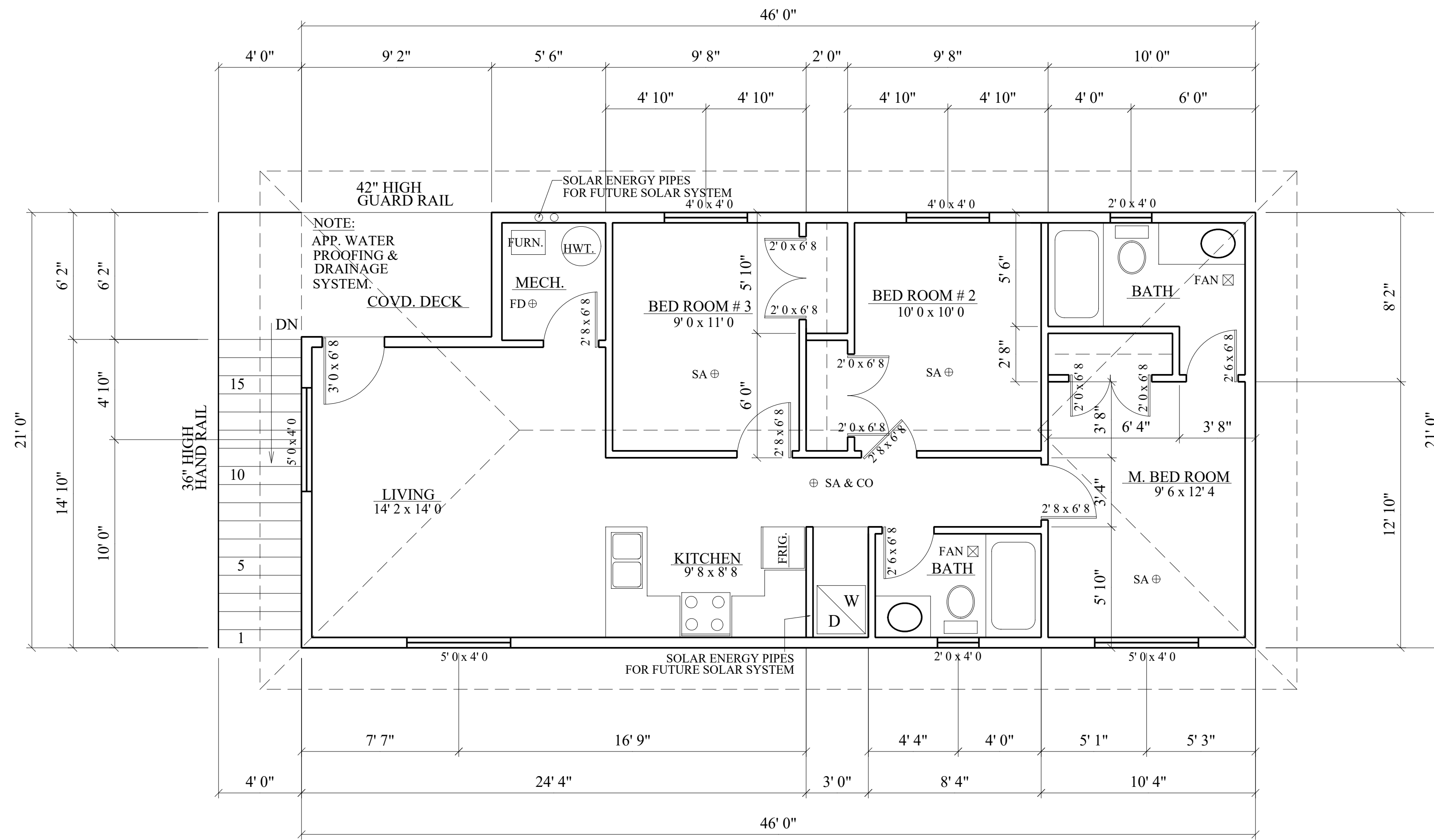
/ed

Filing # (Office Use Only)  
**TDAH-D39uuD**  
 TDAH-CMWNFQ

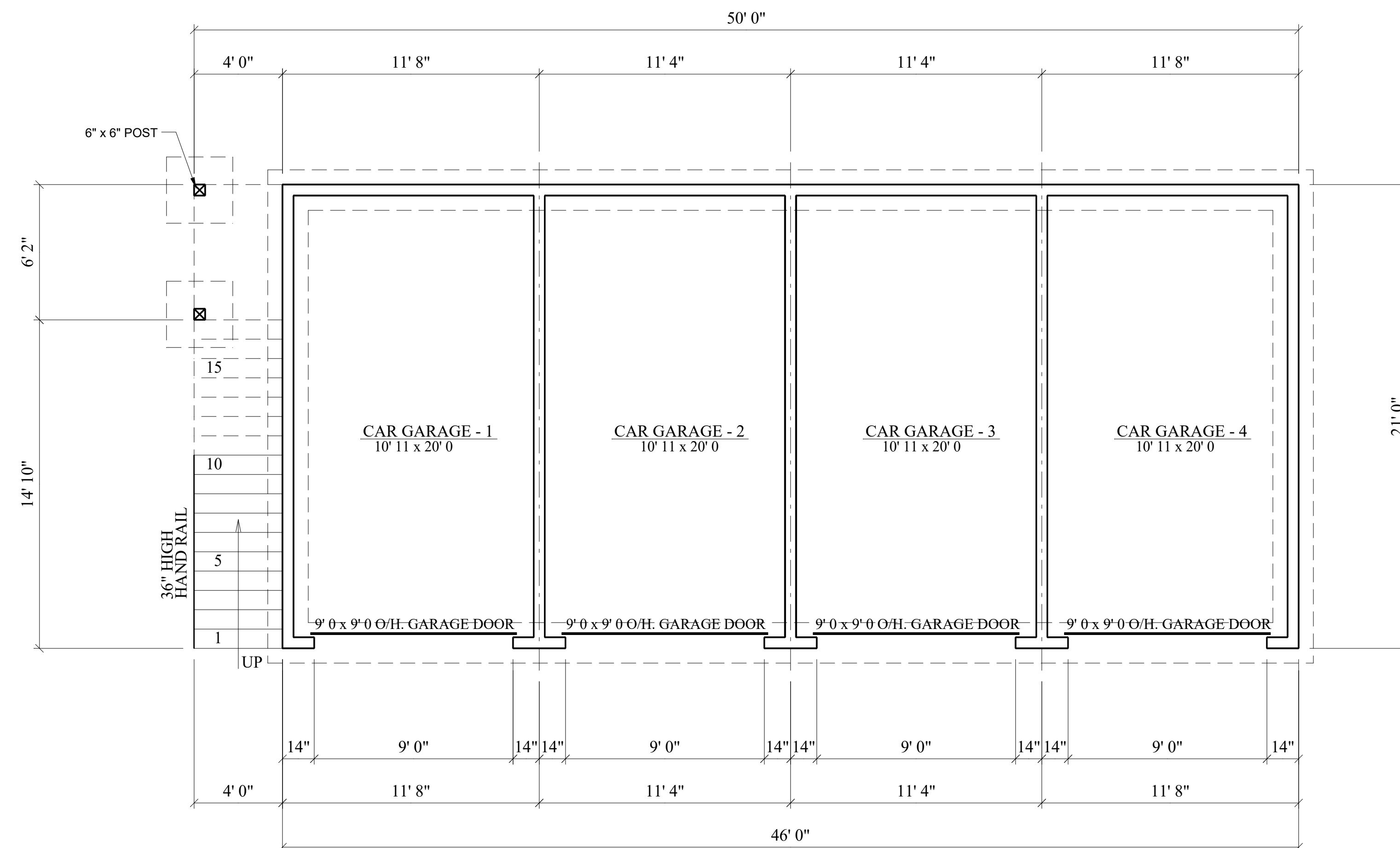
1. Property Information	<input type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Repair		<input checked="" type="checkbox"/> Amendment/Update – Original Filing #	
	Tax Assessment Roll #		PID #	
	63445-0000-1		008-262-641	
Legal Description (Plan, Lot, District Lot, Block Numbers)				
LT 1; SEC 22; TWP 12; NWD; PL NWP2633				
Street (Civic) Address or General Location				City
24689 124 Ave				Maple Ridge
2. Owner Information	Name of Legal Owner			Mailing Address
	[REDACTED]			[REDACTED]
	Phone	City	Province	Postal Code
		[REDACTED]	BC	V3W 3E5
3. Authorized Person Information	Name of Authorized Person		Registration #	Mailing Address
	Blake Tabian		OW0901	5858 242 Street
	Phone	Email	City	Province
	778 240 5471	blake@pacificsep	Langley	BC
				Postal Code
				V2Z1J8
4. Structure Information	Sewerage System will serve:			
	<input checked="" type="checkbox"/> Single Family Dwelling (with or without suite) <input type="checkbox"/> Other Structure (Specify) <input type="checkbox"/> Other Dwelling (Specify)			
The Sewerage System is designed for an estimated minimum daily domestic sewage flow of (check one):				
<input checked="" type="checkbox"/> Less than or equal to 9,100 litres <input type="checkbox"/> More than 9,100 litres but less than 22,700 litres				
5. Site Information	Depth of native soil to seasonal high water table or restrictive layer (cm)		Information respecting the type, depth and porosity of the soil is attached	
	15		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	GPS Location of System (Decimal Degrees)		Latitude	Longitude
		49.228369	-122.538259	
	Horizontal Accuracy (m)	<input checked="" type="checkbox"/> Recreational GPS <input type="checkbox"/> Differential GPS		
	1.54			
6. Drinking Water Protection	Will the sewerage system be located less than 30 m from a well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
	If Yes, attach a professional's report and specify the intended distance _____ (m)			
	Distance of proposed sewerage system to the closest body of surface water _____ >15 (m)			
7. System Information	Sewerage Treatment Method <input type="checkbox"/> Type 1 <input checked="" type="checkbox"/> Type 2 <input type="checkbox"/> Type 3			
8. Legal or Regulatory Considerations	<input checked="" type="checkbox"/> Construction of the proposed sewerage system will not conflict with legal instruments registered on the property		Is this filing submitted as the result of an Order from the Health Authority?	
			<input type="checkbox"/> Yes (attach a copy of the Order) <input checked="" type="checkbox"/> No	
9. Plot Plan and Specifications	<input checked="" type="checkbox"/> Plot Plan (to scale) and specifications are attached			
	<input checked="" type="checkbox"/> The plans and specifications are consistent with standard practice			
	Source of Standard Practice		<input checked="" type="checkbox"/> Ministry of Health Standard Practice Manual <input type="checkbox"/> Other	
				 <b>MAR 11 2024</b>
10. Authorized Person's Signature	Signature		OFFICE USE ONLY	
			Filing Accepted Date ( dd/mm/yyyy)	
	Date		Receipt #	
	09-Mar-2024			







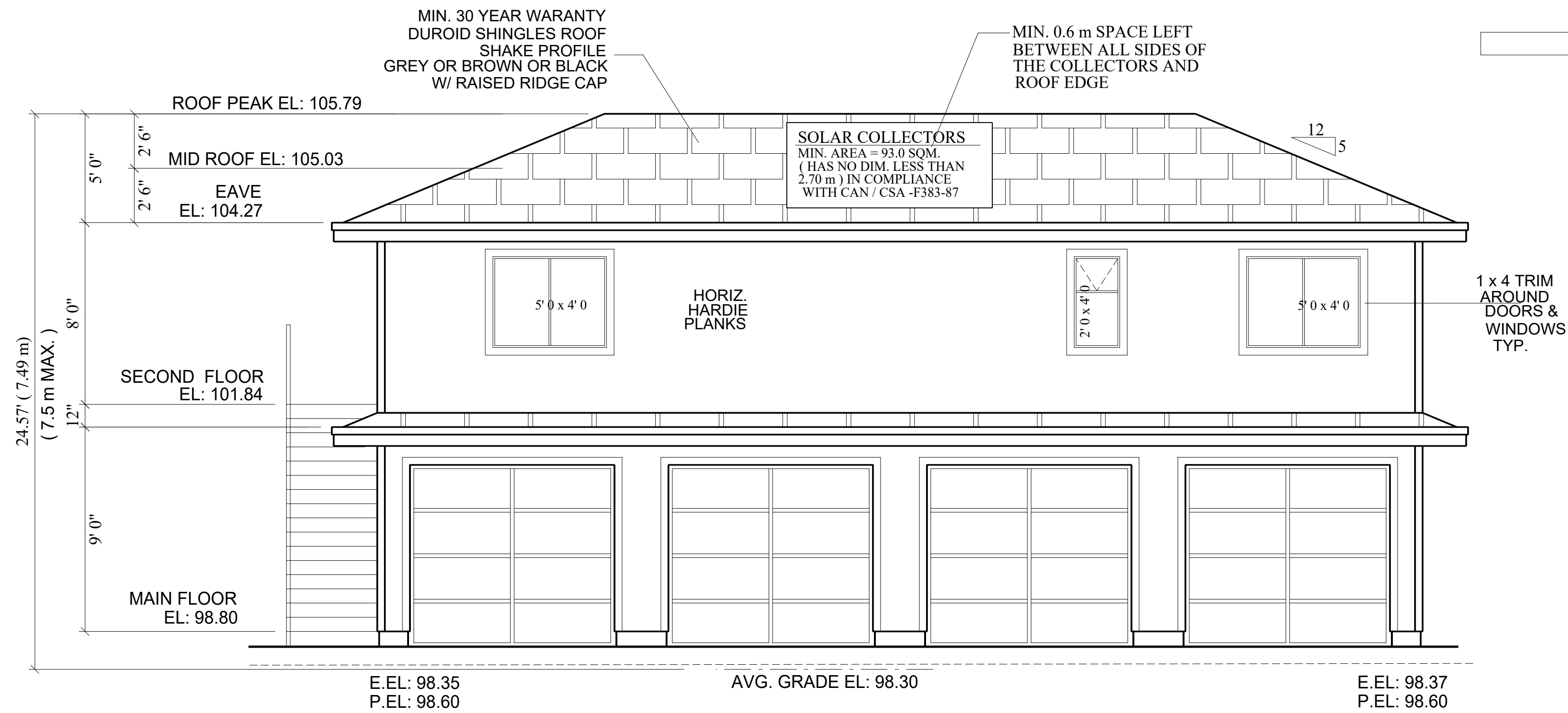
UPPER FLOOR PLAN AREA = 966.0 SF incl deck



LOWER FLOOR PLAN AREA = 966.0 SF

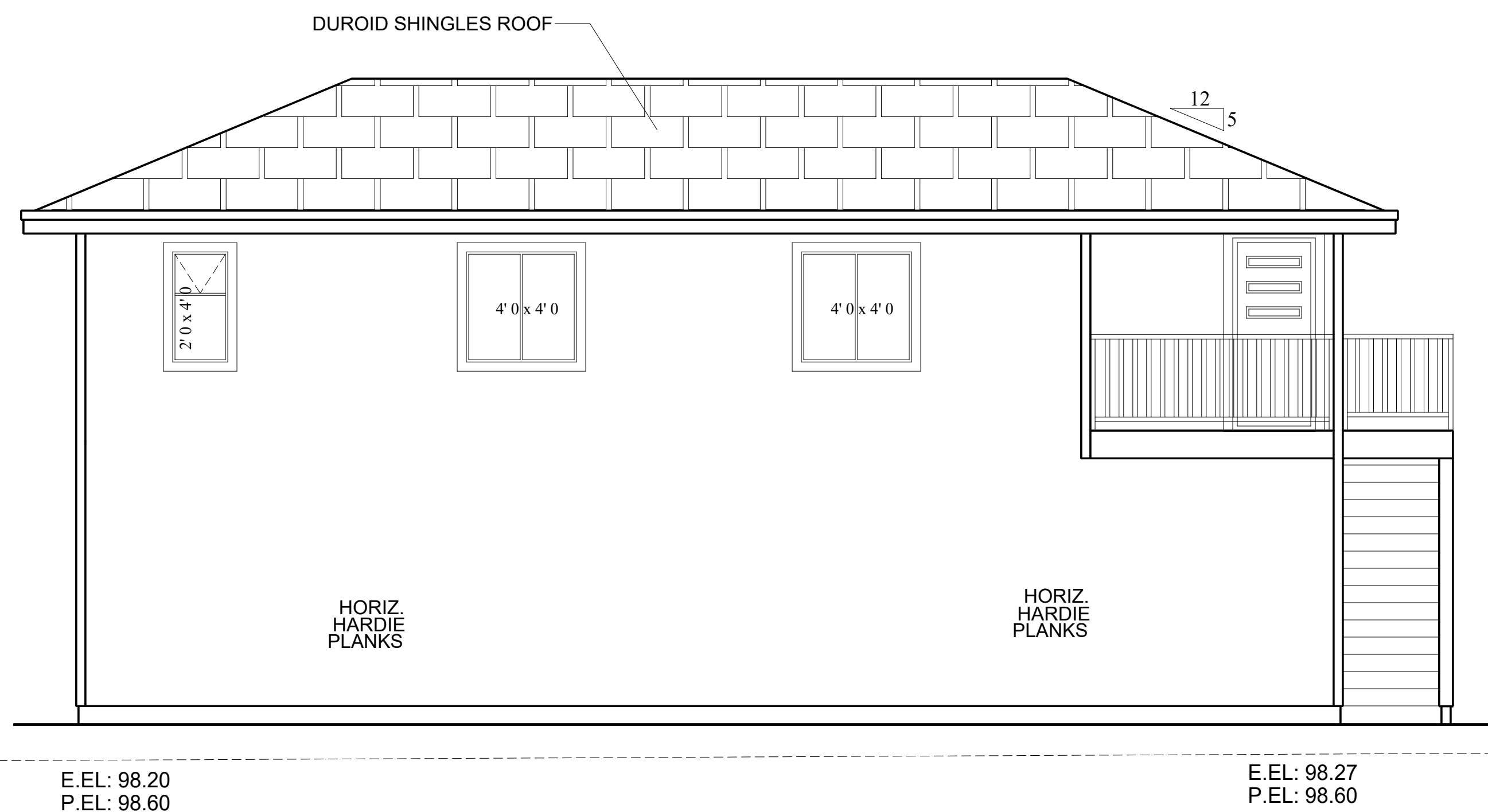
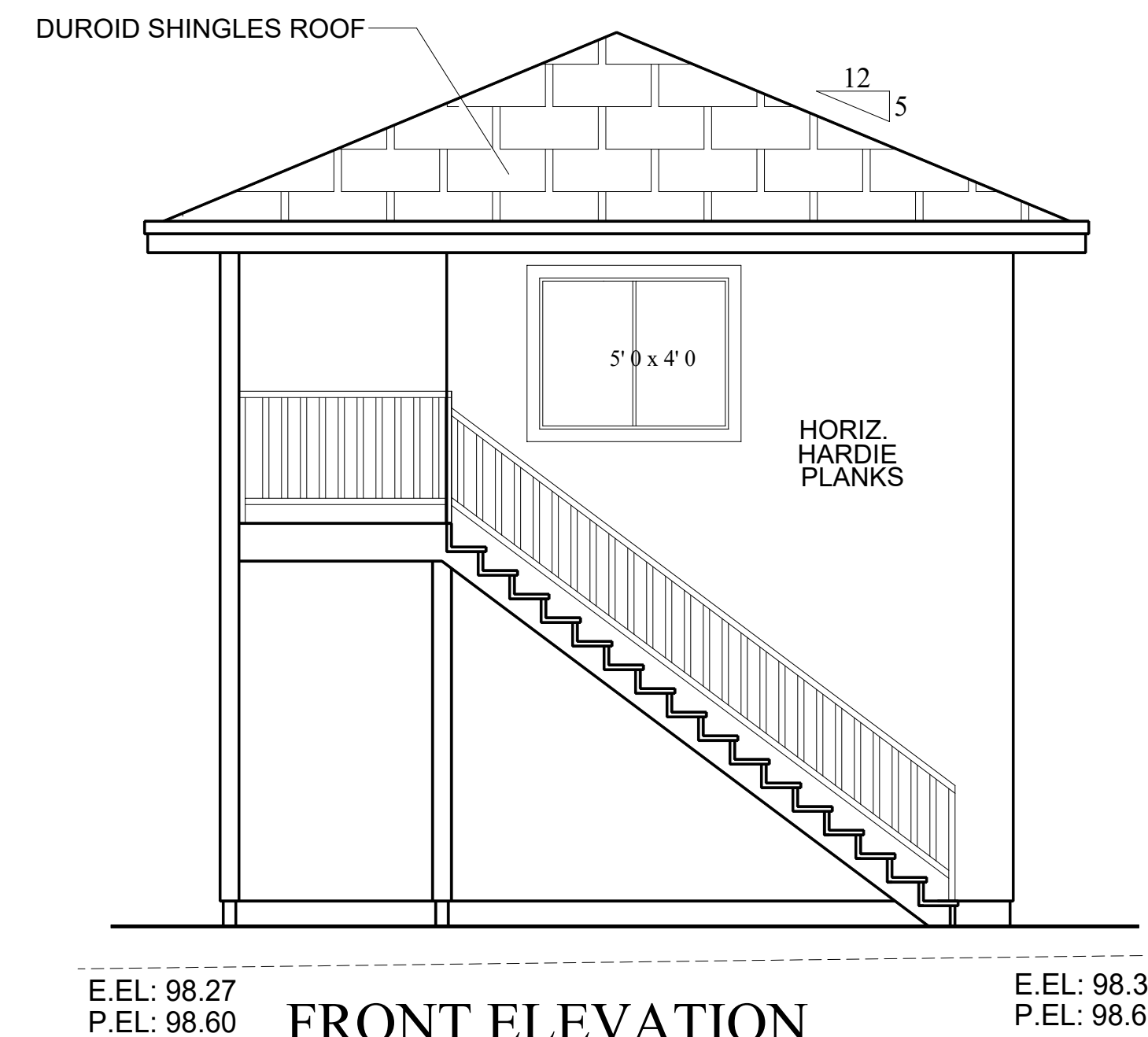
THESE PLANS CONFORM TO  
B.C.B.C. 2018 EDITION

DEC. 07 2024	REVISED TO SUIT BOV MEETING COMMENTS	1
<b>Astonish Design &amp; Detailing Ltd.</b> 19732 - 71B Ave. Langley B.C. PH: 1 604 539 1740 FAX: 1 604 539 1741 CELL: 1 604 728 0389 email: navtejshot@hotmail.com		
TITLE: GARAGE - FLOOR PLANS		
JOB ADD: 24689 - 124th Avenue, Maple Ridge, B.C.		
DESIGN BY: KAMAL	CHK. BY: NAVTEJ	SCALE: 1/4" = 1'-0" U/N.
Printed On Jan 20 2024	SHEET NO. A-002	REV. 0



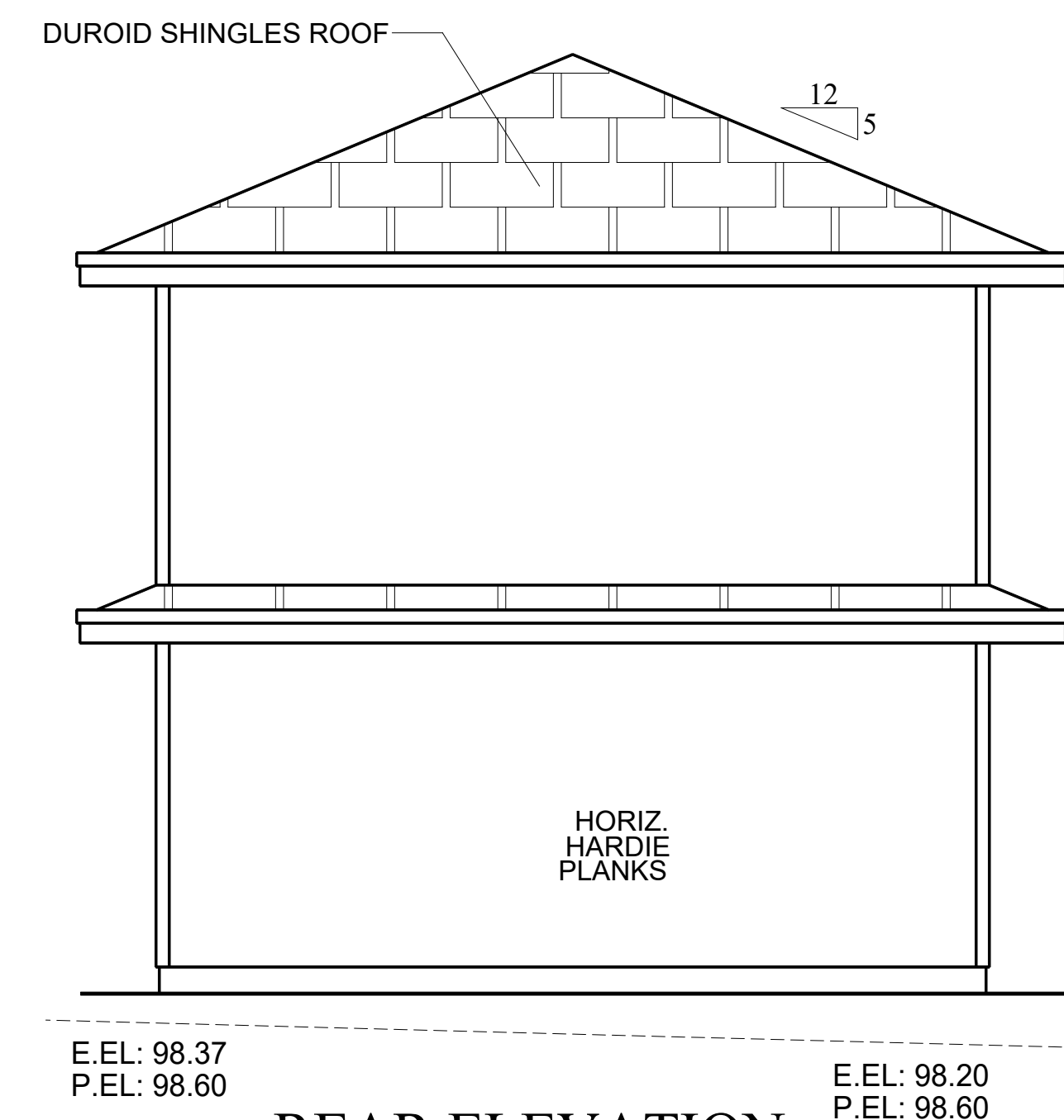
**RIGHT SIDE ELEVATION**

LIMITING DISTANCE = 26' 10"  
EXPOSED BUILDING FACE = 858.0 S.F.  
PER. UNPROTECTED OPENINGS 28.0 % = 240.24 SF  
PROPOSED UNPROTECTED OPENINGS = 48.00 S.F.



**LEFT SIDE ELEVATION**

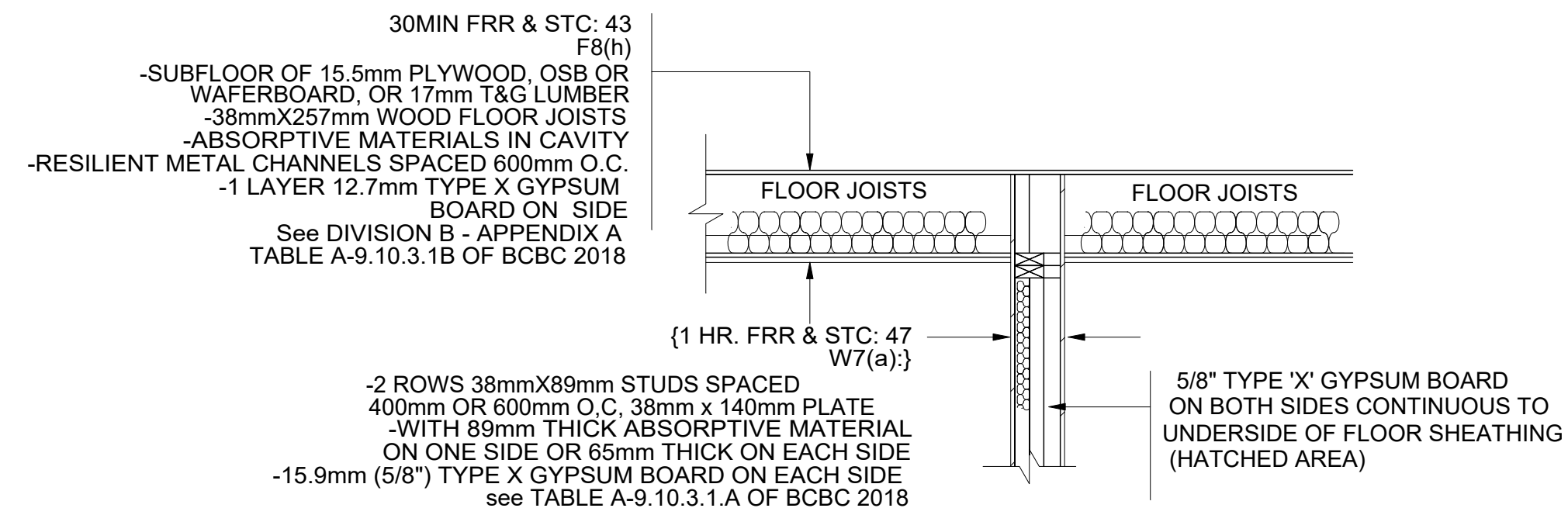
LIMITING DISTANCE = 56' 3"  
EXPOSED BUILDING FACE = 858.0 S.F.  
PER. UNPROTECTED OPENINGS 100 % = 858.0 SF  
PROPOSED UNPROTECTED OPENINGS = 40.00 S.F.



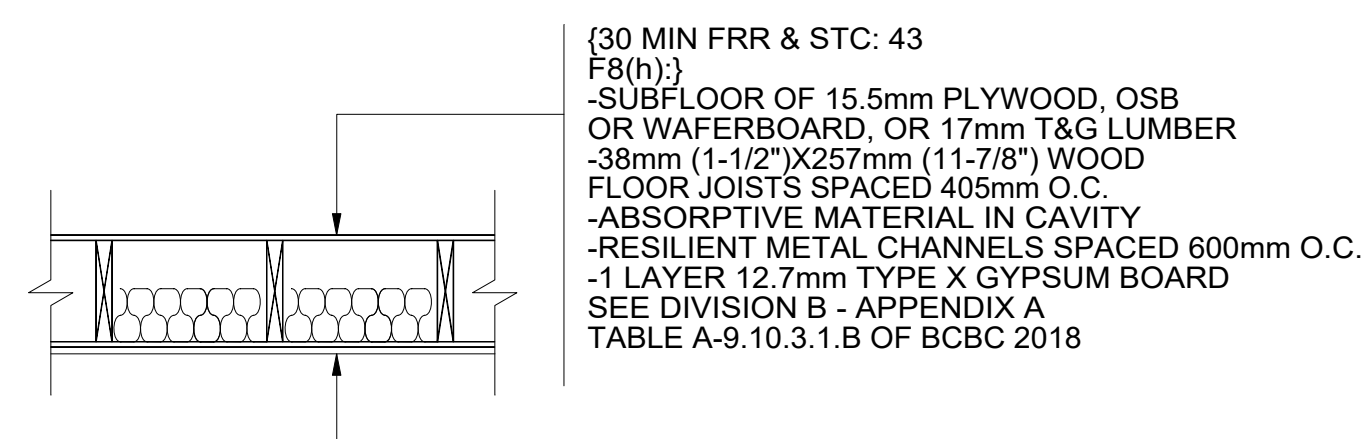
**REAR ELEVATION**

THESE PLANS CONFORM TO  
B.C.B.C. 2018 EDITION

DEC. 07 2024	REVISED TO SUIT BOV MEETING COMMENTS	1
<b>Astonish Design &amp; Detailing Ltd.</b>		
19732 - 71B Ave. Langley B.C.		
PH: 1 604 539 1740 FAX: 1 604 539 1741		
CELL: 1 604 728 0389 email: navtejshot@hotmail.com		
TITLE: <b>GARAGE - ELEVATIONS</b>		
JOB ADD: 24689 - 124th Avenue, Maple Ridge, B.C.		
DESIGN BY: KAMAL	CHK. BY: NAVTEJ	SCALE: 1/4" = 1'-0" U/N.
Printed On Jan 20 2024	SHEET NO. A-003	REV. 0



FIRE-RATED WALL-FLOOR DETAIL



FIRE-RATED CEILING DETAIL

STAIRS, GUARDS & HANDRAILINGS TO COMPLY TO SECTION 9.8 OF THE 2018 BC BLDG CODE (\*HANDRAILS MIN. 865mm (34"))

ROOF VENTING BOTH SIDES TO OCCUR ON THE ROOF SLOPE WITH HOLES LOCATED MIN. 15" ABOVE TRUSS BOTTOM CHORD

ROOF OVERHANGS CLOSER THAN 1.2 m TO THE PROPERTY LINE MUST BE SOLID METAL SOFFIT OR HAVE SOLID PLYWOOD BACKING

ATTIC SPACE  
 . VENT MIN. 1:300  
 . VENTS LOCATED AT MIN. 25% TOP AND AND BOTTOM  
 . MIN. R40 INSULATION

500 mm x 600 mm ( 20" x 25" ) MIN. ATTIC ACCESS HATCH, INSULATED AND WEATHER - STRIPPED.

EXTERIOR GUARDS  
 \* MIN. HEIGHT 42" OFF THE DECK. IF DECK IS LESS THAN 6' ABOVE GRADE MIN. HEIGHT 36"  
 \* NO OPENINGS LARGER THAN 4" ( 100mm ) ( NON CLIMBABLE BETWEEN 5-1/2" ( 140mm ) AND 36" ABOVE DECK

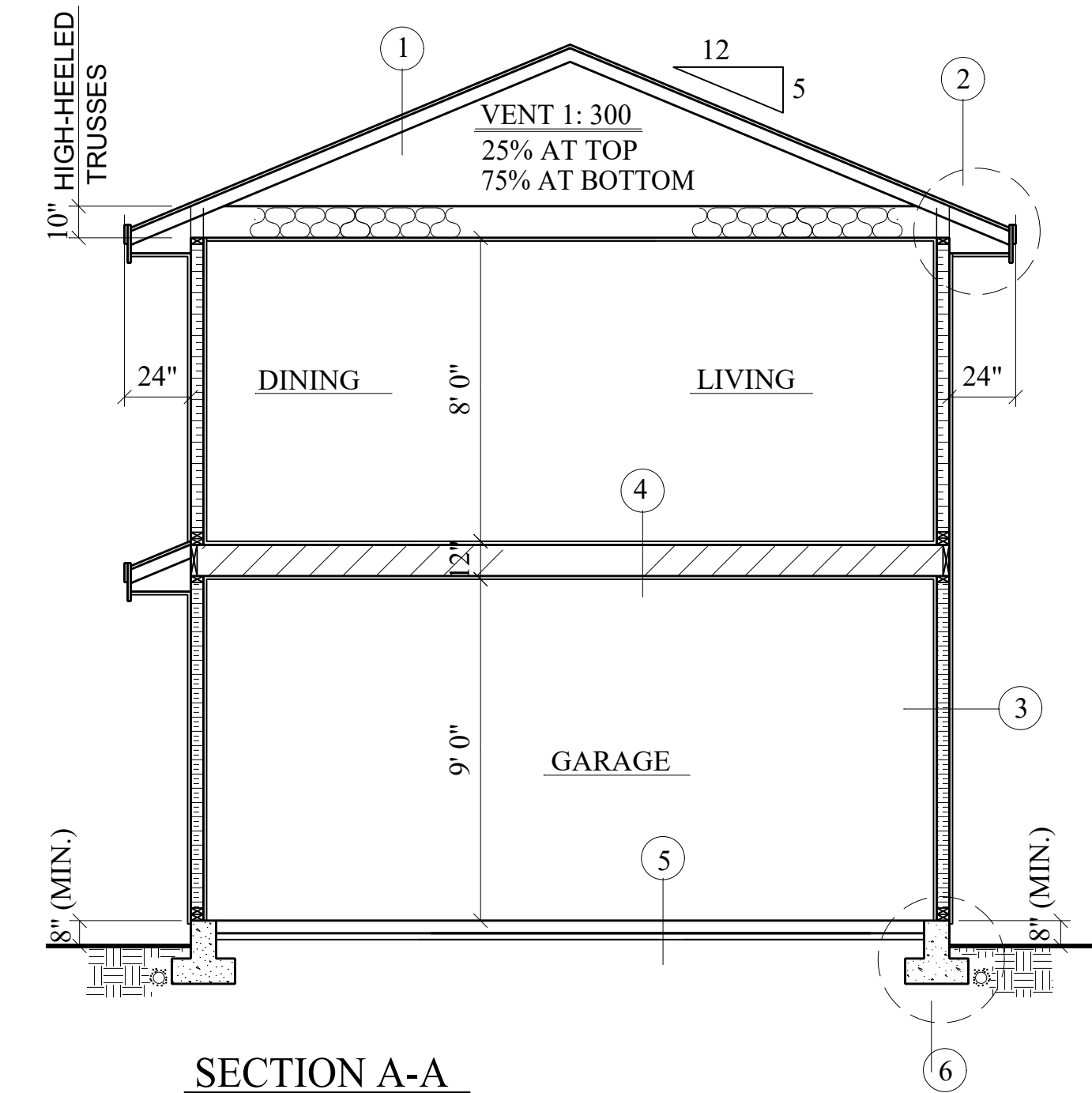
FACE MOUNT ALL GUARDS. DO NOT PENETRATE DECK MEMBRANES

EXTERIOR WINDOWS, DOORS, SKYLIGHT AND DAYLIGHT TUBES ARE REQUIRED TO MEET NAFS STANDARDS

BED ROOM WINDOWS TO BE SIZED TO COMPLY WITH 9.9.10.1

INTERCONNECTED & HARDWIRED SMOKE ALARMS ARE REQUIRED ON EACH STOREY, INCLUDING BASEMENTS AND ONE IN EACH BEDROOM AS PER 9.10.10 & 9.32.4.2

WHERE A SOLID FUEL BURNING APPLIANCE IS LOCATED, AN ADDITIONAL CO DETECTOR IS RERQUIRED AS PER 9.32.4.2



SECTION A-A

TYPICAL FLOOR OVER UN HEATED SPACE :

FINISH FLOORING ON 5/8" T. & . G. PLYWD. NAILED & GLUED TO FLOOR JOIST, 2x10 FLR. JOISTS (SEE PLAN)  
 R - 28 INSULATION  
 2x2 CROSS BRIDGING @ 7' 0" O.C. MAX.  
 1/2" DRYWALL.

- TYPICAL ROOF:**  
 DUROID SHINGLES ROOF  
 ON 1/16" WEATHERING FOIL.  
 ON 1/2" THK. PLYWOOD  
 ON APP. ENG. TRUSSES @ 24" O.C  
 R - 40 BATT INSULATION.  
 6 - MIL. U.V. RESISTANT POLY.  
 5/8" THK. DRYWALL.
- TYPICAL EAVE:**  
 EAVE PROTECTION TO 12" MIN.  
 INSIDE TOP PLATE.  
 2 x 4 ON 2 x 10 FASCIA  
 W/BUILT IN GUTTER  
 GALVANIZED METAL FLASHING.  
 ALUM. SOFFIT VENT.
- TYPICAL EXTERIOR WALL:**  
 HORIZ. HARDIE PLANKS  
 EXTERIOR GRADE PLYWOOD STRAPPING AT 8" OR 16" O.C. 2 LAYERS OF 30 MIN. RATED BUILDING PAPER OR ONE LAYER OF BUILDING PAPER ( TYVEK COMMERCIAL WRAP) OR EQUIV.  
 ON 1/2" PLYWD. ON 2x6 STUDS @ 16" O.C.  
 R-22 BATT INSULATION.  
 6 - MIL.U.V. RESISTANT POLY, 1/2" DRYWALL.
- TYPICAL FLOOR:**  
 FINISH FLOORING ON 5/8" T. & . G. PLYWD. NAILED & GLUED TO FLOOR JOIST, 2x10 FLR. JOISTS (SEE PLAN)  
 2x2 CROSS BRIDGING @ 7' 0" O.C. MAX.  
 5/8" DRYWALL.
- SLAB ON GRADE :**  
 FINISH FLOORING ON 4" CONC. SLAB.  
 R - 12 RIGID INSULATION  
 6 - MIL. U.V. RESISTANT POLY.  
 6" WELL - COMPACTED SAND BASE.
- TYPICAL FOUNDATION:**  
 6" CONC. WALL ON 8" x 20" CONT. CONC. STRIP FOOTING TO FIRM BEARING.  
 5/8" DIA. ANCHOR BOLTS @ 6' - 0" O. C. MAX.  
 PROVIDE 45 # FELT UNDER ALL PLATES IN CONTACT W/CONC.  
 4" DRAIN PIPE (SOLID), 6" DRAIN COVER.

**GENERAL:**  
 THIS BUILDING IS DESIGNED UNDER PART 9 OF THE BRITISH COLUMBIA BUILDING CODE - 2018 EDITION OCCUPANCY CLASS (C). SOME SPECIFICATIONS ON THIS DRAWING ARE BEYOND THE LIMITS OF THIS SECTION OF THE CODE AND MAY REQUIRE REVIEW BY A PROFESSIONAL ENGINEER AT THE DISCRETION OF THE LOCAL BUILDING AUTHORITY. THIS MAY INCLUDE THE REQUIREMENT FOR A FIELD INSPECTION TO ENSURE THAT CRITICAL BUILDING COMPONENTS ARE CORRECTLY INSTALLED. IF REQUIRED, SUCH REVIEWS SHALL BE FOR THE ACCOUNT OF THE OWNER

THE CONTRACTOR AND THE OWNER SHALL ENSURE THAT THE CONSTRUCTION COMPLIES WITH ALL NATIONAL, PROVINCIAL AND LOCAL REGULATIONS.

THE OWNER OR CONTRACTOR SHALL INSTALL ALL MATERIALS, EQUIPMENT, AND COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND ACCEPTED METHODS OF BUILDING PRACTICE.

IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR BUILDER TO DETERMINE THE SNOW LOAD, RAIN LOAD AND SOIL CONDITIONS IN THE AREA IN WHICH THE RESIDENCE IS BEING BUILT, AND TO MAKE ADJUSTMENTS IN SIZE OF STRUCTURAL MEMBERS TO COMPENSATE FOR THE ADDITIONAL LOADING.

THE OWNER OR CONTRACTOR SHALL VERIFY ALL DIMENSIONS, MATERIALS AND CONDITIONS SHOWN ON THE DRAWINGS. ANY VARIANCES WITHIN THE DRAWINGS OR SPECIFICATIONS OR FROM CONDITIONS ENCOUNTERED ON THE JOB SITE SHALL BE RESOLVED BY THE OWNER OR CONTRACTOR AND SUCH SOLUTION SHALL BE THEIR SOLE RESPONSIBILITY.

DIMENSIONS SHALL IN ALL CASES TAKE PRECEDENCE TO SCALE

STAIRS, RAMPS, HANDRAILS AND GUARDRAILS TO COMPLY WITH THE BCBC 2018 EDITION.

THESE DRAWINGS ARE PROPERTY OF ASTONISH DESIGN AND DETAILING LTD. AND CAN NOT BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION BY ASTONISH DESIGN & DETAILING LTD.

THESE PLANS CONFORM TO B.C.B.C. 2018 EDITION

DEC. 07 2024	REVISED TO SUIT BOV MEETING COMMENTS	1
<b>Astonish Design &amp; Detailing Ltd.</b> 19732 - 71B Ave. Langley B.C. PH: 1 604 539 1740 FAX: 1 604 539 1741 CELL: 1 604 728 0389 email: navtejdh@hotmail.com		
TITLE: <b>GARAGE - SECTION</b>		
JOB ADD: 24689 - 124th Avenue, Maple Ridge, B.C.		
DESIGN BY: KAMAL	CHK. BY: NAVTEJ	SCALE: 1/4" = 1'-0" U/N.
Printed On Jan 20 2024	SHEET NO. A-004	REV. 0

**CITY OF MAPLE RIDGE  
DEVELOPMENT VARIANCE PERMIT NO. 2024-342-VP**

**TO: RAJVEER RAI  
24689 124 AVE  
MAPLE RIDGE, BC V4R 1S4**  
(the "Permittee")

1. This Development Variance Permit (the "Permit") is issued subject to compliance with all the Bylaws of the City of Maple Ridge (the "Municipality") applicable thereto, except as specifically varied or supplemented by this Permit.

2. This Permit applies to, and only to those lands within the Municipality described below and any and all buildings, structures, and other development thereon:

**LOT 1 SECTION 22 TOWNSHIP 12 NEW WESTMINSTER DISTRICT PLAN 2633**  
(the "Lands")

3. The Maple Ridge Zoning Bylaw No. 7600-2019 as amended is varied as follows:

Part 4, Section 402.12(1)(b):

- To vary the maximum depth of the Farm Home Plate from 60 m to 195.46 m.

Part 6, Section 611.8(2)

- To vary the maximum height for Accessory Building and Accessory Structures from 6 m to 7.5 m

4. The Lands described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

5. If the Permittee does not substantially commence the development permitted by this Permit, this Permit shall lapse on, \_\_\_\_\_, which is 24 months from the date of Council Authorization.

6. This Permit is not a Building Permit.

**AUTHORIZING RESOLUTION** passed by the Council on the 11<sup>th</sup> day of February 2025.

**ISSUED** on the 11<sup>th</sup> day of February 2025.

---

**CORPORATE OFFICER**

**Attachments:**

Attachment A: Subject Map (to be inserted)

Attachment B: Ortho Map (to be inserted)

Attachment C: Site Plan and Architectural Drawings (to be inserted)

## North East Albion Land Use and Servicing Review: Follow Up

### Recommendation:

**THAT Council direct staff to prepare an Official Community Plan Amending Bylaw for the southern portion of the North East Albion Area according to Concept 1 as outlined in the report titled “North East Albion Land Use and Servicing Review: Follow Up”, dated February 4, 2025.**

### Report Purpose and Summary Statement:

This report provides a summary of the servicing review results for the proposed land use changes and intensification of the North East Albion Area and recommends moving forward with an Official Community Plan Amending Bylaw.

### Previous Council Action:

On September 27, 2022, Council adopted the North East Albion Land Use Plan into the Albion Area Plan of the City’s Official Community Plan.

At the October 24, 2023, Council Workshop staff were directed to complete a localized land use and servicing review of the southern portions of the North East Albion Land Use Plan, considered as the lands south of 110 Avenue.

The staff report presented at the June 11, 2024, Council Workshop summarized the engagement outcomes. At that meeting, Council directed staff to complete water and sewer modelling and servicing analysis on different land use and development density scenarios for Council’s consideration.

### Strategic Alignment:

Liveable Community

## **North East Albion Land Use and Servicing Review: Follow Up**

### **BACKGROUND:**

On September 27, 2022, Council adopted the North East Albion Land Use Plan into the Albion Area Plan of the City's Official Community Plan (OCP). Since the creation of the North East Albion Land Use Plan a number of fundamental shifts have occurred. In addition to the challenges and opportunities associated with global events over the past 5 years, the economic landscape within BC and Canada has shifted, which has resulted in changing market interest rates and evolving preference demands for housing.

Under the direction of Council at the October 24, 2023, Council Workshop, staff conducted a localized land use and servicing review of the southern portions of the North East Albion Land Use Plan, considered as the lands south of 110 Avenue.

Two land use concepts were originally developed through a technical in-house design charette that reviewed residential densities, transportation networks, site servicing capacities, as well as general infrastructure needs and other opportunities. The two concepts were presented to the community for public consultation. The comments and input received indicated that a moderate increase in density from single detached to townhouse style development was the preferred scenario within the study area. A staff report presented at the [June 11, 2024, Council Workshop](#) (item 5.2) summarized the engagement outcomes.

As a result of the preliminary servicing analysis and potentially significant infrastructure costs associated with increasing density beyond the current land uses, a third hybrid concept was provided for Council consideration at the June 11 Council Workshop. Concepts are summarized in the following section and in Attachment A.

Following that Workshop, staff were directed to provide additional information for Council consideration, namely, to conduct a more detailed water and sewer modelling analysis, including capacity, costs of land acquisition, a strategy outlining the options for capitalizing the related infrastructure, and timeframe. This engineering analysis has been completed and a summary is available in Attachment B.

The purpose of this report is to provide a summary of the servicing analysis results, outline the proposed land use changes, and discuss next steps for Council's consideration.



# ANALYSIS:

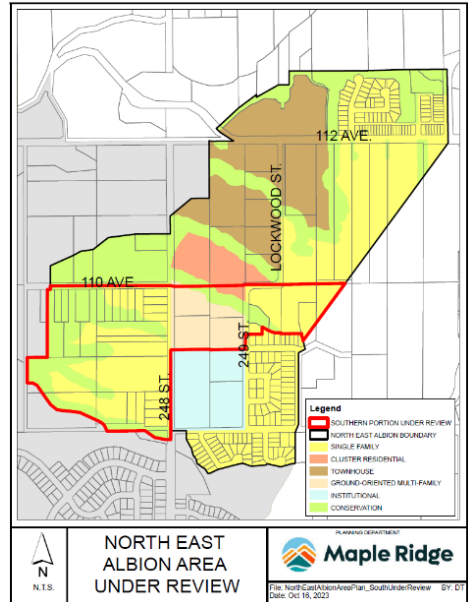
## Discussion:

The study area for the localized land use and servicing review is contiguous and separated from other land uses by environmental features and comprises approximately 20 hectares (50 acres) out of the original North East Albion Area of 70 hectares (172 acres).

The study area is currently characterized by significant tree clusters, watercourses and slopes. The physical features also include rural, single detached properties of varying sizes.

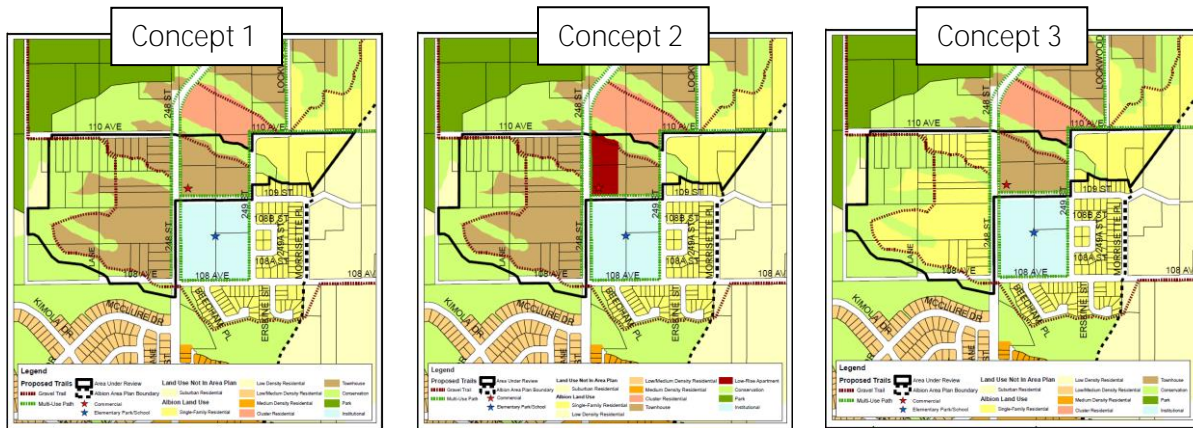
The specific properties included in the review are identified outlined in red in Figure 1 and full-sized in Attachment A.

Figure 1



## Concepts Under Consideration:

Through the Public Engagement Process and at the June 11, 2024, Council Workshop, the following proposed three Concepts were presented (full-sized maps available in Attachment A).



Concept 1: Considered a moderate increase in density from single detached housing form to townhome and street townhomes (fee simple) style development through the western and central sections of the study area.

Concept 2: Considered an incremental increase in density from Concept 1 and included changing the single detached housing from to townhome and street townhome development style development through the western section (same as Concept 1), and to a low-rise apartment and townhouse form in the central section.

Concept 3: Considered a change in the housing from in the central portion of the study area from duplex, triplex, and fourplex housing forms to townhome and street townhome style development. The western portion of the study area was assumed to remain as single detached, as would the eastern portion.

Across all Concepts, the northeast corner of the study area, east of 249 Street, was proposed to remain as single detached and the Commercial Node at the intersection of 248 Street and 109 Avenue was also proposed to remain in its current location with a permitted maximum height of four storeys with residential above commercial on the ground floor.

**Infrastructure Capacity Assessments:**

As directed by Council at the June 2024 Council Workshop, staff initiated an infrastructure capacity assessment for the water and sewer services for four scenarios, which included: revisiting the current (existing) land use designations for North East Albion, as well as Concept 1, Concept 2 and Concept 3. In addition, since the initial adoption of the North East Albion Area Plan there has been a fundamental shift in the planning framework across BC with the adoption of the regulatory changes to enable Small Scale Multi-Unit Housing (i.e., SSMUH legislation, Bill 44), which required an additional level of assessment to incorporate the potential impacts of the additional development densities stemming from that regulatory change. Each property in the Albion Area is now permitted a development density of up to 3 or 4 units per lot as-of-right. As such, each of the four concepts were analyzed anticipating a partial uptake of SSMUH (i.e., assuming an additional unit per parcel (a total of 2 units), which represents a population of 5 people per parcel), as well as a full uptake of SSMUH (i.e., assuming full buildout per parcel (3 or 4 units), representing a population of 11 people per parcel).

Cost Estimates for Infrastructure Upgrades

A summary of cost estimates for infrastructure upgrades to accommodate the different densification options and SSMUH buildout assumptions is presented in Table 1. Costs are preliminary, order-of-magnitude estimates and include a 40% contingency. As shown in the table, the costs for Concept 2 are much higher than the other options. This is due to that concept’s inclusion of apartment land uses, which requires higher water and sewer servicing and would trigger a required expansion of the water reservoir along with a long section of watermain.

**Table 1. Infrastructure Cost Estimates (Water & Sewer)**

	<b>Existing Land Uses</b>	<b>Concept 1</b>	<b>Concept 2</b>	<b>Concept 3</b>
<b>Partial SSMUH</b>	\$3M	\$3M	\$26M-\$35M	\$3M
<b>Full SSMUH</b>	\$17M	\$17M	\$40M	\$17M

### **Sewage Collection Infrastructure Capacity Assessment:**

Sewage infrastructure exists both to the north and south of the North East Albion Area, creating a northern route and a southern route option for sewage flows. The existing sewage collection system for North East Albion is shown in Attachment B.

Under the Partial SSMUH scenario, no sewage system upgrades are required for any of the concepts, provided that sewage flows from a small portion of the North East Albion Area is directed to the southern route. Different combinations of parcel areas could be assembled to direct sewage flows to the south. If more areas are directed to flow south, sewer upgrades would be required to accommodate most of the proposed scenarios.

Under the Full SSMUH scenario for all of the proposed concepts, two sections of the sewage system would require upgrades. The associated areas are indicated in Attachment B.

### **Drinking Water Distribution Infrastructure Capacity Assessment:**

The existing drinking water infrastructure serving the North East Albion Area is shown in Attachment B.

Under the Partial SSMUH scenario, all of the concepts, including the existing land use, require a new 250 metre section of watermain near the reservoir. This watermain is recommended to accommodate a now larger future population forecast (i.e., the North East Albion Area and Partial SSMUH throughout Albion). It was not indicated as an immediate need and could be included in the next 5-year capital plan.

In addition, under the Partial SSMUH scenario Concept 2 would require the construction of a watermain along 248 Street plus an expansion of the water reservoir. No additional system upgrades are projected to be required for the existing land uses, Concept 1 or Concept 3 under Partial SSMUH.

Under a Full SSMUH scenario buildout, a new water pump station would be required, along with a short section of water main, for all concepts, including current land uses. Concept 2 would trigger additional upgrades under the Full SSMUH scenario: i.e., a watermain along 248 Street plus an expansion of the water reservoir, in addition to the pump station and a short section of watermain.

### **Considerations:**

From an infrastructure servicing perspective, the existing land uses, Concept 1 and Concept 3 are all possible land use scenarios that result in minimal impacts to water and sewer servicing infrastructure. Concept 2 however requires significant infrastructure requirements to service that level of development density, land uses, and building typologies.

Should Council decide to pursue intensification within North East Albion, additional resources and funding will be necessary to support this growth. A strategy for funding the required infrastructure upgrades must be established. Potential approaches may include incorporating the upgrades into future capital plans, revising the Development Cost Charge bylaw, introducing a Local Area Services bylaw, or implementing a latecomer agreement. Further analysis is required to evaluate the options and identify the most appropriate funding mechanisms.

This can occur concurrently with the development of an Official Community Plan Amending Bylaw for the North East Albion Area if directed by Council.

Until the necessary infrastructure is in place, development may face timing/phasing constraints and trade-offs. A first-come, first-served approach may apply to development in the North East Albion Area, with ongoing monitoring of demand, to refine infrastructure needs and scheduling. The future development of 248 Street north to 112 Avenue is the key to enabling the sewage from portions of southern North East Albion to flow north and not overwhelm the Albion Area system to the south. Some development may not be able to proceed until this critical piece of infrastructure is constructed.

To support cohesive and efficient multi-unit housing developments in North East Albion, strong policies and a proactive approach to land assembly will continue to remain essential. The development of municipal and strata roads may also be required to ensure access to future development sites. Specific site details will be determined by staff and shared with Council during the rezoning and development permit application processes as they progress.

**Staff Recommendation:**

Based on the infrastructure servicing analysis, and what was heard from the community early in 2024, staff are recommending moving forward with an OCP Amending Bylaw in accordance with Concept 1. This will increase the allowable density of the land use designations from single detached to townhouse forms on the western side of 248 Street. By allowing the Townhouse land use designation, while retaining the ability for a commercial node between 248 and 249 Street, the area can see an increase in housing diversity while keeping the cost and extent of additional infrastructure upgrades to a minimum.

**Next Steps:**

Should Council support a land use change within the study area, an OCP Amending Bylaw would be prepared to update the land use designations for consideration. OCP Amending Bylaws are required to hold a Public Hearing as well as require referrals to external partners, including School District 42 and Metro Vancouver. The OCP Amending Bylaw would move through the standard bylaw adoption process, as follows:



Should Council endorse an updated land use concept for the study area and direct staff to initiate an OCP amendment, new and in-stream development applications in the southern North East Albion Area would be evaluated against the revised, endorsed Concept while the OCP Amending Bylaw is under development.

Should Council not endorse an updated land use Concept at this time, new development applications, including pre-applications, would be evaluated against the land use designations currently in effect through the area plan.

**Strategic Alignment:**

Reviewing the land use designations and servicing for the North East Albion Area aligns with the Liveable Community pillar within the 2023-2026 Council Strategic Plan.

The financial strategy and tools for the capitalization of the related infrastructure to support the development of the North East Albion Area will be developed and reported out to Council at the appropriate junctions. For example, through the Capital Planning Process and/or in association with future relevant development applications.

**Financial Impact:**

The engineering analysis required the reallocation of 2024 project funds to complete the water and sewer analysis work. It is anticipated that, should Council support moving forward with an OCP Amending Bylaw, that this work will fall within the Planning Department's 2025 Work Plan

**CONCLUSION:**

This report provides a summary of the water and sewer servicing modelling results, outlines an analysis of the proposed land use change concepts, and provides next steps for Council's consideration. Staff are recommending moving forward with an Official Community Plan Amending Bylaw to redesignate portions of the North East Albion Study Area to support townhouses and increase development densities.

"Amanda Grochowich"

---

Prepared by: Amanda Grochowich, Manager of Community Planning

**Attachments:**

- (A) North East Albion Study Area and Concept Maps
- (B) Summary of Infrastructure Capacity Assessments

## Report Approval Details

Document Title:	North East Albion Land Use and Servicing Review Follow Up2.docx
Attachments:	- Attachment A - North East Albion Study Area and Concept Maps2.pdf - Attachment B - Infrastructure Capacity Assessment Summary2.docx
Final Approval Date:	Jan 23, 2025

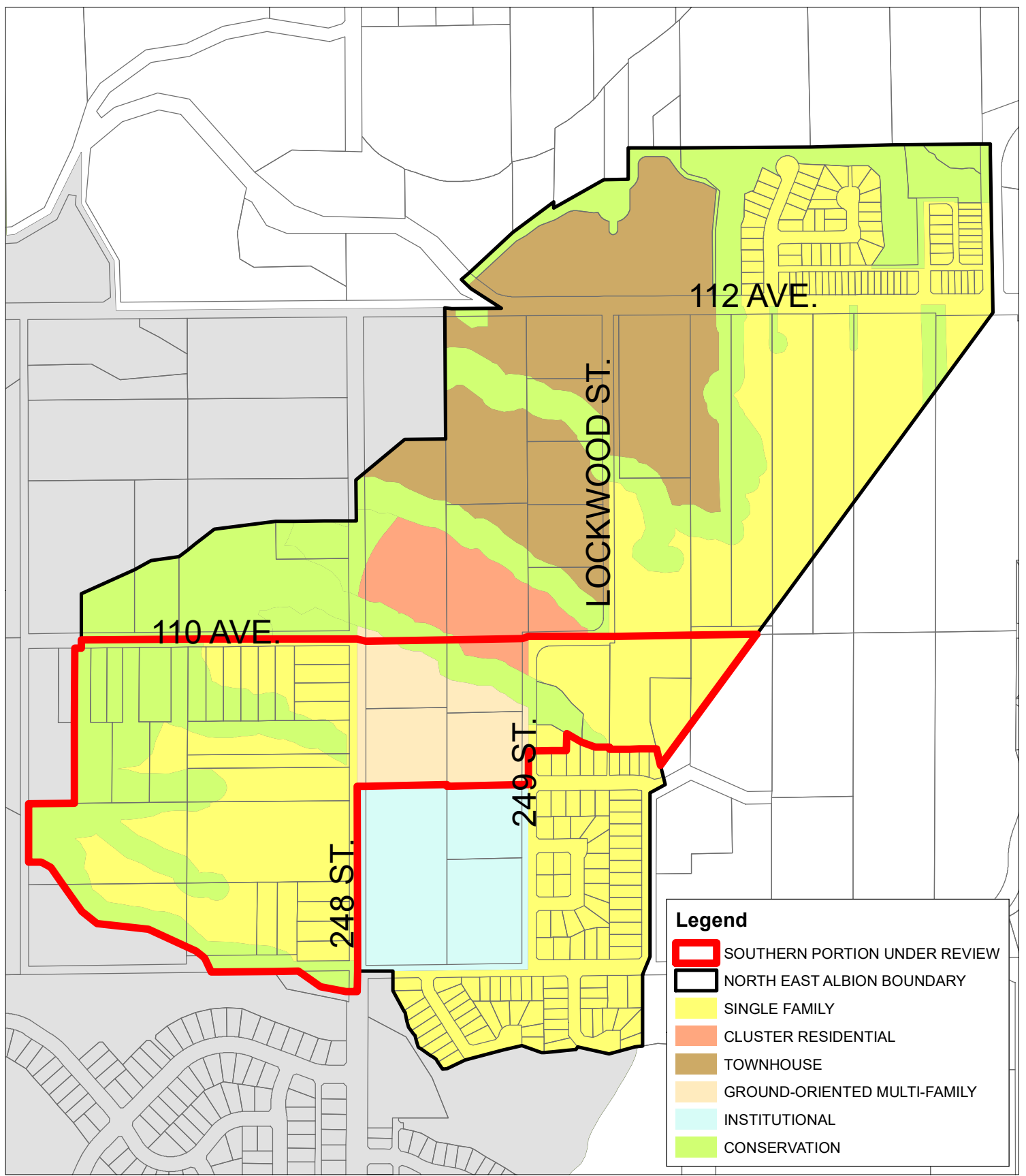
This report and all of its attachments were approved and signed as outlined below:

James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

Joe Dingwall, Manager of Utility Engineering

Scott Hartman, Chief Administrative Officer



N.T.S.

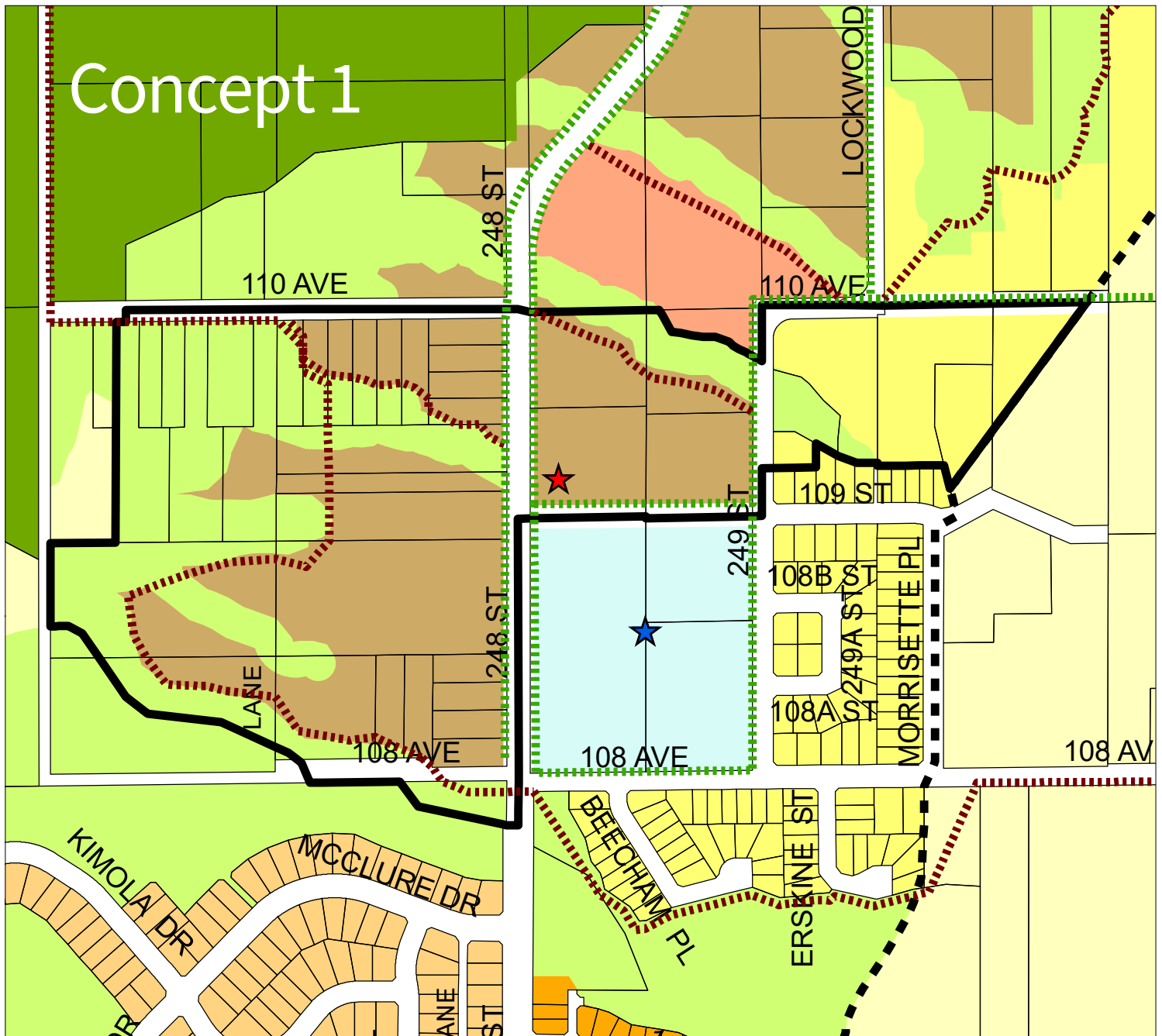
# NORTH EAST ALBION AREA UNDER REVIEW

PLANNING DEPARTMENT

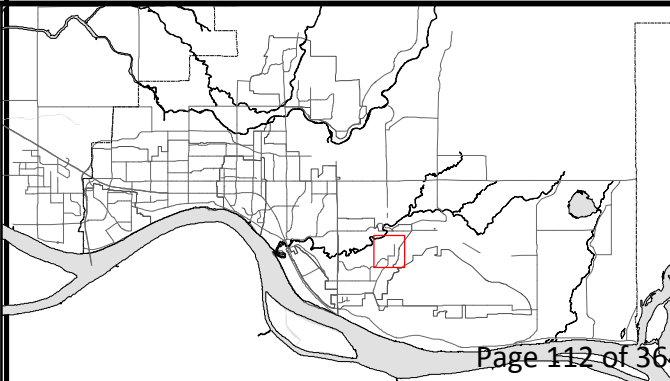
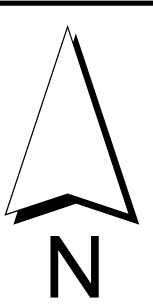


## Maple Ridge

# Concept 1



Proposed Trails		Area Under Review		Land Use Not in Area Plan		Albion Land Use	
	Gravel Trail		Area Under Review		Low Density Residential		Townhouse
	Multi-Use Path		Albion Area Plan Boundary		Suburban Residential		Conservation
	Commercial		Elementary Park/School		Medium Density Residential		Park
			Institutional		Single-Family Residential		Cluster Residential



## Area Under Review Proposed Land Use Concept

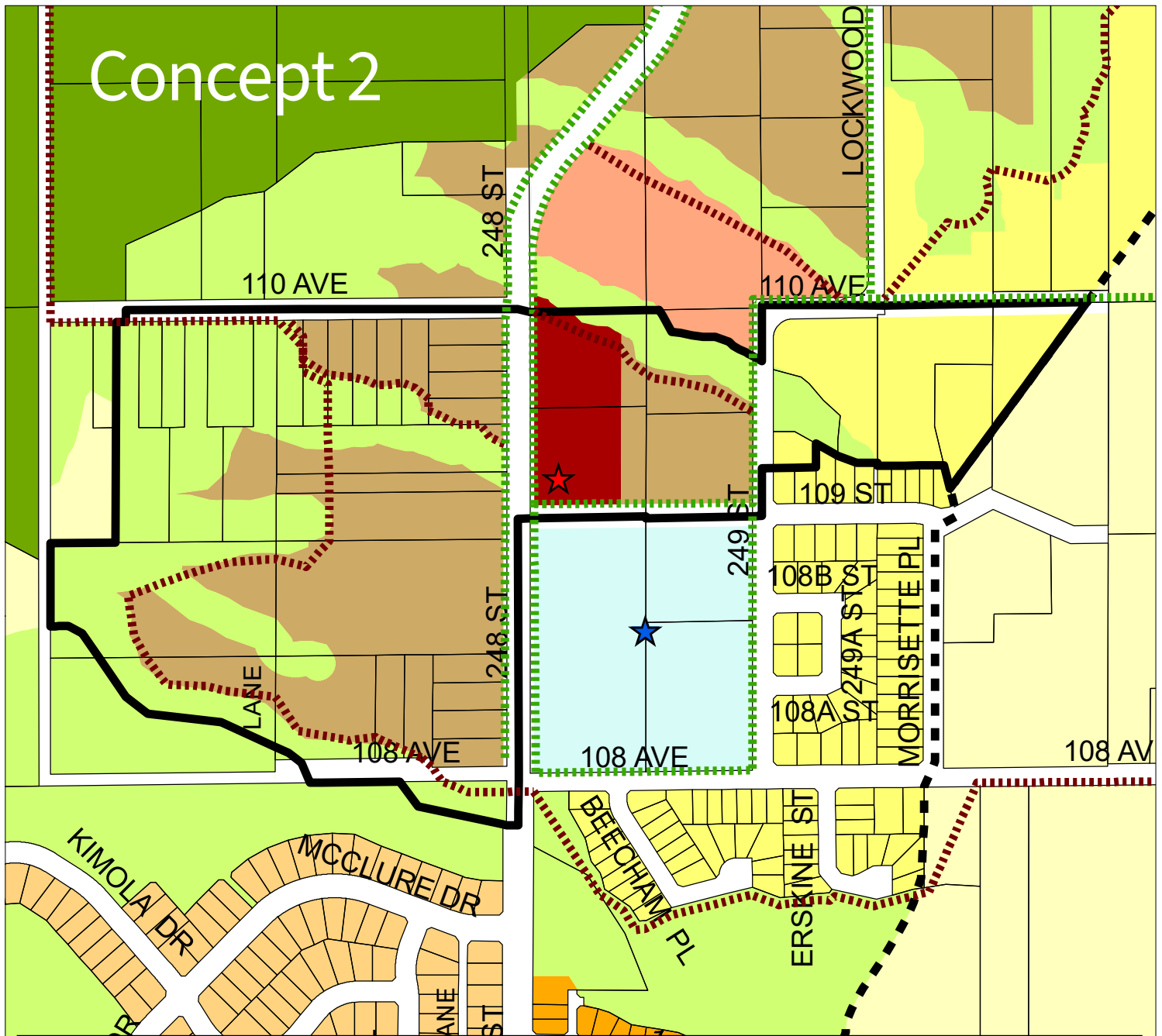
PLANNING DEPARTMENT



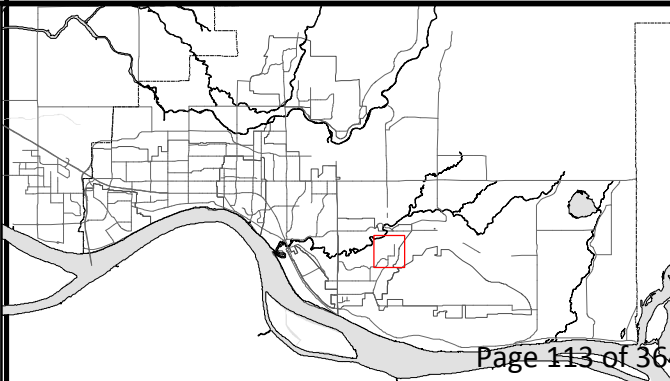
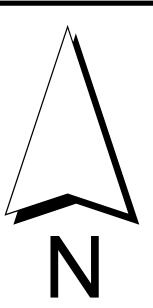
Scale: 1:5,000



# Concept 2



Legend	
Area Under Review	Land Use Not in Area Plan
Gravel Trail	Suburban Residential
Multi-Use Path	Medium Density Residential
Commercial	Cluster Residential
Elementary Park/School	Townhouse
	Single-Family Residential
	Low Density Residential
	Low-Rise Apartment
	Conservation
	Park
	Institutional



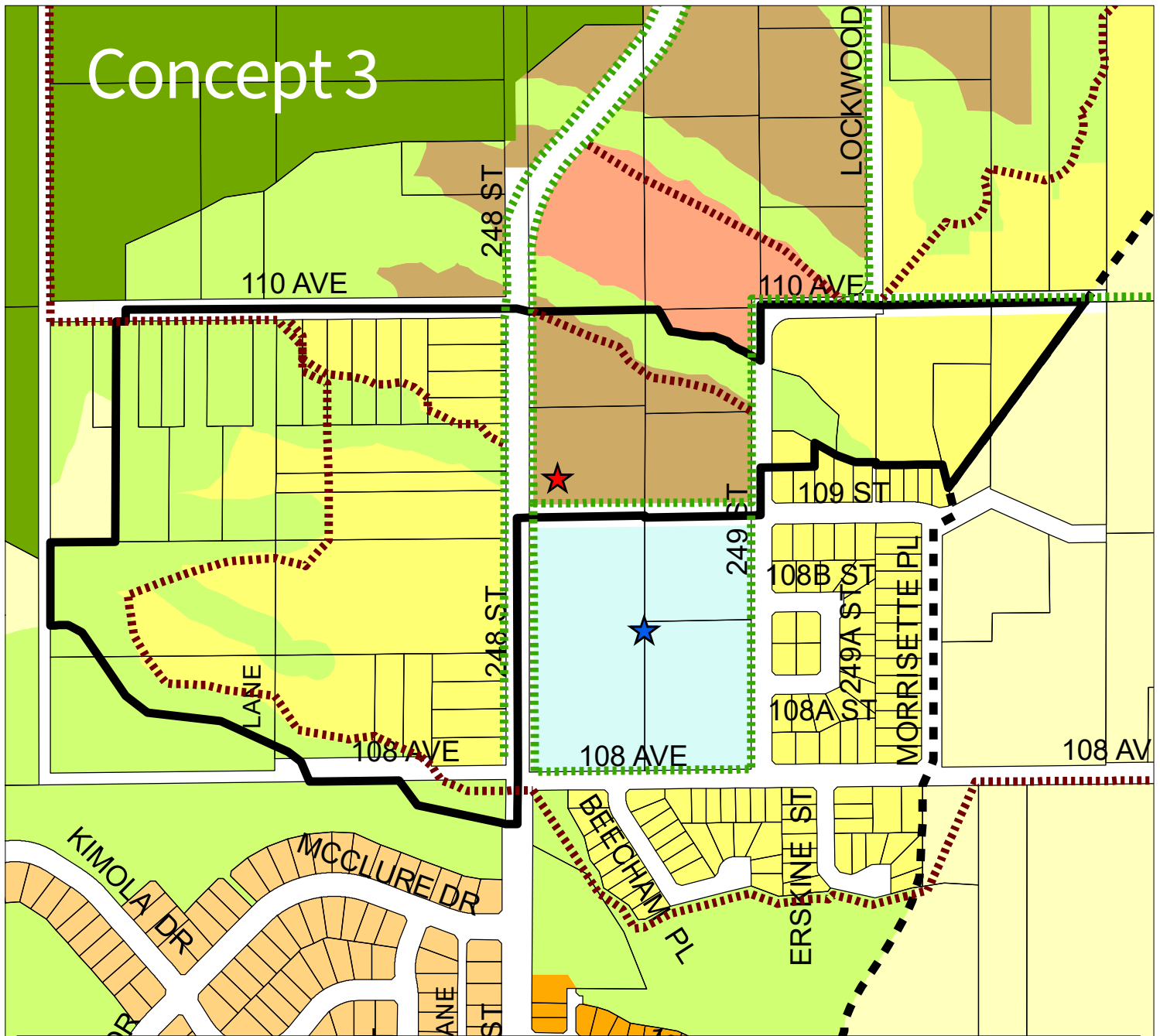
## Area Under Review Proposed Land Use Concept

PLANNING DEPARTMENT



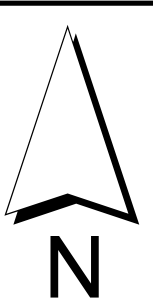
Scale: 1:5,000

# Concept 3

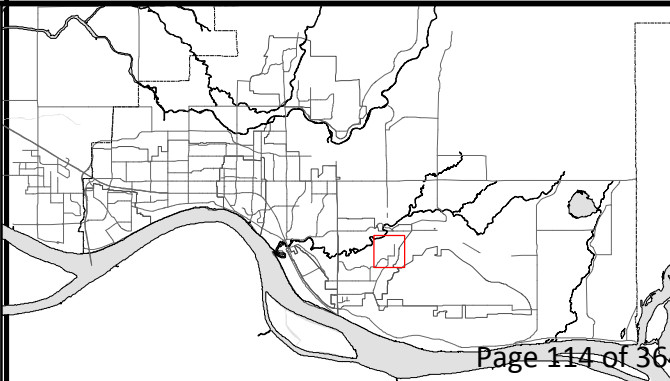


**Legend**

Proposed Trails	Area Under Review	<b>Land Use Not in Area Plan</b>	Low Density Residential	Townhouse
Gravel Trail	Albion Area Plan Boundary	Suburban Residential	Low/Medium Density Residential	Conservation
Multi-Use Path	Commercial	<b>Albion Land Use</b>	Medium Density Residential	Park
	Elementary Park/School	Single-Family Residential	Cluster Residential	Institutional



Scale: 1:5,000



## Area Under Review Proposed Land Use Concept

PLANNING DEPARTMENT



# Maple Ridge

## Attachment B – Infrastructure Capacity Assessment Summary

### Land Use and Demand Assumptions

To initiate the analysis, the range of land use combinations were confirmed as:

- Concept 0 – Existing North East Albion Land Uses
- Concept 1 – Primarily Townhouses
- Concept 2 – Townhouses with an additional area of low-rise apartments.
- Concept 3 – Hybrid Townhouses (fewer townhouses than Concept 1 but more than Existing)

These options align with the Concepts presented in the June 11, 2024, Council Workshop.

Since the initial adoption of the North East Albion Area Plan, there has been a fundamental shift in the planning framework across BC. With the adoption of the regulatory changes to enable Small Scale Multi-Unit Housing (SSMUH legislation, Bill 44), each parcel in the Albion Area is now permitted a density of up to 3 or 4 units per parcel as-of-right.

In short, the assessments related to SSMUH were broken down as follows:

- Partial uptake of SSMUH:
  - Assumes an additional unit per parcel (i.e., 2 units per parcel), which represents a population of 5 people per parcel.
- Full uptake of SSMUH:
  - Assumes full buildout per parcel (i.e., 3 or 4 units), representing a population of 11 people per parcel.

### Cost Estimates for Infrastructure Upgrades

A summary of cost estimates for infrastructure upgrades to accommodate the different densification options and SSMUH buildout assumptions is presented in Table 1. Costs are preliminary, order-of-magnitude estimates and include a 40% contingency. As shown in the table, the costs for Concept 2 are **much higher than the other options. This is due to that Concept's inclusion of apartment land uses**, which would trigger a required expansion of the water reservoir along with a long section of watermain.

Table 1. Infrastructure Cost Estimates (Water & Sewer)

	Existing Land Uses	Concept 1	Concept 2	Concept 3
Partial SSMUH	\$3M	\$3M	\$26M-\$35M	\$3M
Full SSMUH	\$17M	\$17M	\$40M	\$17M

A range of costs is provided for Concept 2 under Partial SSMUH (i.e., \$26M - \$35M). The \$35M includes a \$9M water pump station which may be required to meet capacity requirements. Uncertainty exists regarding the need for additional pump station capacity; predicted water demands for Concept 2 are only 4% higher than the existing pump capacity. This is a small margin given the +/- accuracy and assumption of the level of SSMUH densification and water usage assumptions used in the analysis. The ultimate need for additional pump station capacity will depend on whether actual development and water usage match the assumptions of the analysis or if they trend lower. Water demands are currently less than 50% pump station capacity. The need for pump station upgrades should be reassessed as development in the area progresses.

The cost of individual infrastructure projects required for the different scenarios are provided in Table 2.

**Table 2. Infrastructure Upgrade Requirements**

#	Cost	Project Description	Concepts with Partial SSMUH				Concepts with Full SSMUH			
			0	1	2	3	0	1	2	3
1	\$2M	Sewer pipe: McClure east of 240 <sup>th</sup>					✓	✓	✓	✓
2	\$3M	Sewer pipe: through SRT (245 <sup>th</sup> to Baker Place)					✓	✓	✓	✓
3	\$3M	Water pipe: reservoir supply main twinning	✓	✓	✓	✓	✓	✓	✓	✓
4	\$9M	Water pump station			TBD		✓	✓	✓	✓
5	\$18 M	Water reservoir expansion			✓				✓	
6	\$5M	Water Pipe: 248 St. supply main			✓				✓	

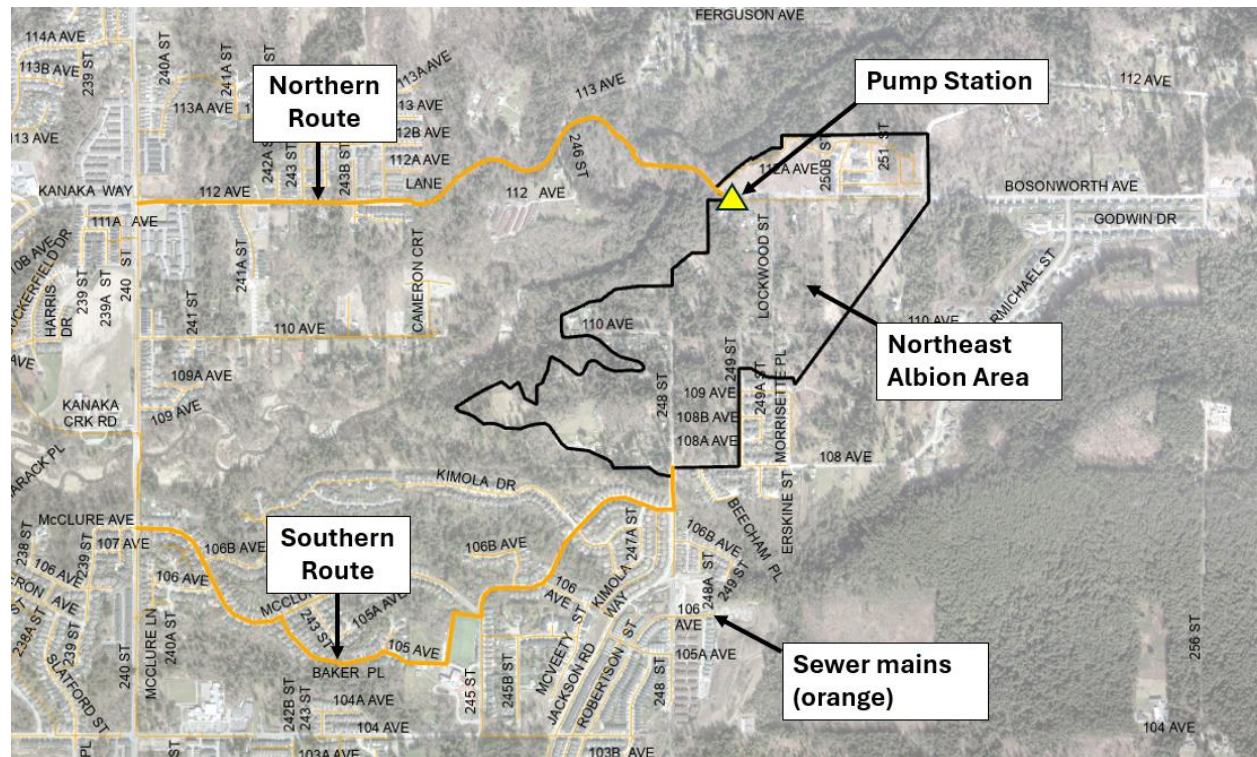
✓ Identifies infrastructure upgrade required

The \$9M water pump station cost estimate assumes land is available for a new pump station building. If land is unavailable, the cost estimate would have to be updated for property acquisition and any additional connective piping.

## Sewage Infrastructure Capacity Assessment

The existing sewage collection system for the area is shown in Figure 1. Infrastructure exists both to the north and south of the North East Albion Area, creating a northern route and a southern route option for sewage flows.

Figure 1. Existing Sewage Collection System



In evaluating sewage infrastructure capacity, all densification options for the North East Albion Area were considered (i.e., Existing Land Uses, Concepts 1, 2, and 3) along with the following development/intensification scenarios:

- 100% densification as permitted by the SSMUH legislation, resulting in 11 people per parcel (i.e., Full SSMUH)
- an assumption whereby all single detached parcels include a secondary suite unit, resulting in 5 people per parcel (i.e., Partial SSMUH).

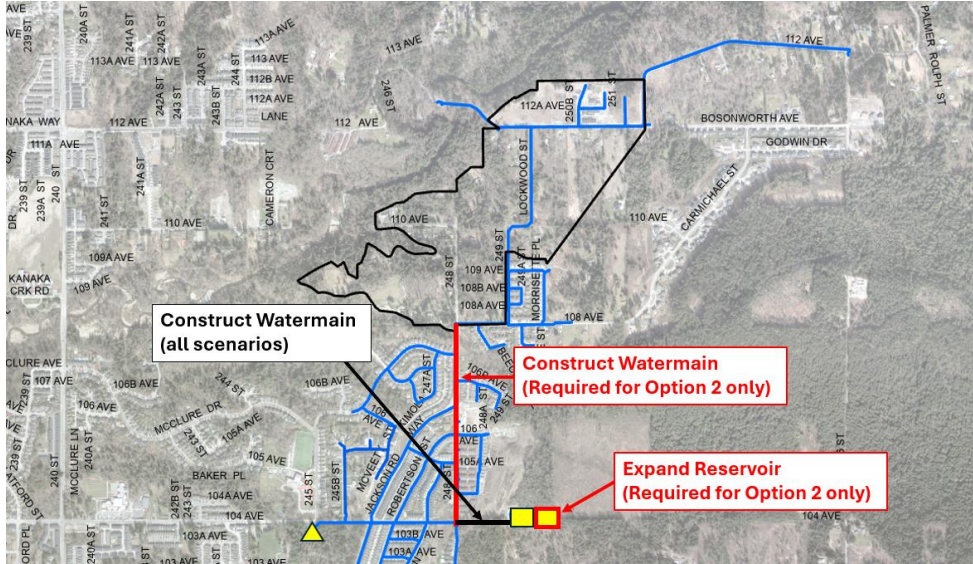
### Partial SSMUH

Under the Partial SSMUH scenario, no sewage system upgrades are required provided that sewage flows from a small portion of the North East Albion Area is directed to the southern route. Different combinations of parcel areas could be assembled to direct sewage flows to the south. If more areas are directed to flow south, sewer upgrades would be required to accommodate densification options.

In conclusion, all densification options can be accommodated without upgrades to the existing sewage infrastructure, provided that a small portion of the North East Albion Area lands is directed to the south.





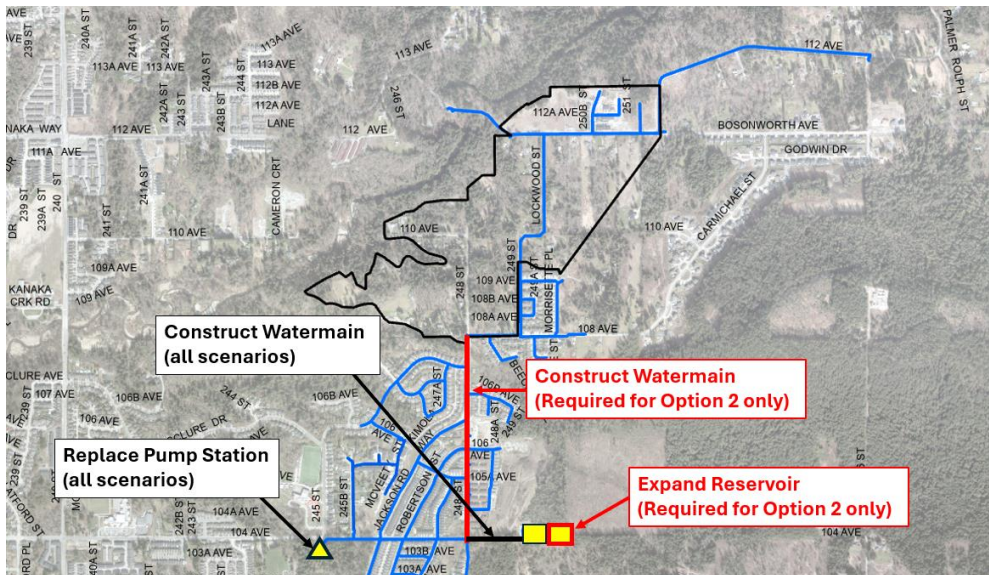


Full SSMUH

Under a Full SSMUH scenario buildout, a new water pump station would be required, along with a short section of water main, for all options including current land uses.

Concept 2 would trigger additional upgrades under the Full SSMUH scenario: i.e., a watermain along 248 Street plus an expansion of the water reservoir, in addition to the pump station and short section of watermain (Figure 5).

Figure 5. Full SSMUH Water Infrastructure Upgrades





## City of Maple Ridge Housing Target Progress Report: July 1 – December 31, 2024

### Recommendation:

**THAT the Housing Target Progress Report as outlined in the report titled “City of Maple Ridge Housing Target Progress Report: July 1-December 31, 2024”, dated February 4, 2025 be received by Council in accordance with the *Housing Supply Act* and Regulation.**

**THAT the Housing Target Progress Report be published on the City’s website and submitted to the Minister of Housing and Municipal Affairs in accordance with the Provincial *Housing Supply Act* and Regulation.**

### Report Purpose and Summary Statement:

In accordance with the Provincial regulation and legislation, the City is required to provide Council with a Housing Target Progress Report, which must be received by Council resolution within 45 days of the end of the reporting period and submitted to the Minister of Housing and Municipal Affairs.

### Strategic Alignment:

Liveable Community

## City of Maple Ridge Housing Target Progress Report: July 1 – December 31, 2024

### BACKGROUND:

The 2022 *Housing Supply Act* (the Act) grants the Province of British Columbia the authority to set housing targets for municipalities. In April 2024, the Province announced the second cohort of municipalities identified for housing target assessment. The City of Maple Ridge was identified within this second cohort of municipalities.

In June 2024, the Province issued a Housing Target Order to the City of Maple Ridge (Attachment A). The Order outlines the estimated housing need and annual housing targets for the City. Received with the Order was supplementary guidance on unit size (bedrooms), tenure (rental and owned), affordability (market and non-market), and supportive rental unit requirements; these are summarized in Attachment B.

The Housing Target is intended to identify the number of net new units required to meet at least 75% of the estimated housing need over the next 5 years. The Province estimates the 5-year housing need for Maple Ridge to be 5,271 residential units, and the Order stipulates that at least 3,954 net new residential units are to be completed (where “completed” is understood to be “move in ready”) by June 30, 2029.

To evaluate the City’s progress, the Housing Target Order includes annual targets and reporting requirements over the next five years. The reporting periods are as shown in Table 1.

**Table 1. Housing Targets Progress Reporting Timeline**

Reporting Period	Report Due to the Province
1.1: July 1, 2024 - December 31, 2024	February 14, 2025
1.2: July 1, 2024 – June 30, 2025	August 14, 2025
2: July 1, 2025 – June 30, 2026	August 14, 2026
3: July 1, 2026 – June 30, 2027	August 14, 2027
4: July 1, 2027 – June 30, 2028	August 14, 2028
5: July 1, 2028 – June 30, 2029	August 14, 2029

Reports will be evaluated by the Province based on performance indicators. These include both the progress towards meeting the annual cumulative housing target, as well as actions taken by the municipality toward meeting the annual target, such as the number of applications in progress, adoption of policies and initiatives, and updated land use planning documents.

The City’s target for Year 1 is 612 completed (i.e., “move in ready”) net new residential units. The first reporting period is from July 1, 2024 – December 31, 2024, which is halfway through Year 1. The cumulative housing targets are then broken down by yearly requirements, as shown in Table 2.

**Table 2. Cumulative Housing Targets – Maple Ridge**

Reporting Period	Annual Target	Cumulative Total
Year 1	612	612
Year 2	672	1,284
Year 3	800	2,084
Year 4	841	2,925
Year 5	1,029	3,954

This report summarizes the housing target interim results and discusses the qualitative and quantitative actions being taken by the City to improve housing diversity and streamline development application processes.

**DISCUSSION:**

The first interim progress report is intended to provide the Province with an early indication of a municipality’s ability to meet or make progress toward achieving its housing targets. The Housing Target Progress Report Form that has been prepared by staff and will be submitted to the Province is included in Attachment C, with key highlights summarized below.

**Housing Target Order – Interim Report:**

Between July 1 and December 31, 2024, based on current reports, a total of 376 net new residential units were completed (i.e., “move in ready”) in Maple Ridge. This number is the total of new units (i.e., 400 residential units) minus the number of demolished units (i.e., 24 units) from that figure. These net new units are the result of both development and building approvals and position the municipality well, at approximately 61%, to meet the first-year housing targets of 612 by June 30, 2025.

For the purposes of the Housing Target Order report, the Province only considers a unit as ‘new’ when it has received authorization for occupancy through the building permit process.

It is important to note that projects reaching completion in 2024 are applications that began construction prior to the issuance of the Housing Target Order. These projects have worked their way through the municipal approvals and permitting processes and were approved over the last few years. Therefore, these initial years of Progress Reports, while important in establishing a baseline, are a measure of previous policy decisions and applications already in the City’s development pipeline. The impact of policy changes made today, and projects approved this year, will not reach completions until the later years of the Target Order timeline and will be reflected in future Progress Reports.

### Housing Target Order – Progress Report:

The progress reporting requirements are intended to capture the number of units within the entire pipeline, from development applications to building permits. Table 3 outlines the number of Rezoning Applications, Development Permit Applications and Building Permit Applications that are within the development pipeline, but not yet move in ready. Approved Building Permits could potentially be move in ready within the 2025-2026 time horizon.

**Table 3. Approved Development Applications**

	Rezoning	Development Permit	Building Permit	Total
<b>Applications</b>	3	5	39	47
<b>New Units</b>	33	52	114	199

For context, the City currently has over 150 rezoning applications and over 400 building permit applications in process at various stages, noting that the City also recently transitioned to a combined first and second reading approach for rezoning applications.

Additionally, the Province also requires municipalities to track any building permits, development permits and rezoning applications withdrawn or not-approved. Within the City of Maple Ridge, there were a total of 18 applications (all types) withdrawn and 1 development permit application not approved. This resulted in a possible 299 residential dwelling units that were either withdrawn or not approved during the six-month reporting period, according to current calculations. See Table 4 for the number of applications by type that were Withdrawn or Not Approved.

**Table 4. Withdrawn and Not-Approved Applications**

File Type	Withdrawn		Not Approved	
	Applications	Proposed Units	Applications	Proposed Units
Rezoning	9	175	0	N/A
Development Permit	1	12	1	48
Subdivision	5	60	0	N/A
Building Permit	3	3	0	0
<b>Total</b>	<b>18</b>	<b>250</b>	<b>1</b>	<b>48</b>

In the last six months, the City has completed or is working towards the following additional actions that will help to meet the Housing Target and its disaggregate elements over the coming years:

- Amended the City's Zoning Bylaw to align with the requirements of Small Scale Multi Unit Housing (Bill 44) and Transit Oriented Areas (Bill 47).
- Amending the City's Official Community Plan to align with the requirements of Small Scale Multi-Unit Housing (Bill 44) and Transit Oriented Areas (Bill 47).
- Conducted and finalized an updated Housing Needs Assessment.
- Updated the City's Housing Strategy and Housing Action Plan.

- Updating the processes involved in the Development Services Function, from Pre-Application Meeting to Building Permit.
- Developing pre-approved site plans for a range of housing types to facilitate 'Missing Middle' type of developments.
- Launched a Development Services Optimization Initiative to improve the efficiency, clarity and accessibility across all aspects of the development process including:
  - Streamlining digital processes for development
  - Aligning development-related bylaws, policies, and procedures
  - Creating better guidance documents for developers
  - Digitizing development application processes.

### **Provincial Guidance on Unit Breakdown – Tenure, Affordability, and Unit Mix:**

In addition to an overall supply target, the Province also included unit breakdown categories that are to be used as guidance: tenure, affordability, supportive housing units, and unit mix (Attachment B). The Province has encouraged municipalities to strive toward meeting and monitoring the unit breakdown wherever possible. For the City, this data is not available for the Interim Progress Report but steps are being taken to have these types of information available for future reporting periods.

### **Tenure Mix and Unit Size:**

The Province has provided further guidance that 34.5% of new units are to be designated for rental, with the remaining 64.5% to be slated for ownership (Attachment B), and that the unit mix should include 46.4% of all units to have 2 or more bedrooms, and 27.5% are to have 3-bedrooms. Again, this data is not readily available for the Interim Progress Report but will be available for future reporting periods.

### **Data Collection:**

The attached Housing Target Progress Report Form (Attachment C) summarizes housing completions (i.e., occupancy permits issued), demolitions, approvals, and development applications withdrawn over the interim reporting period, from July 1 – December 31, 2024. Completions and approvals are separated by unit size, tenure, and rental affordability. This document will form the submission to the Ministry of Housing and Municipal Affairs subject to Council's direction.

### **Considerations for Progress Reporting:**

Municipalities have identified that there are many factors that directly impact the supply and capacity for new housing. This includes such factors as federal, provincial, and municipal regulations and approvals, of which the City of Maple Ridge only controls municipal. Key considerations also include infrastructure (i.e., water, sanitary, storm and private), environmental concerns, local and provincial services (e.g., child care, schools and hospitals), land ownership and tenure, and market related factors (e.g., interest rates, labour availability).

While the City has the ability to approve projects and expedite processes, the timing for construction and completion of housing units is primarily dependant on factors beyond the City's control, including: the housing market, capacity of the construction sector, inflationary pressures, access to funding, and financing for market and non-market developers. Making meaningful progress towards project completion requires coordinated efforts by all levels of government and various sectors of the economy.

### **NEXT STEPS:**

The Housing Target Order mandates that Progress Reports must be received by Council resolution within 45 days of the end of the reporting period. For this reporting period, Council's resolution must be provided on or before February 15, 2025 (45 days from December 31, 2024). The Progress Report must then be posted to the City's website and submitted to the Minister as soon as practicable.

### **CONCLUSION:**

In the first six months of the City's provincial Housing Target Order, 376 net new units were completed, representing over 61% of the first-year target. This positions the City well to meet its one-year housing target of 612 units by June 30, 2025. It is recommended that the Housing Target Progress Report Form detailing this information be submitted to the Province to meet the requirements of the Provincial Housing Target Order.

"Annie Slater-Kinghorn"

---

Prepared by: Annie Slater-Kinghorn, Community  
Planner

- Attachments:**
- (A) Provincial Housing Target Order and Reporting Requirements
  - (B) Provincial Guidance – Unit Breakdown Categories (Summary)
  - (C) Housing Target Progress Report Form

## Report Approval Details

Document Title:	Provincial Housing Target Order - Six-Month Interim Progress Report.docx
Attachments:	- Attachment A - Provincial Housing Target Order and Reporting Requirements.pdf - Attachment B - Provincial Guidance - Unit Breakdown Categories (Summary).docx - Attachment C - Housing Target Progress Report Form.docx
Final Approval Date:	Jan 30, 2025

This report and all of its attachments were approved and signed as outlined below:

Amanda Grochowich, Manager of Community Planning

James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

Scott Hartman, Chief Administrative Officer

PROVINCE OF BRITISH COLUMBIA

ORDER OF THE MINISTER OF HOUSING

*Housing Supply Act*

Ministerial Order No. M204

WHEREAS


- A. The minister has, prior to making this Housing Target Order, considered the information set out in section 3 (1) *Housing Supply Act*, SBC 2022, c.38, in relation to the City of Maple Ridge.
- B. In accordance with section 3(2) and (3) *Housing Supply Act*, SBC 2022, c. 38, the minister has consulted with the City of Maple Ridge regarding this housing target order.
- C. The minister has:
  - i. provided a description of the proposed Housing Target Order to the City of Maple Ridge.
  - ii. in accordance with section 4(1), Housing Supply Regulation, B.C. Reg. 133/2023, provided the City of Maple Ridge an opportunity to provide written comments to the minister.
- D. An extension to the consultation period, if any, granted by the minister to the City of Maple Ridge, pursuant to section 4(2), Housing Supply Regulation, Reg. 133/2023, has elapsed.

NOW THEREFORE Pursuant to section 2, *Housing Supply Act*, SBC 2022, c. 38, the Minister of Housing orders as follows:

- 1. A housing target order is made for the City of Maple Ridge, effective July 1, 2024 (the “**Effective Date**”).
- 2. The housing targets for the City of Maple Ridge under this housing target order are set out in the attached **Schedule A** (*Housing Targets*).
- 3. The performance indicators by which progress by the City of Maple Ridge toward meeting each housing target is to be assessed are described in the attached **Schedule B** (*Performance Indicators*).
- 4. This Housing Target Order begins on the Effective Date and ends on June 30, 2029 (the “**End Date**”).

June 25, 2024

\_\_\_\_\_  
*Date*

  
\_\_\_\_\_  
*Minister of Housing*

---

*(This part is for administrative purposes only and is not part of the Order.)*

**Authority under which Order is made:**

Act and section: *Housing Supply Act*, S.B.C. 2022, c. 38, s 2

Other: Housing Supply Regulation, B.C. Reg. 133/2023



5. The City of Maple Ridge must prepare and submit a housing target progress report at the intervals set out in the attached **Schedule C** (*Housing Targets Progress Reporting*).

**SCHEDULE A**  
**Housing Targets**

1. The five-year housing target for City of Maple Ridge is **3,954 units**, which is the total minimum number of net new completed housing units required to comply with this Provincial Housing Target Order.
2. The above housing targets reflect 75% of total Provincial Housing Needs Estimate for City of Maple Ridge.
3. For each Progress Reporting Period as set out in Schedule C, the annual cumulative number of net new housing units will be measured as follows:
  - a. Year 1: 612
  - b. Year 2: 1,284
  - c. Year 3: 2,045
  - d. Year 4: 2,925
  - e. Year 5: 3,954

**SCHEDULE B**  
**Performance Indicators**

1. The performance indicators to measure annual progress toward achieving the housing target are set out in Table 1 and are based on:
  - a. Progress toward achieving the annual cumulative housing target; and
  - b. Actions taken by the municipality toward meeting the annual housing target.

**Table 1 - Performance Indicators**

<b>Category</b>	<b>Performance Indicator</b>	<b>Data to Measure</b>
<b>Annual cumulative housing target</b>	Satisfactory progress to meet annual cumulative housing target, measured by completed net new housing units.	Total number of net new housing units (completions minus demolitions) during the reporting period.
<b>Actions taken by the municipality toward meeting the annual cumulative housing target</b>	<p>Satisfactory progress demonstrated by:</p> <ol style="list-style-type: none"> <li>1. Update of land use planning documents to align with housing targets;</li> <li>2. Adoption of policies and initiatives to meet housing targets; and</li> <li>3. Residential approvals complete and/or in progress that met or will meet housing targets.</li> </ol>	<ol style="list-style-type: none"> <li>1. Relevant information about updates to land use planning documents such as the Official Community Plan, Zoning Bylaw, Housing Needs Report, Housing Action Plan/Strategy (other documents, e.g., Strategic Plan) including date of last update, and related policies that align with achieving annual housing targets.</li> <li>2. Description of new/amended bylaws and policies, innovative approaches, and pilot projects undertaken to achieve housing targets.</li> <li>3. The number of applications received and permits issued in relation to residential development such as development, building and rezonings.</li> </ol>

**SCHEDULE C**  
**Housing Targets Progress Reporting**

The City of Maple Ridge must receive the progress report by resolution within 45 days of the end of the reporting period:

- Reporting Period 1.1: July 1, 2024 – December 31, 2024
- Reporting Period 1.2: July 1, 2024 – June 30, 2025
- Reporting Period 2: July 1, 2025 – June 30, 2026
- Reporting Period 3: July 1, 2026 – June 30, 2027
- Reporting Period 4: July 1, 2027 - June 30, 2028
- Reporting Period 5: July 1, 2028 – June 30, 2029

Progress Report Forms must be posted to the municipal website and submitted to the Minister as soon as practicable after being received.

Provincial Guidance – Unit Breakdown Categories (2024-2029)

Unit Category		5 Year Target	Year 1 Target	Share of Total Units (%)
Total units - TARGET		3,954	612	100
<i>GUIDANCE</i>				
Units by Size	Studio & 1-bed	2,121 (1 Bedroom Minimum 874)	328	53.6%
	2 bed	747	116	18.9%
	3+ bed	1,086	168	27.5%
Units by Tenure	Rental	1,366	214	34.5%
	Owned	2,587	398	65.4%
Rental Units by Affordability	Market	664	103	16.8%
	Below-Market	702	109	17.8%
Below-Market Rental Units	With On-Site Supports	72	11	1.8%

**PURPOSE**

Municipalities will use this form to complete the requirements for progress reporting under the [Housing Supply Act](#) (Act). The information provided will be evaluated to determine whether targets have been met or satisfactory progress has been made toward meeting targets.

**REPORT REQUIREMENTS**

The report must contain information about progress and actions taken by a municipality to meet housing targets as identified in the Housing Target Order (HTO).

The progress report must be received in a meeting that is open to the public and by Council resolution within 45 days after the end of the reporting period.

Municipalities must submit this report to the minister and post it to their municipal website as soon as practicable after it is approved by Council resolution.

**ASSESSMENT**

The Housing Targets Branch evaluates information provided in the progress report based on Schedule B - Performance Indicators in the HTO. If targets have not been met and satisfactory progress has not been made, the Minister may initiate compliance action as set out in the Act.

**REPORT SUBMISSION**

Please complete the attached housing target progress report form and submit to the Minister of Housing at [Housing.Targets@gov.bc.ca](mailto:Housing.Targets@gov.bc.ca) as soon as practicable after Council resolution.

**Do not submit the form directly to the Minister's Office.**



**HOUSING TARGET PROGRESS REPORT FORM**

Housing Targets Branch  
BC Ministry of Housing and Municipal Affairs

Section 1: MUNICIPAL INFORMATION	
<b>Municipality</b>	City of Maple Ridge
<b>Housing Target Order Date</b>	June 26, 2024
<b>Reporting Period</b>	July 1, 2024-December 31, 2024
<b>Date Received by Council Resolution</b>	TBC
<b>Date Submitted to Ministry</b>	TBC
<b>Municipal Website of Published Report</b>	<a href="#">Housing   Maple Ridge, BC</a>
<b>Report Prepared By</b>	<input checked="" type="checkbox"/> Municipal Staff <input type="checkbox"/> Contractor/External
<b>Municipal Contact Info</b>	James Stiver, Director of Building, Planning and Development jstiver@mapleridge.ca 604-467-7471
<b>Contractor Contact Info</b>	<input checked="" type="checkbox"/> N/A

**Section 2: NUMBER OF NET NEW UNITS**

Record the number of net new housing units delivered during the reporting period, and cumulatively since the effective date of the HTO. Net new units are calculated as completions (occupancy permits issued) minus demolitions. Legalizing existing unpermitted secondary suites or other housing types does not count toward completions.

**Section 8 must be completed if a housing target has not been met for the reporting period.**

	<b>Completions</b> (Reporting Period)	<b>Demolitions</b> (Reporting Period)	<b>Net New Units</b> (Reporting Period)	<b>Net New Units</b> (Since HTO Effective Date)
<b>Total</b>	400	24	376	376

**Section 3: NUMBER OF HOUSING UNITS BY CATEGORY AND TYPE (Unit Breakdown Guidelines)**

Record the number of housing units in each category below for the reporting period and cumulatively since the effective date of the HTO. Definitions are provided in the endnote.

	<b>Completions</b> (Reporting Period)	<b>Demolitions</b> (Reporting Period)	<b>Net New Units</b> (Reporting Period)	<b>Net New Units</b> (Since Effective HTO Date)
--	--	--	--	--

**Units by Size**

Studio	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.			
One Bedroom				
Two Bedroom				
Three Bedroom				
Four or More Bedroom <sup>1</sup>				

<b>Units by Tenure</b>	
Rental Units <sup>2</sup> – Total	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.
Rental – Purpose Built	
Rental – Secondary Suite	
Rental – Accessory Dwelling	
Rental – Co-op	
Owned Units	
<b>Units by Rental Affordability</b>	
Market	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.
Below Market <sup>3</sup> - Total	
Below Market - Rental Units with On-Site Supports <sup>4</sup>	

#### **Section 4: MUNICIPAL ACTIONS AND PARTNERSHIPS TO ENABLE MORE HOUSING SUPPLY**

**A)** Describe applicable actions taken in the last 12 months to achieve housing targets, in line with the Performance Indicators in the HTO. Each entry should include a description of how the action aligns with achieving the housing target, the date of completion, and links to any publicly available information. For example:

- Streamlined development approvals policies, processes or systems.
- Updated land use planning documents (e.g., Official Community Plan, zoning bylaws).
- Updated Housing Needs Report.
- Innovative approaches and/or pilot projects.
- Partnerships (e.g., BC Housing, CMHC, or non-profit housing organizations except First Nations – see Section 4 B).
- Other housing supply related actions.

1. Amended the City’s Zoning Bylaw to align with the requirements of Small Scale Multi Unit Housing (Bill 44) and Transit Oriented Areas (Bill 47)
2. Amending the City’s Official Community Plan to align with the requirements of Small Scale Multi-Unit Housing (Bill 44) and Transit Oriented Areas (Bill 47)
3. Conducted and finalized an updated Housing Needs Assessment.
4. Updated the City’s Housing Strategy and Housing Action Plan.
5. Review of land uses within certain Area Plans.
6. Updating the processes involved in the Development Services Function, from Pre-Application Meeting to Building Permit.
7. Developing pre-approved site plans for a range of housing types to facilitate ‘Missing Middle’ type of developments.



8. Launched a Development Services Optimization Initiative to improve the efficiency, clarity and accessibility across all aspects of the development process including:
- Streamlining digital processes for development
  - Aligning development-related bylaws, policies, and procedures
  - Creating better guidance documents for developers
  - Digitizing development application processes

**B)** Please provide any information about First Nation partnerships and/or agreements including planning, servicing and infrastructure that support delivery of housing on First Nation land including delivered and/or projected housing units.

No applicable information to share at this time.

### Section 5: APPROVED HOUSING DEVELOPMENT APPLICATIONS

Report the number of approved applications issued by type since the effective date of the HTO. Each project should only be recorded once for the **most current** application type. Provide the estimated number of net new housing units to be delivered for each application category.

NOTE: units issued occupancy permits should be recorded in Section 2.

	Rezoning	Development Permit	Building Permit	Total
<b>Applications</b>	3	5	39	47
<b>New Units</b>	33	52	114	199

#### Unit Breakdown

##### Units by Size

Studio	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.
One Bedroom	
Two Bedroom	
Three Bedroom	
Four or More Bedroom	

##### Units by Tenure

Rental Units <sup>2</sup> – Total	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.
Rental – Purpose Built	
Rental – Secondary Suite	
Rental – Accessory	

Dwelling	
Rental – Co-op	
Owned Units	
<b>Units by Rental Affordability</b>	
Market	The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Year 1- Housing Targets Progress Report.
Below Market <sup>3</sup> - Total	
Below Market - Rental Units with On-Site Supports <sup>4</sup>	

**Section 6: WITHDRAWN OR NOT APPROVED HOUSING DEVELOPMENT APPLICATIONS**

**A)** Indicate the number of applications and the estimated number of proposed units withdrawn by applicants, and /or not approved by staff or Council during this reporting period. Please include rezoning applications, development permits, and building permits.

	<b>Applications Withdrawn</b>	<b>Applications Not Approved</b>
<b>Applications</b>	Rezoning: 9 Development Permit: 1 Subdivision: 5 Building Permit: 3 Total: 18	Rezoning: 0 Development Permit: 1 Subdivision: 0 Building Permit: 0 Total: 1
<b>Proposed Units</b>	Rezoning: 175 Development Permit: 12 Subdivision: 60 Building Permit: 3 Total: 250	Rezoning: N/A Development Permit: 48 Subdivision: N/A Building Permit: 0 Total: 48

**B)** Provide a description of each application (e.g., rezoning, development permit, building permit) and brief summary of why each project was withdrawn or not approved.

Primarily, withdrawals are initiated by the applicants. The City may cancel an application or permit if an applicant is non-responsive or if fees remain unpaid for an extended period of time.

A number of the Rezoning Withdrawals within the last 6 months were due to the applicant intending to re-submit an application under the densities enabled through Bill 44.

Council denied one application during the reporting period, due to concerns with density and emergency access. The applicant has resubmitted an application taking into consideration Council's comments.

Application/Permit Type	Work Description	Reason for Withdrawal
Rezoning Application (RZ)	Townhouses	Lack of activity
Rezoning Application (RZ)	Single detached dwelling	Applicant requested application to be withdrawn
Rezoning Application (RZ)	Medium-density apartments	Applicant requested application to be withdrawn
Rezoning Application (RZ)	Single detached dwelling	Incomplete application, lack of activity
Rezoning Application (RZ)	Single detached dwelling	Lack of activity
Rezoning Application (RZ)	Triplex	Applicant requested application to be withdrawn
Rezoning Application (RZ)	Duplex	Applicant requested application to be withdrawn
Rezoning Application (RZ)	Courtyard	Unpaid fees, lack of activity
Rezoning Application (RZ)	Duplex	Applicant requested application to be withdrawn
Development Permit (DP)	Townhouses	Lack of activity
Development Permit (DP)	Townhouses	Council did not support - density and location
Building Permit (BP)	Basement finish – new suite	Applicant requested application to be withdrawn
Building Permit (BP)	Basement finish – new suite	Applicant requested application to be withdrawn
Building Permit (BP)	Basement finish – new suite	Applicant requested application to be withdrawn

**Section 7: OTHER INFORMATION**

Provide any other information not presented above that may be relevant to the municipality's effort and progress toward achieving the housing target.

The City is committed to maintaining transparency and accountability regarding its housing initiatives. As part of this commitment, the City provides quarterly updates on progress related to initiatives supporting its housing targets. These updates aim to inform residents, stakeholders, and developers of key advancements in achieving housing goals. The most recent updates can be found here: [Community Dashboard](#)

Council has approved amendments to strategic housing targets to align with the provincial methodology and reporting. The City remains unified with the Province in increasing the supply of housing in our community and is making every effort to achieve targets.

To further support the achievement of housing targets, the City has launched a Development Services Optimization Initiative. This initiative focuses on improving efficiency, clarity, and accessibility across all aspects of the development process. Key objectives include:

- Streamlining digital processes for development: Enhancing the efficiency of digital tools to simplify and expedite development workflows.
- Aligning development-related bylaws, policies, and procedures: Ensuring consistency across municipal regulations to reduce barriers to development.
- Creating better content for developers: Developing clear, user-friendly resources to assist developers in navigating the municipal development approvals process.
- Digitizing development application processes: Transitioning to fully digital systems for development applications to improve processing times and tracking capabilities.

The City is implementing enhancements to its processes and systems throughout Q1 2025 to enable the integration of supplementary reporting data into the Housing Targets Progress Report. These

enhancements will allow for more comprehensive and accurate reporting, further supporting transparency and informed decision-making.

In addition to expediting development approvals, the City is actively exploring methods to increase demand for development in Maple Ridge. This includes evaluating the feasibility of incentive programs designed to attract developers and encourage investment in housing projects. Such programs could complement existing efforts by fostering a more competitive and appealing development environment.

The data submitted for the interim reporting period reflects new processes for reporting data. The first full year report will reflect a more refined methodology and therefore slight variations are anticipated.

**Section 8: SUMMARY OF PLANNED ACTIONS TO MEET TARGETS**

**If the housing target has not been met for the reporting period**, please provide a summary of planned and future actions in line with the Performance Indicators that the municipality intends to take to meet housing targets during the two-year period following this report. For each action, provide:

- a description of how the action aligns with achieving the housing target;
- dates of completion or other major project milestones;
- links to any publicly available information; and
- the number of units anticipated by completing the action.

**NOTE: THIS SECTION IS NOT APPLICABLE FOR INITIAL SIX-MONTH REPORTING.**

<b>Name of Action:</b>	
Description of Action:	
Completion/Milestone Date:	
Link:	Number of Units:
<b>Name of Action:</b>	
Description of Action:	
Completion/Milestone Date:	
Link:	Number of Units:
<b>Name of Action:</b>	
Description of Action:	



**HOUSING TARGET PROGRESS REPORT FORM**

Housing Targets Branch  
BC Ministry of Housing and Municipal Affairs

<b>Completion/Milestone Date:</b>	
<b>Link:</b>	<b>Number of Units:</b>
<i>*Copy/Paste above description tables as needed</i>	

<sup>1</sup> If needed due to data gaps, it is acceptable to report "Three Bedroom" and "Four or More Bedroom" as one figure in the "Three Bedroom" row.

<sup>2</sup> **Rental Units** include purpose built rental, certain secondary rentals (secondary suites, accessory dwellings) and co-op.

<sup>3</sup> **Below Market Units** are units rented at or below 30% of the local Housing Income Limits (HIL) per unit size.

<sup>4</sup> **Below Market Rental Units with On-Site Supports** are units rented at the Income Assistance Shelter rate providing permanent housing and on-site supports for people to transition out of homelessness.

DRAFT

## Zero Carbon Step Code Implementation

### Recommendation:

- 1) **THAT Council endorse the introduction of Zero Carbon Step Code.**
- 2) **THAT *Maple Ridge Building Amending Bylaw No. 8018-2025* be given first, second and third readings.**

### Report Purpose and Summary Statement:

The purpose of this report is to provide Council with update of the Zero Carbon Step Code and a recommended amendment to Maple Ridge Building Bylaw No. 6925- 2012, to enable Zero Carbon Step Code

### Previous Council Action:

Council was presented information on Zero Carbon Step Code on May 28, 2024 and directed staff to bring forward an amendment to the Maple Ridge Building Bylaw No. 6925- 2012 for adoption of the Zero Carbon Step Code for all residential buildings.

### Financial Impact:

No funding is being requested at this time. The City has been approved for funding from BC Hydro to support builder and staff training for the implementation of Zero Carbon Step Code. A separate funding request will be presented to Council if additional funding is required.

### Strategic Alignment:

Climate Leadership & Environmental Stewardship

### Climate Impact:

Adoption of Zero Carbon Step Code would result in greenhouse gas reductions, increase energy efficiency, improve indoor air quality, address mandatory cooling requirements to reduce health risks of extreme temperature for residential buildings, and would assist in meeting climate emission reduction targets.

### Communications:

Pending Council's decision, a program marketing strategy will be developed including training and education workshops for key interest holders in the building and development community.

### Applicable Legislation/ Bylaw/Policy:

Maple Ridge Building Bylaw No. 6925 – 2012;  
British Columbia Building Code;  
British Columbia Building Act

**To:** Mayor and Council

**File number:** [3900.00]

## **Zero Carbon Step Code Implementation**

### **BACKGROUND:**

The BC Zero Carbon Step Code (ZCSC) is a provincial regulation enacted through the BC Building Code to decarbonize (the process of reducing or eliminating the carbon dioxide emissions that contribute to climate change from a building's energy sources) in new buildings. ZCSC uses an incremental approach to introducing higher building performance requirements to achieve zero carbon buildings by 2030. A complete background on ZCSC is provided as Attachment A .

The Mayor's Taskforce on Climate Action (MTCA) was provided an overview of the components of the Zero Carbon Step Code (ZCSC), examples of implications and implementation from municipalities in the Metro Vancouver Region and the interior of British Columbia. As a result of the discussion, the MTCA recommended that the City adopt ZCSC EL-3 Strong Carbon by Q1 2025 and EL-4 Zero Carbon by Q1 2026 for residential buildings only and that staff bring forward to Council a roadmap for the implementation of the ZCSC for Residential Part 3 and Part 9 buildings.

At Council Workshop on May 28, 2024, Council was presented a proposed roadmap for the implementation of the ZCSC following engagement and consultation with the local development community, utility providers and building industry organizations. Given the feedback from the development community, it was recommended that the implementation timeframe be shifted to early Q3 2025 for EL-3 and Q4 2026 for EL-4, as noted in Attachment B. The adjusted timeframe enabled the City to join the first provincial Zero Carbon Step Code Implementation cohort while still maintaining the six-month period from bylaw adoption to regulation enforcement, as recommended by the Province's best practice guide.

The following report provides an overview of the ZCSC, actions taken since direction was provided by Council, and a proposed amendment to the Maple Ridge Building Bylaw No. 6925 – 2012 with timelines to adopt ZCSC in Maple Ridge

### **ANALYSIS:**

#### **Carbon Emissions in Buildings**

Through the development of the Maple Ridge Climate Action Plan, it has been identified that buildings accounted for 34% or 168,698 tonnes CO<sub>2</sub>e of the gross 2022 community greenhouse gas emissions in Maple Ridge; 29%, or 142,798 tonnes CO<sub>2</sub>e of those are in residential buildings (homes and multi-floor dwellings). Reducing emissions in existing buildings and constructing new buildings that are more energy efficient and zero carbon are critical steps to reducing community emissions. To date, efforts to reduce energy use and emissions in homes in BC has largely been targeted to new homes through the development of the BC Energy Step Code (for energy efficiency) and Zero Carbon Step Code (for decarbonization).

## **Zero Carbon Step Code**

The Zero Carbon Step Code (ZCSC) is a provincial BC Building Code standard introduced in the BC Building Code May 2023 update which sets greenhouse gas emissions targets for new buildings. Local governments can opt-in by referencing the standard in their building or zoning bylaws and may apply different carbon performance levels, with increasing requirements.

The four carbon performance or “emissions levels” (EL) of the ZCSC are:

- Measure-only (EL-1): requires measuring a building’s emissions without reductions and is intended to build knowledge and capacity.
- Moderate Carbon Performance (EL-2): in most cases, will require fuel switching/electrification of either space heating or domestic hot water systems.
- Strong Carbon Performance (EL-3): in most cases, will require fuel switching/electrification of both space heating and domestic hot water systems; and
- Zero Carbon Performance (EL-4): in most cases, will require the full electrification of a building.

## **Enacting Zero Carbon Step Code Requirements**

The provincial government has indicated that Zero Carbon (EL-4) would be in force for 2030 and that further guidance would be provided in late 2024 about phasing in these requirements over time as described in the CleanBC Roadmap to 2030. For a municipality to enact ZCSC earlier than Provincially-mandated milestones, the local government must adopt amendments to their Building Bylaw. Amendments must reference performance standards for ZCSC as defined in the BC Building Code, a timeframe for the standards to be in effect, and, if applicable, the specific building types for which the ZCSC is applicable. In the case of Maple Ridge, all Part 9 buildings and the residential portion of Part 3 buildings.

The bylaw amendment is needed in early 2025 because the Province’s best-practice guide on Step Code recommends adopting requirements no more than six months before they take effect.

## **Cost Impacts**

A recurring question from Council and the development community concerns the cost implications of implementing ZCSC. Housing affordability remains a critical issue in British Columbia and across Canada, compounded by rising heating and cooling expenses.

Constructing energy-efficient buildings with well-sealed envelopes, effective ventilation, and high-performance equipment such as heat pumps offers a cost-effective and efficient alternative to traditional systems like inefficient furnaces and boilers. This approach not only reduces energy costs but also ensures year-round comfort for residents.

Adopting a “build right the first time” philosophy by prioritizing energy efficiency can mitigate the need for costly future upgrades. Retrofitting buildings to meet zero-emission standards at a later stage involves significant financial and logistical challenges, emphasizing the value of proactive energy efficient design and construction.



It is important to acknowledge that electricity rates are higher than natural gas rates. However, heat pumps are significantly more efficient than gas furnaces, effectively offsetting this cost difference in new buildings. Additionally, the BC Energy Step Code requires new construction to be 30% more energy efficient than the 2018 BC Building Code standards. These improvements help occupants save on their monthly utility bills while supporting long-term energy efficiency. The implementation of the BC Energy Step Code and the proposed Zero Carbon Step Code changes are strongly aligned to focus on energy efficiency.

Recent modelling by the City of Richmond and a 2024 study undertaken for the City of Vancouver by RDH indicates that over a typical 15-year lifecycle, maintenance costs for gas-fired boiler with radiant heating and a cooling system were assessed to be higher compared to those of a heat pump system in low rise residential buildings. A report prepared for the City of Maple Ridge by the Community Energy Association, Attachment C, supports these findings that electric air source heat pumps outperform gas powered systems in both capital costs and overall lifecycle costs, plus they work for all-home archetypes and can meet EL-4, the most stringent step of the ZCSCs.

Findings of the report indicated that pursuing EL- 4 Zero Carbon with all electric heat and water in new residential homes would increase capital costs by 0.02 – 0.6%, for Step 3 Energy Step Code with large single detached homes having the highest increase, and row homes the lowest. Annual energy cost savings for Step 4 homes ranged from \$18 for row homes, up to \$167 for large single detached homes.

For Step 5 Energy Step Code homes, capital costs increased between 0.85 – 2.4%, with large single detached homes having the highest increase, and row homes again being the lowest. Annual energy cost savings for Step 4 homes ranged from \$137 for medium single detached homes, up to \$358 for large single detached homes. It should also be noted that none of the modelled scenarios required backup heating, but the analysis considered the need for natural gas back up.

## **Energy Resiliency**

Engagement on ZCSC and the “electrification” of new buildings has identified concerns around energy supply and the resilience of energy service and the provincial energy grid.

There is a concern that relying solely on electricity puts residents at greater risk in the case of a power outage (compared to having both natural gas and electricity). In general, gas heating systems such as a furnace will not operate during a power outage as they use components that require electricity to operate, including the thermostat, relays, and blower motors and fans to move heat around a building. However, most gas fireplaces generally could still be used to produce heat for a small area when power is out. For single-family homes, duplexes and townhomes, backup or redundant heating systems such as gas fireplaces are excluded when calculating compliance for ZCSC, and therefore can still be installed. Outdoor equipment, such as gas grills, heated driveways or pools are excluded from ZCSC.

The average length of outage for most BC Hydro customers (between 63% and 98%) experiencing outages is just 4 hours, with a very small percentage experiencing an average outage of 8 hours or longer. A well-insulated home can keep indoor temperatures warm and adequate for a day or more during a power outage (Attachment D).

In terms of the long-term resilience of electrical supply, BC Hydro’s Integrated Resource Plan, approved by BC Utilities Commission in March 2024, lays out how the utility will meet forecasted growth in electricity demand until 2041. The plan accounts for population and economic growth, more electric heating and transportation, and the impacts of climate change on BC Hydro’s reservoirs.

**Cross Jurisdictional Analysis:**

Currently 29 municipalities in BC have adopted ZCSC. Within the Metro Vancouver Regional District, 9 municipalities have adopted ZCSC including Burnaby, Township of Langley and Port Moody.

		Local Governments in Metro Vancouver			
		2025	2026 -2027	2028-2029	2030
Township of Langley	Part 9	EL -2 to EL-3 (April 2025)			
	Part 3				
Port Moody	Part 9	EL - 4			
	Part 3	EL - 4			
Coquitlam	Part 9		EL - 3 (Proposed)	EL - 4 (Proposed)	
	Part 3		EL - 2 (Proposed)	EL - 4 (Proposed)	
<b>Maple Ridge</b>	<b>Part 9</b>	<b>EL - 3</b>	<b>EL - 4 (September 2026)</b>		
	<b>Part 3</b>	<b>EL - 3</b>	<b>EL - 4 (September 2026)</b>		
	Part 9	EL - 4	EL - 4		

	Local Governments in Metro Vancouver				
		2025	2026 -2027	2028-2029	2030
New Westminster	Part 3	EL - 4	EL - 4		
Burnaby	Part 9	EL - 4			
	Part 3	EL - 4			
District of North Vancouver	Part 9	EL - 3			
	Part 3	EL - 3			
City of North Vancouver	Part 9	EL - 3			
	Part 3				
səlilwətał Nation	Part 9	EL - 3			EL - 4
	Part 3	EL - 3			EL - 4
District of West Vancouver	Part 9	EL - 3			
	Part 3	EL - 3			
Richmond	Part 9	EL - 4			
	Part 3				

**Pathway to Adoption (Timelines)**

The proposed timelines for ZCSC adoption for Part 3 residential and Part 9 buildings are :

- Strong Carbon Performance (EL-3) effective July 1, 2025
- Zero Carbon Performance (EL-4) in September 1, 2026

A common request from building developers is for a clear standard and timelines across neighboring municipalities for adoption. These timelines align with other Metro Vancouver municipalities that have introduced Zero Carbon Step Code for Part 9 buildings (EL-3 to EL-4 in 2023 to 2026) and Part 3 buildings (EL-2 to EL-4 in 2023 to 2026).

Part 9 Buildings (Residential) Timelines

<b>Building Type</b>	<b>January 1, 2025</b>	<b>July 1, 2025</b>	<b>September 1, 2026</b>	<b>January 1, 2030 (Provincial Timeline)</b>
Single- or Two-Family Dwellings	No carbon requirements	EL -3 Strong Carbon Performance	EL-4 Zero Carbon Performance	EL-4 Zero Carbon Performance
Laneway and Carriage Dwellings	No carbon requirements	EL -3 Strong Carbon Performance	EL-4 Zero Carbon Performance	EL-4 Zero Carbon Performance
Townhomes and Apartment Buildings, up to three storeys	No carbon requirements	EL -3 Strong Carbon Performance	EL-4 Zero Carbon Performance	EL-4 Zero Carbon Performance

Building permits received on or after the dates noted above are subject to the new requirements.

EL-4 Zero Carbon Ready = Space, water, and cooking must be zero carbon.  
Zero Carbon Step Code requirements as per BC Building Code 9.37 of Division B (as amended from time to time).

Part 3 Buildings: Residential Only Timelines

<b>Building Type</b>	<b>January 1, 2025</b>	<b>July 1, 2025</b>	<b>September 1, 2026</b>	<b>January 1, 2030 (Provincial Timeline)</b>
Group C: Residential Occupancies, six storeys or less	No carbon requirements	EL -3 Strong Carbon Performance	EL-4 Zero Carbon Performance	EL-4 Zero Carbon Performance
Group C: Residential Occupancies, six storeys or more	No carbon requirements	EL -3 Strong Carbon Performance	EL-4 Zero Carbon Performance	EL-4 Zero Carbon Performance

Building types and occupancies not included in the above table are required to comply with the BC Building Code requirements for energy efficiency and carbon performance.

The City will communicate the by-law amendments to the public and interest-holders through a media release, City website update and ZCSC information page, and through the City's development industry working group. Information will also be made available through the City's Building Department Services Counter.

### **Training and Support**

The City participated with a cohort of municipalities in a 6-month program (July to December 2024) to prepare for ZCSC implementation. The initiative is led by the Community Energy Association, a key partner that has supported the City throughout ZCSC discussions and builder engagement, in partnership with the Province. The program participation culminated with this staff report to enact ZCSC in the Building Bylaw.

It has been noted by municipalities that have already implemented ZCSC that engagement and training with key interest holders including builders, developers and staff is a critical component of effective implementation. Engagement with the building and development community in 2024 identified the need for training and support to understand the ZCSC regulatory requirements and pathways to compliance. The proposed adoption timeline allows both sets of interest-holders sufficient time to understand the new regulatory requirements and adjust to a new way of doing business.

In partnership with the Township of Langley, the City of Maple Ridge will be co-hosting an education event targeting smaller-scale builders and developers. The workshop will walk participants through a first of its kind building system design and planning exercise. Participants will leave the sessions with hands on knowledge on optimizing mechanical systems to reduce costs and increase efficiency in alignment with ZCSC. Sessions will be recorded for distribution so that all interested builders have access to advanced resources that enable ZCSC compliance. More than 80% of training program funding will be provided by BC Hydro with the partnering municipalities cost-sharing the balance.

Training and support is also available through the Canadian Home Builder's Association British Columbia, the Zero Emissions Building Exchange (ZEBx), The Building Officials' Association of B.C., and the Township of Langley's Builder Forums.

### **Sustainability/Climate Impact:**

Adoption of Zero Carbon Step Code would result in greenhouse gas reductions, increased energy efficiency, improve indoor air quality, and address mandatory cooling requirements to reduce health risks of extreme temperature (as of March 2024, the BC building code requires new residential buildings to have at least one living space that can maintain a temperature of 26°C or less).

## **Strategic Alignment:**

Adopting Zero Carbon Step Code is aligned with the City's Strategic Priority of Climate Leadership and Environmental Stewardship. The policy will mitigate and adapt the City to the impacts of climate change and reduce the community's greenhouse gas emissions

## **Financial Impact:**

No funding is being requested at this time. The City has been approved for funding from BC Hydro to support builder and staff training for the implementation of Zero Carbon Step Code. A separate funding request will be presented to Council if additional funding is required.

## **Applicable Legislation/Bylaw/Policy:**

Three pieces of legislation are implicated in the implementation of Zero Carbon Step Code.

*The BC Building Act* establishes the legal framework and authority for the administration and enforcement of building regulations in British Columbia. It outlines the roles and responsibilities of various stakeholders in the building process.

*The BC Building Code* provides detailed technical standards and regulations for the design, construction, and safety of buildings. It covers aspects like structural integrity, fire safety, accessibility, and energy efficiency.

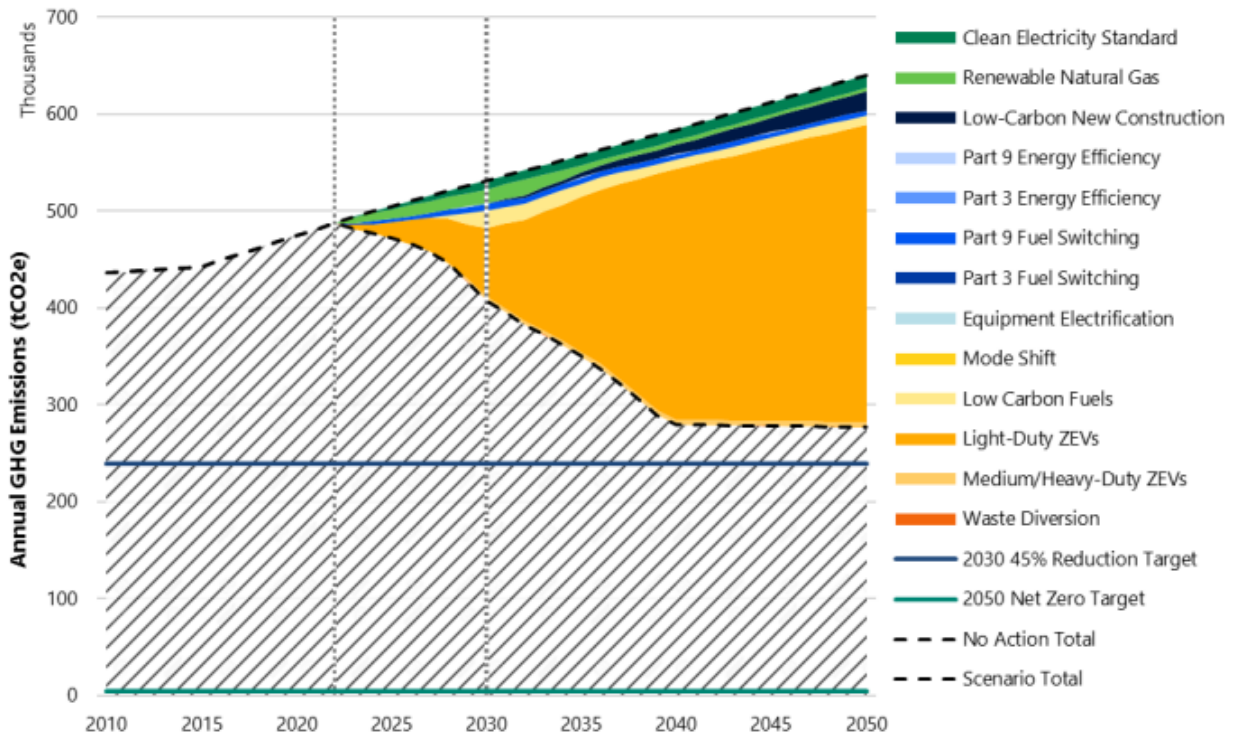
Locally, the *Maple Ridge Building Bylaw No. 6925 – 2012* sets standards and requirements for building construction and renovations to ensure safety, health, and quality of life. Specifically, it establishes standards for structural integrity, fire safety, plumbing, and electrical systems and outlines the processes for obtaining permits, including applications, fees, and documentation, and specifies inspection procedures.

## **OPTIONS & IMPLICATIONS:**

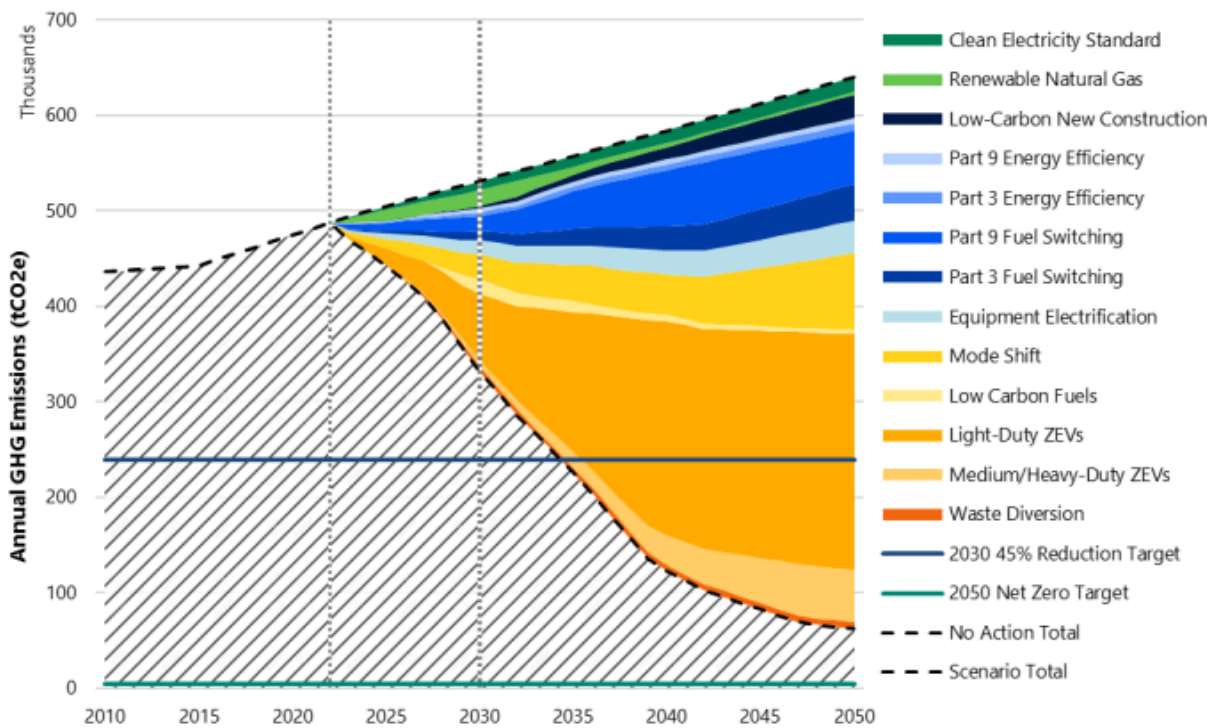
1) Recommended: That Council adopt Zero Carbon Step Code through the amendment to the Maple Ridge Building Bylaw No. 6925 – 2012 and that staff be directed to engage with the development community on support and training.

2) Not Approve: Council could choose not to endorse the bylaw amendment to enable ZCSC into new builds and await further direction from the Province . A delay in the City's action to accelerate Zero Carbon Step Code adoption significantly compromises the possibility of achieving the 2050 Greenhouse Gas emissions target of being net-zero as compared to 2010.

The impact is noticeable when comparing Figure 1 and Figure 2 below. In Figure 1, future Greenhouse Gas emissions are modelled to reflect the impact of existing regulations from senior levels of government. The thin segments in blue relate to the reduction of emissions from building energy efficiency and fuel switching resulting from following the Province's ZCSC implementation timeframe.



Conversely, Figure 2 identifies the impact of accelerated adoption of ZCSC and the forecasted impact of the decarbonization policy. As evidenced below, in order to even approach the long-term emissions target, ZCSC must be implemented as proposed.



## **CONCLUSION:**

The Zero Carbon Step Code is a significant initiative to reduce carbon emissions from new building stock which aligns with the City's climate action direction.

---

Prepared by: Brian Montgomery, Climate  
Action and Resiliency Advisor

## **Attachments:**

- (A) BC Zero Carbon Step Code Backgrounder
- (B) May 28, 2024 Zero Carbon Step Code Report (01-0690-02)
- (C) City of Maple Ridge Zero Carbon Step Code Comparative Analysis
- (D) What You Need to Know Factsheet
- (E) Amendments to Maple Ridge No. 6925 – 2012 for the adoption of ZCSC



## Report Approval Details

Document Title:	Zero Carbon Step Code Implementation.docx
Attachments:	<ul style="list-style-type: none"><li>- A - Step Code Backgrounder.pdf</li><li>- B- 2024-05-28 Council Workshop Report.pdf</li><li>- C - CityofMapleRidge_ZCSCEL3_EL4_ComparativeAnalysis_112024.pdf</li><li>- D - What You Need to Know Factsheet.pdf</li><li>- E - Proposed Bylaw 8018-2025.pdf</li></ul>
Final Approval Date:	Jan 30, 2025

This report and all of its attachments were approved and signed as outlined below:

Phil Sanderson, Manager of Corporate Strategy & Business Transformation

Zvi Lifshiz, Director Strategic Development, Communications & Public Engagement

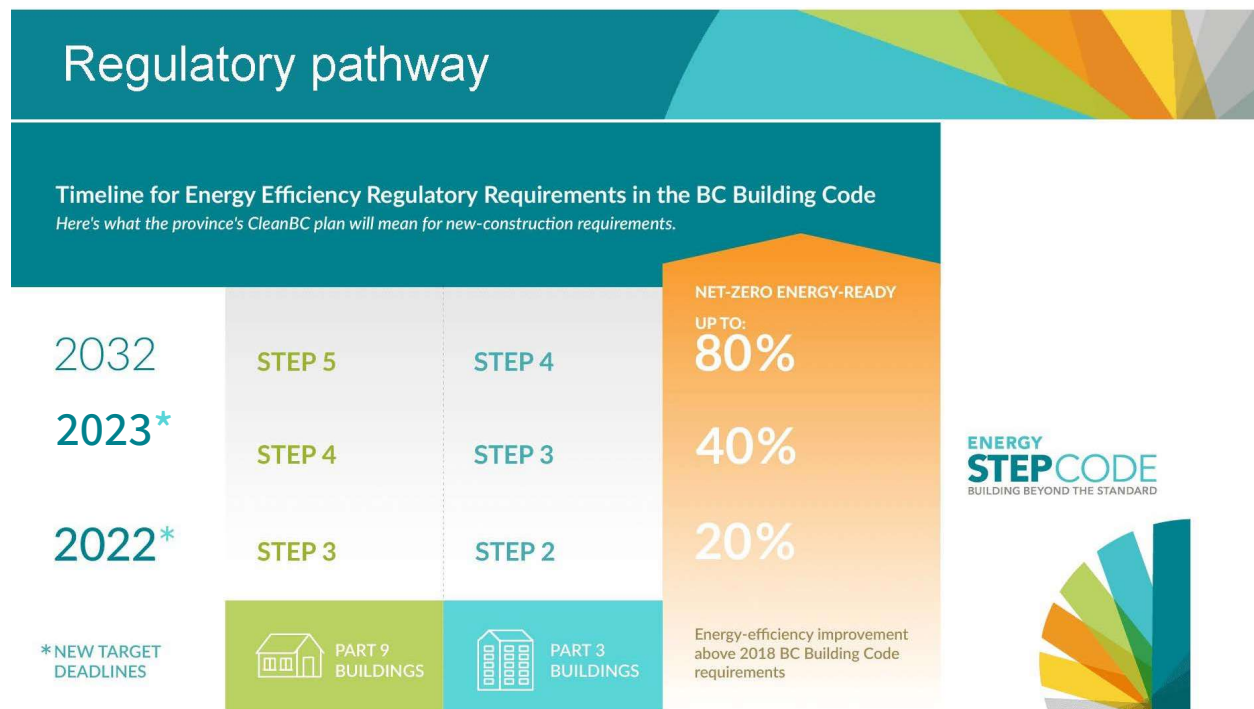
Carolyn Mushata, Director of Legislative Services and Corporate Officer

Scott Hartman, Chief Administrative Officer

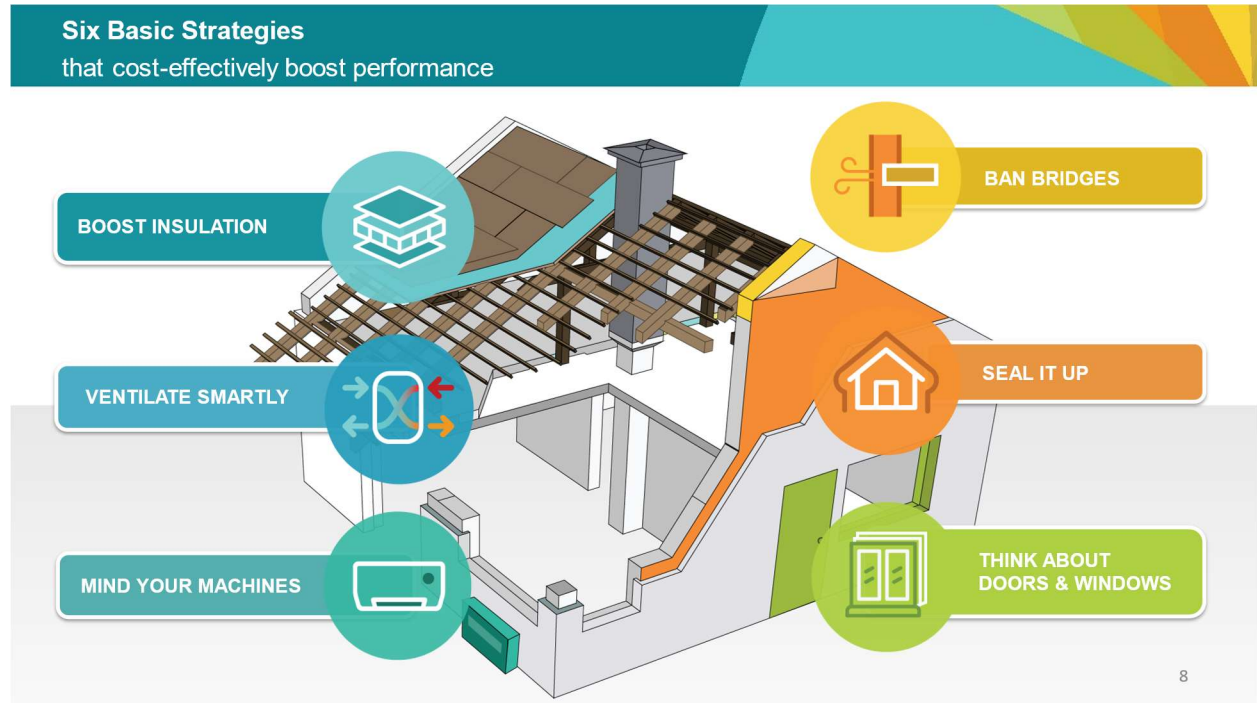
## BC Energy Step Code

The BC Energy Step Code is a progressive regulation implemented by the Province of BC through the provincial building code, aimed at enhancing the energy efficiency of new buildings. It serves as a voluntary standard that provides a clear pathway towards more sustainable building practices, ultimately leading to net-zero energy ready buildings by 2032. The code outlines a series of incremental performance steps, focusing on energy conservation and efficiency, which local governments can adopt into their building policies to encourage or require higher levels of energy performance, as noted in Figure 1.

Figure 1 - BC Energy Step Code Regulatory Pathway



Each step of the code specifies a set of measurable performance requirements that builders must meet to demonstrate their building's energy efficiency level. Attaining incremental progress toward each performance tier requires analysis and improvement in how all building system components- such as windows, insulation, and mechanical systems - interact. Figure 2 illustrates several basic strategies identified by the Province to incrementally enhance building performance.



The progressive nature of each step in the Code is designed to allow builders and communities to gradually adapt to the new standards, promoting innovation and the development of new construction technologies. By implementing the BC Energy Step Code, the province aims to reduce greenhouse gas emissions significantly while fostering a future where energy-efficient buildings are the norm.

## BC Zero Carbon Step Code

The BC Zero Carbon Step Code is a new opt-in regulation introduced in the 2023 update of the BC Building Code. It aims to limit greenhouse gas (GHG) emissions from new construction. The code complements the BC Energy Step Code by targeting zero emissions from new buildings by 2030, adding a layer to improve energy efficiency and reduce operational carbon emissions.

The adoption pathway for the Zero Carbon Step Code involves various compliance tools and options for builders. Local governments can incentivize or mandate compliance to four levels of carbon performance, ranging from 'Measure-Only' to 'Zero Carbon Performance', as noted in Table 1. There are prescriptive and performance paths available, with specific guidelines for different types of buildings, such as Part 9 (small buildings) and Part 3 (large or complex buildings).

*Table 1 - Zero-Carbon Step Code Emissions Levels & Compliance Methods*

<b>Step</b>	<b>Emission Level</b>	<b>Compliance Method</b>
EL-1	NA	No targets, reporting only
EL-2	Moderate Carbon	Generally, electrification of space heating
EL-3	Strong Carbon	Generally, electrification of space heating & domestic hot water
EL-4	Zero Carbon	Electrification of space heating, domestic hot water, and other appliances including cook tops

Though the ZCSC focuses on fuel-switching, the current BC Building Code permits for back-up systems fueled by natural gas. This measure aligns with the City's approach to climate action, which requires consideration for the climate resilience impacts of policy decisions. Ensuring that residential buildings have secondary sources of heat is a resilience feature as it ensures that occupants have a heat source during extreme weather events.

An updated Building Code is projected to be enacted before the end of the year. The update is anticipated to identify which step will be in effect for 2025, the timeframe for upper steps to be enacted, and address back-up systems that are permissible under the current building code.



City of Maple Ridge  
**COUNCIL WORKSHOP AGENDA**  
**MAY 28, 2024 at 11:00 AM**  
**BLANEY ROOM**

**With Virtual Online Participation**

*The purpose of the Council Workshop is to review and discuss policies and other items of interest to Council. Although resolutions may be passed at this meeting, the intent is to make a consensus decision to send an item to Council for debate and vote or refer the item back to staff for more information or clarification.*

*The meeting is live streamed and recorded by the City of Maple Ridge*

---

**1. CALL TO ORDER**

1.1 Territory Acknowledgement

The City of Maple Ridge carries out its business on the traditional and unceded territories of the Katzie (q̓íçəy̓) First Nation and the Kwantlen (q̓ʷa:n̓λ'ən) First Nation.

**2. APPROVAL OF THE AGENDA**

**3. MINUTES**

3.1 Adoption of Minutes – May 14, 2024

**4. PRESENTATIONS AT THE REQUEST OF COUNCIL**

**5. UNFINISHED AND NEW BUSINESS**

5.1 Zero Carbon Step Code

Staff report dated May 28, 2024, providing an overview of both BC Energy Step Code and Zero Carbon Step Code, and a proposed implementation pathway.

**RECOMMENDATION:**

That Council direct staff to bring forward an amendment to the Maple Ridge Building Bylaw No. 6925-2012 for adoption of the EL-3 of the Zero Carbon Step Code for all residential buildings to be in effect on July 1, 2025.

5.2 Climate Lens Assessment Framework

Staff report dated May 28, 2024, outlining approach and timeline for implementing a Climate Lens Assessment Framework, designed to provide a preliminary, qualitative assessment of whether a municipal decision will affect climate or be affected by climate.

**RECOMMENDATION:**

For information.

5.3 Lumon Window Presentation

Staff presentation

**6. CORRESPONDENCE**

**7. BRIEFING ON OTHER ITEMS OF INTEREST / QUESTIONS FROM COUNCIL**

**8. MATTERS DEEMED EXPEDIENT**

**9. ADJOURNMENT**

**CITY OF MAPLE RIDGE  
COUNCIL WORKSHOP MINUTES  
MAY 14, 2024**

The Minutes of the Council Workshop Meeting held virtually and hosted in the Blaney Room on May 14, 2024 at 11:00 am at City Hall, 11995 Haney Place, Maple Ridge, British Columbia for the purpose of transacting regular City business.

---

*PRESENT*

*Elected Officials*

Mayor D. Ruimy

Councillor K. Carreras

Councillor O. Dozie (Virtual)

Councillor J. Dueck

Councillor S. Schiller

Councillor J. Tan

Councillor A. Yousef

*ABSENT*

*Appointed Staff*

S. Hartman, Chief Administrative Officer

C. Mushata, Corporate Officer, Director of Legislative Services

*Other Staff as Required*

M. Best, Interim Director of Planning

C. Bevacqua, Clerk 3

S. Faltas, Director of Engineering

A. Grochowich, Manager of Community Planning

Z. Lifshiz, Director, Strategic Development,  
Communications and Public Engagement

M. McMullen, Manager of Development & Environmental  
Planning

R. Ollenberger, Manager of Development Engineering

V. Richmond, Director of Parks & Facilities

J. Roosen, Business Transformation Manager

T. Thompson, Director of Finance

---

Note: These Minutes and a video of the meeting are posted on the City's Web Site at <https://mapleridge.primegov.com/public/portal>

Note: Councillor Dozie joined the meeting virtually.

1. **CALL TO ORDER** – 11:00 am

1.1 Territorial Acknowledgement

The Mayor provided the territory acknowledgement.

2. **APPROVAL OF THE AGENDA**

2.1 Approval of Agenda

R/2024-WS-018

Moved and seconded

**THAT the agenda of the May 14,2024, Council Workshop Meeting be approved as circulated.**

CARRIED

3. **MINUTES**

3.1 Minutes

R/2024-WS-019

Moved and seconded

**That the minutes of the Council Workshop Meeting of April 23, 2024, be adopted.**

CARRIED

4. **PRESENTATIONS AT THE REQUEST OF COUNCIL** - Nil

5. **UNFINISHED AND NEW BUSINESS**

5.1 Small Scale Multi Unit Housing (SSMUH) Update and Policy Manual Considerations

Staff report dated May 14, 2024, to provide Council with an update on the implementation of the Provincial housing legislation, an overview of the Policy manual considerations and to outline timelines associated with implementation.

The Manager of Community Planning gave a presentation and answered questions of Council.

R/2024-WS-020

Moved and seconded

**That staff prepare amendments to the Zoning Bylaw to enable Small Scale Multi Unit Housing to an upcoming Committee of the Whole meeting; and**

**That staff prepare amendments to the Zoning Bylaw to remove the Temporary Residential Use.**



\*\*\*\*\*  
Councillor Yousef left the meeting at 11:41 am and was not present for the vote on items 5.1 and 9.1; he returned at 1:15 pm  
\*\*\*\*\*

6. **CORRESPONDENCE** – Nil

7. **BRIEFING ON OTHER ITEMS OF INTEREST/QUESTIONS FROM COUNCIL** – Nil

8. **MATTERS DEEMED EXPEDIENT** – Nil

9. **NOTICE OF CLOSED MEETING**

R/2024-WS-021

Moved and seconded

***The meeting will be closed to the public pursuant to Sections 90(1) and 90(2) of the Community Charter as the subject matter being considered is related to the following:***

- ***Section 90(1)(c) – labour relations or other employee relations;***
- ***Section 90(1)(e) – the acquisition, disposition or expropriation of land or improvements, if the council considers that disclosure could reasonably be expected to harm the interests of the municipality;***
- ***Section 90(1)(j) – information that is prohibited, or information that if it were presented in a document would be prohibited, from disclosure under section 21 of the Freedom of Information and Protection of Privacy Act;***
- ***Section 90(1)(k) – negotiations and related discussions respecting the proposed provision of a municipal service that are at their preliminary stages and that, in the view of the council, could reasonably be expected to harm the interests of the municipality if they were held in public;***
- ***Section 90(1)(l) – discussions with municipal officers and employees respecting municipal objectives, measures and progress reports for the purposes of preparing an annual report under section 98 [annual municipal report];***
-

- ***Section 90(2)(b) – the consideration of information received and held in confidence relating to negotiations between the municipality and a provincial government or the federal government or both, or between a provincial government or the federal government or both and a third party;***

***Any other matter that may be brought before the Council that meets the requirements for a meeting closed to the public pursuant to Sections 90(1) and 90(2) of the Community Charter or Freedom of Information and Protection of Privacy Act.***

10. ***ADJOURNMENT*** – 5:12 pm

---

D. Ruimy, Mayor

---

C. Mushata, Corporate Officer



**TO:** His Worship Mayor Dan Ruimy  
and Members of Council

**FROM:** Chief Administrative Officer

**MEETING DATE:** May 28, 2024

**FILE NO:** 01-0690-02

**MEETING:** Council Workshop

**SUBJECT:** Zero Carbon Step Code

---

---

## **EXECUTIVE SUMMARY:**

Zero Carbon Step Code (ZCSC) is an opt-in program available to local governments to reduce carbon emissions from new building stock. The Mayor's Taskforce on Climate Action proposed that the City implement the ZCSC commencing with Strong Carbon requirements by Q1 2025. Based on engagement with the local development community and utility providers, staff are proposing that ZCSC requirements come into effect in Q3 2025 at the Strong Carbon level and Q4 2026 at Zero Carbon for residential buildings.

## **RECOMMENDATION:**

**That Council direct staff to bring forward an amendment to the Maple Ridge Building Bylaw No. 6925-2012 for the adoption of EL-3 of the Zero Carbon Step Code for all residential buildings to be in effect on July 1, 2025.**

## **DISCUSSION:**

### **a) Background Context:**

The Mayor's Taskforce on Climate Action (MTCA) was in effect from July 2023 to April 2024. The MTCA's objective was to rapidly advance priority climate actions in anticipation of completing the City's Low-Carbon Resilience Climate Action Plan. Terms of reference for the MTCA are included as Attachment A of this report for reference.

Five priority focus areas were identified by the MTCA, as identified in Attachment B. One of which was the BC Energy and Zero Carbon step codes. The MTCA was provided an overview of the components of the BC Energy Step Code and the Zero Carbon Step Code (ZCSC) and examples of implementation and introduction from municipalities in the Metro Vancouver Region and the interior of British Columbia.

As a result of the discussion, the MTCA supported two resolutions:

1. Staff bring forward to Council a roadmap for the implementation of the Zero Carbon Step Code for Part 3 Residential and Part 9 at these timelines:
  - Level "Strong" by Q1 2025
  - Level "Zero" by Q1 2026
2. Staff undertake community engagement on the implementation of the BC Energy Step Code and Zero Carbon Step Code

The following report provides an overview of both BC Energy Step Code and ZCSC, actions taken since direction was provided by the MTCA, and a proposed implementation pathway.

---

The BC Energy Step Code and ZCSC are provincial regulations enacted through the BC Building Code to decarbonize new buildings. Both models follow an incremental approach to introducing higher building performance requirements to achieve net-zero energy-ready buildings by 2032 (Energy Step Code) and zero carbon buildings (Zero Carbon Step Code) by 2030. Complete backgrounders on Energy and Zero Carbon step codes are provided as attachments C and D, respectively.

At the direction of the MTCA, the City undertook engagement and education activities with the local development community, utility providers and building industry organizations to understand the impacts of Energy Step Code and ZCSC. A summary of findings is provided in Attachment E. A comprehensive analysis of the engagement initiative is included as Attachment F and a formal letter from Fortis BC is included as Attachment G.

### ***Enacting Zero Carbon Step Code Requirements***

For a municipality to enact Zero Carbon Step Code earlier than Provincial timelines, the local government must adopt amendments to their Building Bylaw. Amendments must reference performance standards for ZCSC as defined in the BC Building Code and a timeframe for the standards to be in effect.

A bylaw amendment will be required in early 2025 as the Province's best-practice guide on BC Energy Step Code, which also includes ZCSC, identifies that the bylaw enacting Step Code requirements be adopted no more than 6 months prior to coming into effect.

### ***Cost Impacts***

A common question that arose from the engagement activities was a need to better understand the cost implications of implementing ZCSC. The most comprehensive resource to understand the capital (one-time) and operating (ongoing) costs of implementing Zero Carbon Step Code standards comes from the City of Nanaimo report: "Net Zero Code Adoption: Report and Recommendations," Attachment H. It is important to note that Nanaimo is currently exceeding the BC Building Code with regard to Energy Step Code.

If Maple Ridge were to maintain the provincial timeline for Energy Step Code, the base building code would be reflective of the costs in the report by 2027.

The report identifies that the additional capital costs to achieve upper steps of the Energy Step Code range from 0%-6% from base building code. Implementing ZCSC ranges from and additional 0% to 3%. At the top end of the range a single-family home would cost 9% more to construct to Zero Step Code and net-zero energy standards

On the operating side, utility costs vary from an increase of 7% annually to a reduction of 12% for single family residential buildings. Larger, more complex buildings operate with utility cost reductions ranging from -9% to -25%.

## **Mandatory Space Cooling**

Though ZCSC is intended to achieve climate-related goals, implementation of EL-2 or Strong Carbon requirements also meet a new mandatory requirement under the March 2024 BC Building Code update. As a result of the 2021 heat dome that resulted in 619 heat-related deaths, the Province has enacted the following requirement in the most recent Building Code to limit risks associated with overheating in new homes:

*"At the outside summer design temperature, required cooling facilities shall be capable of maintaining an indoor air temperature of not more than 26C in at least one living space in each dwelling unit."*

Homes that are equipped with heat pumps, as would be required under the second step of the ZCSC or EL-2, would have central cooling throughout the dwelling thereby meeting the requirement. Therefore, ZCSC both mitigates Greenhouse Gas emissions while also providing adaptive benefits for climate change.

## **Proposed Approach**

The MTCA recommended that the City adopt EL-3 Strong Carbon by Q1 2025 and EL-4 Zero Carbon by Q1 2026 for residential buildings only. Given the feedback from the development community, it is recommended by staff that the timeframe be shifted to early Q3 2025 for EL-3 and Q4 2026 for EL-4, as noted in Attachment I. The adjusted timeframe will enable the City to join the next provincial implementation cohort while still maintaining the six-month period from bylaw adoption to regulation enforcement, as recommended by the Province's best practice guide.

Additionally, it has been noted by municipalities that have already implemented Zero Carbon Step Code that staff and developer training is a critical component of effective implementation. To allow both sets of interest-holders sufficient time to understand the new regulatory requirements and adjust to a new way of doing business, an additional period of six months is required.

In the near term, the City has been invited to participate with a cohort of municipalities for a 6-month program to prepare for ZCSC implementation. The initiative is led by the Community Energy Association, a key partner that has supported the City throughout ZCSC discussions and builder engagement, in partnership with the Province. The program will culminate with a staff report in early 2025 to enact ZCSC in the Building Bylaw.

### **b) Desired Outcome:**

That Council provide direction to staff on timeframes for implementing Steps 2-4 of the Zero Carbon Step Code. These timeframes will inform updates to the Building Bylaw, communication to the public and interest-holders, and planned training with the development community.

### **c) Strategic Alignment:**

Adopting Zero Carbon Step Code is aligned with the City's Strategic Priority of Climate Leadership and Environmental Stewardship. The policy will mitigate and adapt the City to the impacts of climate change and reduce the community's greenhouse gas emissions.

**d) Interdepartmental Implications:**

Implementing the Zero Carbon Step Code requires an interdepartmental approach. Development Services departments, including the Building Services and Planning, have been engaged in advancing the project and influencing the proposed timelines.

**e) Business Plan/Financial Implications:**

No funding is being requested at this time. The City is seeking funding from BC Hydro to support builder and staff training for the implementation of Zero Carbon Step Code. A separate funding request will be presented to Council if additional funding is required.

**f) Policy Implications:**

The Zero Carbon Step Code represents a major climate policy that will reduce operational emissions from the City's building stock. Through the development of the City's Climate Action Plan, the emissions impacts of ZCSC will be modeled and can inform amendments to the policy direction. As the results of the modelling exercise come available over the summer, additional information will be provided to Council if adjustments are required.

**g) Alternatives:**

Two alternatives are available to Council as it pertains to Zero Carbon Step Code:


**Await Direction:** Though guidance from the Province on ZCSC is anticipated before the end of the year, there is no certainty around when it will be available. Additionally, it is possible that EL-2 gets enacted in the base building code as of this year. If that were to happen, moving to EL-3 would remain feasible by Q3 2025 as industry would have nearly a full year to prepare.

**Maintain MTCA Recommendation:** In light of Maple Ridge having housing targets mandated by the Province and pending implementation of Bills 44 and 47, there remains uncertainty within the development industry. Simultaneous implementation of multiple policy levers with divergent impacts may challenge both the City and the building and development industry.

**CONCLUSION:**

The Zero Carbon Step Code is a significant initiative to reduce carbon emissions from new building stock which aligns with the City's climate action direction.

---

*Prepared by:*   
**Dan Olivieri**  
**Manager of Corporate Planning & Consultation**

---

*Approved by:*   
**Zvi Lifshiz**  
**Director of Strategic Development, Communications & Public Engagement**

---

*Concurrence:*   
**Scott Hartman**  
**Chief Administrative Officer**

**Attachments:**

- (A) Mayor's Taskforce on Climate Action – Terms of Reference
- (B) Mayor's Taskforce on Climate Action – Priorities
- (C) BC Energy Step Code Backgrounder
- (D) BC Zero Carbon Step Code Backgrounder
- (E) Zero Carbon Step Code Engagement Summary
- (F) Zero Carbon Step Code Engagement – What We Heard
- (G) Fortis BC – Zero Carbon Step Code Communication
- (H) City of Nanaimo Net Zero Code Adoption: Report and Recommendations
- (I) City of Maple Ridge – Proposed Implementation Timelines

Attachment A – MTCA Terms of Reference

**Terms of Reference – City of Maple Ridge: Mayor’s Task Force on Climate Action**

MANDATE

The mandate of the Mayor’s Taskforce on Climate Action (MTCA) is to serve as an advisory role to City Council with respect to high value and high priority climate mitigation and adaptation actions that will have the greatest impact on advancing Council’s Strategic Priority of “Climate Leadership and Environmental Stewardship” and its accompanying goals.

FUNCTIONS

The Council of the City of Maple Ridge has the MTCA to:

- Identify and make actionable recommendations and proposals for Council’s consideration regarding high value and high priority policies, bylaw updates, and implementation actions related to reduction of emissions and enhancement of resilience related to Climate Change. As part of making recommendations, the MTCA will:
  - Apply a “Low Carbon Resilience” lens to all proposed actions to ensure that recommendations do not negatively impact related adaptation, mitigation and other co-benefit priorities, and seek opportunities to maximize these outcomes concurrently.
  - Balance and adjust the priority of each recommendation with the anticipated implementation timeline, viability, and the organization’s/community’s capacity and state of readiness to proceed with each recommendation.
  - Include implementation process and phasing recommendations where appropriate.
- Engage with indigenous peoples and with the community and other interested and affected parties, with the support of City staff, regarding actions and policy directions that are proposed to be recommended to Council. This is to ensure that recommendations are evaluated with consideration of community and stakeholder input and perspectives.
- Advise Council and make recommendations on innovative actions that will establish Maple Ridge as a leader among local governments in addressing climate change.
- Participate in climate action workshops with staff and/or consultants, where possible, to:
  - Co-evaluate and prioritize risk and vulnerability and emissions data.
  - Support alignment between the development of the City’s comprehensive Climate Action Plan and the actions directed by Council through the recommendations of the MTCA.
- Provide the City’s cross departmental Climate Action staff team with expert insights and comments on the City’s Climate Action Plan’s phases, deliverables and outcomes during the development of the plan by providing analysis of best practices and consultant recommendations.

MEMBERSHIP COMPOSITION

The MTCA will be comprised of up to eight (8) voting members approved by a Council, consisting of:

- City of Maple Ridge Mayor (Taskforce Chair)
- Two (2) City of Maple Ridge Councillors



## Attachment A – MTCA Terms of Reference

- Four (4) members with experience in key areas of climate action. Membership in this group is not restricted to members of Maple Ridge community, due to the focus on each member's expertise in one or more of the following identified areas:
  - Building energy efficiency and renewable energy
  - Community-focused climate action policy
  - Zero emission and active transportation
  - Zero waste
  - Climate adaptation and resilience
  - Natural habitat and ecosystems
  - Green infrastructure
  - Urban agriculture
  - Low Carbon Resilience
- One (1) youth (age 15-24) member

Additionally, a City staff member will be appointed by the CAO as a staff liaison, as well as a Committee Clerk will provide support to the Taskforce, including preparing and distributing agendas, attending the meetings, and preparing minutes of the meetings.

The membership composition of the Taskforce may be changed by Council resolution.

Any vacancy occurring in the membership of the Committee shall be filled forthwith by the Council for the unexpired term of vacancy.

The Taskforce Chair has the authority to invite individuals and/or groups to Committee meeting for the purpose of making presentations or addressing specific questions that the Taskforce may have.

### QUORUM

Quorum will consist of 50% of appointed members plus one.

### DELEGATED AUTHORITY

The MTCA is established as a Select Committee. The Taskforce and its members will be approved by Council.

The MTCA does not have any delegated authority and has no authority to direct staff. Any recommendations requiring implementation must first be considered and Carried by a vote of City Council.

### TIME FRAME OF TASKFORCE

The MTCA will remain active for a period of six (6) months from the date of the Taskforce's first meeting.

The term may be extended beyond the initial period by Council resolution.

### TERM OF MEMBERSHIP

Members will serve for the duration of the six (6) month term.

An extension to the term of the Taskforce will automatically result in the extension of existing members.

## Attachment A – MTCA Terms of Reference

Any vacancy occurring in the membership of the Taskforce, either during the initial term or as a result of an extension, shall be filled by Council at Council's discretion for the unexpired term of vacancy.

### MEETINGS

Meetings will be held at City Hall generally on a monthly basis, or as required at the call of the Chair. The agenda will be distributed the week prior to the meeting.

### MEMBERSHIP REMUNERATION

No Taskforce member will receive any remuneration for services, however, a member shall be reimbursed for any reasonable out of pocket expenses incurred on behalf of and previously approved by the Taskforce.

## Attachment B – Mayor’s Taskforce on Climate Action Priorities

1. BC Energy Step Code/Zero Carbon Step Code
2. Building Retrofits
3. Green Infrastructure & Nature-based Solutions
4. Accelerate Implementation of Strategic Transportation Plan - Active Transportation
5. Climate Lens for Policy Development

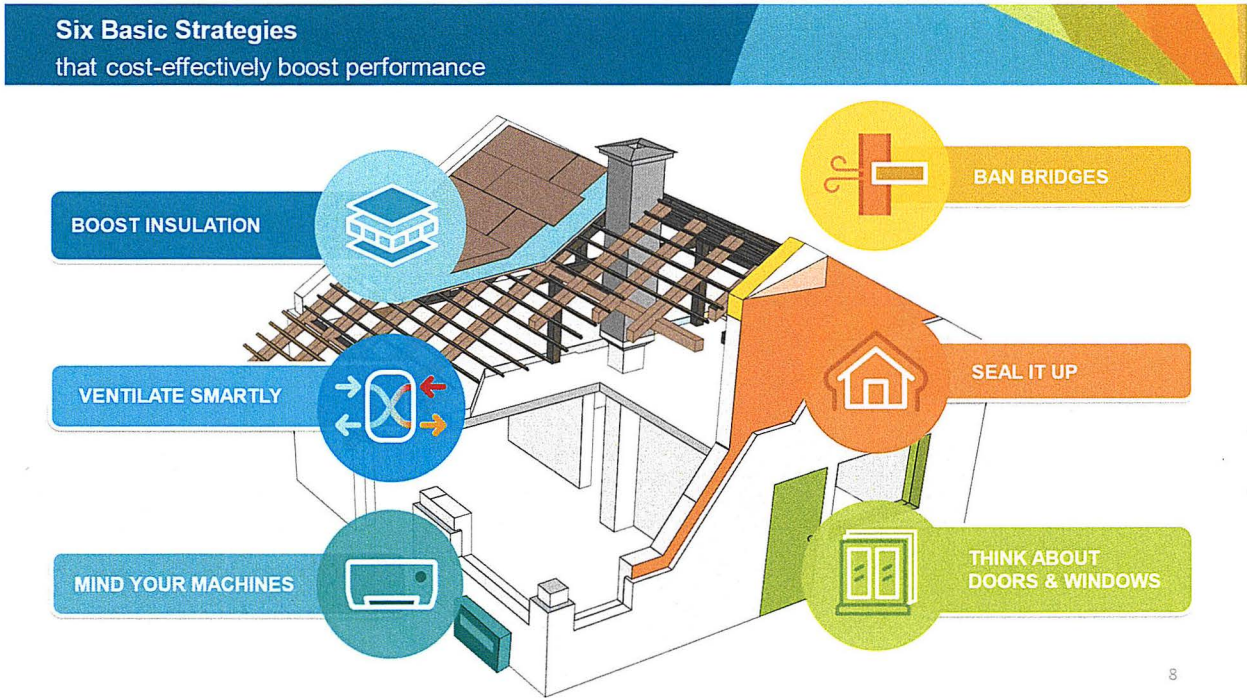
## BC Energy Step Code

The BC Energy Step Code is a progressive regulation implemented by the Province of BC through the provincial building code, aimed at enhancing the energy efficiency of new buildings. It serves as a voluntary standard that provides a clear pathway towards more sustainable building practices, ultimately leading to net-zero energy ready buildings by 2032. The code outlines a series of incremental performance steps, focusing on energy conservation and efficiency, which local governments can adopt into their building policies to encourage or require higher levels of energy performance, as noted in Figure 1.

Figure 1 - BC Energy Step Code Regulatory Pathway



Each step of the code specifies a set of measurable performance requirements that builders must meet to demonstrate their building's energy efficiency level. Attaining incremental progress toward each performance tier requires analysis and improvement in how all building system components- such as windows, insulation, and mechanical systems - interact. Figure 2 illustrates several basic strategies identified by the Province to incrementally enhance building performance.



The progressive nature of each step in the Code is designed to allow builders and communities to gradually adapt to the new standards, promoting innovation and the development of new construction technologies. By implementing the BC Energy Step Code, the province aims to reduce greenhouse gas emissions significantly while fostering a future where energy-efficient buildings are the norm.

## BC Zero Carbon Step Code

The BC Zero Carbon Step Code is a new opt-in regulation introduced in the 2023 update of the BC Building Code. It aims to limit greenhouse gas (GHG) emissions from new construction. The code complements the BC Energy Step Code by targeting zero emissions from new buildings by 2030, adding a layer to improve energy efficiency and reduce operational carbon emissions.

The adoption pathway for the Zero Carbon Step Code involves various compliance tools and options for builders. Local governments can incentivize or mandate compliance to four levels of carbon performance, ranging from 'Measure-Only' to 'Zero Carbon Performance', as noted in Table 1. There are prescriptive and performance paths available, with specific guidelines for different types of buildings, such as Part 9 (small buildings) and Part 3 (large or complex buildings).

*Table 1 - Zero-Carbon Step Code Emissions Levels & Compliance Methods*

<b>Step</b>	<b>Emission Level</b>	<b>Compliance Method</b>
EL-1	NA	No targets, reporting only
EL-2	Moderate Carbon	Generally, electrification of space heating
EL-3	Strong Carbon	Generally, electrification of space heating & domestic hot water
EL-4	Zero Carbon	Electrification of space heating, domestic hot water, and other appliances including cook tops

Though the ZCSC focuses on fuel-switching, the current BC Building Code permits for back-up systems fueled by natural gas. This measure aligns with the City's approach to climate action, which requires consideration for the climate resilience impacts of policy decisions. Ensuring that residential buildings have secondary sources of heat is a resilience feature as it ensures that occupants have a heat source during extreme weather events.

An updated Building Code is projected to be enacted before the end of the year. The update is anticipated to identify which step will be in effect for 2025, the timeframe for upper steps to be enacted, and address back-up systems that are permissible under the current building code.

## Attachment E - Zero Carbon Step Code Engagement Summary

### Development Industry Engagement

As directed by the MTCA, the development industry was engaged over a three-week period to provide input and guidance on the proposed implementation of Zero Carbon Step Code (ZCSC). Developers and builders were hosted at an in-person forum where leaders in green buildings provided an overview of how implementation of ZCSC has transpired in other jurisdictions. Comments and feedback were received by way of an online survey over a three-week period. Engagement and survey results are provided in Attachment E.

More than 100 letters were mailed to builders and developers in the City's land management system inviting them to the in-person session and to participate in the survey. Invitations were also sent to the Urban Development Institute and Homebuilders Association of Vancouver, inviting their members to participate.

Generally, the commentary from the eight survey participants is that the additional cost, including those associated with additional electrical service and access, are the most significant barriers to implementing Zero Carbon Step Code. Participants also identified that the proposed timeframe for implementing ZCSC was too quick, with a single respondent suggesting that the City wait on the Province's mandated timeframe.

Furthermore, it was identified that a one-year gap for moving from EL-3 Strong Carbon Performance to EL-4 Zero Carbon Performance was too short of a timeframe. Additionally, survey participants identified that a performance pathway or having the flexibility of a performance and prescriptive pathway is preferred.

Finally, when asked what the development community needs to better prepare for the implementation of ZCSC, respondents indicated that more education and training as well as incentives and rebates were the two highest priority items.

### Utility Provider Engagement

Both BC Hydro and Fortis BC were engaged throughout the process of building out the ZCSC approach. Communication from Fortis BC is provided in Attachment F of the Council report.

Feedback from BC Hydro identified the following considerations for the City moving forward on ZCSC:

- Grid capacity to absorb the additional load is included in ongoing forecasting initiatives. The demand forecasts factor in the adoption of ZCSC at intervals proposed by local governments. BC Hydro capital projects will meet the energy demand targets identified in the analysis.
- A policy update is being proposed to the BC Utility Commission in June that will apply a more equitable framework for distributing the cost of new electrical connections for development. The Distribution Extension Policy update takes a unitized approach – distributing cost of new infrastructure across all forecasted units across the grid based on project load – to better balance the costs between higher- and lower-density development. Further, BC Hydro is proposing an increase to its assist factor for infrastructure.

## Attachment E - Zero Carbon Step Code Engagement Summary

Both energy utilities will continue to be engaged in discussions throughout the implementation ZCSC to ensure that any regulatory changes and impacts to development are communicated to all interested parties.



## **Maple Ridge Zero Carbon Step Code Engagement and Survey Results**

The City of Maple Ridge undertook an information and engagement of builders and developers on the introduction of Zero Carbon Step Code (ZCSC) from April 10<sup>th</sup> to April 24<sup>th</sup>, 2024.

ZCSC was introduced to the BC Building Code on May 1, 2023, and allows for local governments to encourage or require lower operational carbon emissions in new buildings by transitioning to lower emission systems for space heating, water heating, and indoor cooking. The introduction of ZCSC and engagement of the local building and development community was identified as a priority climate action by the Mayor's Taskforce on Climate Action recommending an accelerated implementation timeline of the ZCSC.

The intent of the engagement and communication with local builders and developers was to inform and educate them on the introduction of ZCSC and to provide feedback and gain understanding of their needs and concerns about introduction of ZCSC to Maple Ridge.

Engagement and communication with the building and development community occurred from March 25, 2024, to April 25, 2024, and included:

- Letters to 101 local builders and developers on March 22, 2024, and April 12, 2024, regarding ZCSC, an invitation to the April 10 information forum, and follow up letter and survey.
- Email Information and invitations sent out to UDI and HAVAN on March 25, 2024, and April 17, 2024, regarding ZCSC, an invitation to the April 10 information forum, and follow up letter and survey.
- An information forum and engagement evening on ZCSC on April 10, 2024, with 20 attendees.
- An information meeting with FortisBC on April 15, 2024.
- An information and engagement meeting with UDI on April 17, 2024.
- An Engage Maple Ridge page with information on ZCSC that launched on April 10, 2024.
- A survey for builders and developers requesting feedback on ZCSC that ran from April 10, 2024, to April 24, 2024, on the Engage Maple Ridge Page with hard copies available at Maple Ridge City Hall.

The Engage Maple Ridge page saw 62 total visits with 41 direct visitors, 13 directed by a search engine and 8 responses to the online survey.

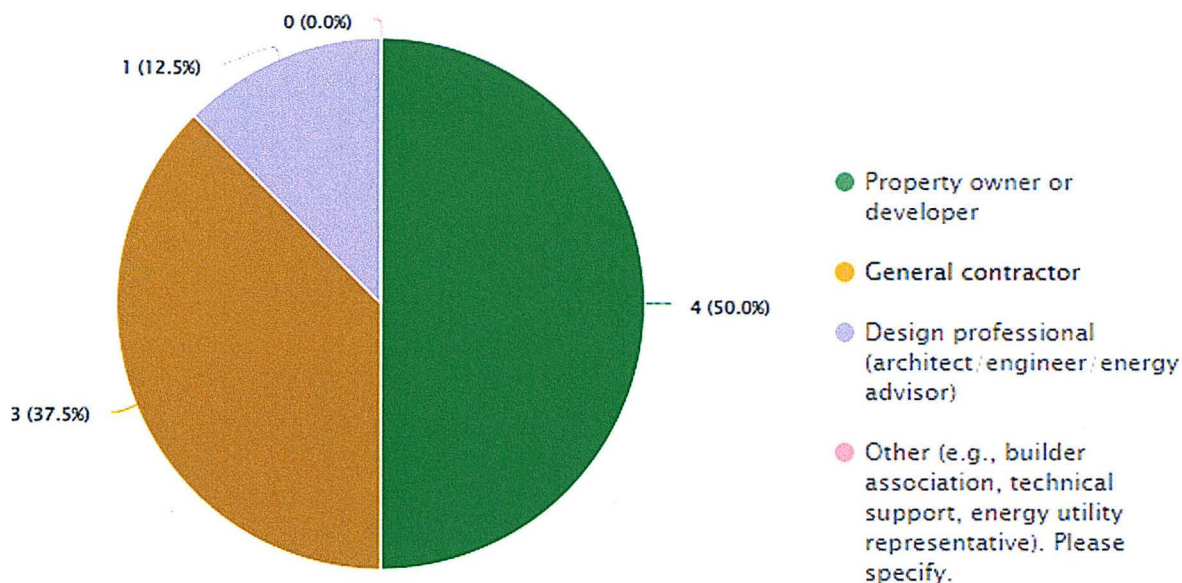
### **Survey Responses**

A survey to engage builders and developers on ZCSC and to provide feedback was posted on the Engage Maple Ridge Page from April 10, 2024, to April 24, 2024. Hardcopies were provided at the April 10, 2024, Building forum and at City Hall for submission. 8 responses to the survey were recorded.

### **Background and Knowledge of ZCSC**

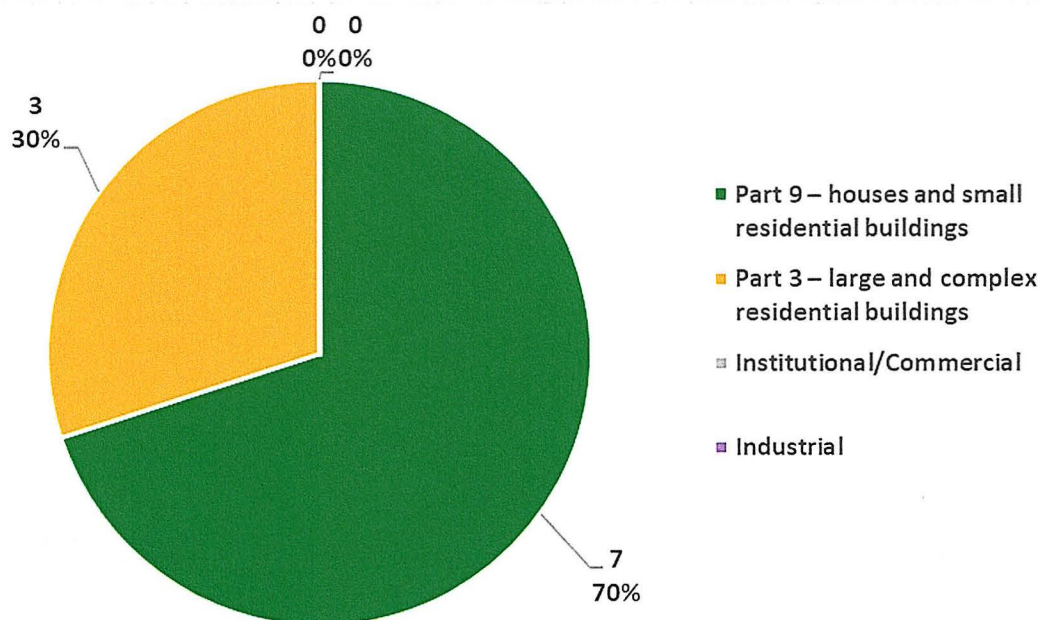
4 responses were provided by a property owner or developer, 3 were provided by a general contractor and 1 was provided by a design professional (architect/engineer/energy advisor). No responses were provided by Other (builder association, technical support, energy utility representative).

**Which of the following best describes you?**



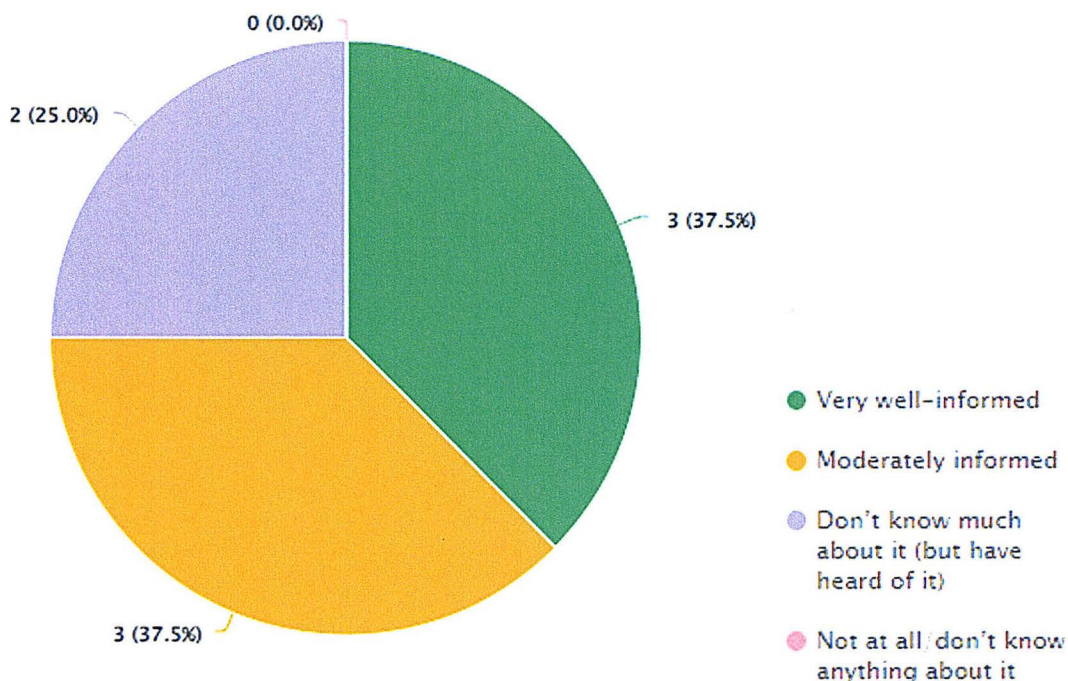
**What types of new developments are you/your firm working on in Maple Ridge?**

When asked about the type of new developments respondents are working on in Maple Ridge, 7 respondents said Part 9 – houses and small residential buildings and 3 respondents indicated Part 3 – large and complex residential buildings. No institutional/commercial or industrial buildings were said in responses.



**How well-informed are you about BC Zero Carbon Step Code?**

When asked about how aware or informed respondents are about the BC Zero Carbon Step Code (ZCSC), 3 respondents were very well-informed, 3 respondents were moderately informed, and 2 respondents have heard of ZCSC but do not know much about it.



**Identifying barriers**

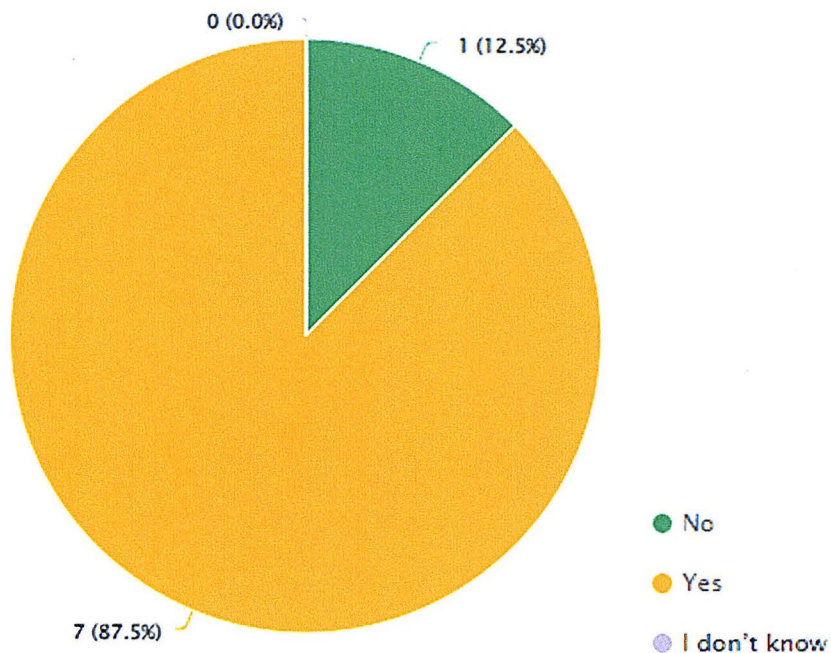
Survey respondents were asked about and to identify barriers they could see for the implementation of ZCSC through implementing zero carbon ready electric space heating and zero carbon ready electric domestic hot water systems in new Part 9 residential buildings or Part 3 residential buildings.

Barriers to electric space heating:

**Do you feel there are barriers to implementing zero carbon ready electric space heating systems in new Part 9 residential buildings or Part 3 residential buildings?**

Respondents indicated that there were barriers with 7 respondents said there are barriers while 1 response said there are no barriers.

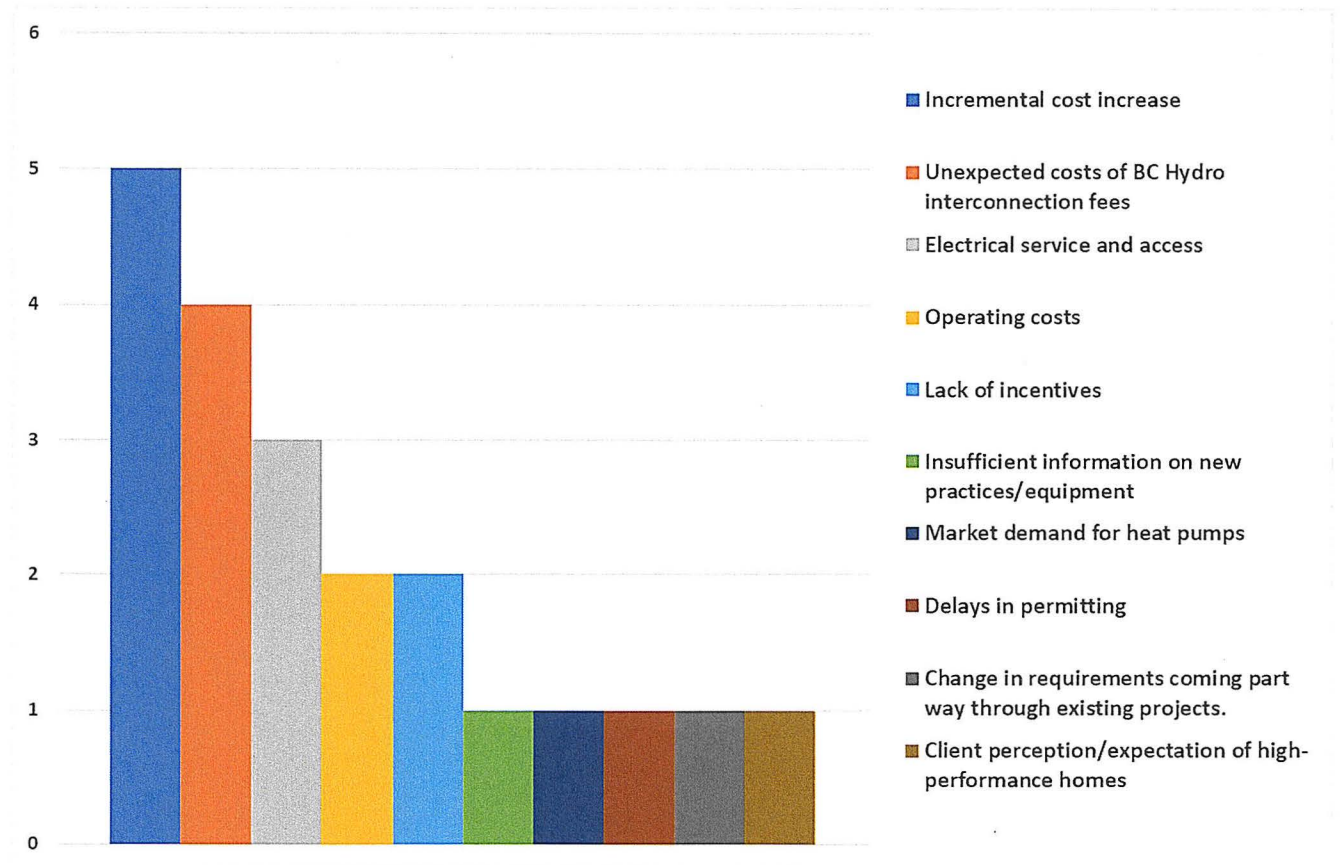
Attachment F - Zero Carbon Step Code Engagement – What We Heard



**What do you feel are the top three (3) barriers to implementing zero carbon ready electric space heating systems in new Part 9 residential buildings or Part 3 residential buildings?**

The top 3 responses showed concerns regarding incremental costs (5 responses) and costs associated with electrical service and access and interconnections fees for electricity (4 and 3 responses).

## Attachment F - Zero Carbon Step Code Engagement – What We Heard



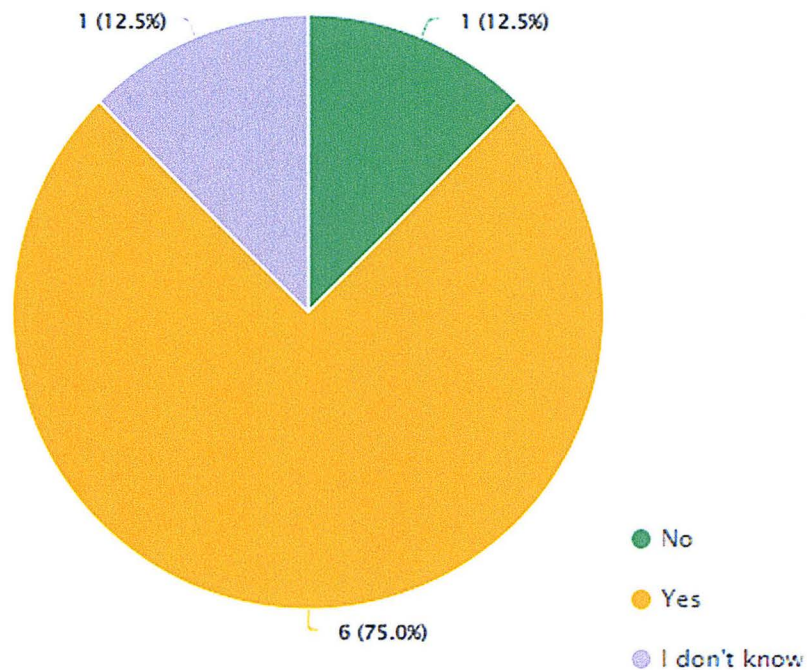
Operating costs (2 responses) and lack of incentives for building to net-zero (2 responses) were also identified as barriers

### Barriers to electric hot water:

#### **Do you feel there are barriers to implementing zero carbon ready electric domestic hot water systems in new Part 9 residential buildings or Part 3 residential buildings?**

Respondents indicated that there are barriers with 6 respondents said there are barriers while 1 response said there are no barriers, and 1 response did not know.

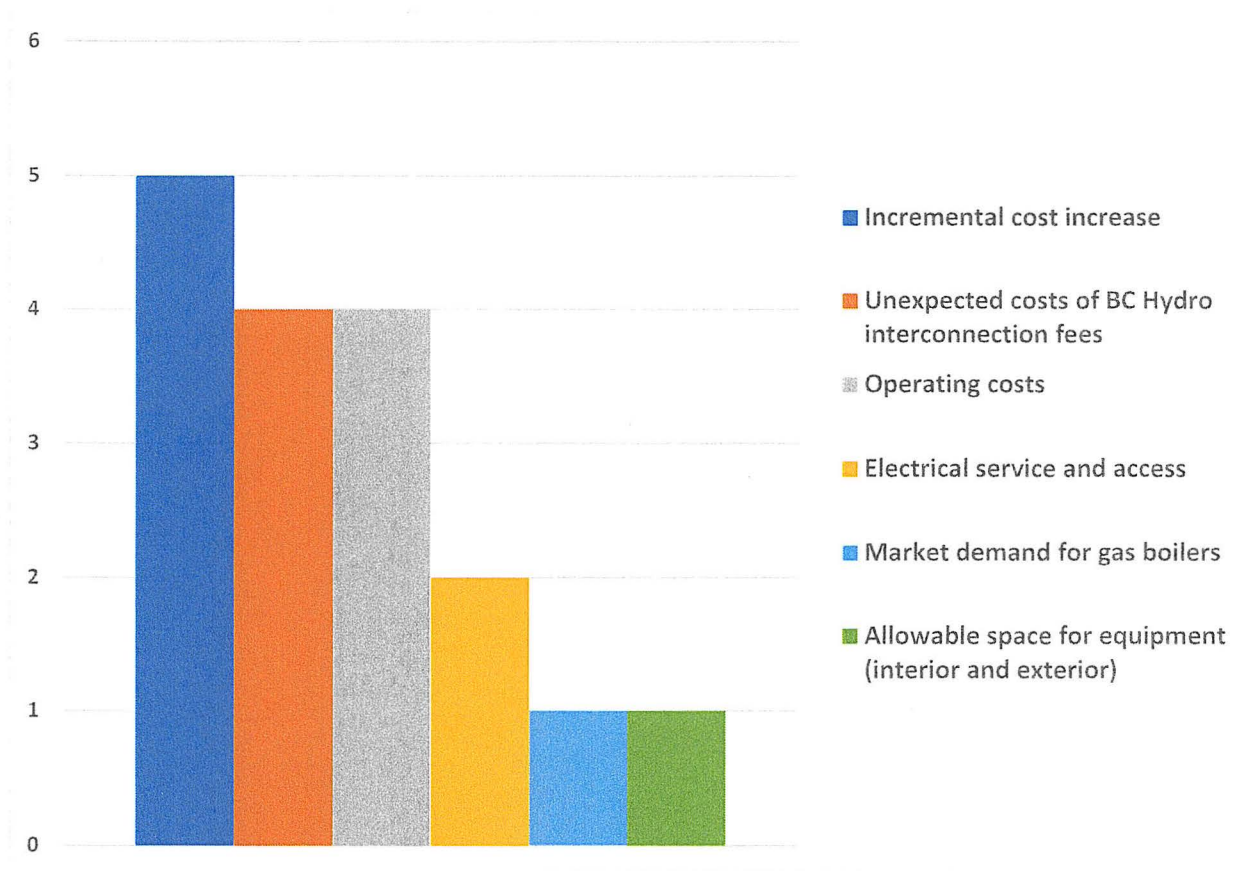
## Attachment F - Zero Carbon Step Code Engagement – What We Heard



### **What do you feel are the top three (3) barriers to implementing zero carbon ready electric domestic hot water systems in new Part 9 residential buildings or Part 3 residential buildings?**

The top 3 responses showed concerns regarding incremental costs (5 responses) and costs associated interconnections fees for electricity (4 responses) and operational costs (4 responses).

## Attachment F - Zero Carbon Step Code Engagement – What We Heard



Electrical service and access (2 responses) was also indicated as a barrier.

### **Implementing ZCSC in Maple Ridge**

Respondents were asked to provide feedback on a proposed implementation timeline and levels of ZCSC that were recommended by the Mayor’s Taskforce on Climate Action.

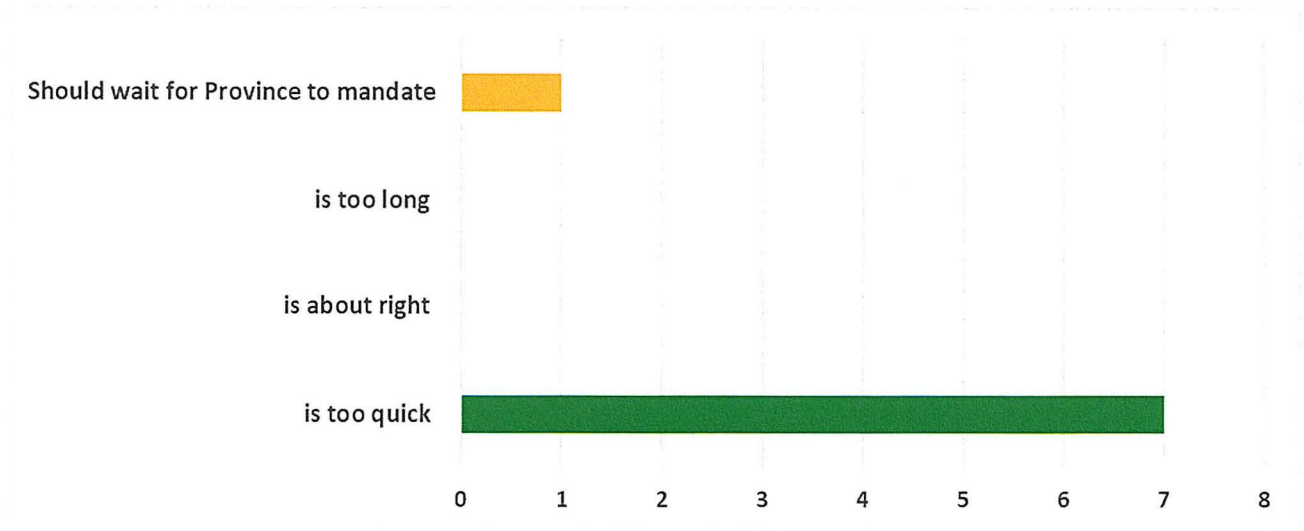
The City of Maple Ridge is considering implementing the Zero Carbon Step Code (ZCSC) for Part 3 residential and Part 9 residential buildings to prepare our community for the future of electrification, and to lower carbon emissions in the development and operation of new buildings.

A proposed timeline is:

- Strong Carbon Performance (EL-3) by January 1, 2025
- Zero Carbon Performance (EL-4) by January 1, 2026

**Do you feel the proposed introduction and implementation path of Zero Carbon Step Code in Maple Ridge is....**

## Attachment F - Zero Carbon Step Code Engagement – What We Heard



The majority of respondents felt that the proposed implementation of ZCSC to Maple Ridge was too quick (7 responses) with 1 response indicated that Maple Ridge should wait until the Province mandates ZCSC in the Building Code. One response elaborated by saying that moving from EL-3 Strong Carbon Performance to EL-4 Zero Carbon Performance in 1 year is way too quick.

### Which compliance choice do you prefer for Part 9 residential buildings?

Implementation of ZCSC in Part 9 buildings can follow two pathways: prescriptive or performance. The prescriptive path requires builders to decarbonize energy-intensive appliances like space heating, water heating and cooking equipment.

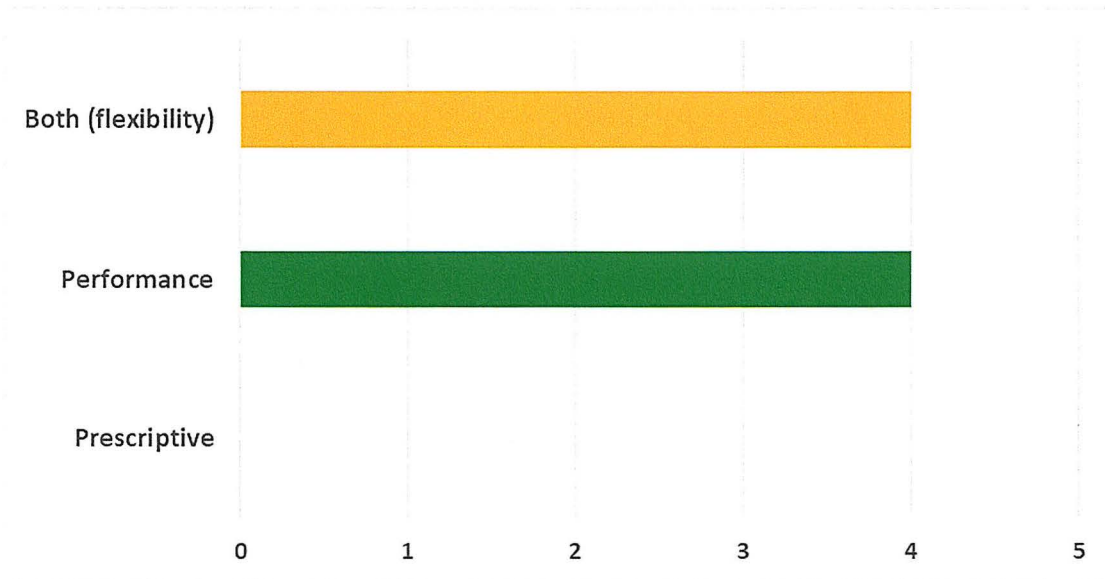
The performance path sets overall greenhouse gas emission targets for each Carbon Step. Builders may choose from different metrics optimized for small, medium, and large-sized homes. Builders who choose this route can ask their Energy Advisor to calculate the impact of their mechanical system choices on the overall carbon performance of the home. Under the performance path, builders could include some combustion equipment like fireplaces, cooktops, or clothes dryers and still comply with the top Carbon Step (“Zero Carbon Performance”).

Part 3 large residential buildings, the Zero Carbon Step Code requires builders to follow the performance pathway that sets emissions targets. There is no prescriptive pathway for Part 3 residential buildings.

When respondents were asked their preference for Part 9 buildings compliance pathway either performance or prescriptive to meet ZCSC, there was a split between 4 stating performance and 4 preferring the flexibility of both options.



## Attachment F - Zero Carbon Step Code Engagement – What We Heard

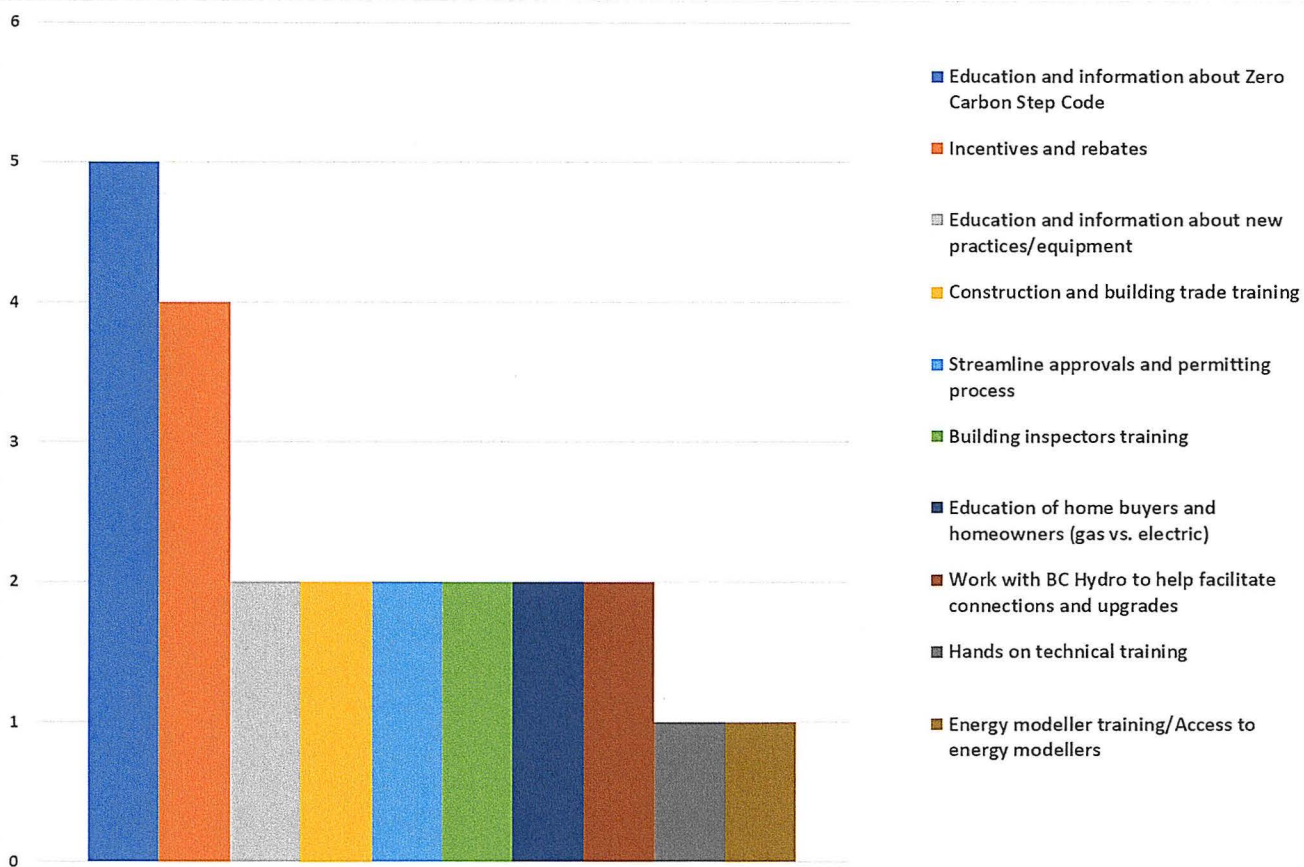


### **What top three (3) things do you need to be better prepared for the implementation of Zero Carbon Step Code in Maple Ridge?**

The survey enquired what things builders and developers would need to be better informed and prepared for the implementation of ZCSC in Maple Ridge. This question was asked to inform and understand what was needed to assist local builders and developers to introduce and build Part 9 residential and Part 3 residential buildings that would meet the steps of ZCSC in Maple Ridge.

Requests for more information, education and training for builders, developers, building trades and building inspectors on ZCSC and new equipment/practices were indicated as the highest need and interest from respondents (13 responses) followed by incentives and rebates and streamlining the approvals and permit process (6 responses), and educating homeowners of gas vs. electric for heating and working with BC Hydro to help facilitate connections and upgrades (4 responses).

## Attachment F - Zero Carbon Step Code Engagement – What We Heard



Specific requests for further information were requested on upgrading electricity hookups, and the need for backup power such as generators or natural gas. Education and engagement suggestions included hosting more information forums on topics of BC Energy Step Code and the builders in the community to get a tour of an EL-4 zero carbon home to see the planning and building science that has went into the home and or project.

### **Specific comments provided by respondents:**

#### Upgrades and backup power information:

- What I'd like to get more information on and seems like other builders/contractors have noted is will hydro have to upgrade from 200-400 Amp systems. Can power grid handle this with new builds and or upgrading old systems?
- What happens when rolling blackouts happen. Should we make rough in for generators mandatory and really this will all come down to the clients/homeowners in the end.
- Also like to get more info on Gas as a secondary backup be nice to have systems that run on electric first and a backup for gas just in case.

#### Costs

## Attachment F - Zero Carbon Step Code Engagement – What We Heard

- Avoid timing these new and expensive requirements while interest rates are high, wait until they come down, otherwise you'll make building affordable housing impossible.
- Cost of implementing effective/efficient electrical equipment is not insignificant in the real world.
- While implementing the Zero Carbon Step Code faster than the Building Code requires may be a praiseworthy goal, it will make housing less affordable in Maple Ridge. This will happen directly by increasing construction costs and indirectly by making projects less feasible, thus reducing the quantity of new housing built. When the cost of housing is increased, the people who are hurt the most are those on the lower end of affordability: seniors, single parents, young people, new Canadians, etc. Not all praiseworthy goals are simultaneously possible. We can't make housing more environmentally friendly while also making it more abundant and affordable. For now, we should focus on providing more housing, especially for the people who need it most, rather than making it less available and more expensive.

## Attachment G – Fortis BC – Zero Carbon Step Code Communication

Email correspondence dated April 26, 2024

Thank you again for meeting with us last week and providing us with an opportunity to offer feedback on the proposed plans for Zero Carbon Step Code policy in Maple Ridge. Throughout the engagement phase, I hope the points highlighted below can provide additional insight into some of the significance that this decision has the potential to carry. I would like to add that the opinions and recommendations that I have highlighted below have been considered through a triple bottom-line - environmental, social and economic - lens in support of current and future residents, businesses and institutions of Maple Ridge.

### Increased Home Costs

- In the February 21 Metro Vancouver Caucus of Committee Chairs, Mayor Hurley of Burnaby indicated that the newest Zero Carbon Step Code has increased the cost of homes by 12% and expressed concerns about the practical realities of limited, and sometimes interrupted electric capacity.
- Mayor Hurley's concerns were in direct response to the '**Climate 2050: Priority Actions to Accelerate Toward our Regional Targets**' report that was presented to the Metro Vancouver board on January 26, in which BC Hydro CEO, Chris O'Riley recognized that the solution to achieving regional climate goals cannot be full electrification; and that it is not practical nor feasible for BC Hydro to replace the gas system.
- Links to both meetings can be found here:

Link	Relevant Timestamp
<a href="https://metrovancover.org/media-room/video/906868258">https://metrovancover.org/media-room/video/906868258</a>	First 55 minutes comprised of BC Hydro CEO, Chris O'Riley presenting and answering key questions
<a href="#">Caucus of Committee Chairs Meeting Feb 21 2024   Metro Vancouver</a>	First 1 hour, 8 minutes comprises the agenda item with Mayor Hurley's comments beginning around the 20:00 minute mark.

As part of the StrongerBC plan, the Minister of Housing has announced that the Province is taking action to reduce bureaucracy to prioritize building homes in communities with the greatest housing needs, while addressing affordability. As the City of Maple Ridge is among the 47 municipalities on the Province's list, it will be important to consider how the accelerated implementation of ZCSC could impact the City's ability to meet the targets. Especially as the government has since said it will monitor the progress of the 20 communities (Maple Ridge included) and set out targets this summer for housing growth.

<https://www.biv.com/news/real-estate/bc-government-to-set-out-housing-targets-for-20-more-communities-8643379>.

### Capacity Limitations/Constraints

- On April 13<sup>th</sup>, at the Association of Vancouver Island & Coastal Communities Convention (AVICC) Diana Stephenson, Senior Vice-President of Customer & Corporate Affairs, BC Hydro and Doug Slater, Vice-President External Relations & Regulatory Affairs, Fortis BC presented on the Future of Energy.
- The intent of this presentation was to help municipalities as they grapple with the challenges of rapid population growth, critical economic development, and ambitious climate targets. Topics covered by Diana Stephenson and Doug Slater included:
  - The need for reliable decarbonized energy

## Attachment G – Fortis BC – Zero Carbon Step Code Communication

- BC Hydro's and FortisBC's shared commitments to delivering low carbon, affordable energy to achieve the Province's CleanBC Roadmap to 2030
- During the presentation, Diana Stephenson placed strong emphasis on the rationale for rolling out zero carbon step code by 2030 specifically, as it provides BC Hydro with the much needed room it requires to ensure that consumer's needs can be met.
- Ms. Stephenson was also emphatic that municipalities seeking to implement zero carbon step code more aggressively than the province's 2030 timeline need to consult BC Hydro first. Capacity limitations/constraints are top of mind and being able to provide consumers with reliable service is paramount.

### **Additional Considerations**

The Port Moody Climate Action Committee met on April 22 and Sustainability and Energy Coordinator - Mariana Berlanga and Senior Sustainability and Energy Coordinator - Chris Brown had a Zero Carbon Step Code Presentation which has very similar graphics to those in Maple Ridge Zero Carbon Step Code webpage. The team was seeking feedback from the Committee before presenting to council. They understand that the Tri-Cities, Coquitlam and Port Coquitlam, are prioritizing housing policy and affordability above step code policy but Port Moody would like to align more with New Westminster and Burnaby.

These four recent meetings provide a good snapshot of the discussions that are currently being had around step code. If not done already, we strongly suggest engaging with senior BC Hydro staff ahead of report conclusion to discuss available capacity and whether it can support Maple Ridge's step code aspirations. It would also be worthwhile to engage with Homebuilders Association of Vancouver (HAVAN) to seek broader feedback from builders that have experience building to varying degrees of Step Code environments and its implications, as well as engage with the Maple Ridge Climate Hub.

FortisBC and Maple Ridge have recently engaged in discussions to conduct an '**Emissions Reduction Pathway Study**' to explore various pathways for the City to achieve its Municipal emissions reductions targets (45% reduction by 2030, net-zero by 2050 from 2010 levels). It would be advisable to allow this study to conclude in order to leverage insights into the capital costs and economics associated with decarbonizing a group of buildings.

Our suggestion would be that the City ensure a broad and detailed consultation is conducted and a concerted effort made to solicit feedback from builders, businesses, residents, etc. The forum for Builders represents a good starting point, but with only 12 participating the results may be inadequate given the small sample size in contrast with the city-wide implications of any proposed policy. It is worth noting that Port Moody is seeking to have some speakers come in and talk about the barriers and challenges and are looking to create more of a brainstorm with City Staff and Builders. In the Climate Action Meeting they mentioned partnering with other municipalities on this and we would be happy to connect you if that's helpful.

We feel it's important to also provide you with the link to the [electrification study](#) that was filed with the BCUC as part of the proceedings for the FortisBC Energy Inc Long-Term Resource Plan. The preliminary study demonstrates that moving away from reliable fuel sources such as natural gas too quickly will raise capital costs and rates for customers. The gas system paired with smart electrification helps ensure our energy network has the capacity required to maintain energy security and reliability, especially during times of peak demand. Both systems are critical and neither can handle the growing need for energy on its own.

## Attachment G – Fortis BC – Zero Carbon Step Code Communication

We commend Maple Ridge's desire to be a leader in this space and for the work being undertaken. We also recognize that affordability and resiliency are equally critical for ensuring the community's needs are being addressed. As we navigate an economic climate in which citizens are struggling to afford basic necessities as well as homes to live in, we hope that these are also considerations being taken into account.

The Province understands that we all need to take action, and has thoughtfully provided a timeline that can still be interpreted as ambitious. However, we are concerned that moving *even faster* while in pursuit of it may seem a noble cause, in reality such an approach can have unintended affordability consequences as experienced in other Lower Mainland communities, in addition to further exacerbating existing electric capacity issues. Implementing the top levels of the ZCSC now would accelerate the province's proposed timeline by 6 years, which in turn would have extensive implications for the provincial electric utility's plans to upgrade its own infrastructure to meet today's needs.

Governments and energy utilities, [FortisBC included](#), have a common goal to decarbonize our energy system and I look forward to continuing to work with you to help meet Maple Ridge's targets in a way that allows your City to thrive!

If you have any questions or seek further information regarding anything mentioned above, please don't hesitate to reach out to me directly.

In Kindness,  
Amber

**Amber Sadgrove (she/her)**  
COMMUNITY RELATIONS MANAGER



FORMERLY



REPORT

# Net Zero Code Adoption: Report and Recommendations for the City of Nanaimo

CITY OF NANAIMO

JUNE 8, 2023

[introba.com](http://introba.com)

## Contents

Introduction.....	3
Background.....	4
Voluntary Implementation.....	6
Low-carbon Energy System Pathways.....	7
Local Government Adoption of Zero Carbon Step Code.....	7
Benefits and Risks of Higher Steps.....	10
Benefits of High Performance Buildings.....	10
Potential Risks of High Performance Buildings.....	13
Exploring Policy Options for the City of Nanaimo.....	16
What We Heard: Summary of Staff and Industry Feedback.....	17
Summary of Industry Workshop, Survey, and Interviews.....	18
Summary of Staff Workshop.....	19
Importance of Alignment Between Local Governments.....	20
Modelling Potential Emissions Reductions.....	20
Recommendations for Step Code Adoption.....	24
Recommended Approach – Accelerate Zero Carbon Step Code and BC Energy Step Code Adoption.....	24
Alternate Approach- Accelerate Zero Carbon Step Code Adoption.....	25
Important Next Steps.....	26
Appendix A: Modelling Methodology.....	27
Appendix B: Industry Workshop Summary.....	29
Appendix C: Staff Workshop Summary.....	39
Appendix D: Industry Workshop Presentation.....	41



## Introduction

The City of Nanaimo (CoN) has committed to reducing community-wide emissions by 50-58% below 2010 levels by 2030 and between 94-107% by 2050. As buildings accounted for 31% of community emissions in 2017, reducing emissions from space heating and hot water is a key step in meeting this commitment.

Local governments with similar goals have all begun to address emissions from the building sector by leveraging the BC Energy Step Code to establish requirements for new construction to ensure homes and buildings are designed and constructed properly from the start. The CoN is among those who have implemented the BC Energy Step Code ahead of the provincially mandated baseline, and currently requires Step 3 (of 5) for single family homes and townhouses (i.e. Part 9 buildings) and Step 2 (of 3 or 4) for commercial and multi-unit residential buildings (i.e. Part 3 buildings). The City's rezoning bylaw also requires applicants to either achieve one step higher than municipal requirements, or else achieve the current step but with a low-carbon energy system, and the density bonusing provides an incentive for builders and developers to build beyond base BC Energy Step Code requirements.<sup>1,2</sup>

However, it is evident that adoption of the BC Energy Step Code alone is insufficient to drive the emissions reductions necessary to meet Nanaimo's climate goals. As such, Nanaimo's *City Plan: Nanaimo Reimagined* adopted in July 2022, and the *DRAFT Integrated Action Plan* gives direction to:

- Accelerate zero carbon and energy efficient building design and practices for all new construction before 2030, and require this for all new construction after 2030<sup>3</sup>
- Support, prioritize, and advocate for low carbon energy systems in all new construction.<sup>4</sup>
- Confirm final steps with respect to Nanaimo's Energy Step Code implementation strategy, to ensure higher Step Code compliance requirements come into effect before the Provincial mandated implementation timelines<sup>5</sup>

On May 1, 2023, the Province of British Columbia amended the BC Building Code to increase base Energy Step Code requirements and introduce the Zero Carbon Step Code. These recent changes in the base code provide a key opportunity for the City of Nanaimo to revisit its current approach to regulating the energy and carbon performance of new construction.

The purpose of this report is to help inform this effort by drawing from multiple sources of information, including:

- A background review of Nanaimo's current approach to the regulation of energy efficiency and renewable energy in new construction

---

<sup>1</sup> City of Nanaimo. BC Energy Step Code Rezoning Policy. 2021. <https://www.nanaimo.ca/docs/property-development/community-planning-and-zoning/bc-energy-step-code-rezoning-policy.pdf>

<sup>2</sup> City of Nanaimo. Zoning Bylaw No. 4500. 2021. <https://www.nanaimo.ca/bylaws/ViewBylaw/4500.pdf>

<sup>3</sup> City of Nanaimo. City Plan – Nanaimo Reimagined. 2022. <https://www.nanaimo.ca/property-development/community-planning-land-use/city-plan>

<sup>4</sup> Ibid.

<sup>5</sup> City of Nanaimo. DRAFT Integrated Action Plan. 2023. <https://www.nanaimo.ca/docs/city-plan-documents/iap-draft.pdf>

- A survey of current practices that other local governments in BC have taken with respect to the Energy Step Code, as well as past and current methods of encouraging or requiring lower carbon performance
- Quantitative modelling of different potential implementation pathways to estimate their emissions reduction potential and contribution towards Nanaimo’s climate targets
- A survey issued to members of the local building industry in the RDN to gauge experience and support for constructing to higher levels of performance
- A 2-hour online workshop with local industry members held on May 9<sup>th</sup>, 2023, and
- A second 2-hour industry workshop held with local planning, permitting and/or building inspections staff of local governments within the RDN, held on May 18<sup>th</sup>, 2023.
- Three interviews with social housing providers in May 2023.

This report provides a summary of the results of this work and draws on these various sources of insight to provide the City of Nanaimo with a recommended pathway for further Step Code adoption.

## Background

The BC Energy Step Code has been in effect since 2017. Introduced to help provide consistency in the regulation of new construction across the province, this “stretch code” increases minimum levels of energy efficiency for new homes and buildings every 5 years (see Figure 1). While the Province mandates a base level of performance via the BC Building Code, local governments may require higher levels of the BC Energy Step Code provided they consult with their local building industries.

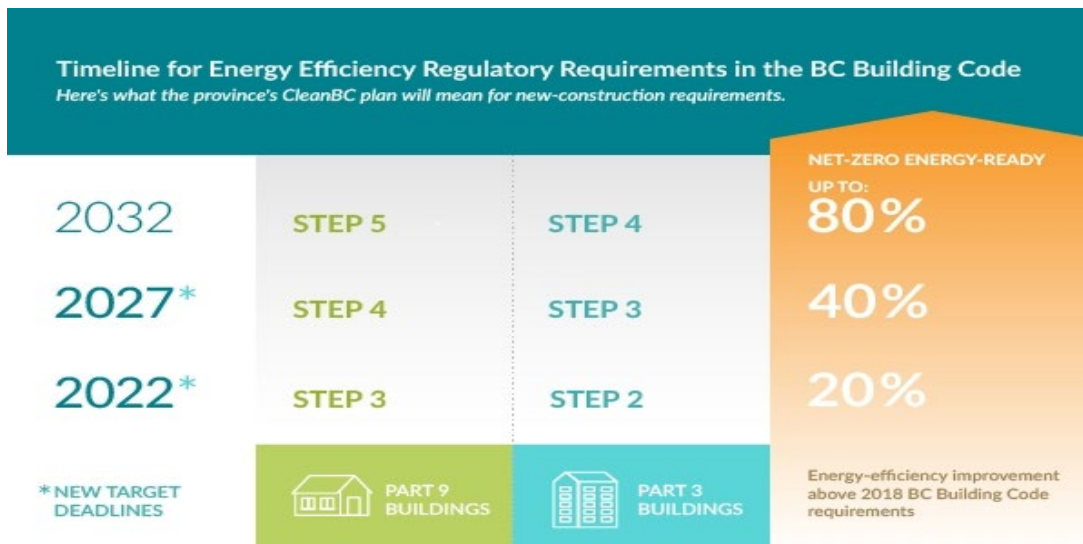


Figure 1. Provincial Timeline for BC Energy Step Code Implementation

On May 1<sup>st</sup>, 2023, the Province increased the minimum building code to Step 3 for Part 9 buildings, and Step 2 for Part 3, which now aligns with the City of Nanaimo’s current implementation of the BC Energy Step Code. Alongside this increase, the Province also introduced the Zero Carbon Step Code, which local governments may now also opt into to require a reduction in greenhouse gas (GHG) emissions. The introduction of the Zero Carbon Step Code marks an important milestone for local governments interested in pursuing emissions reductions in the building sector, as homes and buildings designed even

to the highest steps of the BC Energy Step Code can emit significant greenhouse gas emissions when designed using fossil fuel-based mechanical systems.

The Zero Carbon Step Code has different targets and compliance pathways for different building types. For Part 3 buildings, a greenhouse gas intensity (GHGI)<sup>6</sup> target is used that varies based on building type (see Table 1). These targets can be achieved by electrifying an increasing number of building systems (e.g. space heating and hot water).

Table 1: Zero Carbon Step Code requirements (Part 3)

Building Type	Moderate kgCO <sub>2</sub> e/m <sup>2</sup> /year	Strong kgCO <sub>2</sub> e/m <sup>2</sup> /year	Zero kgCO <sub>2</sub> e/m <sup>2</sup> /year
MURB	7	3	1.8
Office	5	3	1.5
Retail	6	3	2
Hotel	9	4	2
Implications	Zero carbon space heating	Zero carbon space and water heating	Zero carbon energy systems

For Part 9 buildings, the Zero Carbon Step Code offers three different compliance pathways (see Table 2):

- 1) **Quantity of carbon pollution.** Intended for smaller homes, this compliance path establishes a maximum GHG emissions cap that the whole home can emit.
- 2) **Intensity of carbon pollution.** Similar to the Part 3 pathway, this compliance option establishes a maximum GHGI per home, but also introduces a total GHG emissions cap.
- 3) **Prescriptive approach:** This pathway requires emissions reductions from different uses, starting with space heating only, moving to include domestic hot water and ultimately, cooking equipment.

Table 2: Zero Carbon Step Code requirements (Part 9)

Compliance Pathway	Moderate	Strong	Zero Carbon
<b>Path 1 –Quantity of carbon pollution</b>			
<b>GHG Base Allowance</b> (kg CO <sub>2</sub> e/unit)	1050	440	265
<b>Path 2 –Intensity of carbon pollution</b>			
<b>Building GHG Intensity</b> (kgCO <sub>2</sub> e/m <sup>2</sup> /year)	6	2.5	1.5
<b>GHG Maximum Cap</b> (kg CO <sub>2</sub> e/unit)	2400	800	500
<b>Path 3 – Prescriptive Approach</b>			

<sup>6</sup> Greenhouse gas intensity (GHGI) is the amount of carbon produced by a building normalized for building size. The measures of GHGI is kgCO<sub>2</sub>e/m<sup>2</sup>/year

<b>Prescriptive Approach</b>	Space heating must be zero carbon	Space and water heating systems must be zero carbon	Space and water heating and cooking must be zero carbon
------------------------------	-----------------------------------	---	---

The introduction of the Zero Carbon Step Code enables local governments to directly regulate the emissions from new construction, rather than through energy efficiency requirements alone. Carbon regulations are essential for achieving climate targets; focusing on energy efficiency alone can still result in significant emissions from the new building sector – even at higher steps of the BC Energy Step Code (see Figure 2).

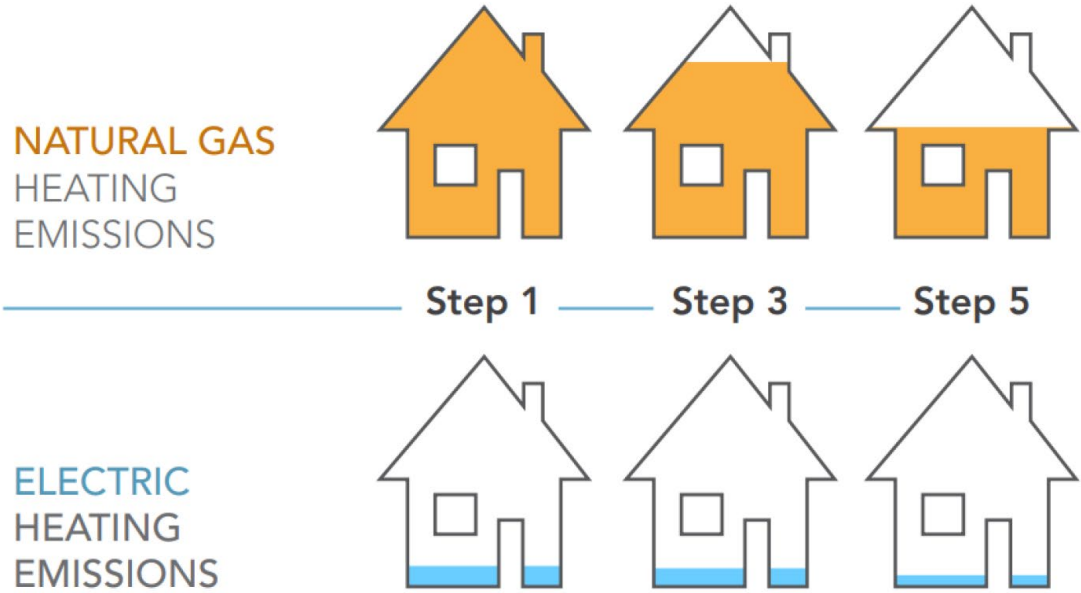


Figure 2. Greenhouse gas emissions by heating type and energy step (source: [Metro Vancouver Climate 2050 Buildings Discussion Paper](#))

**Voluntary Implementation**

Many local governments are using incentives to drive voluntary uptake of the Energy Step Code and Zero Carbon Step Code. These voluntary measures can be used on their own, or in conjunction with Step Code adoption to encourage higher levels of performance to increase industry readiness before phasing in more stringent requirements. The key tools used to promote voluntary adoption are as follows:

- **Building permit fee rebates** for homes meeting the upper steps of the BC Energy Step Code. *Local Governments who have used this approach include the City of Richmond<sup>7</sup>, Comox Valley Regional District, Township of Langley, City of Kimberley.*

<sup>7</sup> Richmond provides a 50% building permit fee refund for Step 4, and 100% building permit fee refund for achieving Step 5 or passive house. These incentives will only be in place until the incentivized level becomes the base code.

- **Home energy evaluations or airtightness testing rebates.** *Local Governments who have used this approach include the City of North Vancouver, Township of Langley, New Westminster.*
- **Permit Fast Tracking:** “Front of the line” status for all-electric/highest step project. *Local Governments who have used this approach include West Vancouver and Port Coquitlam.*
- **Density Bonusing:** Additional density granted to higher performing designs. *Local Governments who have used this approach include the City of Duncan, and City of Nanaimo*

### Low-carbon Energy System Pathways.

It is also worth noting that prior to the release of the Zero Carbon Step Code, many local governments throughout the lower mainland and Vancouver Island sought to address the gap in emissions regulations by introducing Low Carbon Energy System (LCES) pathways into building bylaws. The LCES pathway is effectively an incentive, which allows builders and developers to choose to either (1) achieve a GHGI target, or (2) build to a higher level of the BC Energy Step Code. These requirements have increased industries’ understanding of and experience with emissions targets.

### Local Government Adoption of Zero Carbon Step Code

Local governments have been anticipating the implementation of the Zero Carbon Step Code, and as a result have been quick to adopt it alongside the BC Energy Step Code. Although the implementation details vary from one local government to another, at a high-level, there are two approaches that are being used:

- **Prioritize Carbon.** With this approach, local governments prioritize building decarbonization through the rapid implementation of the Zero Carbon Step Code, without advancing Energy Step Code beyond the provincial backstop. Saanich and the City of Victoria are using this approach and will be implementing the highest level of the Zero Carbon Step Code in 2023/2024 (see Table 3 and Table 4).
- **Prioritize Energy and Carbon.** With this approach, local governments prioritize energy and carbon by incrementally implementing Energy Step Code and Zero Carbon Step Code on roughly the same timeline. The Resort Municipality of Whistler and the City of Richmond are using this approach to get to the top level of the Zero Carbon Step Code and top or upper steps of the Energy Step Code by 2026/2027 (see Table 5 and Table 6).

The tables below outline the detailed implementation timelines for each local government. The variation in the approaches reflects differing community priorities, and feedback from industry on local readiness.

---

Source: City of Richmond. Incentives for New High-Performance Single-Family and Duplex Dwellings. 2021. [https://www.richmond.ca/\\_shared/assets/building4657805.pdf](https://www.richmond.ca/_shared/assets/building4657805.pdf)

## City of Victoria

Table 3. City of Victoria Energy Step Code and Zero Carbon Step Code Implementation Timeline<sup>8</sup>

Part 9 Buildings	Implementation Timeline		
	May 1, 2023	November 1, 2023	N/A
Single Family Dwelling, duplex, or townhomes	Base Code (Energy Step 3)	Base Code (Energy Step 3) + Zero Carbon Performance	N/A
Part 3 Buildings	May 1, 2023	July 1, 2024	November 1, 2024
Residential (4-6 storey)	Energy Step 3	Energy Step 3 + Zero Carbon Performance	Energy Step 3 + Zero Carbon Performance
Residential (+6 storey)	Base Code (Energy Step 2)	Base Code (Energy Step 2)	Base Code (Energy Step 2) + Zero Carbon Performance
Commercial	Base Code (Energy Step 2)	Base Code (Energy Step 2)	Base Code (Energy Step 2) + Zero Carbon Performance

## Saanich

Table 4. Saanich Energy Step Code and Zero Carbon Step Code Implementation Timeline<sup>9</sup>

Part 9 Buildings	Implementation Timeline		
	May 1, 2023	November 1, 2023	N/A
Single Family Dwelling, duplex, or townhomes	Base Code (Energy Step 3) + Measure only Carbon	Base Code (Energy Step 3) + Zero Carbon Performance	N/A
Part 3 Buildings	May 1, 2023	July 1, 2024	November 1, 2024
Residential (4-6 storeys)	Base Code (Energy Step 2) + Measure Only Carbon	Base Code (Energy Step 2) + Zero Carbon Performance	Base Code (Energy Step 2) + Zero Carbon Performance
Residential (+6 storey)	Base Code (Energy Step 2) + Measure Only Carbon	Base Code (Energy Step 2)	Base Code (Energy Step 2) + Zero Carbon Performance
Commercial	Base Code (Energy Step 2) + Measure Only - Carbon	Base Code (Energy Step 2)	Base Code (Energy Step 2) + Zero Carbon Performance

<sup>8</sup> City of Victoria. BC Energy Step Code. <https://www.victoria.ca/EN/main/residents/planning-development/development-services/green-buildings.html#:~:text=When%20and%20how%20are%20these,buildings%20by%20November%201%2C%202024.>

<sup>9</sup> Saanich. BC Energy Step Code and Zero Carbon Step Code. <https://www.saanich.ca/EN/main/community/sustainable-saanich/bc-energy-step-code-and-carbon-pollution-standard.html>

## City of Richmond

Table 5. City of Richmond Energy Step Code and Zero Carbon Step Code Implementation Timeline<sup>10,11</sup>

Building type		Implementation Timeline		
		Oct 1, 2023	January 1, 2025 to December 31, 2026	After January 1, 2027
Part 9	Single Family Dwelling, duplex, or townhomes	Step 5 + Moderate Carbon or Step 4 + Strong Carbon or Step 3 + Zero Carbon	Step 5 + Strong Carbon or Step 4 + Zero Carbon	Step 5 + Zero Carbon
Part 3	Residential concrete towers	Step 3 + TBD ZCSC level or Step 2 TBD ZCSC level	Step 4 + TBD Carbon Level or Step 3 Carbon Level	Step 4 + TBD Carbon Level
	Residential low/mid-rise	Step 4 + TBD ZCSC level or Step 3 TBD ZCSC level	Step 4 + TBD Carbon Level	Step 4 + TBD Carbon Level
	Office & retail buildings	Step 3 + TBD ZCSC level or Step 2 TBD ZCSC level	Step 3 + TBD Carbon Level	Step 3 + TBD Carbon Level
	Hotels and Motels	Step 4 + TBD ZCSC level or Step 3 TBD ZCSC level	Step 4 + TBD Carbon Level or Step 3 TBD Carbon Level	Step 4 + TBD Carbon Level

## Resort Municipality of Whistler

Table 6. Resort Municipality of Whistler Energy Step Code and Zero Carbon Step Code Implementation Timeline<sup>12</sup>

Building type		Implementation Timeline	
		January 2024	2026 onward
Part 9	Single Family Dwelling, duplex, or townhomes	Step 4 + Strong Carbon Performance	Step 4 + Zero Carbon Performance
	SFD or duplex with in-ground basement floor area exclusion	Step 5 + Strong Carbon Performance	Step 5 + Zero Carbon Performance
Part 3	Residential	Step 3 + Strong Carbon Performance	Step 3 + Zero Carbon Performance
	Commercial	Step 2 + Strong Carbon Performance	Step 3 + Zero Carbon Performance

<sup>10</sup> City of Richmond. Energy Step Code. Part 3 Buildings. 2023.

[https://www.richmond.ca/\\_shared/assets/building4051958.pdf](https://www.richmond.ca/_shared/assets/building4051958.pdf)

<sup>11</sup> City of Richmond. Energy Step Code: Part 9 Buildings Overview. 2023.

[https://www.richmond.ca/\\_shared/assets/building3751347.pdf](https://www.richmond.ca/_shared/assets/building3751347.pdf)

<sup>12</sup> Resort Municipality of Whistler. BC Energy Step Code. 2023. <https://www.whistler.ca/business/land-use-and-development/building/bc-energy-step-code/#:~:text=Working%20towards%20the%20top%20level,only%20low%20carbon%20heating%20systems.>

## Benefits and Risks of Higher Steps

The following section summarizes the benefits and challenges of adopting higher levels of the BC Energy Step Code and Zero Carbon Step Code.

### Benefits of High Performance Buildings

There are several documented benefits of improved energy efficiency and zero carbon emissions, which are explained below:

1. **Potential to lower energy bills for residents and tenants.** Energy efficient buildings have lower overall demand for energy, which lowers utility costs for building occupants (both tenants and owners). All electric buildings have also been shown to result in utility savings when high performance electric equipment such as a heat pump is installed. Table 7 outlines the modelled range of utility cost savings associated with Zero carbon performance and the upper steps of the BC energy Step Code, which indicates that in most cases, utility costs decrease with electrifications and efficiency measures. The exceptions that can be noted in this table are the potential increases in costs for single family homes, which are driven primarily by smaller home archetypes (i.e., under 1100 ft<sup>2</sup>). Such costs can be avoided through the careful selection of higher efficiency mechanical systems.
2. **More durable envelopes with lower replacement needs.** Higher levels of energy efficiency (and thermal energy demand intensity in particular) require higher quality, thicker and better sealed building envelopes. This means lower potential for moisture ingress that can cause building exteriors to fail prematurely, lowering the potential for costly repairs or replacements.
3. **Avoided cost of future retrofits.** Accelerated adoption of both energy efficiency and zero carbon standards will help protect home and building owners from the need to replace or upgrade their building systems and components under incoming provincial requirements for existing buildings. These requirements are currently under development, but are likely to include time of replacement or installation requirements for higher efficiency equipment, as well as requirements to upgrade building components such as windows, walls and doors to meet higher efficiency standards when undertaking renovations.
4. **Significantly reduced carbon emissions.** While reduced emissions benefit the City of Nanaimo in achieving their climate targets, many companies and portfolio owners are also setting their own climate and sustainability targets. Ensuring high performing buildings will help attract businesses and tenants looking for leasable area that helps them meet those targets, while homeowners interested in having a lighter footprint will appreciate a zero carbon home.
5. **Quieter and more comfortable homes.** As noted above, higher efficiency homes and buildings are designed with better envelopes and careful window placement, which help keep indoor temperatures comfortable year-round. With the electrification of space heating that comes with the Zero Carbon Step Code, many building occupants will also benefit from heat pump-based mechanical systems that provide both heating and cooling.



6. **Healthier indoor and outdoor air quality.** The elimination of fossil fuel-based systems from homes and buildings improves outdoor and outdoor air quality.
  - Natural gas equipment and appliances, specifically natural gas stoves, release NO<sub>2</sub> into homes and buildings which can exacerbate pre-existing health conditions like chronic obstructive pulmonary disease (COPD), heart disease, and diabetes.<sup>13</sup>
  - poorly adjusted, maintained, or ventilated gas appliances can result in gas leaks or incomplete combustion that expose individuals to dangerous and potentially fatal levels of carbon monoxide.<sup>14</sup>
  - Burning fossil fuel in furnaces vents pollutants, specifically PM<sub>2.5</sub>, into the atmosphere.<sup>15</sup> PM 2.5 has been linked to short and long-term respiratory issues.
7. **Resilience.** Higher performance buildings also improve resilience to climate change by safeguarding against increasing temperatures through mechanical cooling, and maintaining indoor temperatures for longer periods of time in the case of power outages.
8. **Equity:** Pollution from buildings disproportionately impacts low-income communities and communities of colour. Addressing these emissions will help reduce this disproportionate burden. Energy efficient homes will also reduce in energy savings reducing the economic burden for homeowners to pay high utility bills
9. **Market Demand:** A high energy efficiency home is viewed as increasing desirable by potential home buyers. In a 2020 survey by the Canadian Home Builders Association (CHBA). Nine out of 10 respondents said they either “really want” or “must have” an energy-efficient home. An “overall energy efficient home” was list as the third most desirable feature prospective homeowners look for in a new home. High-efficiency windows come in at number four, a high efficiency low carbon heating system is also made buyers top ten list of priorities at number nine.<sup>16</sup>

---

<sup>13</sup> Brady Seals and Andee Krasner. Health Effects from Gas Stove Pollution, Rocky Mountain Institute, Physicians for Social Responsibility. 2020, <https://rmi.org/insight/gasstoves-pollution-health>

<sup>14</sup> United States Environmental Protection Agency. Carbon Monoxide’s Impact on Indoor Air Quality. <https://www.epa.gov/indoor-air-quality-iaq/carbon-monoxides-impact-indoor-air-quality>

<sup>15</sup> Jonathan J Buonocore, et al. A decade of the U.S. energy mix transitioning away from coal: historical reconstruction of the reductions in public health burden of energy. Energy Research. 2021. <https://iopscience.iop.org/article/10.1088/1748-9326/abe74c>

<sup>16</sup> Zebx. Marketing the high-performance home. 2021. <https://www.zebx.org/marketing-the-high-performance-home-4/>

Table 7: Modelled changes to operational costs associated with Energy Step Code and Zero Carbon Step Code<sup>17</sup>

Building Type	Energy Step Code	Zero Carbon Step Code	Utility Cost
Single family homes	4	Zero Carbon	+7% – -4%
	5	Zero Carbon	+5% – -12%
High Rise MURB	3	Zero Carbon	-9% – -11%
	4	Zero Carbon	-11% – -24%
Low Rise MURB	3	Zero Carbon	-9% – -11%
	4	Zero Carbon	-11% – -24%
Row Homes	4	Zero Carbon	-21%
	5	Zero Carbon	-25%
Quadplex	4	Zero Carbon	-
	5	Zero Carbon	-
Office	3	Zero Carbon	-18%

The baseline in this table is the BCBC (i.e. Step 3 equivalent for Part 9 buildings and Step 2 equivalent for Part 3 buildings)

### Text Box 1. Common Myths about All Electric Buildings

**#1 Electric buildings need natural gas backup.** There is a common misconception that relying solely on electricity puts residents at greater risk in the case of a power outage (compare to having both natural gas and electricity). In general, gas heating systems will not operate during a power outage as they use components that require electricity to operate, including circuit boards, relays and blower motors and fans. An exception is when homeowners can light a natural gas fireplace or stove with a match; the same is true for some older domestic hot water systems.

**#2 BC won't have enough electricity to meet future demand for homes and vehicles.** BC Hydro is planning for the rapid scale up of building, vehicle and industry electrification, and has developed near- and long-term actions to meet the scale of electrification required for achieving the provincial government's climate targets. The utility continuously updates these plans and projections in response to changing conditions (i.e. government policy and regulation, and market conditions).

<sup>17</sup> Province of British Columbia. Draft Building Carbon Pollution Standard for Part 9 Buildings in British Columbia. 2022. [https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/reports/part\\_9\\_technical\\_analysis\\_2022\\_revoc3\\_2022.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/reports/part_9_technical_analysis_2022_revoc3_2022.pdf)

## Potential Risks of High Performance Buildings

Despite the benefits of high performance low carbon buildings, there are some risks and challenges to consider, many of which can be addressed through complementary policies/programs.

1. **Higher utility costs with electrification.** Buildings and homes designed with low efficiency heating system, like electric baseboard heating, and baseline energy efficiency may have a higher energy costs than average new construction.
2. **Increased capital costs.** Building high performance electric buildings can result in marginal increases in capital costs (see Table 8 and Table 9). The costs studies reference for this analysis indicate that this is often 1-4% for BC Energy Step Code and an additional 1-2% for achieving zero carbon levels of performance (note these costs reference NECB 2017 as the baseline, and not the newly amended BCBC). Industry members consulted through this project indicated that achieving Step 3 for Part 3 buildings or Step 4 for Part 9 buildings results in a negligible cost increase; however, there are still additional costs for achieving the top steps. As the industry gains more experience, and demand for cooling increases the incremental costs for high performance electric buildings will decrease.
3. **Limited electrical capacity/potential need for electrical upgrades.** Electrifying a building and incorporating EV charging will sometimes require an electrical service upgrade. The timelines for upgrading electrical service can be long and the costs can be very high – although they vary by project. However, BC Hydro is in the process of revising its Distribution Extension Policy to address both costs and timeline barriers.<sup>18</sup> Addressing electrical capacity early in the development process can reduce or eliminate any delays caused by electrical service upgrade requirements.
4. **Increase in embodied carbon.** There is some evidence that suggests that the embodied carbon from high efficiency homes can result in a net increase in emissions. In this case, the emissions from the additional materials that are needed for a high performance envelope, are greater than carbon savings for the building operations over its lifespan.<sup>19</sup> Policies to measure and manage emissions from embodied carbon can be introduced to mitigate this potential impact.
5. **Need to ensure careful design to avoid overheating.** There are a number of examples of high performance buildings that have issues with overheating. This is a common problem if buildings are not incorporating passive cooling measures, and/or mechanical cooling. Ideally, all buildings should incorporate passive cooling to bring down the cooling load, and any additional cooling needs can be met through mechanical cooling (e.g. an electric heat pump).<sup>20</sup>

---

<sup>18</sup> BC Hydro. Improving Customer Connections for a Cleaner Future. 2023.

<https://app.bchydro.com/content/dam/BCHydro/customer-portal/documents/accounts-billing/electrical-connections/electrical-connection-process-improvements-overview-feb2023.pdf>

<sup>19</sup> Chris Magwood et al. Achieving Real Net-Zero Emissions Homes: Embodied Carbon Scenario Analysis of the Upper Tiers of Performance in the 2020 Canadian National Building Code. 2021.

[https://www.buildersforclimateaction.org/uploads/1/5/9/3/15931000/bfca-enercan-report-web\\_08\\_21.pdf](https://www.buildersforclimateaction.org/uploads/1/5/9/3/15931000/bfca-enercan-report-web_08_21.pdf)

<sup>20</sup> BC Housing. BC Energy Step Code Design Guide Supplement S3 on Overheating and Air Quality. 2019  
<https://www.bchousing.org/publications/BC-Energy-Step-Code-Guide-Supplemental.pdf>

6. **Need for additional training for municipal staff and industry members.** Building high performance low-carbon buildings requires a learning curve for both municipal staff and industry. Industry members noted the importance of using an integrated design process (IDP) for high performance buildings, as well as increasing experience and competency for specific measures such as air sealing, and heat pump installations.
  
7. **The use of renewable natural gas (RNG).** RNG can be used in homes and buildings to decarbonize heating and hot water systems. However, there is currently no mechanism to ensure that the building continues using RNG after it is occupied, and doesn't switch to (cheaper) conventional natural gas. There is also a limited amount of RNG, and many energy and climate experts advocate that it should be reserved for hard-to-electrify sectors (e.g. heavy industry and aviation), and not used in buildings.

Table 8: Modelled incremental capital cost increases associated with higher BC Energy Step Code tiers<sup>21</sup>

Building Type	Energy Step Code	Incremental cost increase range (%)*
Single family homes	4	0% -5%
	5	1% - 7%
High Rise MURB	3	1% - 4%
	4	1%- 6%
Low Rise MURB	3	1% - 2%
	4	3%
Row Homes	4	0-2%
	5	2%
Quadplex	4	2%
	5	4%
Office	3	-2%-0%

<sup>21</sup> Based on BC Energy Step Code Metrics Report Update (2022); City of Surrey Step Code Costing Study; City of Vancouver Zero Emissions Building Plan: Rezoning Cost Comparison; Getting to Zero: A High-Performance Energy Policy for New Buildings in the City of Richmond. Note: outlying values have been excluded from this table.

Table 9: Modelled incremental capital cost increases associated with higher Energy Step Code tiers + Zero Carbon<sup>22</sup>

Building Type	Energy Step Code (Baseline)	Zero Carbon Step Code	Incremental cost increase range (%)
<b>Single family homes</b>	4	Zero Carbon	0% – 1%
	5	Zero Carbon	0% – 2%
<b>High Rise MURB</b>	3	Zero Carbon	0% – 2%
	4	Zero Carbon	0% – 1%
<b>Low Rise MURB</b>	3	Zero Carbon	0% – 2%
	4	Zero Carbon	0% – 1%
<b>Row Homes</b>	4	Zero Carbon	-
	5	Zero Carbon	-
<b>Quadplex</b>	4	Zero Carbon	1% – 2%
	5	Zero Carbon	1% – 2%
<b>Office</b>	3	Zero Carbon	3%

<sup>22</sup> Province of British Columbia. Draft Building Carbon Pollution Standard for Part 9 Buildings in British Columbia. 2022. [https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/reports/part\\_9\\_technical\\_analysis\\_2022\\_rev0ct3\\_2022.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/construction-industry/building-codes-and-standards/reports/part_9_technical_analysis_2022_rev0ct3_2022.pdf)

## Exploring Policy Options for the City of Nanaimo

To help determine the best pathway forward for the City of Nanaimo, six combinations of code adoption pathways were explored for their potential impact on community-wide emissions (see Table 10). Pathways were selected in consultation with City of Nanaimo staff and were based on a number of factors, including precedents set by other municipalities in BC, associated benefits and costs of higher levels of performance, and alignment with the City's overall level of ambition and climate targets. The four pathways selected for further study are as follows:

- **Pathway #1: Accelerated Energy Efficiency.** This pathway assumes an accelerated adoption of BC Energy Step Code only. Adoption of the Zero Carbon Step Code follows the assumed base code schedule of a *moderate* requirement in 2024, a *strong* requirement in 2027, and a *zero carbon* requirement in 2030 for all building types.
- **Pathway #2: Accelerated Carbon Emissions Reductions.** This pathway assumes an accelerated adoption of the Zero Carbon Step Code. Adoption of the BC Energy Step Code is assumed to follow the provincial base code schedule for all building types.
- **Pathway #3: Accelerated Energy Efficiency and Emissions Reductions.** This pathway assumes the accelerated adoption of both the BC Energy Step Code and Zero Carbon Step Code.
- **Pathway #4 Voluntary Interventions.** This pathway assumes the adoption of the Provincial base code schedule for both the BC Energy Step Code and the Zero Carbon Step Code, but that the City will use incentives and targeted intervention to encourage early adoption. Example incentives include rezoning bylaws, financial incentives, and non-financial incentives (e.g. permit fast tracking and density bonusing). This option can be used in conjunction with pathways #1, #2 or #3, or on its own.

Based on precedence in other jurisdictions, there were two main timelines explored for each pathway:

1. **Incremental Approach.** Using this timeline, CoN would stay one step ahead of the Provincial backstop for the BC Energy Step Code and/or the Zero Carbon Step Code. This approach is being used by the City of Richmond.
2. **Leap Frog Approach.** Using this timeline, CoN would skip to the highest step of the BC Energy Step Code and/or level of the Zero Carbon Step Code. This approach was used by the Saanich and City of Victoria.

Table 10. Policy Options Explored Through Engagement and Analysis

Pathways	Incremental Approach – 2024/25		“Leap Frog” Approach – 2024/25		Provincial Backstop Implementation Timeline			
	Part 3	Part 9	Part 3	Part 9	Part 3	Part 9		
<b>Pathway #1:</b> Accelerate Energy Step Code	<b>Step 3</b>	<b>Step 4</b>	<b>Step 4</b>	<b>Step 5</b>	<b>Energy Step Code</b> 2027 Step 3 2032 Step 4  <b>Zero Carbon Step Code</b> 2024 <i>Moderate?</i> 2027 <i>Strong?</i> 2030 Zero	<b>BC Energy Step Code</b> 2027 Step 4 2032 Step 5  <b>Zero Carbon Step Code</b> 2024 <i>Moderate?</i> 2027 <i>Strong?</i> 2030 Zero		
<b>Pathway #2:</b> Accelerated Zero Carbon Step Code	<b>Moderate Carbon</b>	<b>Moderate Carbon</b>	<b>Zero Carbon</b>	<b>Zero Carbon</b>			<i>Provincial backstop for Zero Carbon Step Code</i>	
<b>Pathway #3:</b> Accelerated Energy And Zero Carbon Step Code	<b>Step 3 with Moderate Carbon</b>	<b>Step 4 with Moderate Carbon</b>	<b>Step 4 with Zero Carbon</b>	<b>Step 5 with Zero Carbon</b>			<i>Provincial backstop for Energy Step Code</i>	

### What We Heard: Summary of Staff and Industry Feedback

To gain an understanding of the local building industry’s experience and readiness for complying with higher levels of the Energy and Carbon Step Codes, a number of engagement methods were used: 1) an 18-question survey deployed for a period of two weeks, 2) two-hour online workshop with 48 industry attendees, 3) two-hour online workshop with 11 staff attendees from local governments throughout the RDN, and 4) interviews with social housing providers). The purpose of the engagement was to:

- Provide an overview of local government decarbonization goals and the role and benefits of net-zero energy-ready (NZER) and zero carbon (ZC) buildings
- Present case studies/examples of successful NZER or ZC buildings in the region
- Understand industry and staff readiness for BC Energy Step Code and Zero Carbon Step Code implementation
- Workshop a shortlist of new construction policy options for staff and industry discussion and feedback

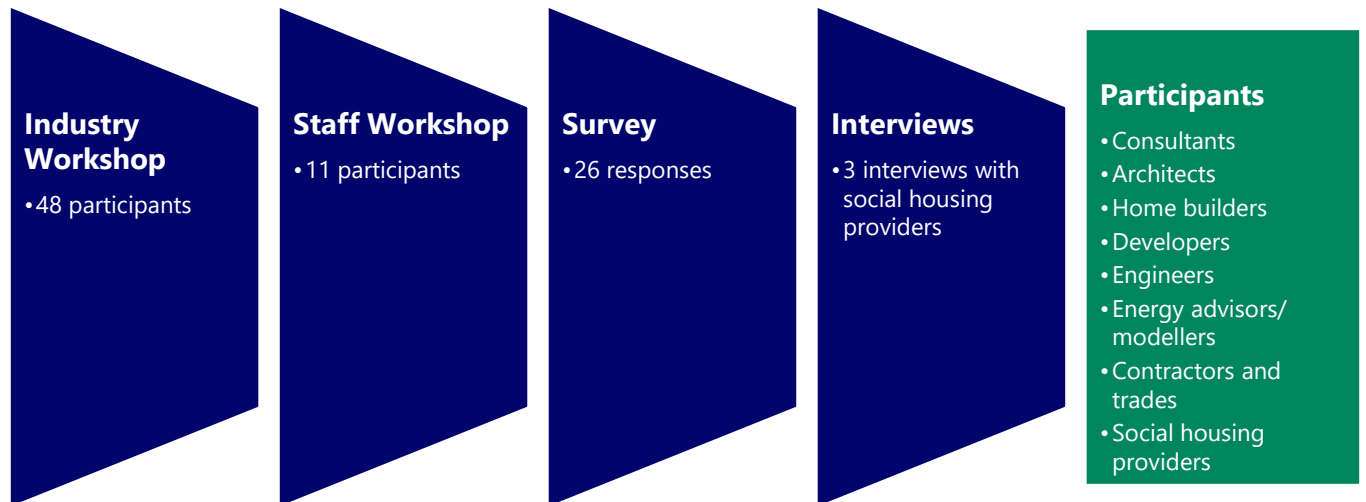


Figure 3. Key Engagement Activities and Participants

## Summary of Industry Workshop, Survey, and Interviews

### Opportunities

High level feedback heard from **Part 9** stakeholders included the following:

- In general, there is a very high level of support for the acceleration of BC Energy Step Code and Zero Carbon Step Code, and an acknowledgment for the need for regulation to achieve the scale of high performance building necessary to reduce emissions
- Most builders and designers already had experience with the upper steps of the BC Energy Step Code and the electric systems that would be required to comply with the Zero Carbon Step Code
- Those who had built to higher levels of the Energy Step Code found it was easier than anticipated
- Many also noted that customers are already requesting more energy efficient buildings, and that younger clients tend to prefer all-electric buildings

High-level feedback from **Part 3** stakeholders included the following:

- Many industry members are already building all-electric buildings and/or to higher levels of the BC Energy Step Code
- Portfolio holders such as BC Housing and local school districts, as well as any Canada Mortgage and Housing Corporation (CMHC)-funded projects already require the achievement of upper steps of the Energy Step Code and/or all-electric designs
- Industry members found that building to Step 3 (i.e. the highest step for commercial buildings, and the second highest step for multi-unit residential buildings) to be very cost effective

### Challenges

Despite the support and familiarity with energy efficient and/or electric buildings, industry members shared a number of challenges—predominantly pertaining to the need for education and capacity building of clients/developers, owners, and trades; conflicting requirements in municipal bylaws and guidelines; and the pace and cost of necessary utility connections. Table 11 outlines some of the key challenges raised across both Part 3 and Part 9 stakeholders.



Table 11: Key Challenges Raised by Industry Stakeholders

Category	Part 9	Part 3
<b>Regulatory</b>	<ul style="list-style-type: none"> <li>Municipal bylaws that set requirements for maximum gross floor area and height restrictions can limit energy efficient design</li> </ul>	<ul style="list-style-type: none"> <li>Form and character guidelines in some communities make it difficult to achieve the upper steps of the BC Energy Step Code</li> </ul>
<b>Informational</b>	<ul style="list-style-type: none"> <li>Insufficient information about Zero Carbon Step Code</li> <li>Client perception of electric high performance homes as more expensive/less desirable</li> </ul>	<ul style="list-style-type: none"> <li>Preference for gas among some developers</li> </ul>
<b>Structural</b>	<ul style="list-style-type: none"> <li>High or unexpected BC Hydro interconnection fees</li> </ul>	<ul style="list-style-type: none"> <li>BC Hydro can be unresponsive and create timeline delays</li> <li>Supply chain challenges for some equipment</li> </ul>
<b>Industry capacity</b>	<ul style="list-style-type: none"> <li>Need for mechanical trades to improve the quality of installation</li> </ul>	<ul style="list-style-type: none"> <li>Need to improve trades' knowledge and experience with air sealing</li> </ul>
<b>Financial</b>	<ul style="list-style-type: none"> <li>Integrated design processes are needed to save time and money</li> </ul>	<ul style="list-style-type: none"> <li>Increased cost can occur in achieving Step 4 of the BC Energy Step Code</li> <li>Need for energy modellers to be involved in the project from the outset to help identify options early on</li> </ul>

### **Recommended Supports**

Participants indicated a range of supports that could be paired with the BC Energy Step Code and Zero Carbon Step Code to ease compliance for industry, home and building owners. These include:

- Bylaw and design guideline amendments to remove barriers to energy efficient/low-carbon design.
- Support for technical training for building industry members
- Awareness building for homeowners on the benefits of energy efficient/low-carbon design.
- Rebates and permit fast-tracking to incentivize early adoption of higher levels of performance

### **Summary of Staff Workshop**

At the staff workshop, the key takeaways from the industry workshop were presented, and staff were asked to provide feedback on policy pathways and support measures. In general, staff also expressed a high level of support for the implementation of the BC Energy Step Code and the Zero Carbon Step Code. High-level feedback from staff included the following:

- Staff acknowledge the conflicts with achieving the higher steps of the Energy Step Code and complying with form and character guidelines in certain neighbourhoods. However, they also acknowledged the challenges of changing the historical guidelines due to competing community priorities.

- City of Nanaimo staff already have experience implementing the BC Energy Step Code. They have found the process is straightforward and has not resulted in any delays in permitting timelines. They did not express any concerns with their internal capacity to implement the requirement of the BC Energy Step Code or the Zero Carbon Step Code.
- Staff emphasized the need for education for industry, staff and the public to ease implementation, and dispel some of the common misconceptions about high performance buildings.

### Importance of Alignment Between Local Governments

Staff and industry were asked about the importance of alignment between local governments within the RDN. Both staff and industry saw the benefits of aligning the Energy Step Code and Zero Carbon Step Code throughout the Region. Industry members felt that having consistency simplifies expectations and creates baseline competencies for the industry. Generally, they preferred having alignment throughout the Region, even if this increases requirements in some communities.

Staff and industry also acknowledged that there were significant challenges to aligning requirements across all local governments. They indicated that, although ideal, alignment should not hold up progress for local governments who are ready to implement requirements. Staff suggested that a degree of alignment could be achieved by working together on messaging, education, outreach, and engagement. They also suggested exploring a standardized implementation pathway throughout the Region, even if the implementation timelines were not aligned. Staff cautioned, that the Zero Carbon Step Code has created the possibility of more implementation pathways, and could lead to increasing divergence throughout the Region if alignment is not kept in mind.

### Modelling Potential Emissions Reductions

A modelling exercise was conducted to explore the impact of different code adoption pathways on GHG emissions in Nanaimo between 2023 and 2050. The modelling specifically looks at the operational GHG emissions associated with the new construction, redevelopment and major renovation of buildings subject to the Energy Step Code and the Zero Carbon Step Code. The pathways (referred to as “scenarios” in the modelling outputs), were selected based on the feedback from staff and industry consultation, and input from the City of Nanaimo staff to ensure the accelerated scenarios align with community priorities (see Table 12).

Table 12: Code adoption scenarios

Scenario	Description
Baseline	Follows the provincial timeline for the Energy Step Code (ESC) and the Zero Carbon Step Code (ZCSC).
Rezoning Only	Follows the provincial timeline for the ESC and the ZCSC but rezoning requirements encourage developers to build to the highest step of the ZCSC and the highest step of the ESC ahead of time.
Incentives Only	Follows the provincial timeline for the ESC and the ZCSC but developers are incentivized to build to the highest step of the ZCSC and the highest step of the ESC ahead of time.

<b>Accelerated ESC Only</b>	The City of Nanaimo adopts an accelerated timeline for the Energy Step Code, bringing the year of each step forward. The ZCSC follows the provincial timeline. No incentives or rezoning requirements encourage steps above what is required in these timelines.
<b>Accelerated ZCSC Only</b>	The City of Nanaimo adopts an accelerated timeline for the ZCS, leapfrogging requirements for the 'Moderate' and 'Strong' steps and requiring 'Zero', the highest step, from February 1, 2024 for Part 3 and 9 buildings. The ESC follows the provincial timeline. No incentives or rezoning requirements encourage steps above what is required in these timelines.
<b>Accelerated ESC &amp; ZCSC</b>	The City of Nanaimo adopts an accelerated timeline for the ZCS, leapfrogging requirements for the 'Moderate' and 'Strong' steps and requiring 'Zero', the highest step, from February 1, 2024. The City of Nanaimo adopts an accelerated timeline for the ESC, leapfrogging to the highest steps from January 1, 2027 for Part 3 and 9 buildings. No incentives or rezoning requirements encourage steps above what is required in these timelines.

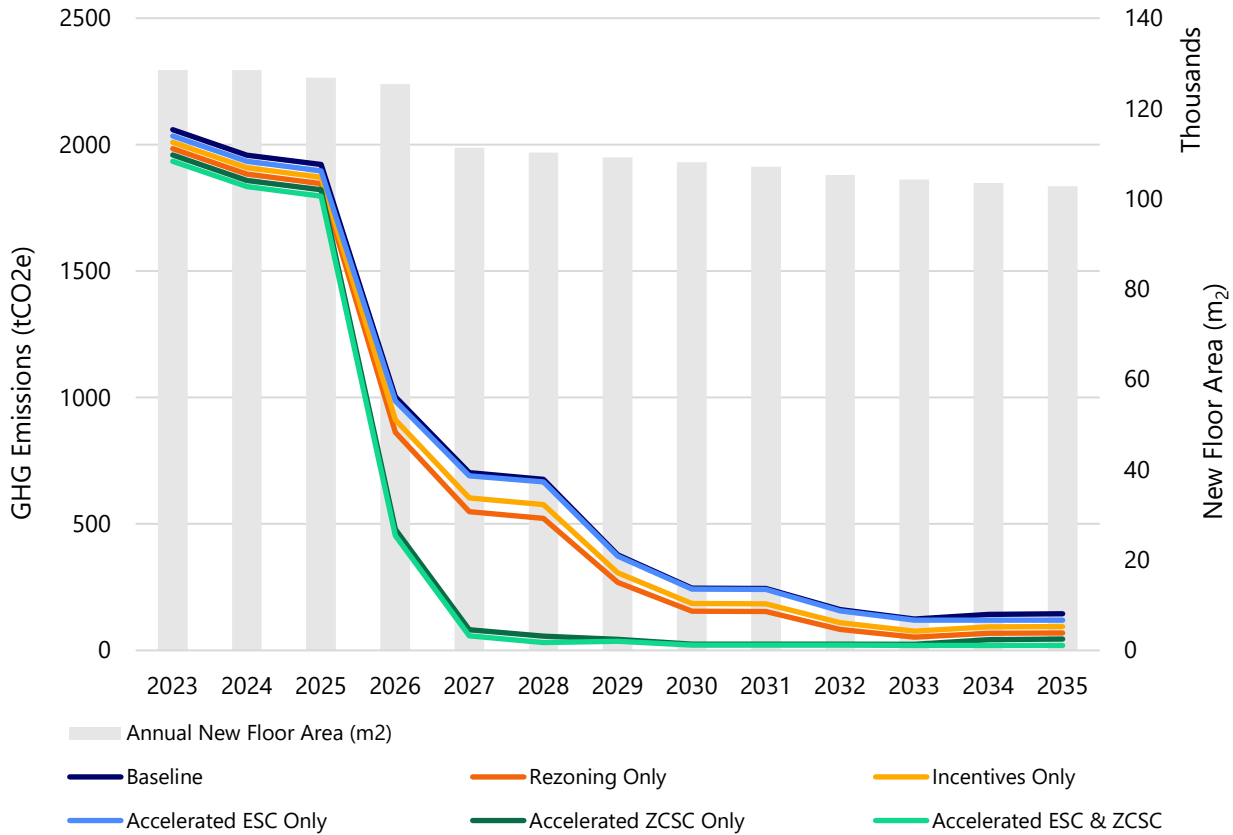


Figure 4: Annual GHG Emissions from Annual New Floor Area

The results of this exercise are shown in Figure 4, which warrant some explanation:

- Differences in GHG emissions between scenarios are not seen until 2026. This is because 2024 is the first year in which a step of the Zero Carbon Step Code is encouraged or required ahead of the provincial timeline in any of the scenarios, and there is a lag of 2 to 3 years between when buildings are permitted and when they are constructed.
- Differences in GHG emissions between scenarios over the baseline are predominately due to whether any new floor area is required or encouraged to meet steps of the Zero Carbon Step Code ahead of the provincial timeline. The difference is greater in scenarios that include an accelerated timeline for the Zero Carbon Step Code.
- In 2033 GHG emissions associated with the new floor area is equal in all scenarios. This is because 2030 is the first year the highest step of the Zero Carbon Step Code is required in all scenarios (and there is an assumed lag of 2 to 3 years).
- In the scenario where only the Energy Step Code timeline is accelerated, there is no difference in GHG emissions compared to the baseline. This is because the Energy Step Code drives energy use reduction, not GHG emissions reduction.

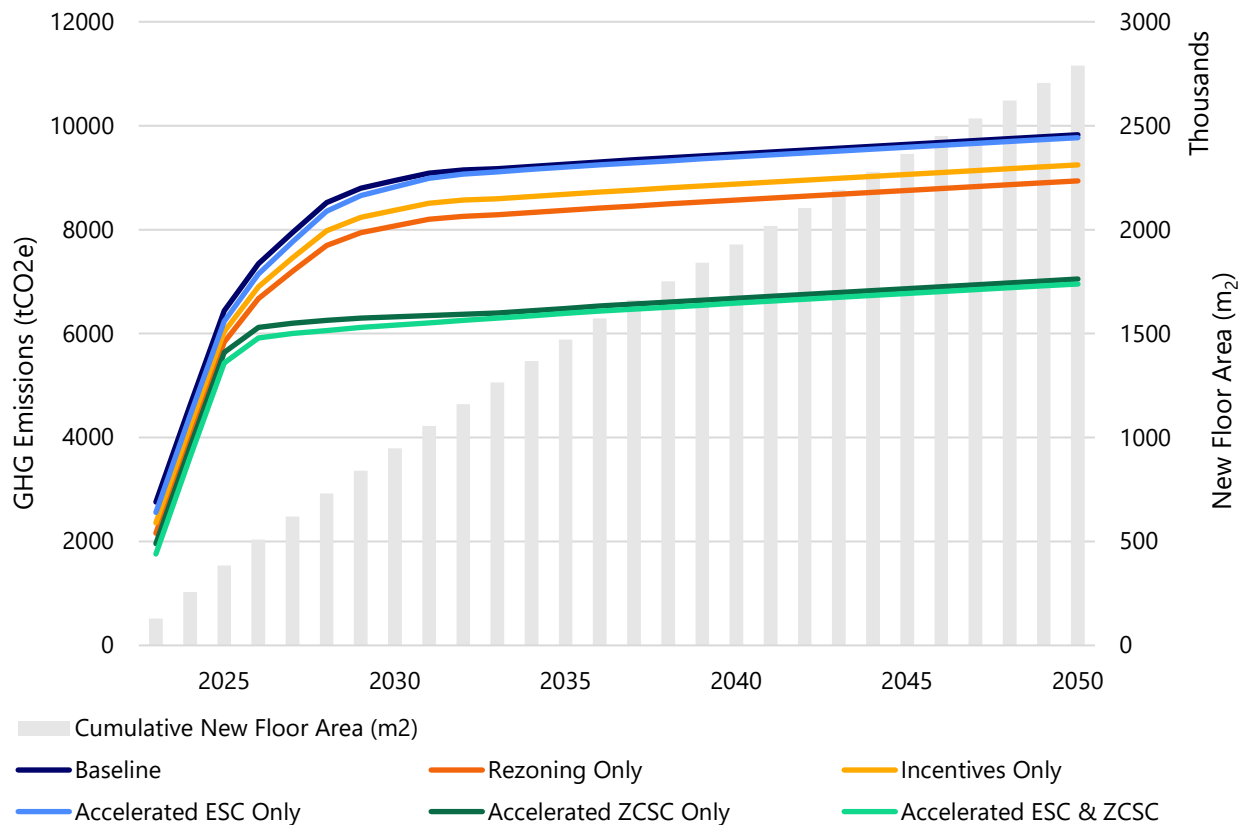


Figure 5: Annual GHG Emissions from Cumulative New Floor Area

It is also worth noting that once new buildings are constructed, they continue to emit the same GHG emissions each year (assuming they are not retrofitted). The difference in annual emissions associated with cumulative new floor area increases significantly between 2025 and 2030, reflecting buildings permitted between 2022 and 2027 (see Figure 5). With the implementation of the 'Zero' step of the Zero Carbon Step Code Province-wide in 2030, there is no difference in the emissions associated with the new floor area built each year from 2033 onwards. However, annual emissions across all scenarios continue to increase slowly with new floor area because the emissions associated with the highest steps of both the Energy Step Code and Zero Carbon Step Code are still not completely zero, the model assumes that there is still some natural gas use

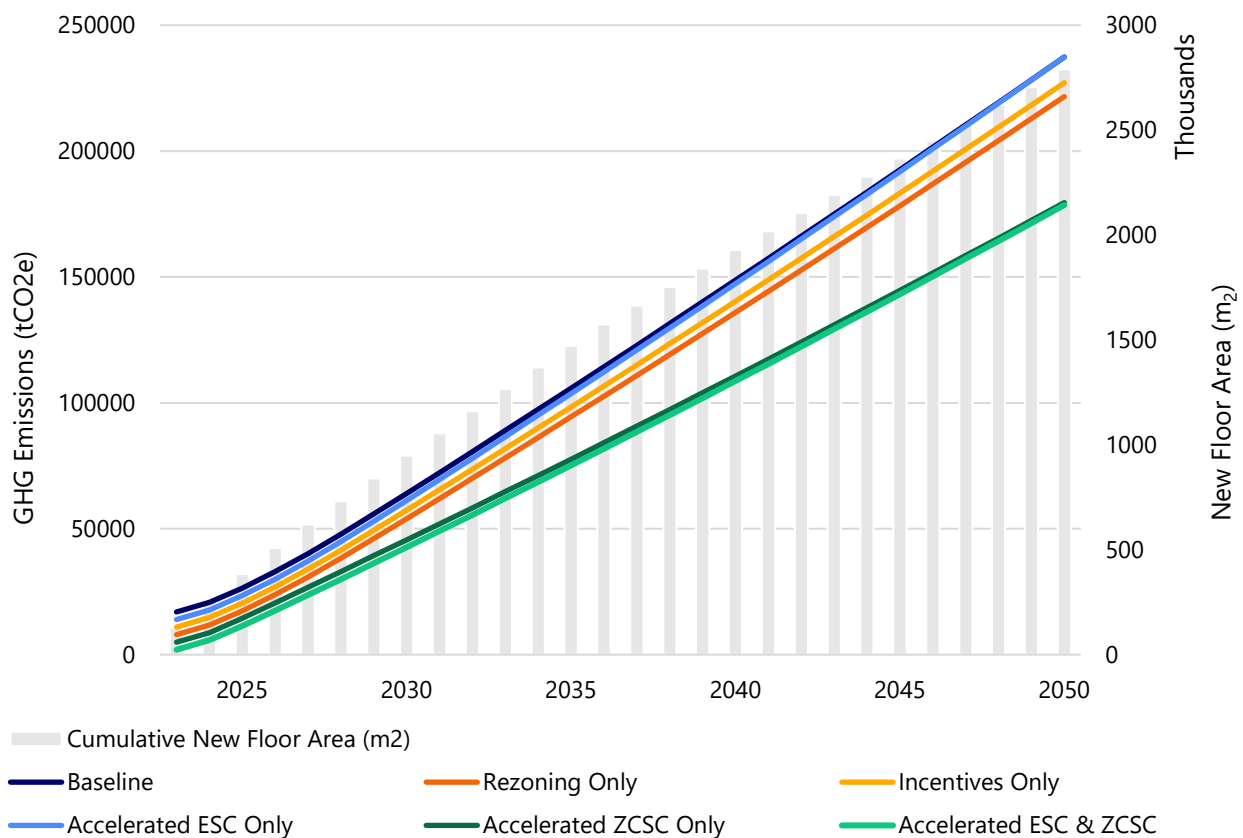


Figure 6: Cumulative GHG Emissions from New Floor Area

In scenarios where the Zero Carbon Step Code timeline is accelerated, it is estimated that 21,000 tonnes fewer GHG emissions would be emitted by 2030 and 59,000 tonnes less by 2050 compared to the baseline scenario which follows the provincial timeline (see Figure 6).

## Recommendations for Step Code Adoption

Based on the feedback from the engagement and the modelling results, Introba, in collaboration with the City of Nanaimo developed two recommendations, including a “recommended approach” and an “alternate approach.” Both approaches prioritize the near-term implementation of the Zero Carbon Step Code. Through the engagement and modelling, this emerged as a priority based on the following rationale:

- **Industry and staff readiness.** Both staff and industry indicated a high level of readiness for building high performance buildings in the Region and recognized the urgency for addressing emissions from buildings.
- **Future proofing buildings.** The modelling indicates that accelerating the implementation of the Zero Carbon Step Code can save 11,000 tonnes GHG emissions by 2030 and 50,000 tonnes by 2050 compared to the baseline or accelerating the Energy Step Code alone. Buildings built today with high-emissions energy sources will also need to be retrofitted in the future to achieve climate targets and comply with forthcoming Provincial regulations. Future-proofing new buildings today, by building to zero carbon, will be more cost-effective and less disruptive in the long run.
- **Alignment with Vancouver Island.** Alignment throughout the RDN and Vancouver Island was emphasized as highly desirable for industry members. CoN can’t align with the rest of the Region without halting its progress; however, it can align with the leaders on Vancouver Island. Consistent with the proposed approach below, Saanich and the City of Victoria will both be implementing the ‘Zero’ requirement of the Zero Carbon Step Code in November 2023 for Part 9 buildings and November 2024 for Part 3 buildings.

### Recommended Approach – Accelerate Zero Carbon Step Code and BC Energy Step Code Adoption

The recommended approach includes adoption of the Zero level of the Zero Carbon Step Code by February 2024 and the adoption of the top step of the BC Energy Step Code by January 2027 (see Table 13). This is an ambitious approach that prioritizes carbon performance, but includes the implementation of the BC Energy Step Code in advance of the provincial timeline. These efficiency requirements will help:

- **Bring down energy costs.** High efficiency buildings requiring a smaller heating load.
- **Manage electricity load.** This will help reduce the need for electrical capacity upgrades and help the Province manage growing electricity demand.
- **Increase resilience.** Efficient buildings maintain indoor temperatures for longer periods of time in the case of a power outage.
- **Certainty and consistency for industry.** Through the engagement, industry and staff engagement noted that frequent changes to Code were an ongoing challenge, that required training education, and awareness. This approach will create consistency in the building code from 2027-2032 (and beyond), as opposed to amending the building bylaw every few years to incrementally implement the Zero Carbon Step Code and the BC Energy Step Code in advance of the provincial timeline.

Incentives, such as density bonusing that CoN already has in place, can also be used in the near term to support industry in gaining experience with the energy efficiency requirements in advance of the 2027 implementation date.

Table 13. Recommended Approach Accelerated Zero Carbon Step Code and BC Energy Step Code

Building type		Proposed Approach		
		Bylaw adoption (July 24, 2023 earliest)	Feb 1, 2024	Jan 1, 2027
<b>Part 9</b>	Single family dwelling, duplex, or townhomes	<b>Measure only</b> <i>i.e. measure and report on carbon</i>	<b>Zero Carbon</b> Performance	<b>Step 5</b>
<b>Part 3</b>	Residential (e.g. apartment building, hotels and motels)	<b>Measure only</b> <i>i.e. measure and report on carbon</i>	<b>Zero Carbon</b> Performance	<b>Step 4</b>
	Commercial (e.g. office and retail)	<b>Measure only</b> <i>i.e. measure and report on carbon</i>	<b>Zero Carbon</b> Performance	<b>Step 3</b>
<b>Rezoning or incentives (optional)</b>		<b>Top step of BC Energy Step Code</b>	<b>Top step of BC Energy Step Code</b>	n/a

\*RNG will not be considered a compliance pathway to achieving zero carbon requirements

\*\*Require energy labelling

### Alternate Approach- Accelerate Zero Carbon Step Code Adoption

The alternate approach includes adoption of the Zero level of the Zero Carbon Step Code and the provincial baseline for BC Energy Step Code. This approach is similar to the recommended approach, but is slightly less ambitious as it does not include additional energy efficiency requirements. This approach will achieve essentially the same level of decarbonization as the recommended approach, and may result in slightly lower capital costs for builders, additional time for industry capacity building, and alignment with the City of Victoria and Saanich. The trade-offs (compared to the recommended approach) are higher energy bills, less resilience with power outages, and changing levels of code energy 4-5 years as the provincial backstop is increased.

Table 14. Alternate Approach Accelerate Zero Carbon Step Code Adoption

Building type		Proposed Approach
		Feb 1, 2024 (Part 9)
<b>Part 9</b>	Single Family Dwelling, duplex, or townhomes	<b>Zero</b> Carbon Performance
<b>Part 3</b>	Residential (e.g. apartment building, hotels and motels)	<b>Zero</b> Carbon Performance
	Commercial (e.g. office and retail)	<b>Zero</b> Carbon Performance
<b>Rezoning or incentives (optional)</b>		<b>Top Step</b> of BC Energy Step Code

\*RNG will not be considered a compliance pathway to achieving zero carbon requirements

\*\*Require energy labelling

## Important Next Steps

To support and ease the implementation of recommended or the alternate approach, there are a number of supports that the City of Nanaimo should implement. These include:

- **Clear communication and supporting materials.** The recommendation in this report charts an implementation plan to 2030 for the Zero Carbon Step Code and the BC Energy Step Code to provide a clear and long-term signal to industry. Creating a communication and outreach plan to convey these requirements prior to implementation in 2024 will be critical to give industry time to adapt and prepare.
- **Removal of regulatory barriers.** Industry members indicated that current bylaws and guidelines create disincentives and challenges for achieving higher levels of performance. These include form and character guidelines, setback, height, floor area and noise bylaws. CoN should review existing bylaws and explore amendments to remove barriers for high performance buildings (see [Low Carbon Policy Toolkit](#) for summary of best practices).<sup>23</sup>
- **Training and support for industry.** Industry members indicated that there was a need for training on specific design solutions and processes (e.g. air sealing and IDP). Training opportunities are available to attract new workers and support upskilling through the Home Performance Stakeholder Council, BCIT, ZEBx, EGBC, TECA, etc. CoN should explore how to leverage these programs and increase industry access and participation for local builders and designers. Some examples of supporting actions that emerged through the engagement and analysis include promotions, subsidies, local offerings of specific courses, and regular builder breakfasts. CoN can also amplify existing resources (e.g. BC Housing Builder Insights, Design Guide, ZebX Case Studies, etc.) and support the development of local case studies to help share lessons learned and best practices.
- **Educating home and building owners.** Many home and building owners are still resistant to investing in high performance buildings. CoN can support industry by communicating the value proposition of high performance buildings, and dispelling common misconceptions.
- **Working with BC Hydro to support electrical service upgrades.** Local governments also play a role in supporting BC Hydro with electrical service upgrades. Local requirements, like underground transmission lines, can significantly increase both the timelines and costs of these upgrades. CoN should work with BC Hydro to understand how to better support this process.

---

<sup>23</sup> Brendan McEwan and Devon Miller. Low Carbon Building Policy Toolkit. 2021.  
[https://docs.communityenergy.ca/wp-content/uploads/2021-03-19\\_BCH\\_LCB\\_Toolkit\\_Final.pdf](https://docs.communityenergy.ca/wp-content/uploads/2021-03-19_BCH_LCB_Toolkit_Final.pdf)



## Appendix A: Modelling Methodology

The implementation timelines of the Energy Step Code and the Zero Carbon Step Code in each scenario are detailed in Table 15.

Table 15: Modelling assumptions

Scenario	Building Type	Energy Step Code			Zero Carbon Step Code		
		3	4	5	Moderate	Strong	Zero
Baseline	Part 9	N/A Current Step	<b>2027</b>	<b>2032</b>	<b>2024</b>	<b>2027</b>	<b>2030</b>
	Part 3 Residential	<b>2027</b>	<b>2032</b>	N/A No Step			
	Part 3 Commercial	<b>2027</b>	N/A No Step	N/A No Step			
Rezoning Only	All Buildings	As per Baseline			As per Baseline		
		16% of the new floor area is built to the highest steps each year before it is required due to rezoning requirements.					
Incentives Only	All Buildings	As per Baseline			As per Baseline		
		10% of the new floor area is built to the highest steps each year before it is required due to incentives.					
Accelerated ESC Only	Part 9	N/A Current Step	<b>2024</b>	<b>2027</b>	As per Baseline		
	Part 3 Residential	<b>2024</b>	<b>2027</b>	N/A No Step			
	Part 3 Commercial	<b>2024</b>	N/A No Step	N/A No Step			
Accelerated ZCSC Only	All Buildings	As per baseline			N/A Skipped	N/A Skipped	<b>2024</b>
Accelerated ESC & ZCSC	Part 9	N/A Current Step	N/A Skipped	<b>2026*</b>	N/A Skipped	N/A Skipped	<b>2024</b>
	Part 3 Residential	N/A Skipped	<b>2026*</b>	N/A No Step			
	Part 3 Commercial	<b>2026*</b>	N/A No Step	N/A No Step			

\*2026 modelled as the step is proposed for November 2025, the end of the year.

The model applies greenhouse gas emission intensities (GHGIs) to projections of new floor area to estimate future greenhouse gas emissions. GHGIs were developed for each potential step combination of the Energy Step Code and Zero Carbon Step Code (e.g., Step 3 with Moderate Carbon Performance, Step 4 with Moderate Carbon Performance, Step 3 with Strong Carbon Performance, etc.) for the different building types subject to the two Codes. For each building type the step combination and GHGI applied in a given year varies with each scenario as a result of different implementation timelines.

Projections of new floor area were based on existing floor area and percentage growth projections for each building type provided by the City of Nanaimo. Building types included in the modelling are as follows:

- Single Family Detached (Part 9)
- Single Family Attached (Part 9)
- Apartments (Part 3 Residential)
- Hotel (Part 3 Residential)
- Office (Part 3 Commercial)
- Retail (Part 3 Commercial)

The GHGIs applied to the new floor area are based on the GHGI targets set out in the Zero Carbon Step Code and projections of the emission factor for grid electricity. The Zero Carbon Step Code requires fixed emissions factors of 0.011 kgCO<sub>2</sub>e/kWh for electricity and 0.180 kgCO<sub>2</sub>e/kWh for natural gas to be used to demonstrate compliance with the GHGI targets. These emissions factors and estimates of total energy use for a given step of the Energy Step Code were used to determine what the maximum amount of natural gas energy use could be, with the remainder being electricity energy use, whilst still complying with the GHGI targets. Emissions factors were then reapplied to this breakdown of natural gas and electricity energy use to determine new GHGIs, where the emission factor for electricity decreases with time to reflect the Clean Electricity Delivery Standard (a requirement that 100% of electricity delivered in the province be generated by clean, renewable sources by 2030). The approach of establishing the maximum amount of natural gas energy use reflects a worst-case scenario and the potential use of fossil fuel backup systems.

The model also assumes a lag between permitting and finished construction: 2 years for Part 9 buildings, and 3 years for Part 3 buildings.

## Appendix B: Industry Workshop Summary

### Part 3 Buildings

**Q1 What are the challenges and opportunities associated with building to net-zero energy-ready, zero carbon, or both?**

#### Challenges

Themes	Comment
<b>Policy</b>	<ul style="list-style-type: none"> <li>Need for overall alignment between programs and requirements</li> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Projects in design may be affected by new code changes if in stream</li> </ul> </li> </ul>
<b>Energy Modelling</b>	<ul style="list-style-type: none"> <li>Need to ensure modellers know what climate zone they are working in (CZ4)</li> <li>Need to clarify what weather files to use</li> <li>Differences between modelling requirements between CMHC and ESC</li> <li>TEDI can be the issue - while achieving GHG targets</li> </ul>
<b>Design requirements (Form)</b>	<ul style="list-style-type: none"> <li>Challenge of lower window-wall ratio when views are important</li> <li>Addressing public expectation for building form e.g. stepped buildings to reduce massing</li> <li>Form and character can be difficult for some of the planners. Getting into that "boxy look"</li> <li>TEDI is hard to achieve unless you are building a box.</li> </ul>
<b>Infrastructure requirements (BC Hydro)</b>	<ul style="list-style-type: none"> <li>Limitations with electrical service, sizes and costs of transformers</li> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Limited BC Hydro capacity                             <ul style="list-style-type: none"> <li>Sometimes this leads to reverting to gas (MUA, commercial kitchens, hot water)</li> <li>Slow response times – can take 12 months Results in the need to add natural gas in some buildings</li> <li>Compounded by EV charging requirements.</li> <li>Require calculations to be completed early in design</li> <li>Require energy management systems to manage demand</li> </ul> </li> </ul> </li> <li><b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>Don't have the answers on how to supply energy</li> </ul> </li> </ul>
<b>Industry capacity &amp; supply chain</b>	<ul style="list-style-type: none"> <li>Getting blower door tests done is a challenge in Victoria</li> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Staffing challenges at BC Hydro and Local Governments to get things approved</li> </ul> </li> <li>Retrofits are more challenging than new construction.</li> <li><b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>New Technologies can be difficult to apply</li> <li>Cost of HVAC units are going up due to hype</li> <li>Long lead times for supply of units – can take up to 18 months.</li> <li>The effort and cost of decarb/retrofit is greater than addressing at the new construction.</li> <li>Industry capacity and supply chains</li> </ul> </li> </ul>
<b>Financial challenges</b>	<ul style="list-style-type: none"> <li>Cost of electrical transformers</li> <li>Cost associated with higher building performance (Step 4).             <ul style="list-style-type: none"> <li>Cost difference between Step 2 and 3 is quite negligible (can be dealt with through building shape). This can be addressed right from start. Step 4 is the challenge.</li> <li>Cost - step 3 seems to be easy but getting to - but getting beyond this is challenging.</li> <li>Qualicum beach form and character guidelines have a specific look. Can drive up cost to both meeting higher step code</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>• Electrical utility costs are high</li> <li>• Cost of HVAC units increasing due to demand</li> </ul>
<b>Retrofits</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Need to be mindful of whether we can do this with renovations now too</li> </ul> </li> </ul>

**Opportunities**

Themes	Comment
<b>Acceptance</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ With low carbon electricity and reduced loads buildings, not too difficult generally.</li> <li>○ If ew can adopt a lower step to satrt (i.e. step 2 of the ZCSC) which gives multiple opportunities</li> </ul> </li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Don't struggle for new buildings.</li> </ul> </li> </ul>
<b>Policy (Program rollout)</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Don't implement aggressive timelines, allow flexibility while market transforms</li> </ul> </li> </ul>
<b>Design</b>	<ul style="list-style-type: none"> <li>• Energy modelling would help to understand oppourtunities for increased insulation</li> <li>• Getting energy modelling involved earlier, before development permit, and before form and character.</li> <li>• Fuel less important if your building energy efficient from the beginning.</li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ No challenges with maybe the exception of commercial kitchens</li> </ul> </li> </ul>
<b>Innovation</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Opportunity to innovate and push boundaries</li> </ul> </li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>• BC Housing and CMHC funded builders.</li> </ul>
<b>Leveraging existing tools and knowledge base</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Compliance tools available for Part 3 buildings</li> <li>○ GHG is already a reported metric for Part 3 buildings – opportunity to move beyond just measuring.</li> </ul> </li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Opportunity for knowledge sharing from a good base of Engineers and Architects</li> </ul> </li> </ul>
<b>Messaging</b>	<ul style="list-style-type: none"> <li>• Driver for energy efficiency isn't necessarily emissions, its lifecycle costs for owners.</li> </ul>

**Q2 Is the industry ready to build to these levels of performance today? Why/not?**

**Industry is ready**

Theme	Comment
<b>Past examples</b>	<ul style="list-style-type: none"> <li>• School districts are moving towards electrification -BC Hydro upgrades.</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Evidence shows that it is possible to build to GHG targets.</li> </ul> </li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ New buildings are already being built to high standards. It's existing buildings that are the problem.</li> <li>○ Recognize spending some time and money to achieve a good level of air tightness can save a lot on HVAC and utility costs.</li> <li>○ Buidlings are put together by multiple specilaized team, if the designs are clear then the teams will build to it.</li> </ul> </li> </ul>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>• People motivated to do Step Code because of the CMHC funding.</li> </ul>

	<ul style="list-style-type: none"> <li>• Developers have a business motivation. Reducing costs is important.</li> </ul>
--	---

**Industry is not ready**

Theme	Comment
<b>Industry Capacity/ Education</b>	<ul style="list-style-type: none"> <li>• There is a shift/upskilling needed on HVAC controls.</li> <li>• The skills are there. Capacity is not.</li> <li>• The Jump to ESC Step 2 in municipalities that haven't adopted the ESC yet means everyone will need to learn all at once – will likely see bottlenecks</li> <li>• There are so many levels of polices, which makes it difficult.</li> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ Need to educate contractors and trades on how things are now being done differently; contracting "this is how we've always done it"</li> <li>○ Contractor/trades engagement to raise awareness (e.g. envelope, heating, plumbing, insulation, etc.)</li> <li>○ On the Island, urban centres are a little more disparate, can't borrow from nearby centres as in Greater Toronto Area (GTA).</li> <li>○ Overall industry is ready for both ESC and ZCSC, just a lack of trades and capacity</li> <li>○ Takes time to change the mindset.</li> <li>○ New buildings are already being built to high standards. It's existing buildings that are the problem.</li> </ul> </li> </ul>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ A lot of developers don't understand why they need to be building to higher levels. They want to build and sell. It's incentives that appeal to developers.</li> <li>○ Incentivization is important.</li> <li>○ Developers have a business motivation. Reducing costs is important.</li> <li>○ People motivated to do Step Code because of the CMHC funding.</li> </ul> </li> </ul>
<b>Supply Chain</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Can't throw more money to address labour shortages and supply chains. This is part of the reason why shortcuts are being taken. There is conflict of interest. Economics and performance.</li> </ul> </li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Supply chain is a general concern to buildings, not just high performance buildings</li> </ul> </li> </ul>
<b>Air tightness requirements</b>	<ul style="list-style-type: none"> <li>• Self adhered membrane – this is a big change and need to get trades up to speed</li> <li>• Reluctance to take on the risk of committing to a certain level of air sealing.</li> <li>• More difficult in smaller, rural areas</li> </ul>
<b>Perception of natural gas</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Developers still want access to gas, because the perception is that gas is more cost effective</li> <li>○ Lowers operational costs for developer</li> <li>○ Gas fireplaces, heating, etc. are driven by preferences.</li> <li>○ Huge incentives for Fortis BC.</li> <li>○ Fortis BC are easier and faster to work with</li> </ul> </li> </ul>
<b>Affordability Impacts</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Can the market bear the additional costs. What are the affordability impacts. Can rent increase to cover additional costs of construction.</li> </ul> </li> </ul>
<b>Design approach</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Human nature to shortcut. We need checklists and tests along the way, and not be reliant on the energy model at the end to double check requirements have been met.</li> <li>○ Designer's need to be responsible for coordination of design elements.</li> </ul> </li> </ul>

**Q3 What types of support would you or your peers need to build to be ready?**

Theme	Comment
<p><b>Support from local government</b></p>	<p><b>Streamline processes</b></p> <ul style="list-style-type: none"> <li>• Reduced approval timelines.</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ One of the bigger problems isn't skills or knowledge. It's the processes. Processes need to speed up if timelines are going to be accelerated.</li> <li>○ Council decisions process also slows down the process</li> <li>○ Community groups get too involved and it slows down the process. They need to be pulled back / process needs to be reevaluated.</li> </ul> </li> <li>• <b>ZCSC+ESC:</b> <ul style="list-style-type: none"> <li>○ Streamlined approval process for BP and DP for buildings going further.</li> </ul> </li> </ul> <p><b>City Design guidelines</b></p> <ul style="list-style-type: none"> <li>• Updated municipal design guidelines</li> <li>• Rezoning. Develop OCPs that set out expectations.</li> <li>• Low-income housing doesn't need to be integrated to mid-income housing. <ul style="list-style-type: none"> <li>○ Not everything needs to be affordable.</li> </ul> </li> </ul> <p><b>Alignment</b></p> <ul style="list-style-type: none"> <li>• Information sharing between permit application reviewers to improve consistency between municipalities</li> <li>• <b>ZCSC+ESC:</b> <ul style="list-style-type: none"> <li>○ Consistent adoption across the region would help in training/clarification of requirements</li> </ul> </li> </ul> <p><b>Clarity and support</b></p> <ul style="list-style-type: none"> <li>• Provide clarity/support for implementation impacts for in-stream applications</li> <li>• Municipalities could provide more clarity to designers re: weather files, CZs, etc.</li> </ul> <p><b>Incentives and rebates</b></p> <ul style="list-style-type: none"> <li>• Tax incentives. Don't put CACs (Community Amenity Contributions) on.</li> <li>• Density Bonuses.</li> <li>• Municipalities to offer more incentives.</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Need for an equivalent rebate program to FBC to dissuade gas connections</li> <li>○ Incentivize through scaling permitting fees in line with ESC/ZCSC commitment i.e. commitment to higher step results in a lower permitting fee. <ul style="list-style-type: none"> <li>▪ Cost/timeline for the developer shorten if higher commitments are made.</li> </ul> </li> </ul> </li> </ul> <p><b>Partner with BC Hydro</b></p> <ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Work with BC Hydro to help facilitate connection/upgrades</li> <li>○ Advise that team's should look to engage with BC Hydro earlier in the process</li> </ul> </li> </ul>
<p><b>Supply chain</b></p>	<ul style="list-style-type: none"> <li>• <b>ZCSC+ESC:</b> Supplier and manufacturers. Trying to find the high efficiency products. If you can't get the product, then you have to go with an alternate product. Might mean compromising on performance</li> </ul>
<p><b>Knowledge sharing and education/awareness</b></p>	<p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Case studies need to include costs</li> <li>• <b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>○ Need current numbers on potential costs to showcase what should be expected</li> </ul> </li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Training for industry around air barriers</li> <li>• Builders breakfasts - need to focus on where the gaps are (e.g. trades)</li> </ul> <p><b>Awareness of current resources</b></p> <ul style="list-style-type: none"> <li>• BC Housing has a fair number of resources. <ul style="list-style-type: none"> <li>○ Making those things accessible - reducing barriers and costs.</li> </ul> </li> <li>• <b>ZCSC + ESC:</b></li> </ul>

	<ul style="list-style-type: none"><li>○ Case study/tangible examples -creating visibility around how both ZCESC and ESC can be done.</li><li>○ Case studies are helpful -- challenges, lessons, learned. Shared with the rest of the industry.</li><li>○ Lessons learned are great. Need to be willing to share the successes and failures.</li></ul> <p><b>Education of value proposition</b></p> <ul style="list-style-type: none"><li>• <b>ZCSC:</b><ul style="list-style-type: none"><li>○ Emphasize ease/value of zero carbon in the region</li></ul></li><li>• <b>ZCSC + ESC:</b><ul style="list-style-type: none"><li>○ Need to shift understanding of what can be done, and that we can't be doing this.</li></ul></li></ul>
--	--

## Part 9 Buildings

**Q1 What are the challenges and opportunities associated with building to net-zero energy-ready, zero carbon, or both?**

### Challenges

Themes	Comment
<b>Policy barriers</b>	<ul style="list-style-type: none"> <li>• Zoning Bylaws need to be aligned with performance e.g. requirements for glass and articulation</li> <li>• Bylaws can be disincentives to energy efficiency i.e. increased impact of gross floor area (GFA) from insulation</li> <li>• Municipal bylaws - maximum gross floor area / height restrictions and thicker walls/ deeper roof insulation</li> <li>• Form and character guidelines in some communities are incompatible with upper steps of BC Energy Step Code</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Fast rollout - need time to share / absorb new info</li> </ul> </li> </ul>
<b>Client preferences</b>	<ul style="list-style-type: none"> <li>• Challenge of client preference for views vs. solar orientation</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Will be hard to separate from certain options/preferences (gas)</li> <li>○ Older clients often want gas, ability to quickly turn on gas fireplace -allowing a gas backup is a mistake</li> <li>○ Consumers/builders strongly attached to natural gas, may be some challenges separating them from it.</li> <li>○ On-demand hot water (natural gas) is popular</li> <li>○ "Cultural" Gas use such as fire places and cooking are hard to talk people out of despite health and other reasons not to.</li> <li>○ Gas Marketing is misleading and there is a lot of it</li> </ul> </li> </ul>
<b>Industry Capacity/ Education</b>	<ul style="list-style-type: none"> <li>• <b>Training/Awareness</b> <ul style="list-style-type: none"> <li>○ Mechanical trades need to improve- risk of improper design</li> <li>○ HVAC- sizing matters, need better training HVAC industry (installers, design)</li> <li>○ Mark showed that these buildings can be built to same costs - industry just needs to understand it's possible</li> <li>○ Learning curve for all parties / building familiarity</li> <li>○</li> </ul> </li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Not enough training / information available</li> <li>○ New regulations = new learning curve</li> <li>○ Lack of awareness of ZCSC compared to ESC , might need more more time/education</li> <li>○ Need more case studies showing the actual cost savings associated with gas in our climate. Meter fees really hurt the economics</li> </ul> </li> <li>• <b>ZCSC+ESC</b> <ul style="list-style-type: none"> <li>○ Assumption that ZCES will cost a lot more</li> </ul> </li> <li>• <b>Engagement</b> <ul style="list-style-type: none"> <li>○ It's the builders who are not in the room who are going to have issues.</li> </ul> </li> <li>• <b>Design challenges</b> <ul style="list-style-type: none"> <li>○ Challenges to overcome - i.e. full electrification of large homes, but there are workarounds</li> </ul> </li> </ul>
<b>Supply Chain</b>	<ul style="list-style-type: none"> <li>• Embodied carbon challenges - most concrete alternative products only minimal improvements</li> <li>• Need to market to production builders - use/make products consumers wants</li> </ul>



<b>Financial challenges</b>	<ul style="list-style-type: none"> <li>• Impact on affordability</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ BC Hydro Connection Fees</li> </ul> </li> </ul>
-----------------------------	---

**Opportunities**

<b>Themes</b>	<b>Comment</b>
<b>Program rollout</b>	<ul style="list-style-type: none"> <li>• Messaging to convey this move as an opportunity, not challenge</li> <li>• Incremental steps between 4-5 isn't much and not hard to achieve</li> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ Municipalities need to remember this is performance based, not prescriptive (be open to legal workarounds)</li> <li>○ Opportunity: adopting both at the same time will reduce length of learning curve.</li> <li>○</li> </ul> </li> </ul>
<b>Client preferences</b>	<ul style="list-style-type: none"> <li>• Customers are already requesting Energy Efficient buildings (ESC)</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Little push back from clients on electric</li> <li>○ Younger clients tend to prefer electric</li> </ul> </li> </ul>
<b>Financial</b>	<ul style="list-style-type: none"> <li>• Opportunity = Cost savings</li> <li>• Integrated design process - will save money and time in long run</li> </ul>
<b>Past experience</b>	<ul style="list-style-type: none"> <li>• Many builders are building at or close to higher steps already</li> <li>• Building to ESC was easier than originally anticipated</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Like step code, will probably find out it's easier and cheaper than originally thought to build to ZCESC. Would like a bit of time to understand the zero carbon code, but in the end we'll probably find out its easy, so why not adopt it.</li> </ul> </li> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ Even with the higher capital costs, it's cheaper to use better systems</li> </ul> </li> </ul>
<b>Supply Chain</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Technology is there /available</li> </ul> </li> </ul>
<b>Alternative fuels</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Langford RNG project- way to mitigate gas impact. Challenge of including RNG</li> </ul> </li> </ul>
<b>Embodied Carbon</b>	<ul style="list-style-type: none"> <li>• Include Embodied Carbon in assessment <ul style="list-style-type: none"> <li>○ Agree that this is very improtant. Aluminum, concrete, steel, glass have a really high embodied carbon.</li> <li>○ Reduce concrete- impact on embodied carbon</li> </ul> </li> </ul>
<b>Design Approach</b>	<ul style="list-style-type: none"> <li>• Encourage energy modeling at the front end- rather than at permitting</li> <li>• Think of ongrade parking as a low carbon solution</li> <li>• Focus on air tightness, makes everything else easier</li> <li>• Lots of workarounds so not concerned. Can still have gas backup, cooking, outdoor fireplaces.</li> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ Once at higher levels of step code it makes sense to do zero carbon. Some challenges with larger homes but there are ways to design around this.</li> </ul> </li> </ul>

**Q2 Is the Industry ready to build to these levels of performance today? Why/not?**

*Industry is ready*

Theme	Comment
Industry capacity	<ul style="list-style-type: none"> <li>If knowledgeable energy advisors available to support/model/IDP etc.</li> </ul>
Past examples	<ul style="list-style-type: none"> <li>Yes, this is status quo for most already</li> <li>Yes Step 3 is standard practice - Higher steps are also easy assuming design is done well. Gets very hard/ expensive if design is not done with Energy considered.</li> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Vast majority of new builds are already meeting the higher steps</li> <li>Lots of work arounds available so don't see a huge issue - can still have gas bbqs/ secondary heating etc.</li> <li>Mechanical systems are readily available and easy to understand for most</li> </ul> </li> <li><b>ZCSC + ESC:</b> <ul style="list-style-type: none"> <li>General consensus: Building community will adapt, could be messy at first.</li> <li>In many cases industry is already doing low carbon and energy efficient buildings. Would likely be a small move to do both Yes.</li> </ul> </li> </ul>
Policy	<ul style="list-style-type: none"> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Consensus from builders in the room: The building industry will adapt if regulations are put in. There will be some grumbling at the start but they'll adapt.</li> </ul> </li> </ul>
Partial readiness	<ul style="list-style-type: none"> <li>Some builders will care and adopt faster than others</li> <li>Will eventually become the new norm (like heat pumps)</li> <li><b>ZCSC + ESC:</b> 50% of builders may be ready</li> </ul>

**Industry is Not Ready**

Themes	Comment
Industry Capacity/ Education	<ul style="list-style-type: none"> <li>No, but there has been plenty of opportunity to learn/adopt</li> <li>Lack of skilled trades <ul style="list-style-type: none"> <li>Need to educate those on site- skilled trades level, mechanical side</li> <li>Industry training key- need to get it built right, not just design focused</li> </ul> </li> <li>Increased cost to Step 3 painless, but it takes time and training</li> <li>Need to roll out training program ASAP if rapid adoption of high steps</li> </ul> <p><b>ZCSC:</b></p> <ul style="list-style-type: none"> <li>Lack of awareness could be an issue- ZCESC hasn't been promoted as much as ESC.</li> <li>Trade knowledge and home owner knowledge has some gaps</li> </ul>
Policy	<ul style="list-style-type: none"> <li>Bylaws need to be implemented region wide -reduces risk of building to a lower standard – Needs to happen at large scale.</li> </ul>
Design approach	<ul style="list-style-type: none"> <li>Starts with right design at the beginning -really important, people need to understand that.</li> </ul>

**Q3 What types of support would you or your peers need to build to be ready?**

Theme	Comment
Support from local government	<p><b>Policy</b></p> <ul style="list-style-type: none"> <li>Remove zoning bylaws</li> <li><b>ZCSC:</b> <ul style="list-style-type: none"> <li>Need regulation, otherwise will not happen at scale.</li> </ul> </li> </ul> <p><b>Incentives</b></p>

	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Permit, development cost charges (DCC) or other cost reductions for the types of buildings the city wants</li> <li>○ Higher permit fees for digging up the road – to disincentivize gas connection over electric connection.</li> </ul> </li> <li>• <b>ZCSC + ESC</b> <ul style="list-style-type: none"> <li>○ City can offer support or reductions in cost / timeline in permitting tax or DCC</li> </ul> </li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Design education of Council. Design panels- design review can challenge higher step code levels</li> <li>• Need building inspection to understand that code is performance based - sometimes can focus too much on prescriptive - more training for building officials.</li> <li>• Training/competence on Step Code should be part of builder licensing (provincial)</li> </ul>
<b>Industry capacity</b>	<ul style="list-style-type: none"> <li>• Knowledgeable Energy Advisors</li> <li>• Really need to increase HVAC trades capacity/ competence/culture</li> <li>• Definitely require mid-construction blower door tests.</li> </ul>
<b>Knowledge sharing and education/awareness</b>	<p><b>Awareness</b></p> <ul style="list-style-type: none"> <li>• There is already a lot of information out there - builders just need to make time and take responsibility.</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ RDN to encourage networking, local capacity building. Easier for larger municipalities with existing critical mass of experience.</li> <li>○ Critical mass of members with experience important to encourage networking</li> <li>○ Probably need focused awareness outreach with production builders</li> </ul> </li> </ul> <p><b>Training</b></p> <ul style="list-style-type: none"> <li>• Education is needed</li> <li>• Door-knocking and on-site outreach with spec builders important - educating the ones who don't show up to CHBA</li> <li>• Modeling of homes important - in the model can show the builders the small adjustments needed to meet higher steps</li> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ More outreach/education around what Zero Carbon requirements are, what is allowed/not allowed</li> <li>○ Lack of training for certain trades (i.e. HVAC; mechanical)/industry culture</li> </ul> </li> </ul>
<b>Incentives</b>	<ul style="list-style-type: none"> <li>• Incentives are needed <ul style="list-style-type: none"> <li>○ Financial incentives specifically to support Integrated Design Process (IDP)</li> <li>○ Training in High performance building results in building permit cost reduction</li> <li>○ BC Hydro incentive should be brought back - convinced many builders to move to electrification from gas - very effective when it still allowed for something like a gas bbq</li> </ul> </li> </ul>
<b>Consumer awareness</b>	<ul style="list-style-type: none"> <li>• <b>ZCSC:</b> <ul style="list-style-type: none"> <li>○ Training for home owners</li> <li>○ Help with messaging to consumers on low carbon benefits, argument for zero carbon - e.g. instant hot water is popular</li> </ul> </li> </ul>

**Plenary Discussion**

*Is alignment between municipalities in the RDN or Vancouver Island important to you? Why/Why not?*

Theme	Comment
<b>Alignment is important</b>	<ul style="list-style-type: none"> <li>• Challenge of different requirements in different jurisdictions - the more aligned the better               <ul style="list-style-type: none"> <li>◦ Crucial that they get on the same page; ESC adoption as a past example</li> </ul> </li> <li>• Will always have differences of opinion, need to be realistic of what level of consistency can be achieved; maybe at least agree on a baseline or base level definitions</li> <li>• Councils always seem to want to one up each other.</li> <li>• If the consistency is for a high standard then definitely, yes. Consistency would be a huge benefit.</li> </ul>
<b>Consequences of misalignment</b>	<ul style="list-style-type: none"> <li>• Different timelines = different speeds; building expertise and capacity would benefit from repeat applications of the same steps.</li> <li>• If one municipality that is adjacent to other jurisdictions, different requirements will cause developer/ builders to move to those that have lower expectations regarding energy consumption and GHG emission -this exacerbates the uptake</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Have an "island economy" - should reap the benefits and help the industry</li> </ul>

## Appendix C: Staff Workshop Summary

**Q1 Have any of these policy options been considered or tried by your municipalities in the past? If so, with what result?**

Theme	Comment
<b>BC Energy Step Code</b>	<ul style="list-style-type: none"> <li>Not that I'm aware of (<i>Regional District Nanaimo</i>)</li> <li>Yes, as a condition of rezoning (<i>Qualicum Beach</i>)</li> <li>Have stayed in step with the Province, but Council wants to accelerate to Step 5 (only in specific cases). Was looked at as part of RDN Climate Action Technical Advisory Committee (CATAC) (see LCES entry) (<i>District of Lantzville</i>)</li> <li>Step 3 Part 9, Step 2 Part 3. Density bonus and rezoning policy for higher steps (<i>City of Nanaimo</i>)</li> </ul>
<b>Low Carbon Energy System Pathway</b>	<ul style="list-style-type: none"> <li>No (<i>Regional District Nanaimo</i>)</li> <li>Looked at as option by RDN's climate action technical advisory committee (CATAC) - was one of the top 5 recommendations, but not implemented as we focused on the top 3 priorities. (<i>Regional District Nanaimo</i>)</li> <li>Not considered in Lantzville (<i>District of Lantzville</i>)</li> <li>Not yet (<i>Qualicum Beach</i>)</li> <li>LCES rezoning policy - DS (<i>City of Nanaimo</i>)</li> </ul>
<b>Financial Incentives (e.g. building permit fee rebate or rebates)</b>	<ul style="list-style-type: none"> <li>Nothing Yet for Lantzville (<i>District of Lantzville</i>)</li> <li>RDN Sustainable Development rebate for high efficiency buildings (up to \$1000) since 2012, but low uptake. (<i>Regional District Nanaimo</i>)</li> <li>yes, DCC reductions for achieving energy efficiency standards (<i>Qualicum Beach</i>)</li> <li>Province will be making changes to density and finance so will hopefully include sustainability criteria</li> </ul>
<b>Permit Fast Tracking</b>	<ul style="list-style-type: none"> <li>Suggestion only (<i>Regional District of Nanaimo</i>)</li> <li>Often suggested as an incentive for many legitimated needs. How do you choose what to fast-track e.g. affordable housing, day cares, medical buildings? So that's a No (<i>CoN</i>), (<i>Qualicum Beach</i>)</li> <li>Not in LV, Permitting is quite fast already, unlikely to incentivize (<i>District of Lantzville</i>)</li> </ul>
<b>Density Bonusing</b>	<ul style="list-style-type: none"> <li>Our zoning bylaw includes density bonusing in exchange for achieving higher Step Code levels than required. Seen some uptake (<i>City of Nanaimo</i>)</li> <li>Yes, in theory. But most developments don't need the bonus density (<i>Qualicum Beach</i>)</li> <li>Not in Lantzville (<i>District of Lantzville</i>)</li> <li>The idea of density bonusing has come up through Council discussion, but nothing more formal yet (<i>District of Lantzville</i>)</li> <li>Requires a balance of priorities, but is a very flexible tool (<i>City of Nanaimo</i>)</li> <li>Includes Step Code as a category option- previously referenced ASHRAE (<i>City of Nanaimo</i>)</li> <li>Province will be making changes to density and finance so will hopefully include sustainability criteria</li> </ul>

**Q2 What are the pros and cons associated with each option, from the perspective of permitting timelines, efficacy/uptake from the industry, staff capacity, overall feasibility, other?**

Pathway	Theme	Comment
	<b>Design</b>	<b>Guideline conflicts</b> <ul style="list-style-type: none"> <li>Design Guidelines (<i>City of Nanaimo</i>)</li> </ul>

<b>Energy Efficient Buildings</b>		<ul style="list-style-type: none"> <li>The town's design guidelines encourage features that compromise energy efficiency (<i>Qualicum Beach</i>)</li> <li>We have heard concerns design guideline conflict and have plans to review ours (<i>City of Nanaimo</i>)</li> <li>Form and character guideline conflicts</li> <li>Wall depth/floor area calculation conflicts, and roof</li> <li>Location of houses (i.e North-facing homes with large windows)</li> <li>Related to design, is public expectation for stepped buildings (<i>City of Nanaimo</i>)</li> </ul>
	<b>Education and local capacity</b>	<ul style="list-style-type: none"> <li>Builder and resident education - fears about cost increases</li> <li>Limited access to materials/ labour (I've heard that there are very few external insulation companies locally)</li> </ul>
	<b>General</b>	<ul style="list-style-type: none"> <li>Influx of applications ahead of changes. This is experience for Energy Step Code and assume would apply to Zero Carbon Step Code (<i>City of Nanaimo</i>)</li> </ul>
<b>Low Carbon Buildings</b>	<b>Industry capacity</b>	<ul style="list-style-type: none"> <li>Low education among public/ builders (Regional District of Nanaimo)</li> </ul>
	<b>Natural gas/RNG</b>	<ul style="list-style-type: none"> <li>Desirability of natural gas (e.g. heating water, gas stove, gas fireplace)</li> <li>Fortis rebates and low install costs for NG</li> <li>Potential compliance challenges with RNG? Fuel switching back.</li> </ul>
	<b>Concerns re electrification</b>	<ul style="list-style-type: none"> <li>Areas that experience longer power outages</li> </ul>
	<b>Unintended consequences</b>	<ul style="list-style-type: none"> <li>Prioritizing Zero Carbon over Energy Step Code is taking the short-term gain over the long-term - Don't want to give up benefits of efficiency</li> </ul>
<b>Low Carbon and Energy Efficient Buildings</b>	<b>Industry Capacity</b>	<ul style="list-style-type: none"> <li>Not very well informed builders overall</li> <li>There will be a perceived conflict between affordability and higher efficiency standards (<i>Qualicum Beach</i>)</li> </ul>
	<b>Local Government Capacity</b>	<ul style="list-style-type: none"> <li>On-going changes can be hard for industry (and staff) to manage in-stream applications</li> <li>Some concerns re: capacity to review applications (<i>District of Lantzille</i>)</li> <li>Not a very intense process overall for Building Officials, new requirements won't add much time to the review; need to ensure drawing set for P9 matches info from Energy Advisor (EA)</li> </ul>
	<b>Incentivization</b>	<ul style="list-style-type: none"> <li>Need to encourage rather than punish the right approach</li> </ul>

**Q3 What kinds of support, training, or other resources would you need or want to help support the implementation of these options?**

<b>Theme</b>	<b>Comment</b>
<b>Awareness &amp; Education</b>	<ul style="list-style-type: none"> <li>More engagement opportunities for public/industry (<i>Regional District of Nanaimo</i>)</li> <li>Case studies showing design procedures to industry members - need to know where to start</li> <li>More education about the business case for energy efficiency. Appeal to people's wallets (<i>Qualicum Beach</i>)</li> <li>Showcase local builders that are successfully implementing higher step code standards</li> <li>Constant changing regulations creating challenges</li> <li>Thermal comfort - heat pumps are better than floor board heaters. How can we communicate these benefits to builders and homes owners.</li> <li>Plain language explanation of requirements for residents (why it's important, how much will it increase costs)</li> </ul>
<b>Permitting process</b>	<ul style="list-style-type: none"> <li>Step Code isn't creating any backlog around permitting issues. Application review is pretty straight forward. Make sure we have crystal clear requirements.</li> <li>Need to front-load permits - ask for things earlier when you still have leverage</li> </ul>

	<ul style="list-style-type: none"> <li>• Perhaps a better understanding of Provincial/Federal funding opportunities and conveying this to developers as opportunities at the outset of projects</li> <li>• Building permit fees are adequate, planning permit fees already too low. You can't reduce these further for incentives. They are not yet at cost recovery. If they were closer to cost recovery you could use them for incentives and hire more staff.</li> </ul>
<b>Policy updates</b>	<ul style="list-style-type: none"> <li>• Heat pump setback requirements may need to be reduced- can be a barrier</li> <li>• Move towards performance based approach in bylaws and guidelines</li> <li>• City of Nanaimo - historical and come from OCP. There are a number of fundamental principles. There is sensitivity around height.</li> <li>• Need to review Form and Character guidelines</li> <li>• Historic neighbourhood plans - these are the ones that are harder to amend. How to allow more flexibility</li> <li>• we need to explore ways to make buildings that comply with design guidelines without adding all the dormers and extra corners (<i>Qualicum Beach</i>)</li> </ul>

**Appendix D: Industry Workshop Presentation**



# Net Zero Buildings in the Regional District of Nanaimo

Stakeholder Workshop

May 9, 2023





# Why are we here?

## Meeting our climate goals

- Regional District of Nanaimo (RDN) and municipalities have set ambitious GHG reduction targets:
  - **RDN:** 80% by 2050
  - **Qualicum Beach:** 80% by 2050
  - **Lantzville:** 85% by 2050
  - **City of Nanaimo:** 50-58% by 2030 and 94-107% by 2050



# Current Requirements for New Construction

## BC Energy Step Code Implementation



- With the recent building code update, **all municipalities in the RDN require the base BC Building Code.**
- The City of Nanaimo has previously implemented BC Energy Step Code in advance of the Provincial backstop

## Other Policies and Programs

### City of Nanaimo

- **Rezoning Bylaw** requires applicants to either achieve one step higher or achieve current step with a low-carbon system
- **Density amenity bonusing** for buildings achieving Step 3 and above

### Regional District of Nanaimo Incentives

- Renewable Energy Systems Rebate
- Sustainable Development Checklist Incentive
- EnerGuide Assessment Rebates

# RDN Net Zero Buildings

## Strategy for Net Zero Buildings & Localized Energy Generation

- How do we further reduce the carbon and energy impact of our buildings
- Considering industry feasibility, environmental, financial and social implications
- Collaboration between local governments within the RDN
- Consulting together, but each participating local government may choose different options following consultation and policy analyses



# Accelerating Step Code in the City of Nanaimo

## City Plan Direction

- **Accelerate zero carbon and energy efficient building design** and practices for all new construction before 2030, and require this for all new construction after 2030
- **Support, prioritize, and advocate for low carbon energy systems** in all new construction.

## Integrated Action Plan

- Confirm final steps with respect to Nanaimo's Energy Step Code implementation strategy, to **ensure higher Step Code compliance requirements come into effect before the Provincial mandated implementation timelines**



# Why are we here?

**To hear your insights and experiences to help the RDN and its member municipalities shape regulatory pathways for new construction**

- ❑ Provide an overview of local government decarbonization goals and the role and benefits of net-zero energy-ready (NZER) and zero carbon (ZC) buildings
- ❑ Present case studies/examples of successful NZER or ZC buildings in the region
- ❑ Workshop a shortlist of new construction policy options for stakeholder discussion and feedback

## Today's Agenda

- 8:10** Getting to zero in the new building sector
- 8:20** How do we get there?  
*Guest speakers*
- 8:50** Group discussions
- 9:45** Reflections on pathways to zero
- 9:55** Closing remarks & next steps



**BACKGROUND**

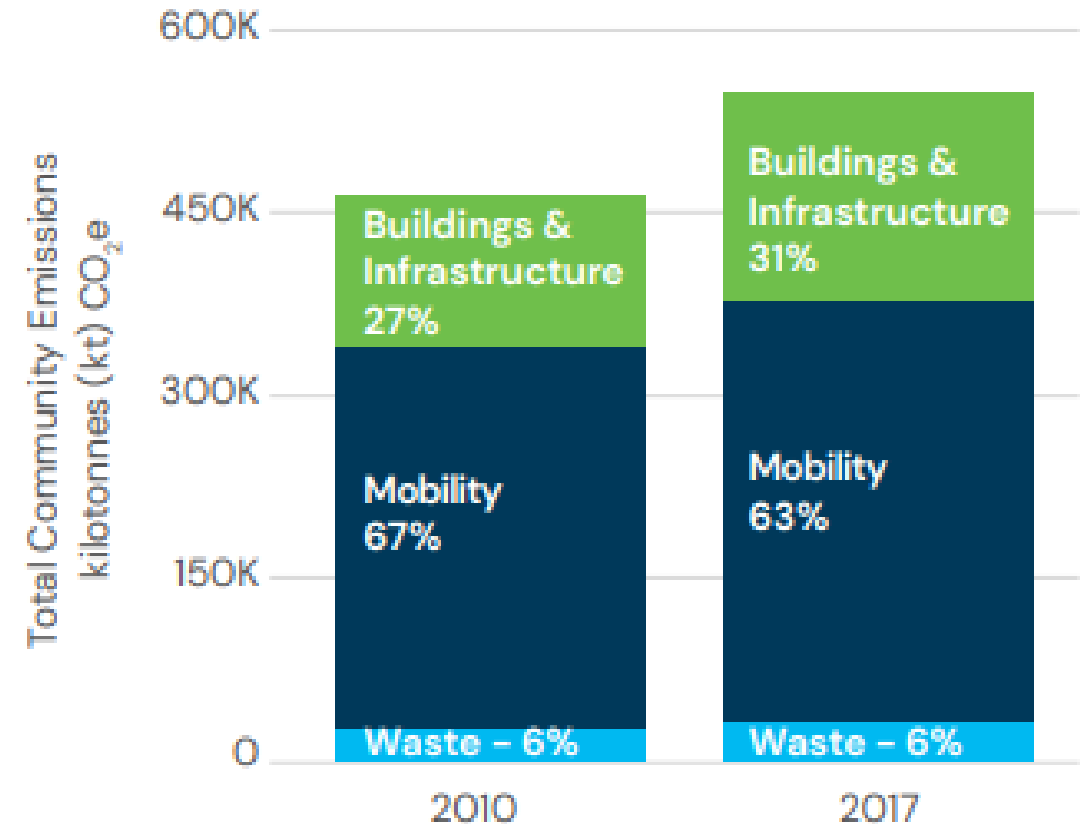
# Getting to Zero in the New Building Sector



# The Role of the Building Sector in Community Emissions

- The building sector accounts for **12% of province-wide GHG emissions**
- At a municipal level, buildings can account for **25%-55% of emissions**

Figure 7: Sources of Emissions in Nanaimo



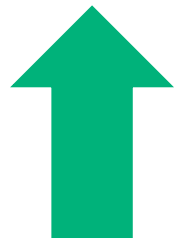


# 2023 Provincial Building Code Updates

On May 1, 2023, the Province updated the BC Building Code



## Increased Energy Efficiency



A 20% increase in energy efficiency above the 2018 Building Code



## Reducing Carbon Emissions



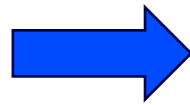
Voluntary carbon limits for Part 3 and Part 9 construction

# The BC Energy Step Code

The BC Energy Step Code has been in effect since 2017

Steps are increased every ~5 years

**We are here**



2022\*

\* NEW TARGET DEADLINES

2032

2027\*

2022\*

\* NEW TARGET DEADLINES

**Timeline for Energy Efficiency Regulatory Requirements in the BC Building Code**  
*Here's what the province's CleanBC plan will mean for new-construction requirements.*

STEP 5

STEP 4

STEP 3

 PART 9 BUILDINGS

STEP 4

STEP 3

STEP 2

 PART 3 BUILDINGS

NET-ZERO ENERGY-READY

UP TO:

80%

40%

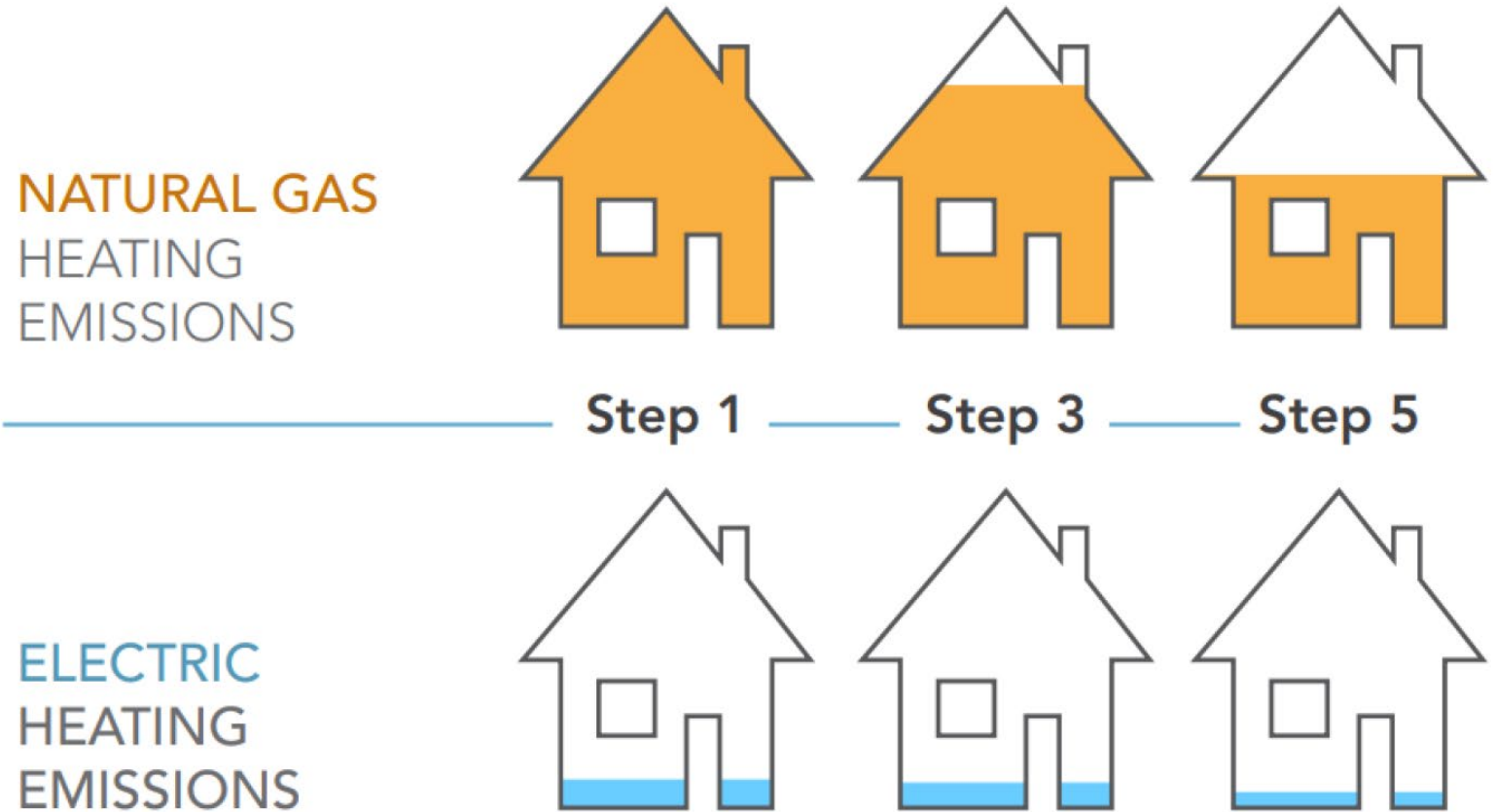
20%

Energy-efficiency improvement above 2018 BC Building Code requirements

# So why do we need another code?

## FROM ENERGY EFFICIENCY TO CARBON EMISSION REDUCTIONS

Focusing on energy efficiency alone can still result in significant emissions from the new building sector – even at higher steps of the BC Energy Step Code






# The Zero Carbon Step Code

- Local governments now have an option to add carbon requirements alongside energy efficiency targets
- CleanBC Roadmap to 2030 commits the Province to requiring all new construction to be zero carbon by 2030



# The Zero Carbon Step Code

## PART 3 BUILDING REQUIREMENTS FOR GREENHOUSE GAS INTENSITY (GHGI)

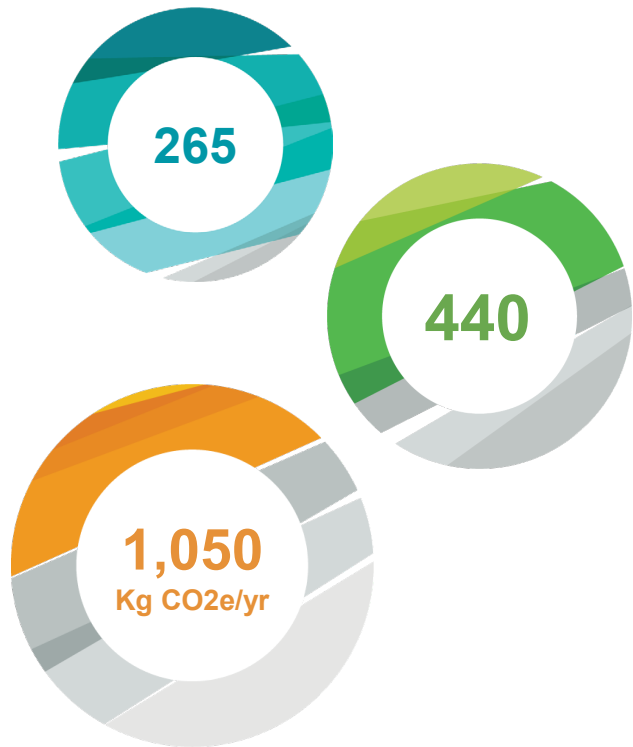
Building Type	Moderate kgCO <sub>2</sub> e/m <sup>2</sup> /year	Strong kgCO <sub>2</sub> e/m <sup>2</sup> /year	Zero Carbon kgCO <sub>2</sub> e/m <sup>2</sup> /year
MURB	7	3	1.8
Office	5	3	1.5
Retail	6	3	2
Hotel	9	4	2
Implications	 Zero carbon <b>space heating</b>	 Zero carbon <b>space and water heating</b>	 Zero carbon <b>energy</b>

# The BC Zero Carbon Step Code

## PART 9 BUILDING REQUIREMENTS

### Compliance Path #1

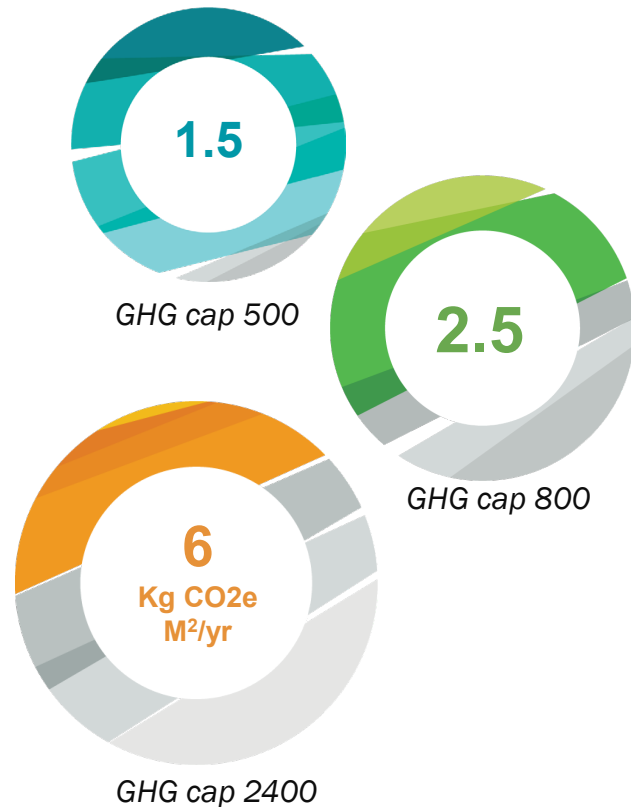
Quantity of carbon pollution



Maximum GHG emissions per home per year

### Compliance Path #2

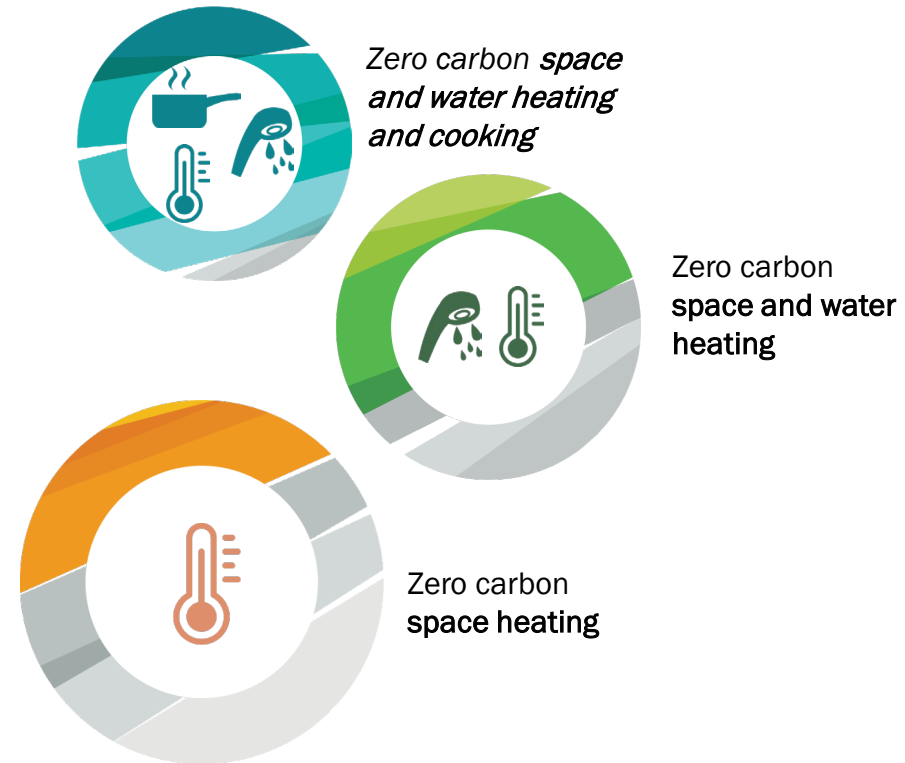
Intensity of carbon pollution



Maximum GHG intensity per home per year  
Page 246 of 364

### Compliance Path #3

Prescriptive approach

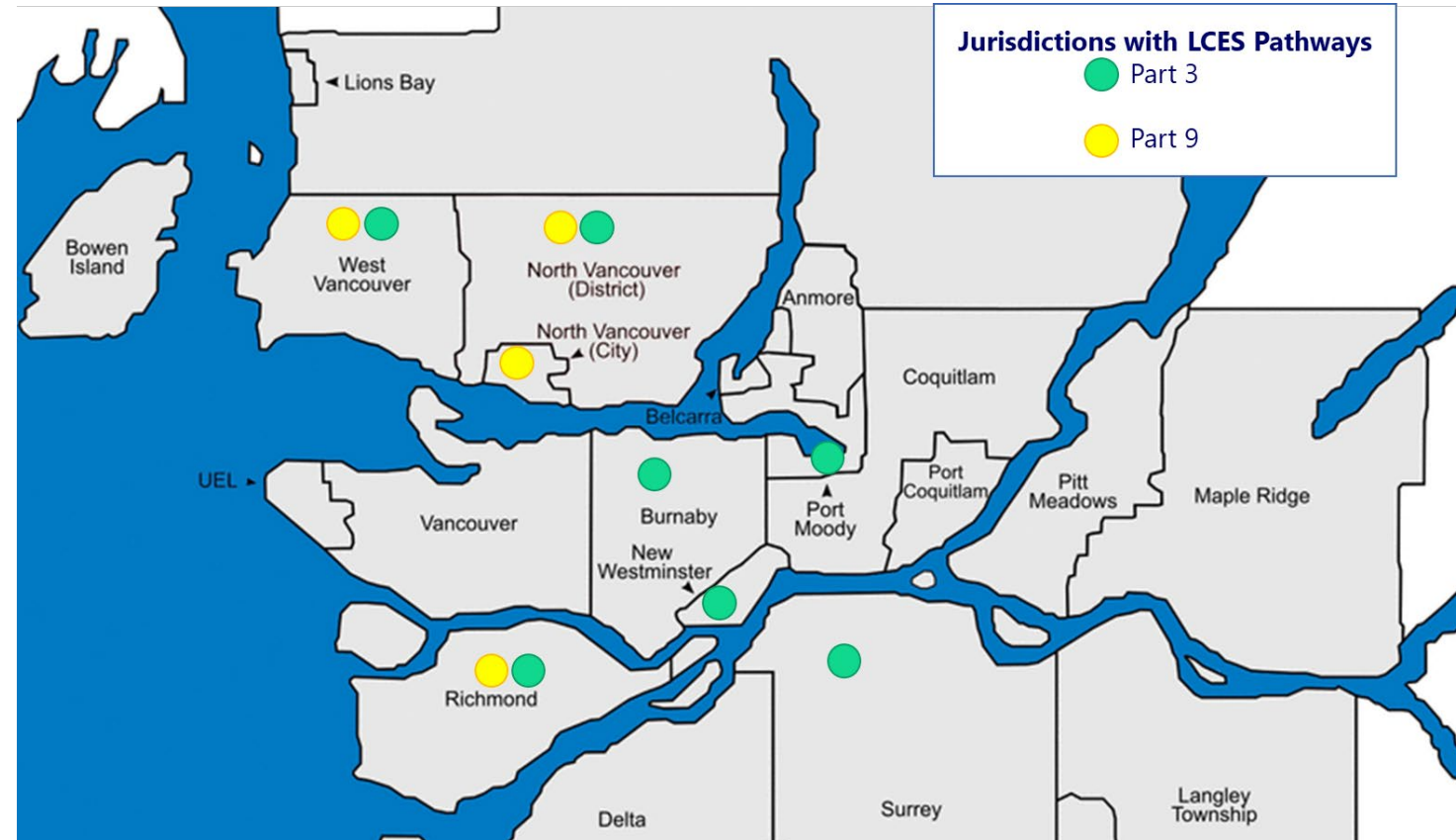


Maximum emissions by energy source

# State of Step Code Implementation by other Local Governments

## LOW-CARBON ENERGY SYSTEM PATHWAYS

- Before the Zero Carbon Step Code was implemented, many local governments introduced Low Carbon Energy System (LCES) Pathways alongside BC Energy Step Code to encourage decarbonization



# State of Zero Carbon Step Code Implementation by Local Governments



## City of Victoria



Nov 2023 **Zero Carbon**



Jul 2024 **Zero Carbon**  
(MURBs <6 storeys)

Nov 2024 **Zero Carbon**  
(MURBs >7+ storeys,  
commercial)

*Provincial backstop for  
BC Energy Step Code*



## Saanich



Nov 2023 **Zero Carbon**



Jul 2024 **Zero Carbon**  
(MURBs <6 storeys)

Nov 2024 **Zero Carbon**  
(MURBs >7+ storeys,  
commercial)

*Provincial backstop for  
BC Energy Step Code*



## City of Richmond\*



Oct 2023 **Moderate Carbon** + Step 5  
Jan 2025 **Strong Carbon** + Step 5  
Jan 2027 **Zero Carbon** + Step 5



Oct 2023 **TBD Carbon** + Step 3  
Jan 2025 **TBD Carbon** + Step 4  
Jan 2027 **TBD Carbon** + Step 4



## Whistler



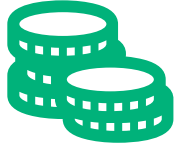
Jan 2024 **Strong Carbon** + Step 4  
TBD 2026 **Zero Carbon** + Step 4



Jan 2024 **Strong Carbon** + Step 3  
TBD 2026 **Zero Carbon** + Step 3



# Other Ways of Encouraging Higher Performance



## Financial Incentives

- Local government financial incentives include:
  - **Building permit fee rebates** for homes meeting the upper steps of the BC Energy Step Code (e.g. Comox Valley Regional District, Township of Langley, City of Kimberley)
  - **Home energy evaluations or airtightness testing rebates** (e.g. City of North Vancouver, Township of Langley, New Westminster)



## Permit Fast Tracking

- “Front of the line” status for all-electric/highest step projects (e.g. Port Coquitlam)



## Density Bonusing

- Additional density granted to higher performing designs (e.g. City of Duncan)

GETTING TO ZERO

What does this  
mean for  
design &  
construction?



# What does this mean?

## BENEFITS & RISKS OF ENERGY EFFICIENT & ALL-ELECTRIC BUILDINGS

### BENEFITS

- Significantly reduced carbon emissions
- Potential to lower energy bills for residents and tenants
- Quieter and more comfortable homes
- Healthier indoor and outdoor air quality
- Increased safety and resilience
- More durable envelopes with lower replacement needs
- Avoid cost of future retrofits

### RISKS

- Limited electrical capacity/potential need for electrical upgrades
- Potential to increase energy bills with lower efficiency HVAC systems
- Need to ensure careful design to avoid overheating
- Need for additional training for municipal staff and industry members
- Potential for increased costs in an already squeezed market

# Diving into Cost Implications – BC Energy Step Code

Building Type	Energy Step Code	Incremental cost increase range (%)*
Single family homes	4	0% -5%
	5	1% - 7%
High Rise MURB	3	1% - 4%
	4	1%- 6%
Low Rise MURB	3	1% - 2%
	4	3%
Row Homes	4	0-2%
	5	2%
Quadplex	4	2%
	5	4%
Office	3	-2%-0%

\*Based on BC Energy Step Code Metrics Report Update (2022); City of Surrey Step Code Costing Study; City of Vancouver Zero Emissions Building Plan: Rezoning Cost Comparison; Getting to Zero: A High Performance Energy Policy for New Buildings in the City of Richmond.

\*Baseline generally assumes NECB 2017, not recently updated BCBC.

# Diving into Cost Implications – Zero Carbon Step Code

Building Type	Energy Step Code (Baseline)	Zero Carbon Step Code	Incremental cost increase range (%)
<b>Single family homes</b>	4	Zero Carbon	0% – 1%
	5	Zero Carbon	0% – 2%
<b>High Rise MURB</b>	3	Zero Carbon	0% – 2%
	4	Zero Carbon	0% – 1%
<b>Low Rise MURB</b>	3	Zero Carbon	0% – 2%
	4	Zero Carbon	0% – 1%
<b>Row Homes</b>	4	Zero Carbon	-
	5	Zero Carbon	-
<b>Quadplex</b>	4	Zero Carbon	1% – 2%
	5	Zero Carbon	1% – 2%
<b>Office</b>	3	Zero Carbon	3%

# Diving into Cost Implications – Utility Cost Impacts

Building Type	Energy Step Code	Zero Carbon Step Code	Utility Cost
<b>Single family homes</b>	4	Zero Carbon	+7% – -4%
	5	Zero Carbon	+5% – -12%
<b>High Rise MURB</b>	3	Zero Carbon	-9% – -11%
	4	Zero Carbon	-11% – -24%
<b>Low Rise MURB</b>	3	Zero Carbon	-9% – -11%
	4	Zero Carbon	-11% – -24%
<b>Row Homes</b>	4	Zero Carbon	-21%
	5	Zero Carbon	-25%
<b>Quadplex</b>	4	Zero Carbon	–
	5	Zero Carbon	–
<b>Office</b>	3	Zero Carbon	-18%

# Driving Down Costs



**Base BC Building Code changes.** The additional capital cost of achieving higher levels of performance is decreasing as the base building code becomes more energy efficient.



**Industry experience.** As the industry becomes more experienced with high-performance and low-carbon construction, cost overruns are decreasing and efficiencies are increasing – especially where IDP – are used.



**Cooling demand.** As the demand for cooling increases, heat pumps are becoming an increasingly cost-effective option.

# Supporting the Market

- **BC Hydro Integrated Resource Plan** is preparing for an electrified future
- **BC Hydro review and update of Distribution Extension Policy** to address cost and timelines associated with interconnection and electrical service upgrades
- **Training opportunities are available** to attract new workers and support upskilling (e.g. Home Performance Stakeholder Council, BCIT, ZEBx, EGBC, TECA)
- **Resources are available** to support industry in understanding how to build to new levels of performance (e.g. BC Housing Builder Insights, Design Guide)
- **Pilots and demonstration projects** are supporting the adoption of new technologies and processes.



GETTING TO ZERO

Guest Speaker  
Mark Bernhardt,  
Bernhardt  
Contracting Ltd.



# HOW WORRIED SHOULD INDUSTRY BE?

Spring 2023

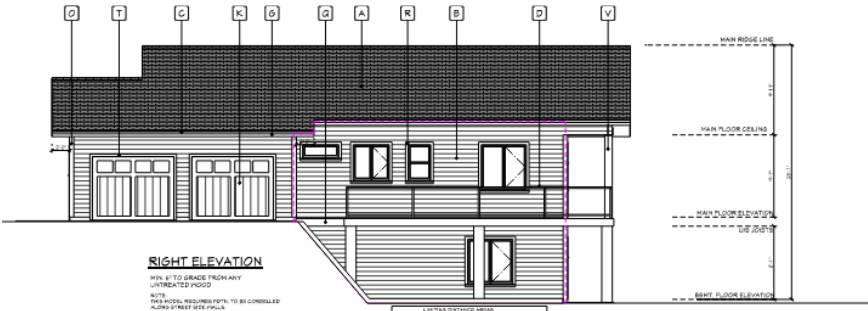
# Hurko Residence Carbon/ Energy Step Code Example



**REAR ELEVATION**

MIN. 8" TO GRADE FROM ANY UNTREATED WOOD

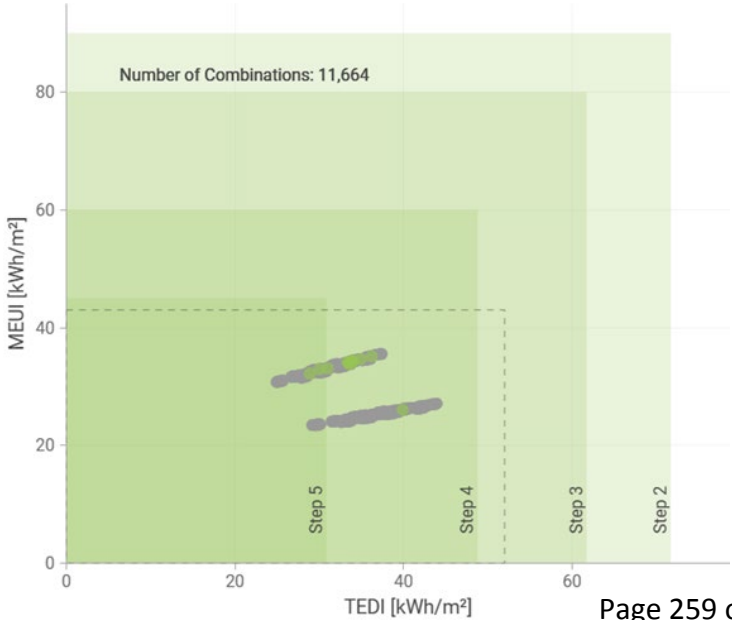
NOTE: THIS MODEL REQUIRES 90% TO BE CORRELATED ALONG STREET SIDE WALL.

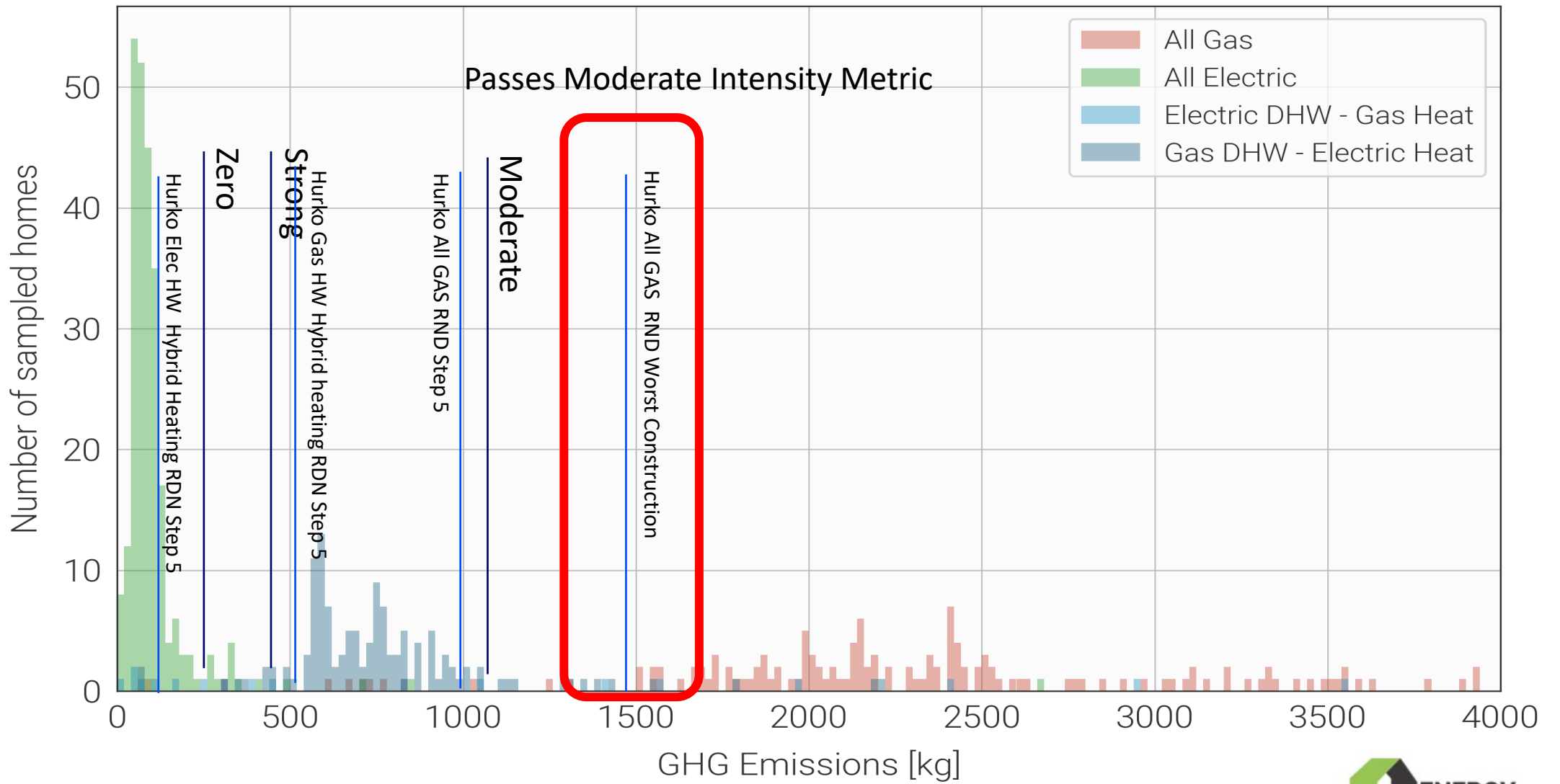


**RIGHT ELEVATION**

MIN. 8" TO GRADE FROM ANY UNTREATED WOOD

NOTE: THIS MODEL REQUIRES 90% TO BE CORRELATED ALONG STREET SIDE WALL.





# Zero Carbon Sells

## Step 5 Zero Carbon Island Examples



# If it can be done here, what is our excuse?

Part 9 Step 5  
Zero Carbon  
Northern BC

Total Build Cost under  
\$400,000



Part 3 Step 4  
Zero Carbon  
Affordable Rental  
Northern Nova Scotia

Total Estimated Build Cost \$7.5  
Million



**ICON**  
HOMES LTD.



WAYMARK  
ARCHITECTURE





“Do or do not. There is no Try”  
- Yoda

GETTING TO ZERO

Guest Speaker  
Andy Chong,  
Introba





# Quick Intro

- 15+ Years, Mainland to Island
- Introba Victoria Office est. 2014
- Focus on High-Performance Commercial + Affordable Housing
- CRD Step Code Adoption 2018
- CRD Step Code Advancement 2022
- Victoria Resident, Nanaimo Visitor



# Quick Intro

- 15+ Years, Mainland to Island
- Introba Victoria Office est. 2014
- Focus on High-Performance Commercial + Affordable Housing
- CRD Step Code Adoption 2018
- CRD Step Code Advancement 2022
- Victoria Resident, Nanaimo Visitor
- Dad



# Local Impact: Vancouver Island Case Studies



TELUS Ocean

Part 3 Office  
Step 3, Zero Carbon



Discover Montessori School

Part 3 Commercial  
Net Zero Energy



Nigel House Residential Care

Part 3 Residential  
Step 2, Fully Electric



Saanich Fire Stn #2 Replacement

Part 3 Commercial  
Step 3, Net Zero Energy & Carbon



North Cowichan Seniors Housing

Part 3 Residential  
Step 3, Fully Electric

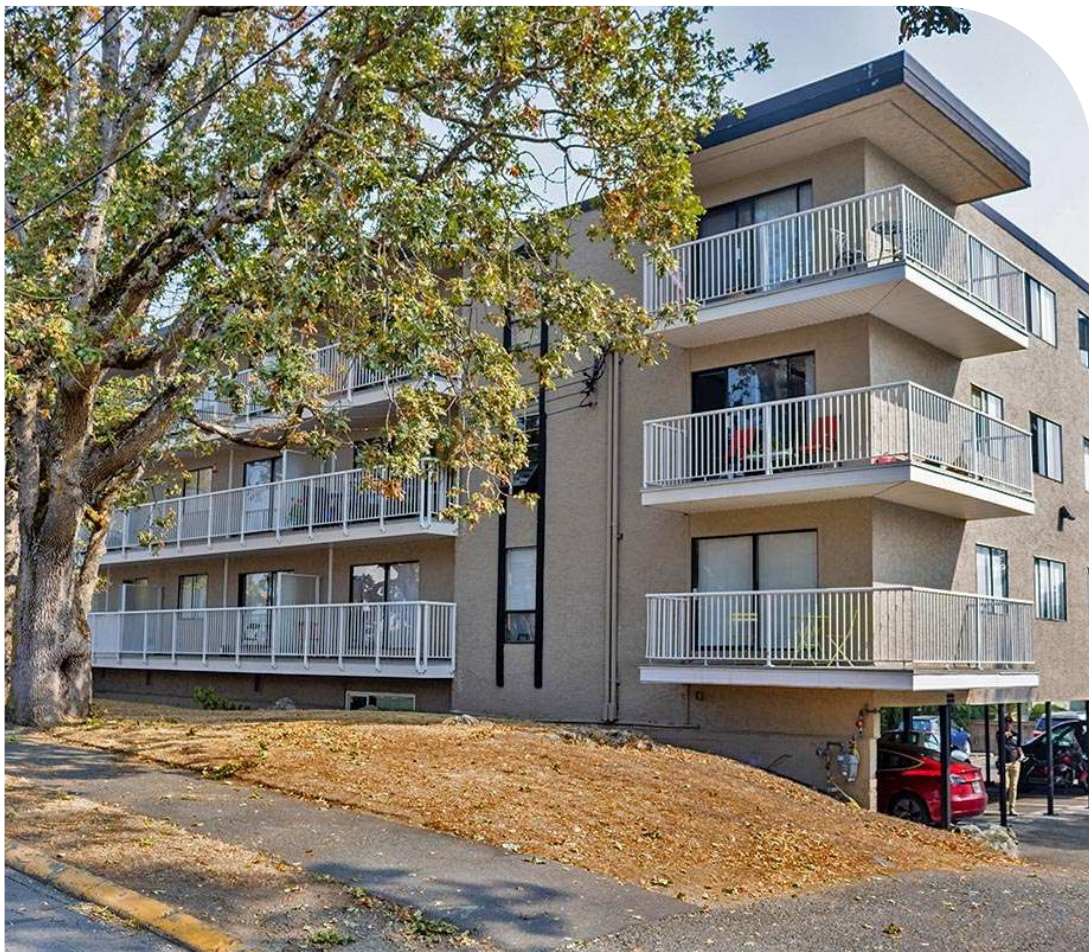
# The costs and implications of getting to zero carbon?



... depends on what you are starting with.



# Stuck on Brute Force Systems Approach



# Large Building Mechanical Approaches at a Glance...



Economy of Scale

1515 Douglas St

Victoria BC

Hybrid Air/Ground  
Source Heat  
Recovery Heat Pump



High Performance  
Commercial HVAC  
Equipment

Charter Telecom HQ

Langford BC

Central High-  
Performance HRV

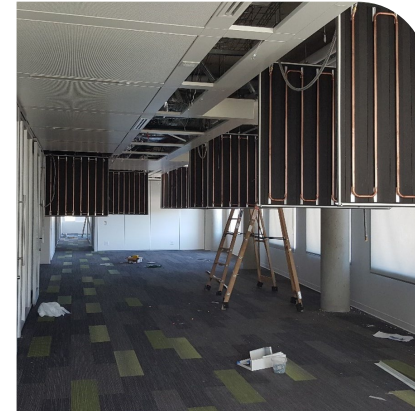


Heat Recovery

Uptown Shopping  
Centre Whole Foods

Saanich BC

Refrigeration Heat  
Recovery

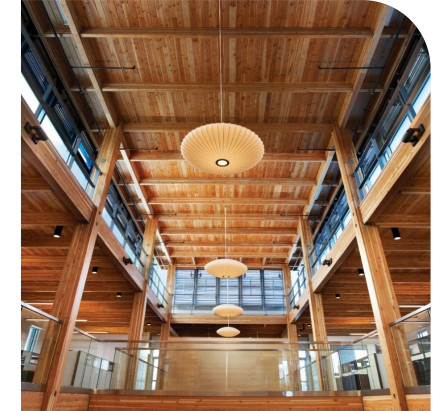


Greater Flexibility in  
System Types

750 Pandora BC  
Investment HQ

Victoria BC

Radiant Ceiling



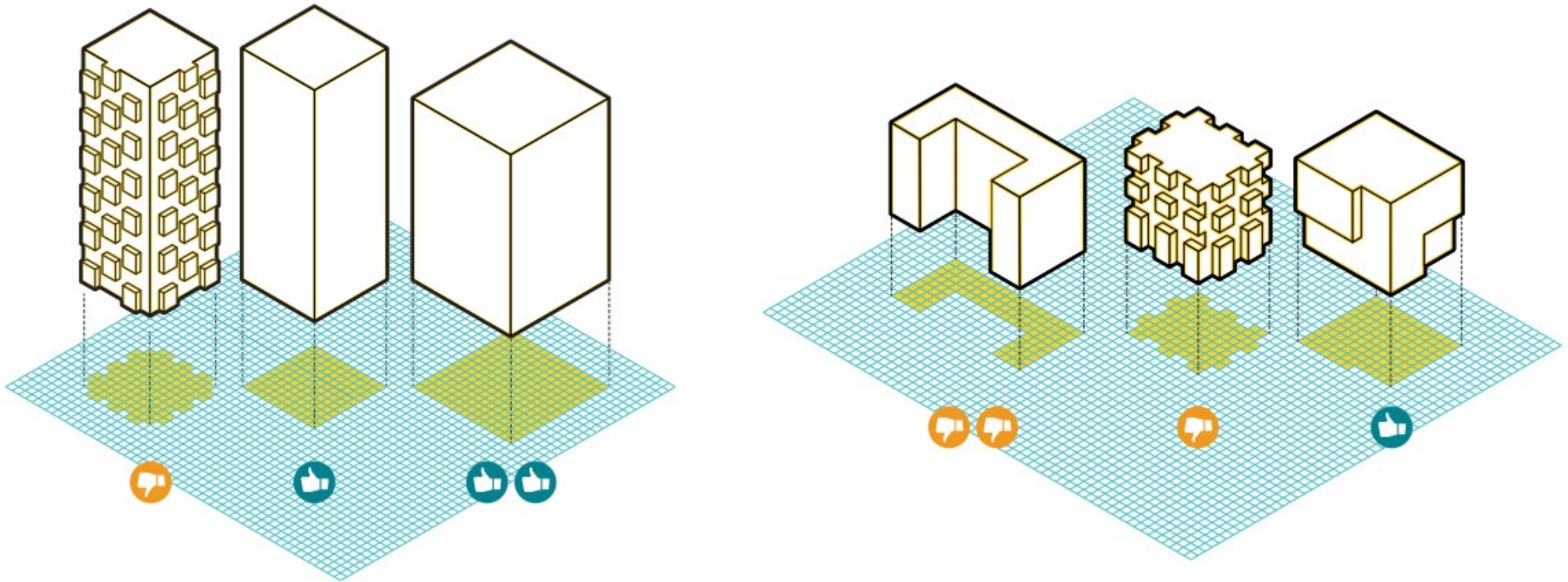
Innovative Ventilation  
Strategies

Reliable Controls HQ

View Royal BC

Natural Ventilation

# But HVAC Systems Only Contribute So Much...



**Higher Steps and Zero Carbon do not necessarily require more complex or expensive systems. Form and character of architecture becomes constrained at higher levels.**



# Energy Efficiency ≠ Carbon Emission Reduction



# TEUI, TEDI... What about **GHGI**?

In British Columbia,  
**NATURAL GAS** is  
**17x** more  
carbon-intensive  
than **ELECTRICITY**

Fuel Type	Emissions Factor (kgCO <sub>2e</sub> /kWh)
Natural Gas	0.185
Electricity	0.011
District Energy System	as provided by utility <sup>1,2</sup>

**For British Columbia,  
DECARBONIZATION ≈ ELECTRIFICATION**

# Arch + Mech Integrated Design → Decarbonization Hierarchy

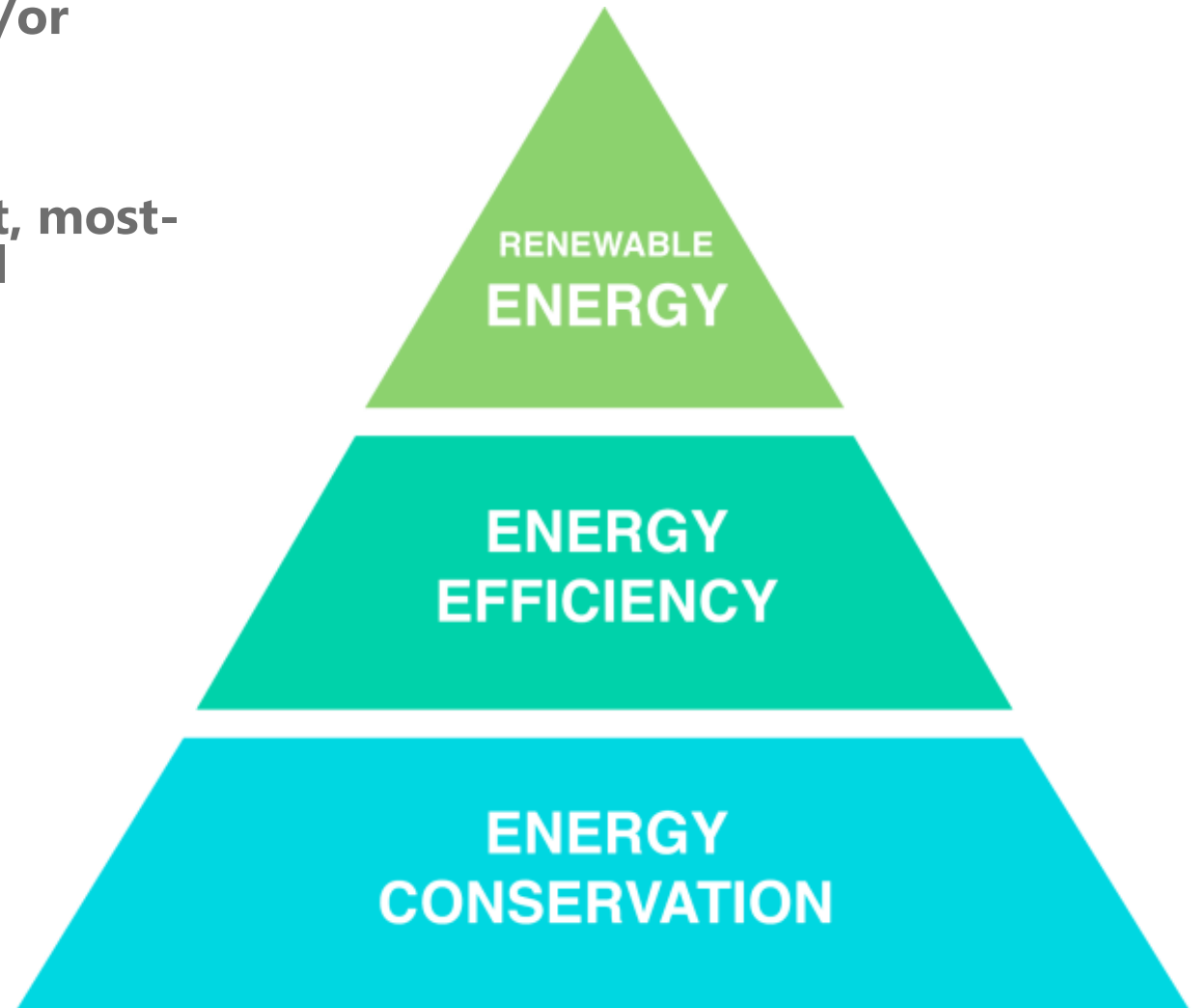
**3. For what's left – use renewable sources and/or offset**

**2. Satisfy the remaining load with the smallest, most-efficient, and lowest-carbon-intensity practical**

- incorporate sources of heat recovery
- strategic selection of energy source/sink
- heat pumps

**1. Reduce base demand through conservation measures**

- reduce waste and losses
- passive design
- demand control



# Energy Model is a Design Tool (Not just a Compliance Check)



- Test performance of options before committing to full design and/or capital costs...

*"Are we going to make it?"*

- Explore and Refine Options, Cost/Benefit, and avoid Brute Force Overdesign
- **... or risk not making it to your destination.**

# Bottom Line Takeaways

1. Market is Ready! Many Mech Solutions – but they only go so far.
2. Building Form & Architecture Play Critical Role at Higher Steps; Conservation First
3. Fuel Source is Critical to Carbon Emission Reduction; Emphasize and Plan for Electric Options
4. Energy Modeling as a Design Tool (not just a compliance check)



**GETTING TO ZERO**

What are the local governments in the RDN considering?

**Lisa Westerhoff, Introba**



# Pathways Under Consideration



## Pathway #1: Prioritize Energy Efficiency

- Implement (or increase stringency) the BC Energy Step Code



## Pathway #2: Prioritize Carbon Emissions Reductions

- Implement the Zero Carbon Step Code



## Pathways #3: Advance Energy Efficiency and Emissions Reductions

- Implement (or accelerate adoption of) the BC Energy Step Code **AND**
- Implement the Zero Carbon Step Code



## Pathway 4:\* Voluntary interventions to encourage early adoption

- Rezoning policy
- Financial incentives
- Non-financial incentives (e.g. permit fast tracking and density bonusing)

**\*Pathway 4 is not mutually exclusive and can be used in conjunction with Pathways #1-#3**

# Next Steps

- A survey will be launched today RDN website to capture more feedback, especially from those unable to attend
- Once policy pathways have been refined, we will solicit further feedback from you via email
- **Further questions or concerns?**
  - Jessica Beaubier [Jbeaubier@rdn.bc.ca](mailto:Jbeaubier@rdn.bc.ca)
  - Ting Pan [Ting.Pan@nanaimo.ca](mailto:Ting.Pan@nanaimo.ca)
  - Luke Sales [lsales@qualicumbeach.ca](mailto:lsales@qualicumbeach.ca)
  - Frank Limshue [flimshue@lantzville.ca](mailto:flimshue@lantzville.ca)







Thank you!

QUESTIONS?

Attachment I - Proposed Implementation Timeline

Proposed Timelines	2024												2025												2026												2027-2029	2030
	Q1			Q2			Q3			Q4			Q1			Q2			Q3			Q4																
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Province of BC - Zero Carbon Step Code Timeline	EL-1											?												?												?	EL-4	
MTCA Implementation Timeline	EL-1											EL-3												EL-4														
Proposed CMR Timeline	EL-1																	EL-3																EL-4				

**TO:** His Worship Mayor Dan Ruimy  
and Members of Council  
**FROM:** Chief Administrative Officer

**MEETING DATE:** May 28, 2024  
**FILE NO:** 01-0690-03  
**MEETING:** **Council Workshop**

**SUBJECT:** Climate Lens Assessment Framework

---

**EXECUTIVE SUMMARY:**

Since its inception in July 2023, the Mayor’s Taskforce on Climate Action has focused on advancing priority climate initiatives during the development of the City’s Low-Carbon Resilience Climate Action Plan. A key area is introducing a Climate Lens Framework Assessment into staff reporting to inform Council and Committees of climate change considerations – both mitigation (e.g. reduction or prevention of emissions) and adaption (e.g. preparedness of climate hazards and impacts, reducing risk and vulnerability) for Corporate and Community policy and projects.

The Climate Lens Assessment Framework is designed to provide a preliminary, qualitative assessment of whether a municipal decision will affect climate (Mitigation – through the reduction of greenhouse gases) or be affected by climate (Adaptation – through increased exposure to extreme weather impacts). The implementation of the Climate Lens Assessment Framework will take a phased approach, with each phase introducing progressively more comprehensive levels of analysis, to integrate climate considerations across the Corporation of the City of Maple Ridge.

**RECOMMENDATION:**

For information.

**DISCUSSION:**

**a) Background Context:**

This report is being advanced to Council as a result of the Mayor’s Taskforce on Climate Action adopting a recommendation that staff bring for adoption a Climate Lens Assessment into City of Maple Ridge staff reports by Q2 2024. Developing a climate lens aligns with the strategic Key Result to “Develop a framework for climate and resilience as a lens for City decision-making”. Terms of reference for the Taskforce and its five priorities are listed as attachments A and B, respectively.

Municipalities across Canada are developing various Climate Lens frameworks and tools to embed climate change considerations into municipal decision-making processes. The aim of a Climate Lens Assessment is to formalize and normalize climate change considerations into project, program and policy making. A Climate Lens is a guidance document on assessing climate risks and implications, including Mitigation (GHG emissions reductions), and Adaptation (resiliency to extreme weather impacts).

**Approach & Next Steps**

The proposed approach for implementing the Climate Lens is based outcomes and recommendations from jurisdictions leading in this arena. Considerations gathered from these municipalities is included in Attachment C.

The first phase of the Climate Lens Assessment Framework tool does not require detailed quantification to evaluate the impacts of a decision, but rather qualitatively assesses high-level probabilities, to foster multi-departmental dialogue and incorporation of climate change considerations. By including climate change consideration in Council reports, Council is given an understanding of the climate mitigation and adaptation implications of their decisions. A sample of the data being collected is provided in Attachment D

The Climate Lens Framework Tool is to be used in staff reports to Council. The City’s tool is divided into three sections: 1. Mitigation (e.g. reducing or preventing greenhouse gas emissions), 2. Adaptation (e.g. prepare for impacts of climate change to reduce risk and vulnerability) and 3. Benefits (e.g. provide multiple community benefits). This format follows and supports the components of the Low-Carbon Resilience approach to climate action – mitigation, adaption, and co-benefits.

**Implementation Timeline**

Phase 1: Q3 2024 – Q1 2025 Staff will begin to incorporate the Climate Lens for new projects, programs, or policies with reporting requirements to Council and Committee, informed by a first round of ongoing consultation with major departments. The Climate Change Considerations section will be added to the Council report template in Q3 2024.

Phase 2: Q2 2025 – Q1 2026 Further refinement of the Climate Lens Assessment Framework will take place, informed by a second round of ongoing consultation with major departments. This will include assessing the addition of criteria such as quantitative requirements (i.e., including more precise emissions calculations), standardizing individual department’s reporting metrics, and/or introducing other resources such as a checklist of climate change implications to increase the impact of the framework and improve consistency of its output.

**b) Desired Outcome:**

This report is intended to make Council aware of the upcoming addition to Council reports which will reflect the climate impacts of proposed corporate policies based on available data.

**c) Strategic Alignment:**

The project detailed in this report is a strategic initiative as detailed below:

Priority	Objective	Key Result
Climate Leadership & Environmental Stewardship	Mitigate & Adapt to the Impacts of Climate Change	Develop a framework for climate and resilience as a lens for City decision making.

**d) Interdepartmental Implications:**

As this item was identified as a strategic initiative advancing a Key Result, the Climate Leadership & Environmental Stewardship Strategic Priority Oversight Team is monitoring the project. The initiative itself is a cross-functional project engaging service areas across the City of Maple Ridge.

**e) Business Plan/Financial Implications:**

There is no immediate impact on the Financial Plan as a result of the proposed scope of work. No funding is being requested.

It should be noted that introducing a Climate Lens Framework Assessment in the staff reporting to Council on projects and policies in the future will require staff to consider the climate change impacts and introduce alternative approaches that aim to reduce or prevent greenhouse gas emissions and reduce the risk of impacts of a changing climate. These approaches could reduce costs through efficiency or increase costs using new emerging technologies but aim to improve services in the community to build resiliency.

**f) Policy Implications:**

Introducing a Climate Lens Framework Assessment as a component to staff reporting to Council will not require any changes in policy but will consider incorporation and changes in current practices and thinking towards incorporating climate change into staff reporting and information provided to Council for decision making.


**g) Alternatives:**

Council could opt to not proceed with the introduction of a Climate Lens Assessment Framework and await direction at higher levels of government to require climate lens assessments for projects and policies that rely on funding.

Await direction: Though updated guidance from the Province or the Federal government is anticipated, there is no certainty around when. Currently, municipal projects seeking federal support under Infrastructure Canada Investing in Canada Infrastructure Program funding already require a Climate Lens Assessment for funding streams on Public Transit, Green Infrastructure, Community, Culture and Recreation Infrastructure, and Rural and Northern Communities Infrastructure, and the national Disaster Mitigation and Adaptation Fund. Infrastructure Canada's Climate Lens Guidance is included as Attachment E of this report for reference. Federal departments are also considering or undertaking their own respective Climate Lens Framework Assessments on project, program and policy decisions.

**CONCLUSION:**

A Climate Lens Assessment Framework will support and incorporate climate change into municipal decision making to mitigate & adapt to the impacts of climate change. The City's tool will help inform Council and Committees of climate change considerations for Corporate and Community programs, projects, and policies.

 on behalf of  
\_\_\_\_\_  
*Prepared by:* **Brian Montgomery, Designations  
Climate Action & Resiliency Advisor**

  
\_\_\_\_\_  
*Approved by:* **Zvi Lifshiz  
Director of Strategic Development, Communications,  
and Public Engagement**

  
\_\_\_\_\_  
*Concurrence:* **Scott Hartman  
Chief Administrative Officer**

**Attachments:**

- (A) Mayor's Taskforce on Climate Action – Terms of Reference
- (B) Mayor's Taskforce on Climate Action – Priorities
- (C) Key Considerations for Successful Implementation
- (D) Climate Lens Assessment Form
- (E) Infrastructure Canada Climate Lens- General Guidance

## Attachment A – MTCA Terms of Reference

### **Terms of Reference – City of Maple Ridge: Mayor’s Task Force on Climate Action**

#### MANDATE

The mandate of the Mayor’s Taskforce on Climate Action (MTCA) is to serve as an advisory role to City Council with respect to high value and high priority climate mitigation and adaptation actions that will have the greatest impact on advancing Council’s Strategic Priority of “Climate Leadership and Environmental Stewardship” and its accompanying goals.

#### FUNCTIONS

The Council of the City of Maple Ridge has the MTCA to:

- Identify and make actionable recommendations and proposals for Council’s consideration regarding high value and high priority policies, bylaw updates, and implementation actions related to reduction of emissions and enhancement of resilience related to Climate Change. As part of making recommendations, the MTCA will:
  - Apply a “Low Carbon Resilience” lens to all proposed actions to ensure that recommendations do not negatively impact related adaptation, mitigation and other co-benefit priorities, and seek opportunities to maximize these outcomes concurrently.
  - Balance and adjust the priority of each recommendation with the anticipated implementation timeline, viability, and the organization’s/community’s capacity and state of readiness to proceed with each recommendation.
  - Include implementation process and phasing recommendations where appropriate.
- Engage with indigenous peoples and with the community and other interested and affected parties, with the support of City staff, regarding actions and policy directions that are proposed to be recommended to Council. This is to ensure that recommendations are evaluated with consideration of community and stakeholder input and perspectives.
- Advise Council and make recommendations on innovative actions that will establish Maple Ridge as a leader among local governments in addressing climate change.
- Participate in climate action workshops with staff and/or consultants, where possible, to:
  - Co-evaluate and prioritize risk and vulnerability and emissions data.
  - Support alignment between the development of the City’s comprehensive Climate Action Plan and the actions directed by Council through the recommendations of the MTCA.
- Provide the City’s cross departmental Climate Action staff team with expert insights and comments on the City’s Climate Action Plan’s phases, deliverables and outcomes during the development of the plan by providing analysis of best practices and consultant recommendations.

#### MEMBERSHIP COMPOSITION

The MTCA will be comprised of up to eight (8) voting members approved by a Council, consisting of:

- City of Maple Ridge Mayor (Taskforce Chair)
- Two (2) City of Maple Ridge Councillors

Attachment A – MTCA Terms of Reference

- Four (4) members with experience in key areas of climate action. Membership in this group is not restricted to members of Maple Ridge community, due to the focus on each member’s expertise in one or more of the following identified areas:
  - Building energy efficiency and renewable energy
  - Community-focused climate action policy
  - Zero emission and active transportation
  - Zero waste
  - Climate adaptation and resilience
  - Natural habitat and ecosystems
  - Green infrastructure
  - Urban agriculture
  - Low Carbon Resilience
- One (1) youth (age 15-24) member

Additionally, a City staff member will be appointed by the CAO as a staff liaison, as well as a Committee Clerk will provide support to the Taskforce, including preparing and distributing agendas, attending the meetings, and preparing minutes of the meetings.

The membership composition of the Taskforce may be changed by Council resolution.

Any vacancy occurring in the membership of the Committee shall be filled forthwith by the Council for the unexpired term of vacancy.

The Taskforce Chair has the authority to invite individuals and/or groups to Committee meeting for the purpose of making presentations or addressing specific questions that the Taskforce may have.

QUORUM

Quorum will consist of 50% of appointed members plus one.

DELEGATED AUTHORITY

The MTCA is established as a Select Committee. The Taskforce and its members will be approved by Council.

The MTCA does not have any delegated authority and has no authority to direct staff. Any recommendations requiring implementation must first be considered and Carried by a vote of City Council.

TIME FRAME OF TASKFORCE

The MTCA will remain active for a period of six (6) months from the date of the Taskforce’s first meeting.

The term may be extended beyond the initial period by Council resolution.

TERM OF MEMBERSHIP

Members will serve for the duration of the six (6) month term.

An extension to the term of the Taskforce will automatically result in the extension of existing members.



## Attachment A – MTCA Terms of Reference

Any vacancy occurring in the membership of the Taskforce, either during the initial term or as a result of an extension, shall be filled by Council at Council's discretion for the unexpired term of vacancy.

### MEETINGS

Meetings will be held at City Hall generally on a monthly basis, or as required at the call of the Chair. The agenda will be distributed the week prior to the meeting.

### MEMBERSHIP REMUNERATION

No Taskforce member will receive any remuneration for services, however, a member shall be reimbursed for any reasonable out of pocket expenses incurred on behalf of and previously approved by the Taskforce.

## Attachment B – Mayor’s Taskforce on Climate Action Priorities

1. BC Energy Step Code/Zero Carbon Step Code
2. Building Retrofits
3. Green Infrastructure & Nature-based Solutions
4. Accelerate Implementation of Strategic Transportation Plan - Active Transportation
5. Climate Lens for Policy Development

## Attachment C – Key Considerations for Successful Implementation of a Climate Lens

Research was conducted on many of the leading municipalities across Canada that have already developed, implemented, or are implementing or considering a Climate Lens Assessment Framework, including Victoria, Kelowna, Kingston, London, Toronto, Windsor, Muskoka, Port Moody, Regional District of Kootenay Boundary, Montreal, and Ontario municipalities under the Clean Air Partnership. These emerging municipal climate frameworks and tools have the potential for significant beneficial impacts related to climate change, if successfully implemented.

Based on the municipal scan, the following key components of a Climate Lens Framework were found to support successful implementation and impactful outcomes:

- Ongoing interdepartmental collaboration to refine and tailor the scope and application of the Climate Lens Framework Assessment across the many unique service areas of the city, with varied climate change implications.
- A Guidebook resource for using the Climate Lens Framework tool to provide an ongoing reference, provide context, answer key questions, and outline the process as well as offer examples so the tool is used effectively.
- Training and education on climate science literacy and municipal implications, informed by the Climate Action Plan and corporate GHG emissions inventory, to enhance staff's understanding of how climate change impacts their service areas, and what actions can be taken to address these impacts.
- A phased approach, moving from fundamental to a more comprehensive climate impact assessment to ensure successful adoption is achieved across the corporation, while maintaining validity of the tool. This approach is critical to integrate a simplified process, creating a strong foundation and enabling additional criteria and quantitative requirements to be added to the Climate Lens Assessment Framework in a way that does not overwhelm departments or impede early uptake of the tool and framework.

## Attachment D - Climate Lens Assessment Form

### 1. Mitigation (e.g. reducing or preventing greenhouse gas emissions)

Climate change is caused by the increase in concentrations of greenhouse gases (GHGs) in the atmosphere. These increases are primarily due to human activities such as the use of fossil fuels for heat, transportation etc.

New activity such as the construction of a new facility, the purchase and operation of a new vehicle, the purchase, replacement or operation of facility equipment, increased vehicle transportation, buildings or infrastructure in the community, or the production of waste will increase GHG emissions.

#### 5. This project/policy will result in the following impacts to Corporate greenhouse gas (GHG) emissions? \*

- GHG Impact has been considered – a significant (>10%) reduction in annual GHG emissions is anticipated
- GHG Impact has been considered – a measurable (<10%) reduction in annual GHG emissions is anticipated
- Project/policy does not result in GHG reductions but avoids more GHG intensive outcomes.
- Project/policy is unlikely to result in a measurable increase in GHG emissions.
- Project/policy is likely to result in a measurable increase in GHG emissions.
- Project/policy does not result in the production greenhouse gas emissions.
- Not applicable

#### 6. This project/policy will result in the following impacts to Community greenhouse gas (GHG) emissions? \*

- GHG Impact has been considered – a significant (>10%) reduction in annual GHG emissions is anticipated
- GHG Impact has been considered – a measurable (<10%) reduction in annual GHG emissions is anticipated
- Project/policy does not result in GHG reductions but avoids more GHG intensive outcomes.
- Project/policy is unlikely to result in a measurable increase in GHG emissions.
- Project/policy is likely to result in a measurable increase in GHG emissions.
- Project/policy does not result in the production greenhouse gas emissions.
- Not applicable

#### 7. Can the project/policy be modified to reduce greenhouse gas emissions?

- Yes
- No
- Unknown

8. If greenhouse gas emissions are known, how much? (tonnes CO<sub>2</sub>e, kg CO<sub>2</sub>e, CO<sub>2</sub>e means carbon dioxide equivalent)

9. If you would like, you may provide additional context here:

## 2. Adaptation (e.g. prepare for impacts of climate change to reduce risk and vulnerability)

Climate change can increase and influence the risks and exposure of climate hazards such as increase heat and temperature, extreme rainfall and storms, droughts, flooding, and wildfires. These impacts can influence air (i.e. smoke) and water quality (i.e. pH, effluents, pollutants).

New activity such as the construction of a new facility, the purchase, replacement or operation of facility equipment or infrastructure (water management), increased building development, infrastructure and growth in or near forested areas or waterways within floodplains will be exposed to climate hazards and need to identify and recognize these impacts to infrastructure and growth to reduce damage and risks.

10. This project/policy will be affected or impacted by climate hazards? \*

- Yes - At the Community Level
- Yes - At the Corporate/Municipal level
- No
- Unknown
- Not applicable

11. If yes, which climate impact is of concern?

- Temperature
- Precipitation
- Flooding (river, coastal)
- Wildfire
- Water Quality
- Air Quality

12. Temperature impacts of project/policy are

- Project reduces risks of temperature impacts compared to status quo.
- Project is unlikely to change risks of temperature impacts.
- Project increases risks of temperature impacts.
- None

13. Precipitation impacts of project/policy are

- Project reduces risks of precipitation impacts compared to status quo.
- Project is unlikely to change risks of precipitation impacts.
- Project increases risks of precipitation impacts.
- None

14. Flooding impacts of project/policy are

- Project reduces risks of flooding impacts compared to status quo.
- Project is unlikely to change risks of flooding impacts.
- Project increases risks of flooding impacts.
- None

15. Wildfire impacts of project/policy are

- Project reduces risks of wildfire impacts compared to status quo.
- Project is unlikely to change risks of wildfire impacts.
- Project increases risks of wildfire impacts.
- None

16. Water quality impacts of project/policy are

- Project reduces risks of water quality impacts compared to status quo.
- Project is unlikely to change risks of water quality impacts.
- Project increases risks of water quality impacts.
- None

17. Air quality impacts of project/policy are

- Project reduces risks of air quality impacts compared to status quo.
- Project is unlikely to change risks of air quality impacts.
- Project increases risks of air quality impacts.
- None

18. How does the project/policy take into account the climate hazards and identified consequences?



### 3. Benefits (e.g. provide multiple community benefits)

Considers how climate actions intersect with community priorities, such as health and safety, equity, improved livelihood, ecosystem functions and natural systems, and economic development so that projects/policies provide multiple benefits (advancing co-benefits) beyond just climate action.

19. Does the project/policy result in adaptive or resilient benefits to the community? (Please indicate which one or ones) \*

- Social factors (public health & safety, improved livelihood, cultural aspects)
- Economic factors (community livability, strengthen local economy)
- Environment factors (air, water, soil and vegetation, ecosystem function)
- Not applicable

20. Please briefly describe the benefits... \*

---

This content is neither created nor endorsed by Microsoft. The data you submit will be sent to the form owner.

 Microsoft Forms



Infrastructure  
Canada

Canada

# THE CLIMATE LENS

Investing in Canada  
Infrastructure Program  
General Guidance v 2.1

Aussi disponible en français sous le titre : L'optique des changements climatiques :  
Programme d'infrastructure Investir dans le Canada - Lignes directrices générales.

Information contained in this publication or product may be reproduced, in part or in whole, and by any means, for personal or public non-commercial purposes without charge or further permission, unless otherwise specified. Commercial reproduction and distribution are prohibited except with written permission from Infrastructure Canada.

For more information, contact:

Infrastructure Canada  
180 Kent Street, Suite 1100  
Ottawa, Ontario K1P 0B6  
[info@infcc.gc.ca](mailto:info@infcc.gc.ca)

© His Majesty the King in Right of Canada, as represented by the Minister of Housing, Infrastructure and Communities, 2023.

Cat. No. T94-51/2023E-PDF  
ISBN 978-0-660-68113-9

## Disclaimer

This guidance document is for those applicants applying for funding under **the Investing in Canada Infrastructure Program (ICIP)** of Infrastructure Canada (INFC) and who are obligated to meet the Climate Lens requirement. Hence, the climate change impacts requested in this document are a direct reflection of the parameters of the Climate Lens and INFC funding requirements only.

This document is intended to be a learning tool for project developers and to introduce climate change considerations into project designs in the context of the Canadian environment. This guidance document is evergreen – meaning it will be periodically updated to remain aligned with advancing assessment methodologies. For the most recent version of the guidance, please consult the Infrastructure Canada website.

## Revision History

<b>Revision No.</b>	<b>Issue Date</b>	<b>Revision Description</b>
Version 1.0	June 2018	First version implemented.
Version 1.2	September 2019	General revisions after internal review.
Version 2.0	March 2021	New format and approach introduced. Single form with streamlined GHG and resilience requirements.
Version 2.1	January 2023	Revisions based on feedback from Version 2.0. Climate Lens Guidance now two documents: <a href="#">DMAF Climate Lens Guidance v 2.1</a> <a href="#">ICIP Climate Lens General Guidance v 2.1</a>

## Table of Contents

---

1.0 Introduction.....	5
1.1 What is the Climate Lens? .....	5
1.2 Applicable Programs .....	5
1.3 Cost Eligibility .....	6
1.4 Responsible Party .....	7
1.5 Infrastructure Canada Review of the Climate Lens .....	7
2.0 Climate Lens Guidance .....	8
2.1 Step by Step Instructions.....	9
2.2 Submission of the Climate Lens.....	18
ANNEX A – Climate Lens Form.....	19
ANNEX B – Average P/T Grid Electricity Emission Intensities (tonnes/MWh)*.....	22
ANNEX C – Project-Specific GHG Baseline & Project Scenarios .....	24

# 1.0 Introduction

---

The purpose of this document is to provide guidance to those who need to undertake a Climate Lens. The objectives of this guidance are to:

1. Explain the purpose of the Climate Lens and which projects are subject to the requirement;
2. Provide information on when and how to submit a completed Climate Lens to Infrastructure Canada;
3. Provide step by step instructions on how to complete the various sections of the Climate Lens.

## 1.1 What is the Climate Lens?

The Government of Canada is committed to meeting its 2030 greenhouse gas reduction target, establishing a cleaner, more competitive and resilient economy and getting Canada to net-zero emissions by 2050. The Climate Lens is a key tool for assessing the climate impacts of infrastructure from both a greenhouse gas and resilience perspective. The tool also encourages applicants to consider how their projects can reduce GHG emissions and increase resilience to climate change, which benefits their communities and creates jobs.

The Climate Lens is a project-level requirement applicable to Infrastructure Canada's Investing in Canada Infrastructure Program (ICIP) and Disaster Mitigation and Adaptation Fund (DMAF). The main goal of the Climate Lens is to raise awareness of climate change risks and impacts associated with projects and encourage improved choices by project planners, designers and decision-makers. The Climate Lens also supports Infrastructure Canada in measuring its progress towards meeting its climate goals.

The Climate Lens has two key sections: **GHG Emissions and Mitigation**, which looks at the anticipated greenhouse gas (GHG) emissions impact of an infrastructure project; and **Climate Resiliency**, which examines the risk and resilience of the project to climate change related disruptions or impacts.

## 1.2 Applicable Programs

The table below identifies the programs, streams and sub-streams to which the Climate Lens applies and lists the project value thresholds at which the Climate Lens is required.

Projects submitting under the Green Infrastructure – Climate Change Mitigation sub-stream of ICIP are expected to demonstrate an overall reduction in emissions compared to the business-as-usual (BAU) scenario. Projects submitting under the Green-

Infrastructure – Adaptation and Resilience sub-stream are expected to demonstrate an overall increase of resiliency to climate impacts.

**Table 1.** Thresholds for Climate Lens Requirement under ICIP

ICIP Streams	Climate Lens	When to submit
<b>Green Infrastructure – Climate Change Mitigation</b> sub-stream	All projects	Climate Lens due at time of application.
<b>Green Infrastructure – Adaptation, Resilience and Disaster Mitigation</b> sub-stream	All projects	Climate Lens due at time of application.
<b>Other streams and Sub-streams</b> (Environmental Quality, Public Transit, Community, Culture and Recreation, Rural and Northern Communities)	If total eligible project costs are greater than \$10M	Climate Lens due at time of application.

Note 1. Applicants from Quebec required to complete a Climate Lens under ICIP are to follow the guidelines for submission as outlined in their Integrated Bilateral Agreement.

### 1.3 Cost Eligibility

Infrastructure Canada strongly encourages applicants to perform analyses informed by best practices regarding GHG mitigation and climate risks and resilience in their projects. For this reason, the costs of undertaking the Climate Lens will be deemed eligible for cost-sharing for all projects approved for federal funding. This includes all associated costs incurred such as preparation and supporting analysis in keeping with best practices. Any costs incurred to undertake GHG Mitigation and/or Climate Resilience assessments under previous versions of the Climate Lens guidance remain eligible for reimbursement, except where own-force labour is used.

Should applicants to the ICIP with projects beneath the \$10M threshold wish to complete a Climate Lens on an optional basis, these costs would be eligible for cost-sharing if the project is approved for federal funding, as long as the Climate Lens conforms to the requirements outlined here and is submitted to Infrastructure Canada at the time of application.

Since costs are only eligible for cost-sharing for federally approved projects, municipalities, Indigenous communities, and other applicants are encouraged to



engage regularly with the relevant province or territory to determine their project's likelihood of prioritization before incurring costs related to undertaking a Climate Lens.

## 1.4 Responsible Party

It is the applicant's responsibility to ensure that the Climate Lens is completed by someone with appropriate qualifications and knowledge of the project, as determined by the applicant. This could be the applicant, the applicant's design consultant, or another consulting body. If the applicant determines that the needed qualifications are not available on the project team, Infrastructure Canada recommends engaging a qualified professional, such as a professional engineer, GHG accounting professional, or registered professional planner. Infrastructure Canada is able to provide further advice and recommendations on selecting an appropriate professional at the applicant's request.

## 1.5 Infrastructure Canada Review of the Climate Lens

Infrastructure Canada will review each Climate Lens assessment and may follow up on the results of the Climate Lens to confirm the information submitted or to request further detail. Climate Lens assessments for projects in the Climate Change Mitigation and Adaptation, Resilience and Disaster Mitigation sub-streams of the Investing in Canada Infrastructure Program will be assessed appropriately to ensure program requirements have been met.

**The inclusion by applicants of supporting information, such as calculations, assumptions justification and references – either in the Climate Lens form itself or as an attachment – will help minimize the need for follow-ups and facilitate a timely review by Infrastructure Canada.**

Applicants are encouraged to contact Infrastructure Canada's Climate Lens Policy Team at: [climatelens-optiquedeschangementsclimatiques@infcc.gc.ca](mailto:climatelens-optiquedeschangementsclimatiques@infcc.gc.ca) for further assistance and/or links to other resources as necessary.

## 2.0 Climate Lens Guidance

---

The Climate Lens is divided into four sections:

1. **Project Overview** provides administrative information and a description of the project;
2. **GHG Emissions & Mitigation** looks at the anticipated greenhouse gas (GHG) emissions impact of the infrastructure project;
3. **Climate Resiliency** examines the risk and resilience of the project to a climate change related disruption or impact;
4. **Climate Objectives** provides additional and supporting information to the overall climate objectives of the project and the applicant.

The following section provides guidance on how to complete each section of the Climate Lens. Additional guidance on acceptable approaches to quantifying GHG emissions reductions and the identification of climate risks is provided on Infrastructure Canada's website.

Applicants may still submit Climate Lens assessments according to the previous versions of the Climate Lens Guidance (version 1.0-2.0), if so desired.

Note that ICIP projects from Quebec are to continue to follow the provincial guidelines to GHG quantification as outlined in the Canada-Quebec Integrated Bilateral Agreement.

### As a reminder...

- Projects under all ICIP streams (including those in the Green Climate Change Mitigation and Green Adaptation and Resilience stream under \$10 million) are required to complete the Climate Lens form.
- Please ensure to complete each section of the form and provide an answer to each question.
- Please ensure all supporting information has been included in the form or attached as a separate document. All data, calculations and assumptions used to answer the questions in the Climate Lens should be provided to help assist in the review and minimize the need for follow-ups.
- Any changes to the project or the project timeline that occur after the submission of the Climate Lens must be reported to Infrastructure Canada as part of the regular progress reporting requirements and Infrastructure Canada will advise if a revised Climate Lens will need to be submitted.

## 2.1 Step by Step Instructions

Applicants are to follow the guidance provided in this section to complete the Climate Lens Form found in ANNEX A.

1.0 Project Overview
<p><b>1.1 Project Title</b></p> <p>Title of your project</p>
<p><b>1.2 Ultimate Recipient</b></p> <p>Full legal identification of the primary entity that is undertaking the project</p>
<p><b>1.3 Project Description: location, activities and timeline</b></p> <p>Present a <b>brief description</b> of the project including <b>location, all major activities and its timeline</b> occurring on the site.</p> <p><u>Location:</u> Provide the address and/or GPS coordinates of the project. Provide a map to indicate the location of the project site, illustrating the boundary of the project and ensuring all relevant components of the project are included.</p> <ul style="list-style-type: none"> <li>• Identify whether the project site is currently vegetated, a wetland or a peat bog, on permafrost or is considered a brownfield.</li> <li>• Identify whether the project site is accessible by public transportation or active transportation (bicycle/walking).</li> </ul> <p><u>Description of Activities:</u> The project description lays out the foundation for the types of activities that may be subject to climate risk, or which may release or sequester GHGs from the project. These activities must be quantified in the Climate Lens.</p> <ul style="list-style-type: none"> <li>• Describe the product or service provided by the project, including a description of any project-specific technologies that will be implemented.</li> <li>• Describe the services or output that will be provided and all major activities that will occur on the project site.</li> <li>• The type(s) of technologies that will be used can also be described here.</li> </ul> <p><u>Timeline:</u> Detail the project timeline outlining the timing of operational activities. Specifically, the following estimated dates are required:</p> <ul style="list-style-type: none"> <li>• Construction start and end dates;</li> <li>• Operational start and end dates;</li> <li>• Dates of any major maintenance/repairs/refurbishments expected;</li> <li>• Expected lifetime of the project.</li> </ul> <p>Identify any risks that could substantially affect the project's operational timelines.</p>

## 2.0 GHG Emissions & Mitigation

### 2.1 Is your project a GHG mitigation project OR are you implementing any GHG mitigation measures or best practices in the design of your project?

If yes, describe how your project reduces GHG emissions and/or describe the project components that will result in a decrease in GHG emissions (see below for examples).

If no, describe examples of project elements that were considered and explain why they were not implemented (e.g., solar panels were too expensive for the project budget). Then skip to section 3.0 Climate Resilience.

#### **GHG Mitigation Projects:**

- Renewable energy generation projects;
- Interties;
- Electrification of industrial facilities (e.g., natural gas processing);
- Large transportation projects (LRT/BRT);
- Vehicles using clean fuels or zero-emission vehicles;
- Waste & wastewater – e.g., flaring, biogas utilization;
- Retrofits ex. installing energy efficient HVAC systems, other equipment, lighting, smart monitoring or removal of high GWP refrigerants.

#### **Projects implementing measures or best practices may include:**

- Using clean technologies such as wind, solar, or geothermal energy or energy storage such as batteries, whether alone or integrated into other assets (e.g., a building);
- New buildings that: are Green Design (LEED) certified; with Energy Star ratings above 75; and/or use lower-carbon forms of heating and cooling such as heat pumps;
- Implementing any new equipment to decrease process emissions (e.g., biofiltration in a wastewater treatment facility).

### 2.2 If your project is a GHG mitigation project or you are implementing GHG mitigation measures, what are the annual GHG emission reductions (tonnes CO<sub>2</sub>e/year) expected in 2030 from the operation of the project?

Please provide an estimate of the operational GHG reductions expected in 2030 and for each year (if expected to be different) over the lifetime of the project. These values are best shown in a table format. Note that most projects, which expect to have consistent operations over the course of their lifetime, will likely be able to report very similar annual reductions over the lifetime of the project. Larger projects such as transit or renewable energy projects or projects being implemented in phases could see larger variations in their annual emission reductions.

**Supporting information, such as the description of the baseline, all main sources/sinks, emission factors, calculations and assumptions, will in most cases be required by Infrastructure Canada to conduct its review of the Climate Lens and should be included.**

The standard equation to calculate GHG emission reductions is the following:

$$\text{Baseline Emissions} - \text{Project Emissions} = \text{GHG Emission Reductions}$$

**Where:**

**The Baseline is the “business as usual” (BAU) scenario or hypothetical reference case against which the GHG performance of the project is measured.**

**The Project represents the new project applying for funds under Infrastructure Canada’s funding programs.**

Please consult Annex C for further information on pre-selected baseline and project scenarios that should be used for various project types under the Climate Lens. Annex B provides provincial and territorial average grid electricity emission intensities to be used where applicable (when calculating GHG emissions from electricity consumed).

As an additional tool to assist applicants, Infrastructure Canada will provide sector-specific guidance for calculating GHG emission reductions for certain project types. This guidance will be made available in phases on Infrastructure Canada’s website. If your project type is not currently supported by Infrastructure Canada’s available sector-specific guidance, you may consider referring to the references noted in Section 2.3 for support in completing GHG quantification.

For those applicants unable to provide a reliable estimate of the GHG emissions reductions at time of application, please explain why (e.g., methodology not yet established, missing project details due to early stages of development) and the estimated date at which the information will be submitted. **An estimate of GHG emissions reductions will be required before first claim.** Those projects under the Green Infrastructure – Climate Change Mitigation Stream will be required to provide an initial estimate of GHG reductions at time of application, and may be requested to provide an updated, more detailed estimate prior to first claim, following Infrastructure Canada’s review.

Applicants can refer to the Climate Lens website for additional resources on GHG mitigation or contact the Climate Lens Team at: [climatelens-optiquedeschangementsclimatiques@infc.gc.ca](mailto:climatelens-optiquedeschangementsclimatiques@infc.gc.ca) for additional support.

### **2.3 Which international GHG quantification standards, GHG guidance or other supporting resources were consulted to understand the GHG impact of the project?**

Please list the resources you consulted to identify the GHG emissions and/or reductions resulting from your project. Other supporting information could include Impact Assessment studies, GHG or climate risk assessments, energy audits, benchmark studies, certification applications, etc.

There are a variety of resources that can be consulted to help quantify the GHG emissions/reductions from your project such as the following:

- o [ISO 14064:2](#)

- o [World Resources Institute \(WRI\) GHG Protocol](#)
- o [Federation of Canadian Municipalities: Guidebook on Quantifying GHG Reductions at the Project Level](#)
- o [ICLEI/C40 Cities/WRI GHG Protocol Global Protocol for Community Scale GHG Emission Inventories](#)
- o [US Community Protocol for Accounting and Reporting of GHG Emissions](#)
- o [Alberta Offset Protocols](#)
- o [Climate Action Reserve Protocols](#)
- o [Intergovernmental Panel on Climate Change \(IPCC\) Guidelines for GHG Inventories](#)
- o [UNFCCC Clean Development Mechanism Methodologies](#)

### 3.0 Climate Resiliency

**3.1 Identify all current and projected climate-related hazards given the project’s location such as flooding, wildfire risk, permafrost thaw or coastal erosion. Assess high or medium risks (in likelihood and severity) to the project and the services it is to provide over its lifespan.**

Provide a list and brief description of all the current and future climate-influenced hazards facing the project over its lifetime. Climate-influenced hazards may include: increasing temperatures, extreme heat, drought, wildfires, freeze-thaws, increased snow loads, increasing precipitation, ice, storms, earthquakes, etc.

You may wish to consult municipal or regional climate adaptation reports to identify the climate-influenced hazards that are relevant to your project location. For each hazard, it is recommended to look at both the current and future climate data projections for the lifespan of the project. (E.g., if your project will be complete in 2024 and has an expected lifespan of 30 years, you will want to look at current climate data as well as the 2050 RCP-8.5 climate projections).

The climate projections can be provided in a chart or written format, describing how these parameters are projected to change against the historical baseline. (E.g., according to The City’s Climate Risk Report, precipitation is expected to increase by 11% over current historical baseline by 2080 under a high climate change scenario).

You may wish to consult the Canadian Centre for Climate Services for support.

Example Chart:

Climate influenced hazard	Historic value (1976-2005)	Short- term forecast (2020-2050)/ percent change	Long term forecast (2050-2080)/ percent change	Data source
Number of very hot days (+30)	1 day annually	4.9 annually (+3.9% )	16.3 days annually (+15.2% )	Climateatlas.ca
Etc.				

In order to understand the risks associated with the natural hazards identified above the various components of the project should be assessed against each hazard. The likelihood of the hazard impacting the project, and the consequence or level of severity of that impact, should also be analyzed. Using both the likelihood and severity of a hazard will help identify those aspects of a project that are at highest risk to climate impacts (e.g., High Risk = Very High likelihood + Very high consequence).

Please follow Steps 1 to 4 to assess the risks of the natural hazard to your project. Please include a written description of which project components will be subject to the highest risks and why. All risks can additionally be listed in the Table provided under Step 4.

For example:

- Wildfires will present a risk to a community centre project due to its location near a forested area that is experiencing increased occurrence of drought and increasing temperatures; or
- Projected increases in rainfall will present a high risk to bus shelters as it can lead to flash flooding that can cause damage to the physical infrastructure, obstruct access for bus users, cause disruptions to maintenance work, and result in delays of services.

**Step 1:** Assess the severity or consequence of the hazard's impact on the project.

- Consequence refers to the impact of the hazard on the project. Note a hazard can lead to a range of consequences. A consequence can be certain or uncertain and can have both positive or negative effects on the project's objectives.
- Determine the level of consequence from very-low to very high.

**Step 2:** Assess the likelihood of the hazard's impact on the project.

- Likelihood can be understood as the chance of something occurring or the chance of a defined climate hazard over a given time horizon. Applicants should feel free to use their own discretion when determining the likelihood risk for each hazard, but are encouraged to consult additional climate data relevant to the hazards identified. Additional resources are listed in Section 3.3.
- Determine the level of likelihood from very low to very high.

**Step 3:** Identify the number and level of risks of each hazard on the project.

- Using the matrix below in table 3.0, assess the risk level for each interaction by finding where the consequence risk and likelihood risk meet.
- For each hazard identified record whether the hazard poses a low, medium, or high risk to the project.

Table 3.0

<b>Consequences</b>	Very High	Medium Risk	High Risk	High Risk	High Risk	High Risk
	High	Low Risk	Medium Risk	High Risk	High Risk	High Risk
	Moderate	Low Risk	Low Risk	Medium Risk	High Risk	High Risk
	Low	Negligible Risk	Low Risk	Low Risk	Medium Risk	Medium Risk
	Very Low	Negligible Risk	Negligible Risk	Low Risk	Low Risk	Low Risk
		Very Low	Low	Moderate	High	Very High
	<b>Likelihood</b>					

**Step 4: Record Risks**

If helpful, applicants may complete the following template to identify to risks of each hazards.

<b>Climate-Influenced Hazard</b>	<b>Consequence Risk</b>	<b>Justification of Consequence Risk</b>	<b>Likelihood Risk</b>	<b>Justification of Likelihood Risk</b>	<b>Overall Risk</b>
Flooding	High	Project could be damaged by flooding if 1-in-100 year flood were to occur	Moderate	Level of flood required to damage or impact the project is rare in frequency	Medium risk

Note, INFC suggests the following definition based on the definition by the *Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol* (see [www.pievc.ca](http://www.pievc.ca)):

- o Negligible Risks may not require further consideration
- o Low Risks may require action
- o Medium Risks require action
- o High Risks require action

Please list any methodology that was used to assess future climate risks such as ISO 31000, PIEVC or the PIEVC High Level Screening Guide. Applicants can refer to the Climate Lens website for additional support / methodologies for assessing climate risk.

If no climate risks were identified, please justify why (e.g., the climate risks examined only pose a minimal risk). Infrastructure Canada may follow up if known potential climate hazards are missing or the analysis does not align (e.g., a community centre on a coastline is not considering risk of sea level rise).



**3.2 Describe all of the risk mitigation measures that will be taken to improve the climate resiliency of your project.**

Identify measures for all of the medium and high risks identified in 3.1. If no measures are being taken to improve the climate resiliency of your project, please describe why. If your project is a protective infrastructure, please mention that.

- Please identify and describe risk treatment or adaptation measures for all medium and high risks in order to reduce unacceptable risks to acceptable levels.
  - Your response should address all risks identified in 3.1, and describe how they will address the specific climate risks to the project.
- Examples include building a seawall or restoring wetlands to address flooding; providing firebreaks to decrease severity of wildfires; installing flooding sensors in elevators; or elevating electrical and HVAC systems to minimize flood risk. This can include considering nature-based solutions.
- Please list any resilience standards, guidance, or tools that were consulted. For example: CSA S900.1:18 Climate change adaptation for wastewater treatment plants; CSA PLUS 4011-19 Technical guide: Infrastructure in permafrost: A guideline for climate change adaptation; and the National guide for wildland-urban-interface fires. For guidance and standards that incorporate climate resilience visit: [Infrastructure Canada – Codes, Standards and Guidance for Climate Resilience](#)
- If climate risk reduction measures were identified but not implemented, please justify why not.
- Infrastructure Canada may follow up and request more information on why resiliency measures have not been taken if the justification is not clear, or if resilience measures for potential climate risks identified in 3.1 are missing.
- Applicants can refer to the Climate Lens website for additional resources on climate adaptation.

**3.3 Please list all of the climate change data and tools that were used to determine the risks to your project.**

List the climate data and tools, such as future climate projections available through the Canadian Centre for Climate Services, that were consulted to assess any current and future climate risks to your project.

- Examples include:
  - Pacific Climate Impacts Consortium: [Design Value Explorer](#)
  - ClimateData.ca: <https://climatedata.ca/>
  - Canadian Centre for Climate Services: <https://www.canada.ca/en/environment-climate-change/services/climate-change/canadian-centre-climate-services.html>
  - Climate Atlas of Canada: <https://climateatlas.ca/home-page>
  - Platform for the Analysis and Visualization of Climate Science: <https://ouranosinc.github.io/pavics-sdi/>

- Applicants can refer to the Climate Lens website for additional support and resources.

## 4.0 Climate Objectives

### 4.1 Does your community / municipality have a Climate Action Plan and if yes, does your project align with this plan?

- Please indicate the specific community/municipal climate action plan.
- This can be a stand-alone climate action plan or integrated into a broader Strategic Plan.
- Examples include the City of Kelowna, British Columbia's [Community Climate Action Plan 2018-2023](#) and the Halifax Regional Municipality, Nova Scotia's [HaliFACT: Acting on Climate Together](#).
- Please describe how the project (or measures being considered) fits into the climate action plan, and how this will contribute to a more sustainable future for your community.

## 5.0 Attestation

I, the undersigned, as authorized by my organization, confirm the statements above are true and accurate, and attest that:

- opportunities to quantify and minimize GHG emissions during the construction and operation of the project will be considered in the planning, design and development/ implementation of this project to the extent possible;
- and, climate change risks and adaptation and resiliency measures will be considered in the siting/location, design/build, and planned operation and maintenance of this project to the extent possible and reflecting the project's cost, criticality and vulnerability.

Infrastructure Canada may follow up on the results of the Climate Lens to confirm the required information or to request further detail. Consequently, applicants should retain all the information used to complete the Climate Lens.

Signature of person responsible for completing the Climate Lens:

X

Date:

Name:  
Position:  
Organization:  
Address:  
Contact Number:  
Email:

## 2.2 Submission of the Climate Lens

For projects under the Investing in Canada Infrastructure Program, the Climate Lens is to be completed and submitted in its entirety at the time of application, unless otherwise indicated by Infrastructure Canada.

**Please ensure all information and supporting documentation is included or attached with the Climate Lens form at time of submission.**

Applicants indicating the potential for GHG emissions reductions but who are unable to provide an accurate estimate in Section 2.3 may submit a rationale for being unable to do so at time of application. If Infrastructure Canada accepts the rationale and the project is approved, the applicant will be asked to provide an estimate of GHG emissions reductions before first claim. Those projects under the Green Infrastructure – Climate Change Mitigation Stream are required to provide an initial estimate at time of application, and may be requested to provide an updated, more detailed estimate prior to first claim, depending on the results of Infrastructure Canada's review of the assessment.

Projects are to be submitted to Infrastructure Canada via the Infrastructure Recipient Information System (IRIS) digital portal (or equivalent), unless otherwise stated in program guidelines.

If the project requires changes to its components, process or timeline, a revised Climate Lens may need to be submitted. Only project changes that may impact the GHG emissions estimate significantly may trigger the need for a re-assessment. Infrastructure Canada will review the changes and will contact the applicant if a revised Climate Lens is required.

Infrastructure Canada will make the Climate Lens and all supporting guidance available via provincial and territorial contacts as well as on the Infrastructure Canada website.

The applicant, via the province or territory, is responsible for completing the Climate Lens and providing the completed form to Infrastructure Canada. It is the applicant's responsibility to meet any request for further information from Infrastructure Canada.

# ANNEX A – Climate Lens Form

## ICIP Climate Lens Version 2.1



1.0 Project Overview														
<b>1.1 Project Title</b>														
<b>1.2 Ultimate Recipient</b>														
<b>1.3 Project Description: Location, activities, timeline</b>														
<p><b>Location :</b></p> <p><b>Activities :</b></p> <p><b>Timeline :</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Phase</th> <th style="width: 30%;">Start Date- DD/MM/YYYY</th> <th style="width: 30%;">End Date- DD/MM/YYYY</th> </tr> </thead> <tbody> <tr> <td>Construction</td> <td> </td> <td> </td> </tr> <tr> <td>Operation</td> <td> </td> <td> </td> </tr> <tr> <td>Any major maintenance/repairs</td> <td> </td> <td> </td> </tr> </tbody> </table> <p>Expected Lifetime:</p> <p>Description of any maintenance, repairs, refurbishments expected:</p>			Phase	Start Date- DD/MM/YYYY	End Date- DD/MM/YYYY	Construction			Operation			Any major maintenance/repairs		
Phase	Start Date- DD/MM/YYYY	End Date- DD/MM/YYYY												
Construction														
Operation														
Any major maintenance/repairs														
2.0 GHG Mitigation Assessment														
<b>2.1 Is your project a GHG mitigation project OR are you implementing any GHG mitigation measures or best practices, such as clean technologies, renewable energy or LEED standards in the design of your project?</b>														
<b>2.2 If your project is a GHG mitigation project or you are implementing GHG mitigation measures, what are the annual GHG emission reductions (tonnes CO2e/year) expected in 2030 from the operation of the project?</b>														

<b>2.3 Which international GHG quantification standards or GHG guidance was consulted to understand the GHG impact of the project?</b>
<b>3.0 Climate Resiliency</b>
<b>3.1 Identify all current and projected climate-related hazards given the project's location such as flooding, wildfire risk, permafrost thaw or coastal erosion. Assess high or medium risks (in likelihood and severity) to the project and the services it is to provide over its lifespan.</b>
<b>3.2 Describe all of the risk mitigation measures that will be taken to improve the climate resiliency of your project.</b>
<b>3.3 Please list all of the climate change data and tools that were used to determine the risks to your project.</b>
<b>4.0 Climate Objectives</b>
<b>4.1 Does your community / municipality have a Climate Action Plan and if yes, does your project align with this plan?</b>

## 5.0 Attestation

I, the undersigned, as authorized by my organization, confirm the statements above are true and accurate, and attest that:

- opportunities to quantify and minimize GHG emissions during the construction and operation of the project will be considered in the planning, design and development/ implementation of this project to the extent possible;
- and, climate change risks and adaptation and resiliency measures will be considered in the siting/location, design/build, and planned operation and maintenance of this project to the extent possible and reflecting the project's cost, criticality and vulnerability.

Infrastructure Canada may follow up on the results of the Climate Lens to confirm the required information or to request further detail. Consequently, applicants should retain all the information used to complete the Climate Lens.

Signature of person responsible for completing the Climate Lens:

X

Date:

Name:  
Position:  
Organization:  
Contact Number:  
Email:

## ANNEX B – Average P/T Grid Electricity Emission Intensities (tonnes/MWh)\*

Region	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Alberta	0.517	0.446	0.357	0.250	0.232	0.211	0.225	0.223	0.217	0.208	0.207	0.201	0.204	0.203	0.203	0.204
British Columbia	0.004	0.002	0.003	0.003	0.004	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Manitoba	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
New Brunswick	0.276	0.259	0.269	0.268	0.275	0.273	0.274	0.272	0.258	0.252	0.124	0.116	0.124	0.113	0.123	0.114
Newfoundland	0.091	0.068	0.012	0.012	0.012	0.011	0.011	0.011	0.011	0.010	0.010	0.010	0.011	0.010	0.010	0.009
Northwest Territories	0.058	0.067	0.062	0.051	0.017	0.008	0.008	0.008	0.010	0.012	0.014	0.016	0.020	0.014	0.013	0.009
Nova Scotia	0.634	0.562	0.458	0.457	0.463	0.464	0.417	0.401	0.384	0.361	0.118	0.116	0.112	0.109	0.105	0.101
Nunavut	0.747	0.747	0.744	0.712	0.635	0.498	0.480	0.469	0.470	0.455	0.457	0.442	0.435	0.447	0.454	0.458
Ontario	0.034	0.044	0.067	0.065	0.066	0.077	0.093	0.081	0.067	0.064	0.062	0.060	0.058	0.041	0.035	0.030
Prince Edward Island	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Quebec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Saskatchewan	0.410	0.366	0.299	0.306	0.252	0.249	0.253	0.221	0.173	0.167	0.163	0.157	0.146	0.142	0.137	0.133
Yukon Territory	0.045	0.121	0.068	0.077	0.086	0.089	0.099	0.074	0.046	0.029	0.018	0.014	0.018	0.023	0.032	0.041



Region	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050
Alberta	0.206	0.207	0.209	0.210	0.212	0.213	0.215	0.216	0.217	0.219	0.220	0.221	0.221	0.221	0.222
British Columbia	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Manitoba	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
New Brunswick	0.124	0.111	0.118	0.114	0.129	0.129	0.120	0.121	0.122	0.124	0.125	0.126	0.128	0.130	0.131
Newfoundland	0.009	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.007
Northwest Territories	0.008	0.006	0.006	0.006	0.008	0.025	0.026	0.031	0.020	0.018	0.016	0.017	0.019	0.020	0.022
Nova Scotia	0.094	0.088	0.088	0.086	0.084	0.082	0.081	0.079	0.076	0.074	0.074	0.074	0.074	0.074	0.073
Nunavut	0.470	0.482	0.488	0.488	0.501	0.505	0.515	0.523	0.525	0.529	0.535	0.544	0.547	0.556	0.561
Ontario	0.024	0.021	0.019	0.017	0.016	0.015	0.015	0.015	0.014	0.013	0.011	0.009	0.009	0.011	0.013
Prince Edward Island	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Quebec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Saskatchewan	0.130	0.126	0.123	0.121	0.117	0.115	0.112	0.108	0.105	0.098	0.095	0.092	0.089	0.085	0.082
Yukon Territory	0.054	0.067	0.052	0.039	0.027	0.019	0.013	0.017	0.020	0.026	0.033	0.042	0.050	0.034	0.022

Notes:

1. Grid Emissions intensity is defined as: (utility generation emissions) + (industrial net sales to grid by sector) x (industrial electricity generation emissions factor) *divided by* electricity consumption from the grid.
2. For alternative emission intensities from B.C. electricity, consult the provincial emission intensities found [here](#).

Source: ECCC's Greenhouse Gas Emissions Projections.

Link: [Canada's Greenhouse Gas Emissions Projections - Environment and Climate Change Canada Data](#).

Last Modified: June 2022.

## ANNEX C – Project-Specific GHG Baseline & Project Scenarios

The following provides an overview of various baseline and project scenarios acceptable under the Climate Lens.

Project Type	Baseline	Project
<b>New Building – Recreation or Sports Complex, Community Centre, Library, Housing Complex</b>	Facility designed and operated according to minimum building codes in province/municipality.	Facility designed and operated with GHG measures above and beyond standard codes, such as use of solar energy, LEED design, low-carbon materials, etc.
	For facilities that are not being designed or operated with any additional GHG mitigation measures, the project = baseline and no operational GHG reductions will result from the project.	
<b>Building/Facility Retrofits</b>	If no changes to building use or occupancy is expected, a historical 3 year average of all operational sources can be used. If changes are expected to use or occupancy, operational sources must be estimated to reflect these changes.	Facility retrofitted to increase energy efficiency and/or minimize fugitive emissions and/or installation of renewable energy.
<b>Facility or rural community installing Renewable Energy (Solar/Wind)</b>	Energy source that was being used previously or would be used in absence of the renewable energy source (e.g., diesel or natural gas).	Renewable Energy generation (considered zero-emitting).
<b>Renewable Energy generation as part of “greening” the provincial grid</b>	Energy generation facility that would have been built instead of the renewable energy facility (On-the margin) (e.g., natural gas generation facility).	Renewable Energy generation (considered zero-emitting).
<b>Electrification of Industrial Facility</b>	Energy source that was being used previously or would be used in absence of the connection to the grid (e.g., diesel/natural gas).	The provincial grid.
<b>Fleet Replacement</b>	Fuel that was being used or would be used instead of the new fuel source (e.g., diesel, gas).	Clean energy source (e.g., electricity, hydrogen, biofuels).
<b>Large Transit (LRT/BRT)</b>	The continuation of personal vehicle use without the new transit system.	The transition (modal shifting) from personal vehicle use to public transit, which is considered less fuel-intensive.
	If the new transit system includes the construction of stations or storage facilities, the GHGs from these facilities should be quantified separately according to the new buildings baseline and project scenarios.	

Project Type	Baseline	Project
<b>Active Transit (walking or biking paths)</b>	The continuation of personal vehicle use without the new active transit system.	The transition (modal shifting) from personal vehicle use to active transit, which is considered zero-emitting.
<b>New Wastewater/Drinking Water Facilities</b>	Facility built to minimum building codes and wastewater/drinking water standards in province/municipality.	Facility built with GHG measures beyond building codes & standards, such as implementation of energy efficient equipment or renewable energy or equipment/ processes to minimize fugitive or process emissions (CH <sub>4</sub> /N <sub>2</sub> O).
	For infrastructure that is not being designed or operated with any additional GHG mitigation measures, the project = baseline and no operational GHG reductions will result from the project.	
<b>Wastewater/Drinking Water Facility Retrofits</b>	If no changes to facility use or capacity (volume of water or wastewater treated) is expected, a historical 3 year average of all operational sources can be used. If changes are expected to facility use or capacity, sources must be estimated to reflect these changes.	Facility retrofitted to increase energy efficiency and/or minimize fugitive or process emissions (CH <sub>4</sub> /N <sub>2</sub> O) and/or installation of renewable energy.
<b>Critical Infrastructure (Roads, Bridges, Culverts, Broadband)</b>	Infrastructure designed and operated according to minimum building codes/ standard practices in province/municipality.	Infrastructure designed and operated with GHG measures beyond standard codes. For e.g., use of low-carbon materials or vehicles/equipment using clean fuels.
	For infrastructure that is not being designed or operated with any additional GHG mitigation measures, the project = baseline and no operational GHG reductions will result from the project.	
<b>Disaster Mitigation and Adaptation projects</b>	Infrastructure designed and operated according to minimum building codes/ standard practices.	Infrastructure designed and operated with GHG measures beyond standard codes. For e.g., use of low-carbon materials or vehicles/equipment using clean fuels.
	For infrastructure that is not being designed or operated with any additional GHG mitigation measures, the project = baseline and no operational GHG reductions will result from the project.	
<b>Landfills</b>	Facility meeting minimum standard regulations.	Facility flaring (where not mandated by regulations) or capturing methane for biogas production.

# City of Maple Ridge

## Zero Carbon Step Code

### DRAFT - Comparative analysis - Capital & Operating Cost Variances for Part 9 Homes at EL3 & EL4 Performance Levels

November 2024

# Table of Contents

Scope.....	3
Introduction.....	4
The BC Energy Step Code and the Zero Carbon Step Code.....	6
ZCSC Compliance Options.....	8
Cost Analysis.....	15
Conclusion.....	22

# Scope:

CEA will provide a comparative analysis of capital and operating cost variances between base-code (Energy Step Code 3) Part 9 homes and homes compliant with the Zero Carbon Step Code Emission Levels EL-3 and EL-4, for the City of Maple Ridge. This will include an evaluation of whether a hybrid system or a natural gas absorption heat pump could theoretically meet compliance under the performance pathway for EL-3 and EL-4 for space heating. Where compliance is possible, the capital and operational costs for Part 9 buildings common to Maple Ridge have been evaluated.

## Deliverables:

1. Compare capital and operating costs variances between base-code (i.e., Energy Step Code 3), and Zero Carbon Step Code compliant Part 9 home at EL-3 and EL-4 performance levels.
2. Address the question of whether a hybrid system would be compliant under the performance pathway for EL-3 and EL-4, including a scenario with a hybrid or alternatively a natural gas heat pump achieving 100% efficiency requirements (satisfying Point of Sale and Point of Installation requirements), to factor in the utility costs of running both systems.
3. Provide a final written report containing the findings of the analysis.

The information used to create this report has been sourced from the [2022 BC Energy Step Code Metrics study](#) report.

# Introduction

Every level of government in Canada has made commitments that align with the Paris Agreement and recommendation from the International Panel on Climate Change to significantly reduce greenhouse gas (GHG) emissions and transition to a low carbon economy:

1. The Government of Canada introduced the 2030 Emissions Reduction Plan which provides a roadmap for the Canadian economy to achieve 40-50% GHG emission reductions below 2005 levels by 2030, and the Canadian Net-Zero Emissions Accountability Act which supports the commitment to achieving Net-Zero emissions by 2050.
2. The Province of British Columbia introduced the CleanBC plan and Roadmap to 2030 to lay out the pathway to achieve the legislated climate targets of 40% GHG emissions reductions by the year 2030 and 80% by 2050, based on 2007 levels.
3. The City of Maple Ridge became a signatory of the Province's Climate Action Charter in 2009 committing to carbon neutrality in corporate operations and supporting community-wide emission reductions.

With buildings accounting for 11% of BC's gross GHG emissions, decarbonizing existing buildings and constructing new buildings that are more energy efficient are critical steps to reducing community emissions.

To date, efforts to reduce energy use and emissions in homes in BC has largely been targeted to new homes through the development of the BC Energy Step Code and Zero Carbon Step Code.

This analysis recognizes that there are two main drivers to be addressed:

1. The need to comply with Provincial policy direction, which is shifting towards zero-carbon homes through the Zero Carbon Step Code; and
2. The assessment of capital expenditure in pursuing higher levels of the Energy Step Code.

Therefore, this analysis will assess which types of homes can meet the higher levels of the Zero Carbon Step Code, and then factor in the additional cost of pursuing higher levels of the Energy Step Code to ultimately determine the best policy path forward for the City of Maple Ridge.



# The BC Energy Step Code and the Zero Carbon Step Code

The BC Energy Step Code is a progressive standard that allows local governments to require new buildings to meet higher energy efficiency than the base BC Building Code, reducing the energy consumption associated with heating, cooling, and electricity use in structures. It outlines a series of incremental "steps" aimed at achieving net-zero energy performance in all new buildings by 2032.

The Zero Carbon Step Code (ZCSC) is an extension of the Energy Step Code that goes beyond energy efficiency to address the greenhouse gas emissions associated with new buildings. Under the ZCSC, local governments can now require or incentivise builders to meet one of four increasingly stringent levels of emissions reduction.

The four carbon performance, or “emissions levels” (EL), of the Zero Carbon Step code are:

1. **Measure-only (EL-1)**: requires measurement of a building’s emissions without reductions and is intended to build knowledge and capacity.
2. **Moderate Carbon Performance (EL-2)**: in most cases, will require decarbonization of either space heating or domestic hot water systems.
3. **Strong Carbon Performance (EL-3)**: in most cases, will require decarbonization of both space heating and domestic hot water systems.
4. **Zero Carbon Performance (EL-4)**: in most cases, will require the full electrification of a building.

Zero Carbon Step Code Emission Levels are not yet implemented in BC as a minimum standard, but Local Governments have the ability to proactively implement any of the 4 Emission Levels to minimize the potential of GHG emissions from future buildings.

Community Climate Action Plans help communities evaluate their GHG emissions, to agree a GHG reduction target for the community, and to identify the actions they will take to lower them. Because buildings are one of the biggest energy users and GHG emitters, reducing the impact of new buildings on community's GHG footprint is an easy way to limit future and additive emissions.

As densification occurs in townships and cities, decisions made to limit the energy intensity of new buildings through Energy Step Code, and to limit the GHG's new and future buildings are allowed to emit, will significantly impact overall community energy use and absolute overall emissions.

## Anticipated Policy:

Although forthcoming and anticipated policy is not considered as part of this report, it is important to know that the Highest Efficiency Equipment Standards' (HEES) Point of Sale and Point of Installations Standards are likely to be implemented around 2030. It is likely that this will require all heating systems to be more than 100% efficient with a coefficient performance (COP) of more than 1, and that only heating systems with a COP of 1 or better will be able to be purchased and installed in BC.

This is projected to have a significant and positive effect on reducing GHG emissions from currently existing homes because heating equipment will need to be replaced at the end of its useful life with more efficient and less polluting equipment. This presents end-of-life decisions about heating systems during the initial new-build phase, that may also drive a shift toward electrical equipment.

# ZCSC Compliance Options

Homes were evaluated for compliance with Steps EL-3 and EL-4 of the Zero Carbon Step Code.

To meet compliance, two maximum thresholds must be met: Annual Emission Intensity, and Annual Absolute Emissions. The thresholds for EL-3 and EL-4 by emission intensity and absolute emissions are as follows:

Table 1 – Thresholds for Emission Intensity and Absolute Emissions

ZCSC Emission Level	Emission Intensity	Absolute Emissions
EL-3	2.5 kg CO <sub>2</sub> e/m <sup>2</sup> -yr	850 kg CO <sub>2</sub> e/yr
EL-4	1.5 kg CO <sub>2</sub> e/m <sup>2</sup> -yr	500 kg CO <sub>2</sub> e/yr

Note that both thresholds must be met to be compliant with the EL level. For example, an intensity of 2.3 kg CO<sub>2</sub>e/m<sup>2</sup>-yr but absolute emissions of 1,000 kg CO<sub>2</sub>e/yr would not be compliant with EL-3, because it is above the absolute threshold of 850 kg CO<sub>2</sub>e/yr.

The BC Energy Step Code Metrics Study was used as the primary reference tool for this study, as it provides model results for a variety of energy conservation measure (ECM<sup>1</sup>) combinations. The Metrics Study arranges information by subcategories, including lowest incremental capital cost (ICC), highest net present value (NPV), highest GHG abatement, and Climate Zone, Energy Step Code level, and home archetype.

---

<sup>1</sup> “Energy conservation measure (ECM) is a practice conducted in a building for the purpose of reducing energy consumption caused by the electrical systems such as lighting, heating, ventilation and air conditioning systems.” (ScienceDirect, 2013)

<https://www.sciencedirect.com/topics/engineering/energy-conservation-measure>

All model scenarios in this report were sourced from highest GHG reduction subcategory for Climate Zone 4 (Maple Ridge), and included the following modelled homes which are common home archetypes in Maple Ridge:

- Step 3, row home
- Step 3, medium single detached
- Step 3, large single detached
- Step 4, row home
- Step 4, medium single detached
- Step 4, large single detached
- Step 5, row home
- Step 5, medium single detached; and
- Step 5, large single detached

## Natural Gas Absorption Heat Pump Option – Space Heating

### Key Findings

- Row homes and medium single detached homes could meet EL-3 with a natural gas absorption heat pump for space heating in Energy Step Code 5 homes, but not in Energy Step Code 4 or base-building-code Energy Step Code 3 homes. Row homes in fact met EL-4 from an absolute emission perspective (384 kg CO<sub>2</sub>e/yr), but barely met the emission intensity threshold at 2.41 kg CO<sub>2</sub>e/m<sup>2</sup>-yr in comparison with the threshold value of 2.50 kg CO<sub>2</sub>e/m<sup>2</sup>-yr. Large Step 5 homes did not meet EL-3 as their size led to absolute emissions being well above the EL-3 threshold of 850 kg CO<sub>2</sub>e/yr, at 1,105 kg CO<sub>2</sub>e/yr.
- **For those model homes that met EL-3, water heating must be electric in nature to remain compliant with the overall emission level.** In these models, electric heat pump water heaters were used.
- **All Step 5 homes modelled required some form of heat recovery ventilation (HRV) unit with a minimum 60% efficiency.** Energy conservation measures will therefore need to be strongly considered.
- It is important to recognise that natural gas absorption heat pumps are promoted for spaces 4,000 ft<sup>2</sup> or larger, in other words very large single detached homes and commercial buildings<sup>2</sup>. Rebates for natural gas absorption heat pumps are only available for commercial applications at this time<sup>3</sup>.
- The average size of a single-family home in Canada is 2,200 ft<sup>2</sup>. A home with 4,000 ft<sup>2</sup> would be a custom home.

---

<sup>2</sup> Merlina, B.J., Teco Energy. (n.d.) *Natural Gas Heat Pump Solutions*. <https://www.peoplesgas.com/49c817/siteassets/files/ghp/ghp-handout.pdf>

<sup>3</sup> <https://www.fortisbc.com/rebates/business/gas-absorption-heat-pump-rebates>

- Given that large single detached homes could not meet EL-3 or EL-4 per the analysis above, and as they're not appropriate for spaces less than 4,000 ft<sup>2</sup> (372m<sup>2</sup>) i.e., a row home or medium single detached home, natural gas absorption heat pumps are not recommended for part 9 buildings.

# Methodology

Modelled emission intensity, absolute carbon emissions, and the compliance level achieved, were obtained from the [2022 BC Energy Step Code Metrics study](#) for homes using natural gas heat pumps shown in Table 2.

To determine natural gas consumption, the space heating energy requirement for each modelled home was back calculated depending on the actual energy consumption and technology used, and then remodelled using a natural gas heat pump (NGHP) with a coefficient of performance of 1.3<sup>4</sup> (the equipment’s capability).

Natural gas heat pumps could not meet EL-3 or EL-4 compliance in anything less than an Energy Step Code 5 home. This is because in an Energy Step Code 5 house with less than 1.0 air changes per hour (ACH), the gas absorption heat pump doesn’t have to work so hard to meet the space heating requirements. In an Energy Step Code 3 home (<2.5 ACH) or an Energy Step Code 4 home (<1.5 ACH), the gas absorption heat pump must work harder, which produces more GHG’s than permissible under ZCSC compliance pathways.

Energy Step Code 3 and 4 homes have therefore been omitted from the below table as no options were able to meet either EL-3 or EL-4.

Compliance level achieved is denoted as **yellow** for EL-3, **green** for EL-4, and **red** for non-compliance.

Table 2 – Compliance Pathways for Homes Heated with a Natural Gas Heat Pump

	Rowhouse Step 5	Medium Home Step 5	Large Home Step 5
<b>Emission Intensity (kg CO<sub>2</sub>e/m<sup>2</sup>-yr)</b>	2.41	2.29	2.16
<b>Absolute Emissions (kg CO<sub>2</sub>e/yr)</b>	384	543	1105
<b>Compliance Level</b>	EL-3	EL-3	N/A
<b>Floor area (m<sup>2</sup>-unit)</b>	160 (1722sq/ft)	237 (2,551sq/ft)	511 (5,500sq/ft)

<sup>4</sup> Groves, S., 2024. *Heat Pumps in Alberta*. ATCO Energy Systems.

## Hybrid Heat Pump/Natural Gas Backup Option – Space Heating

### Key Findings

- All homes (row homes to large homes, Energy Step Code 3, 4 or 5) met EL-4 compliance – the most stringent ZCSC emission level.
- **Water heating must be electric in nature to meet the absolute intensity and absolute emissions thresholds.** In these models, electric heat pump water heaters were used.
- **All Step 5 homes modelled included some form of heat recovery ventilation (HRV) unit with a minimum 60% efficiency.**
- It should also be noted that **none of the modelled scenarios required backup heating.** We analysed this by referencing the number of annual degree days below 0°C in the region (Abbotsford was the closest community with weather data). With 38.7 days below 0°C, this equated to 1.4% of the total heating load. When factoring in the additional insulation present and heat recovery technology added to the modelled homes, it was deemed reasonable to consider natural gas consumption for backup heating to be negligible in Climate Zone 4.
- As per new provisions in the BC Building Code introduced in 2024, all new homes must have at least one living space to maintain a maximum air temperature of 26°C. Therefore, all homes modelled included cooling energy consumption as it would be provided by the air source heat pump. Cooling energy consumption was calculated based on degree days above 24°C in the region (Abbotsford was the closest community with weather data). With 102.1 degree days, this equated to 0.3 – 0.6% of additional electricity consumption over the course of a year.



# Methodology

Modelled emission intensities and absolute carbon emissions, and the compliance level achieved were obtained for homes heated with electric air source heat pumps with a natural gas backup, shown in Table 3.

Compliance level achieved is denoted as yellow for EL-3, green for EL-4, and red for non-compliance.

Table 3 – Compliance Pathways for Homes Heated with an Air Source Heat Pump and Natural Gas Backup

	Rowhouse Step 3	Medium Step 3	Large Step 3	Rowhouse Step 4	Medium Step 4	Large Step 4	Rowhouse Step 5	Medium Step 5	Large Step 5
Emission Intensity (kg/m <sup>2</sup> -yr)	0.81	0.61	0.36	0.80	0.57	0.33	0.72	0.56	0.30
Absolute Emissions (kg/yr)	129	144	185	127	136	169	115	132	152
Compliance Level	EL-4	EL-4	EL-4	EL-4	EL-4	EL-4	EL-4	EL-4	EL-4
Floor area (m <sup>2</sup> -unit)	160	237	511	160	237	511	160	237	511

# Cost Analysis

For each modelled home that met either EL-3 or EL-4, the incremental capital costs (ICCs) of the energy conservation measure (ECM) combinations, and operational costs were assessed. For the hybrid scenario, the ICCs were already provided.

The cost of a natural gas absorption heat pump is 3.28 times that of an electric air source heat pump. Therefore, for natural gas absorption heat pumps, the capital cost was determined using a multiplier of 3.28 vs. an air source heat pump based on a study comparing the two technologies<sup>5</sup>, along with a unit cost of \$5.50/ft<sup>2</sup> for an air source heat pump.<sup>6</sup> The increase in ICC was then calculated.

Operational cost variances were calculated using the energy savings of the modelled home vs. a baseline home for that archetype (Energy Step Code 3 with air source heat pump space heating and electric water heating), and by multiplying unit costs for electricity and natural gas where applicable. For this analysis, the unit rates for electricity and natural gas are 12.4 cents/kWh<sup>7</sup>, and \$15.17/GJ<sup>8</sup>, respectively.

---

<sup>5</sup> US EIA, 2023. Assumptions to the Annual Energy Outlook 2023: Commercial Demand Module.

[https://www.eia.gov/outlooks/aeo/assumptions/pdf/CDM\\_Assumptions.pdf](https://www.eia.gov/outlooks/aeo/assumptions/pdf/CDM_Assumptions.pdf)

<sup>6</sup> 2022 BC Energy Step Code Metrics study

<sup>7</sup> BC Hydro, 2024. *Get to Know Your Bill*. <https://app.bchydro.com/accounts-billing/bill-payment/bill-details.html>

<sup>8</sup> FortisBC, 2024. *How to Read Your Natural Gas Bill*. <https://www.fortisbc.com/accounts-billing/billing-rates/understanding-your-bill-natural-gas/how-to-read-your-gas-bill>

## Natural Gas Absorption Heat Pumps

### Key Findings

- Overall, the addition of a natural gas heat pump increased construction costs by an additional 6.0-6.2% above and beyond the 3.3% and 1.6% from other energy conservation measures for the medium single detached and row home, respectively. In other words, the addition of the natural gas heat absorption pump was 2 - 4 times more expensive to add than all other energy conservation measures combined.
- With respect to annual cost variance, the natural gas heat pump could save \$192-194/yr (if they were able to be installed in spaces of less than 4,000ft<sup>2</sup>).
- Simple payback for each system was 165 years for the medium single detached, and 112 years for the row home, which are both very high and would generally render the project financially infeasible.
- Natural gas absorption heat pumps generally do not offer cooling. The calculation on NGHP does not include the cost of adding air conditioning. As there is now a Building Code requirement for one room of a house to be able to be retained at a maximum of 26°C to prevent life safety issues associated with extreme heat, most homes will likely need air conditioning to achieve this requirement which would further increase the capital cost of choosing a gas heat pump. Note that electric heat pumps provide both heating and cooling.
- The very high payback periods found for the row home and medium single detached homes, which are at most 2,500 ft<sup>2</sup>, combined with the inability to meet EL-3 or EL-4 for the large single detached home (>4,000 ft<sup>2</sup>), make natural gas heat pumps infeasible in a residential scenario.

## Methodology

Recall that the two modelled homes that met EL-3 were a Step 5 row home, and Step 5 medium single detached home. Results for capital cost and operational cost variances are shown in Tables 4 and 5, respectively. Note that the original Energuide data assumed an electric ASHP for each scenario and required changing the heating source to a natural gas absorption heat pump (NGHP) using the methodology described in the previous section.

Table 4 – Capital Cost Variance for Natural Gas Absorption Heat Pumps

Cost Capital Variances	Step 5	
	Medium Single Detached	Row house
ICC before NGHP	\$17,134 (3.30%)	\$5,772 (1.60%)
NG HP cost	\$45,975	\$30,951
ICC with NG HP	\$49,085 (9.5%)	\$27,281 (7.6%)
ICC Increase	\$31,950 (6.2%)	\$21,509 (6.0%)

Table 5 – Operational Cost Variance for Natural Gas Absorption Heat Pumps

Savings (\$/yr)	Step 5	
	Medium Single Detached	Row house
Base case natural gas	\$0	\$0
Base case electricity	\$1,585	\$1,419
Base case total	\$1,585	\$1,419
Model case natural gas	\$126	\$83
Model case electricity	\$1,265	\$1,145
Model case total	\$1,391	\$1,228
Cost savings	\$194	\$192
Simple Payback (yrs)	165	112

# Air Source Heat Pumps with Electric Baseboard Backup

## Key Findings

- Considering that a baseline Energy Step Code 3 home for all archetypes met EL-4 of the ZCSC, there is no need to add the additional cost and long payback periods to increase to Step 4 and 5 of the Energy Step Code. **Therefore, based on this analysis the recommendation for the City of Maple Ridge is to pursue EL-4 of the Zero Carbon Step Code rather than higher steps of the Energy Step Code.**
- Note that the base case scenario for all cost analyses here assumes an Energy Step Code 3 home built to minimum standard, with an air source heat pump for space heating and electric heat pump for water heating
- Since Step 3 baseline already had heat pumps for space and water heating, there is no relative savings or payback period
- Overall, Step 4 homes increased capital costs by 0.02 – 0.6%, with large single detached homes having the highest increase, and row homes the lowest.
- For Step 5 homes, capital costs increased between 0.85 – 2.4%, with large single detached homes having the highest increase, and row homes again being the lowest.
- Annual energy cost savings for Step 4 homes ranged from \$18 for row homes, up to \$167 for large single detached homes.
- Step 5 homes were slightly higher energy savings for all archetypes, up to \$191/year
- Of note, the per unit cost increase for row homes was nearly 2.6 times less on a per area basis than the next smallest archetype, the medium single detached home. A possible reason for this is because there aren't the same insulation requirements between units in a row-home complex in comparison with a detached home (e.g. only 2 sides require insulation vs. 4). Also, the entire complex was modelled as one building. Row homes are more likely to use mini-split heat pumps for each unit, rather than one central heat pump for the entire

complex. This will need to be considered when designing a row-home complex with heat pumps in the future for a more accurate representation of costs.

- Payback periods for Step 4 and 5 homes were considerably better than for natural gas heat pumps, though both medium and large single detached homes were at least 19 years for Step 4, and 38 years for Step 5. Row homes performed better, with payback periods of 5 years for Step 4, and 20 years for Step 5.

## Methodology

Using electric ASHPs for space heating, all archetypes for Steps 3-5 met EL-4 of the ZCSC, with the assumption that electric heating is also used for water. Results for capital cost and operational cost variances are shown in Tables 6 and 7, respectively. Note that the baselines used for these analyses are Energy Step Code 3 homes with heat pump heating for both space and water heating, thus why there is no difference in capital or operating costs for Step 3.

Table 6 – Capital Cost Variance for Air Source Heat Pumps

Cost Capital Variances	Step 3			Step 4			Step 5		
	Medium SD	Large SD	Row home	Medium SD	Large SD	Row home	Medium SD	Large SD	Row home
ICC Increase	-	-	-	\$1,738 (0.33%)	\$6,435 (0.56%)	\$84 (0.02%)	\$7,818 (1.51%)	\$27,502 (2.43%)	\$3,057 (0.85%)

Table 7 – Operational Cost Variance for Air Source Heat Pumps

Energy costs (\$/yr)	Step 3			Step 4			Step 5		
	Medium SD	Large SD	Row home	Medium SD	Large SD	Row home	Medium SD	Large SD	Row home
Base case natural gas	\$0								
Base case electricity	\$1,584	\$2,028	\$1,419	\$1,584	\$2,028	\$1,419	\$1,584	\$2,028	\$1,419
Base case total	\$1,584	\$2,028	\$1,419	\$1,584	\$2,028	\$1,419	\$1,584	\$2,028	\$1,419
Model case natural gas	\$0								
Model case electricity	\$1,584	\$2,028	\$1,419	\$1,494	\$1,861	\$1,401	\$1,447	\$1,670	\$1,264
Model case total	\$1,584	\$2,028	\$1,419	\$1,494	\$1,861	\$1,401	\$1,447	\$1,670	\$1,264
Cost savings	-	-	-	<b>\$90</b>	<b>\$167</b>	<b>\$18</b>	<b>\$137</b>	<b>\$358</b>	<b>\$155</b>
Simple Payback (yrs)	-	-	-	<b>19</b>	<b>38</b>	<b>5</b>	<b>57</b>	<b>77</b>	<b>20</b>



# Conclusion

The studies covered in this report indicate that building efficient zero carbon homes is possible in theory with both air source heat pumps and hybrid gas systems, but not natural gas absorption heat pumps.

Taking into consideration financial metrics, electric air source heat pumps outperform gas powered systems in capital costs and overall lifecycle costs, plus they work for all-home archetypes and can meet EL-4, the most stringent step of the ZCSC, in Energy Step Code 3, 4 and 5 homes.

Electric air source heat pumps also offer space cooling capabilities (2-in-1 functionality), adding resiliency and the ability to meet the new BC Building Code requirement of 26°C in one room of the house.

Electric air source heat pumps will also meet the proposed Highest Efficiency Equipment Standards, satisfying Point of Sale and Point of Installation requirements for equipment to be more than 100% efficient.

It should also be noted that the role of the Heat Recovery Ventilator is also very significant. The HRV reduces the load on the space heating equipment and increases the likelihood of not needing back-up heat.

**Overall, based on this analysis the recommendation for the City of Maple Ridge is to pursue EL-4 of the Zero Carbon Step Code rather than higher steps of the Energy Step Code, using electric air source heat pumps for space heating, HRVs to minimize/eliminate the need for backup heating, and electric water heating.**

# All-electric homes and power outages: What you need to know

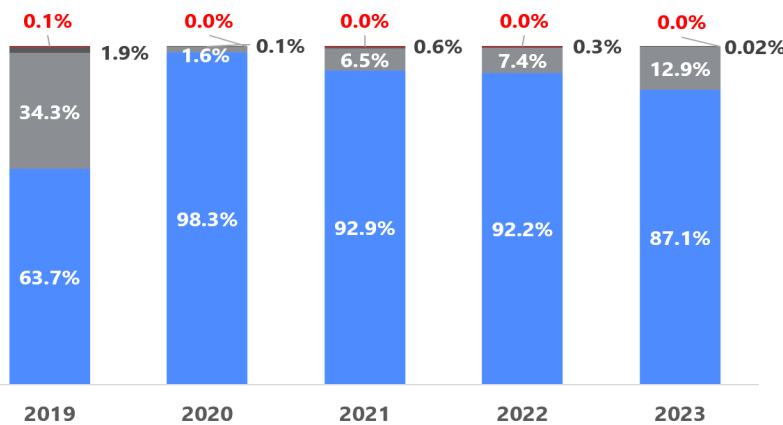


Electrifying your home is one of the best ways to reduce your carbon footprint and fight climate change. **But can an all-electric home be comfortable and safe during a power outage? Here's what you need to know.**

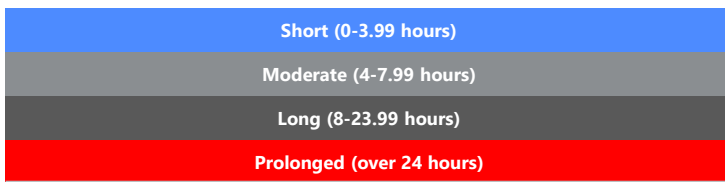
Prepared by Introba and Westerhoff Climate Strategies

## How often do power outages even happen in British Columbia?

While power outages can certainly be memorable, data shows that power outages – especially long ones – are actually rare in our province. The figure below draws from BC Hydro power outage data from the last five years.



The average interruption length per customer per year, 2019-2023



The average length of outage for most BC Hydro customers (between 63% and 98%) experiencing outages is just 4 hours, with a very small percentage experiencing an average outage of 8 hours or longer.

While they are rare, longer outages do occur. Urban areas experience very few longer outages, but *rural areas can experience up to five times more prolonged outages (over 8 hours) than urban communities.* It's important to consider heating options that make the most sense based on your location, wants, and needs for those times that your home may be without power.

## Did You Know?

**All-electric homes aren't that different from other homes.** Most types of equipment that we use in our daily lives require electricity to function or function safely, including gas fireplaces and ovens.

**Most natural gas furnaces and boilers don't function during power outages.** They rely on electricity to operate key parts of the system, including the ignition, blower motor, and thermostat.

**Homes built with energy efficiency in mind perform better during power outages.** A well-insulated home can keep the indoors warm for up to three days! The better your home's envelope, the better it can keep you comfortable.

# How to stay comfortable and safe during a power outage



## Back Up Power

Back-up power sources range from small units to power your devices, to whole-home systems that can keep you going for days.

- ❑ Home standby generators are installed on-site and directly connected to a home's wiring system. When a power outage occurs, an automatic transfer switch activates the generator, which then supplies electricity to the home.
- ❑ Portable generators are mobile units that can be used to power certain devices or services, like lights or hot water
- ❑ Solar panels equipped with certain types of inverters or that are completely disconnected from the power grid allow these systems to continue to power a home during power outages
- ❑ Home battery back-up systems store energy from the grid or a solar system for when it's needed.
- ❑ Portable solar-charged batteries can be used to charge devices and smaller loads



## Heating & Cooking

Alternative ways of heating your home or cooking are available to use when the power goes out.

- ❑ Wood-burning appliances, including fireplace inserts, woodstoves, pellet stoves, open hearth fireplaces, masonry heaters, and wood burning furnace can all be used to help heat your home
- ❑ Solar air heaters use sunlight to generate warmth for indoor spaces by converting sunlight into heat energy and using fans to circulate it around a space
- ❑ Wood cook stoves use wood or wood pellets to fuel both a cooking surface and oven, and provide heat to the surrounding space
- ❑ Camp stoves and BBQs can both be used to cook food so long as they are used outside where carbon monoxide gases won't pose a health risk



## Energy Efficiency

Improving the energy efficiency of your home ahead of time can help you stay comfortable during a power outage.

- ❑ Purchasing or renovating your home with a highly insulated envelope helps keep spaces warmer in the winter, and cooler in the summer
- ❑ Adding weather stripping around doors, installing window films, and putting blankets in drafty areas can all help keep warmth inside in the winter
- ❑ Adding window shades either inside your home (like curtains or blinds) or outside your home (like exterior blinds or vertical fins) help to keep the sun's rays from heating your home in the summertime
- ❑ Planting deciduous trees to the south and west of your home can help shade incoming sun in the summer
- ❑ Keeping windows closed during the day and opening them at night to let in cool air helps to keep cool in the summer

## Want to learn more?

Scan the QR Code for more information on back-up power, heating, and cooking options during a power outage, including information on their effectiveness, installation and cost.



## What if a power outage is already happening?

- Visit BC Hydro's webpages on how to [prepare your home for a power outage](#) and [what to do during a power outage](#) for tips on staying safe
- Read PreparedBC's [Severe Winter Weather and Storm Preparedness Guide](#)

**CITY OF MAPLE RIDGE**

**BYLAW NO. 8018-2025**

A Bylaw to amend the text of the Maple Ridge Building Bylaw No. 6952-2012, as amended.

---

WHEREAS, Council deems it necessary to amend the Maple Ridge Building Bylaw No. 6952-2012, as amended.

NOW THEREFORE, Council of Maple Ridge enacts as follows:

1. This Bylaw may be cited for all purposes as “Maple Ridge Building Amending Bylaw No. 8018-2025.

2. Maple Ridge Building Bylaw No. 6952-2012 is amended as follows:

a. “Part 2 Definitions” is amended by inserting the following text definitions in alphabetical order:

“**Energy Advisor**” means a registered energy advisor in good standing with Natural Resources Canada who conducts EnerGuide home evaluations on behalf of service organizations licensed by Natural Resources Canada;

“**Energy Step Code**” means the Province of British Columbia’s performance-based standard for energy efficiency in new construction including Step 1, Step 2, Step 3, Step 4, and Step 5, as defined and as set out in Subsections 9.36.6 and 10.2.3 of the Building Code, as may be amended or re-enacted from time to time;

“**GHG**” means greenhouse gas;

“**Zero Carbon Step Code**” means the greenhouse gas (GHG) emission requirements including EL-1, EL-2, EL-3 and EL-4, set out in Part 9, Section 9.37 - Greenhouse Gas Emissions and Part 10, Section 10.3 - Greenhouse Gas Emissions of the Building Code, as may be amended or re-enacted from time to time.

b. by inserting the following text as Section 33 - Energy Step Code/Zero Carbon Step Code after Section 32 – Electrical:

### “33. Energy Step Code/Zero Carbon Step Code

33.1 In relation to the conservation of energy and the reduction of greenhouse gas emissions, the British Columbia Energy Step Code and the British Columbia Zero Carbon Step Code will be incorporated by reference, in accordance with subsections 33.2 through 33.7 of this Bylaw.

33.2 Any new Part 9 (Building Code) Building constructed after June 30, 2025 containing a residential occupancy shall be designed and constructed to meet the specified requirements of the Zero Carbon Step Code, as defined by the BC Building Code to a level of:

33.2.1 EL-3 where the Permit Application is dated after July 1, 2025.

33.2.2 EL-4 where the Permit Application is dated after August 1, 2026.

33.3 Any new Part 3 (Building Code) Building constructed after June 30, 2025 containing a residential occupancy shall be designed and constructed to meet the specified requirements of the Zero Carbon Step Code, as defined by the BC Building Code to a level of:

33.3.1 EL-3 where the Permit Application is dated after July 1, 2025.

33.3.2 EL-4 where the Permit Application is dated after August 1, 2026.

33.4 Any new Part 9 (Building Code) Building constructed after June 30, 2025 containing a residential occupancy shall comply with the Zero Carbon Step Code as defined by the BC Building Code through either the prescriptive or performance pathway.

33.5 Any new Part 3 (Building Code) Building constructed after June 30, 2025 containing a residential occupancy shall comply with the Zero Carbon Step Code as defined by the BC Building Code through the performance pathway.

33.6 With respect to a building permit for a building or structure that falls within the scope of Part 9 of the Building Code, the owner must provide, to the satisfaction of the Building Official, all the materials and documentation required by the BC Energy Step Code and BC Zero Carbon Step Code, prepared and signed by an Energy Advisor or Registered Professional, and such other reports and materials as required by the Building Official.

33.7 Any energy advisor providing the required documentation set out in the Energy Step Code and Zero Carbon Step Code must provide evidence to the Building Official that they are an energy advisor registered and in good standing with Natural Resources Canada.”

- c. by renumbering the Maple Ridge Building Bylaw No. 6925-2012 accordingly in numerical order to reflect the section changes, including any references made to those sections throughout the Bylaw;
- 3. Maple Ridge Building Bylaw No. 6952-2012 as amended is hereby amended accordingly.
- 4. This Bylaw will come into force and effect on June 30, 2025.

**READ** a first time the \_\_\_ day of \_\_\_\_\_, 2025

**READ** a second time the \_\_\_ day of \_\_\_\_\_, 2025

**READ** a third time the \_\_\_ day of \_\_\_\_\_, 2025

**ADOPTED** the \_\_\_ day of \_\_\_\_\_, 2025

\_\_\_\_\_

**PRESIDING MEMBER**

\_\_\_\_\_

**CORPORATE OFFICER**

## **Adaptable Housing: An Update on the Adaptable Unit Provisions in the 2024 BC Building Code**

### **Recommendation:**

**THAT the report titled “Adaptable Housing: An Update on the Adaptable Unit Provisions in the 2024 BC Building Code”, dated February 4, 2025, be received for information.**

### **Report Purpose and Summary Statement:**

Adaptable dwellings better accommodate inclusive housing needs. This report informs Council of the Adaptable Housing standards that will come into effect on March 10, 2025, in compliance with the 2024 BC Building Code and the implementation process for adaptable unit provisions in the City of Maple Ridge.

### **Previous Council Action:**

The implementation of adaptable housing standards was highlighted in the 2024 Proposed Housing Action Plan, which the Council supported on November 12, 2024.

### **Strategic Alignment:**

Liveable Community

### **Communications:**

An information bulletin will be made available to guide in-stream and new building permit applications regarding the implementation timelines of adaptable dwelling unit requirements as the 2024 BC Building Code comes into effect.

### **Applicable Legislation/Bylaw/Policy:**

[2024 BC Building Code](#)

## **Adaptable Housing: An Update on Adaptable Unit Provisions in the 2024 BC Building Code**

### **BACKGROUND:**

Accessible and adaptable housing provides necessary inclusive housing for those with mobility challenges. Prior to the 2024 *BC Building Code*, adaptable housing design was voluntary unless municipalities adopted requirements through their zoning bylaw provisions or through adaptable housing policies applicable within their jurisdictions. Building permit applications submitted before March 10, 2025, are subject to the 2018 *BC Building Code* for adaptable unit provisions. Building permit applications submitted on or after March 10, 2025, will be subject to the adaptable dwelling unit requirements in the 2024 *BC Building Code*. The Province has granted in-stream protection for projects that meet exemption requirements if a building permit application is made before March 8, 2027.

The City of Maple Ridge does not currently have an adaptable housing policy. The inclusion of adaptability requirements in the 2024 *BC Building Code* is a timely and welcomed move that would prepare for the physical needs of an aging population. It is aligned with the City's 2024 Housing Needs Report, addressing the need for suitability of homes for seniors in the immediate and longer term. Making more homes accessible and adaptable increases the options of where seniors can live without restricting them to seniors housing, encouraging more independent living, and multigenerational living in larger-sized units.

As the mandatory requirements for adaptable unit provisions in the *BC Building Code* mark a shift in layout and internal designs for multi-unit developments that the industry would have to comply with, this report provides Council with an overview of the considerations and implementation timelines for adaptable housing in the City, as the provincial building legislation takes effect.

### **2024 BC Building Code: Adaptable Unit Requirements**

#### What units of what buildings must be adaptable?

Under the 2024 *BC Building Code*, adaptable housing is now applicable to single-storey units that are served by a common accessible interior corridor. This means that all single-storey units in apartment-style buildings will need to be designed and constructed as adaptable. Where an elevator is required, all dwelling units served from the accessible interior corridors must be adaptable. Common building entrances would need to be accessible as well as the common paths of travel on the entry level for apartment-style buildings. First storey dwelling units must therefore be adaptable, but second storey units may not be unless an elevator provides access to that second storey.



Adaptability requirements are currently not mandatory in ground-oriented and small buildings such as detached houses, semi-detached houses, houses with a secondary suite, duplexes, triplexes, townhouses, row houses and boarding houses (Section 3.8.2.1 of 2024 *BC Building Code*).

#### What is an adaptable dwelling unit?

The 2024 *BC Building Code* defines an adaptable dwelling unit as:

*"A dwelling unit designed and constructed with some accessible features, and which accommodates the future modification to provide more accessible features."*

This means that the elements and features of a building that are impractical or impossible to renovate are taken into consideration at the initial time of construction to accommodate occupants' physical accessibility needs and preferences over one's life cycle and lifetime of the building. Plumbing and electrical systems, for instance, would need to be located and designed upfront to minimize expensive or impossible renovations at a later stage.

Examples of adaptable features include:

- Larger accessible clearances through doorways and along paths of travel to living space;
- More space in bedrooms, bathrooms and kitchens;
- Switches and other controls at accessible heights;
- Reinforcement of bathroom walls to allow future installation of grab bars.

[See illustrations in Attachment A].

Dwelling units with more than one bedroom or bathroom are only required to designate one of each to be adaptable. The path of travel serving the adaptable bedroom and adaptable bathroom is required to be connected to the unit entry/exit door, a living space, and an adaptable kitchen.

#### Impact on construction costs

The Provincial Building and Safety Standards Branch estimates that adaptable dwelling unit provisions when incorporated in the design stage, can be achieved with a nominal construction cost increase of approximately \$1,100 per unit. Construction costs to renovate an existing home that has not been designed as adaptable to provide the same features can exceed \$ 100,000.

[\[Provincial Information Bulletin B24-09-R3, 23 Dec 2024\]](#)

#### Implementation process and extended transition period

The 2024 *BC Building Code* came into effect on March 8, 2024. The new adaptable-dwelling provisions are effective as of March 10, 2025, to provide transition time for local governments, design professionals and builders to implement the new requirements. Building permit applications made on or after March 10, 2025, will be subject to the adaptable dwelling unit requirements. Exceptions are given for in-stream projects that are underway, with the transition period extended up to March 8, 2027.

Projects are identified as underway or in-stream (where the 2018 *BC Building Code* applies) if all 3 of these criteria are met:

1. **drawings for the project include** information on any of the following:
  - the number of dwelling units in a residential occupancy,
  - the dimensions of dwelling units in a residential occupancy, or
  - the dimensions of structural components or assemblies that are designed to resist seismic or lateral forces.
2. **drawings have been prepared** by, or prepared under the supervision of, a registered professional or registrant of the Applied Science Technologists & Technicians of BC **before March 8, 2024, and**
3. the **building permit is applied before March 8, 2027.**

## **DISCUSSION:**

### **Accessible and Adaptable Housing in Metro Vancouver:**

Over the last decade, several municipalities in Metro Vancouver have implemented accessible and adaptable housing design standards, requiring that multi-unit developments meet basic accessibility requirements and enhanced features that include adaptable components (Attachment B). These adaptable housing provisions range from an applicability of 20% (City of Burnaby, City of Delta), to 50% (City of Port Moody), to 100% (District of North Vancouver) of all new single-storey multi-unit developments constructed; some of the cities provide incentives (e.g., floor area exemptions).

Some municipalities have gone further than what the 2024 *BC Building Code* now mandates, with policies that require a minimum number of adaptable units in ground-oriented developments. For example, the Township of Langley requires 5% of units in ground-oriented multi-unit developments, and the District of North Vancouver requires 15% of units in ground-oriented multi-unit developments, to comply with accessible design features with a provision for future adaptability. The City of Vancouver also applies adaptable housing requirements to all newly constructed one and two-unit dwellings, laneway houses and row housing.

### **Considerations for Maple Ridge:**

With the implementation of the 2024 *BC Building Code*, adaptable unit provisions will have to be complied with regardless of municipal policies, negating the need for incentives. It will also progressively bring adaptable housing standards in Maple Ridge in step with other municipalities in the region, as the local industry builds its awareness and expertise on accessible and adaptable design guidelines, in compliance with the *BC Building Code*, which will apply to all development applications for single-storey, multi-unit apartments from March 2025.

While the implementation of the 2024 *BC Building Code* would offer some availability of adaptable housing units in time, these units would likely be concentrated in key growth areas in Maple Ridge (such as the Lougheed Transit Corridor and the Town Centre) since the provisions primarily apply to multi-unit apartment buildings. Those wanting to buy into accessible and adaptable homes would potentially have to relocate late in life and adjust to apartment living in new environments, or otherwise incur financial costs to retrofit their existing homes or other ground-oriented dwellings to make them age-friendly and adaptable, if that is possible.

The majority of Maple Ridge’s housing stock continues to be in single-detached homes and other ground-oriented dwellings units with 80% of homes in Maple Ridge in ownership (26,205 units), of which 25% are maintained by those aged over 65 years (6,755 units) and 43% by those aged 45-64 years (11,880 units). As these cohorts age, there could potentially be greater demand for accessible and adaptable housing design.

Looking ahead, providing ground-oriented homes with the possibility of accessible and adaptable housing design would provide people with greater opportunities to age in the neighbourhoods they are already familiar with and in supportive multigenerational living arrangements.

As a pragmatic and stepped approach, it is recommended that the City move in tandem with provincial legislation, fostering awareness and expertise in adaptable unit designs. As the provisions of the 2024 BC Building Code come into effect, builders will have to adjust to ensure that all single storey dwelling units in apartments that are accessed via an interior corridor, be accessible and adaptable.

For ground-oriented developments, the City will continue to encourage and foster awareness around adaptable design but enable it to be market driven and developer-led, taking a balanced approach without imposing undue regulatory and financial burden on the industry. The City will monitor the need to regulate adaptability guidelines for ground-oriented multi-unit forms, if necessary, in the future. With the cascading implementation of various provincial-led housing initiatives, staff believe that a gradually stepped approach consistent with the Provincial timeline will provide builders the necessary time to incorporate these new construction practices more effectively.

Accessible parking provision standards vary across the region and the City’s standards are generally comparable with municipalities like the City of Delta, although lower than others such as the District of North Vancouver. As the implementation of the adaptable housing provisions takes effect over the next few years, it is recommended that the accessible parking standards in Maple Ridge follow the provisions of the proposed draft *Off-Street Parking and Loading Bylaw*, shown in Table 1 below, that was given First Reading in 2023. These proposed revisions to the parking standards have since increased the accessibility parking requirements from the City’s previous version of the bylaw.

**Table 1. Accessible Parking Space Minimum Requirements**  
 ([\*Draft Maple Ridge Off-Street Parking and Loading Bylaw No.7970- 2023\*](#))

Number of Total Parking Spaces Required	Minimum number of Type 1 Accessible Parking Space	Minimum number of Type 2 Van Accessible Parking Space
0-4	n/a	n/a
5-25	0	1
26-50	1	1
51-75	2	1
76-100	3	1
For each additional increment of 100 spaces or portion thereof	1 Accessible Parking Space	For every 3 accessible parking spaces required, 1 shall be a van accessible parking space

### **Next Steps:**

An information bulletin to provide guidance on the effective dates of adaptable unit provisions in compliance with the 2024 *BC Building Code* has been drafted and will be released (Attachment C). The City will continue to engage with builders to obtain feedback and build awareness around accessible design as the implementation of adaptable unit provisions takes effect in the coming years.

### **Strategic Alignment:**

Adaptable housing is an action item to address the need for seniors housing in the 2024 Proposed Housing Action Plan supported by Council on November 12, 2024, and is also an initiative under the Liveable Community Pillar of the 2023-2026 Council Strategic Plan.

### **Applicable Legislation/Bylaw/Policy:**

- [2024 BC Building Code](#)
  - [B.C. grants in-stream protections to projects underway: Provincial Information Bulletin \(September 18, 2024\)](#)
  - [Transition period for adaptable dwellings in the British Columbia Building Code 2024: Provincial Information Bulletin No. B24-01-R \(September 19, 2024\)](#)
  - [Application of the 2024 BC Building Code: Provincial Information Bulletin No. B24-10-R \(September 20, 2024\)](#)
  - [Adaptable Dwelling Units Frequently Asked Questions: Provincial Information Bulletin No. B24-09-R3 \(December 23, 2024\)](#)

### **CONCLUSION:**

This report provides an overview of the adaptable housing standards of the 2024 *BC Building Code* that will come into effect on March 10, 2025. It is proposed that the City moves in tandem with provincial legislation, to ensure compliance with adaptable unit provisions through the effective implementation dates of the 2024 *BC Building Code*. The City would continue to engage the industry to encourage accessible and adaptable design, wherever possible.

“Louisa-May Khoo”

---

Prepared by: Louisa-May Khoo, Community Planner 2

- Attachments:**
- (A) Illustrations: Acceptable Accessible and Adaptable Unit Designs
  - (B) Municipal Scan: Accessible and Adaptable Housing Policies in Metro Vancouver
  - (C) Information Bulletin: In-stream Protection for Adaptable Unit Provisions

## Report Approval Details

Document Title:	Adaptable Housing.docx
Attachments:	- Attachment A - Illustrations.docx - Attachment B - Municipal Scan.docx - Attachment C - Information Bulletin.docx
Final Approval Date:	Jan 17, 2025

This report and all of its attachments were approved and signed as outlined below:

Amanda Grochowich, Manager of Community Planning

Hasib Nadvi, Associate Director of Building, Development and Planning

James Stiver, Director of Building, Development and Planning

Carolyn Mushata, Director of Legislative Services and Corporate Officer

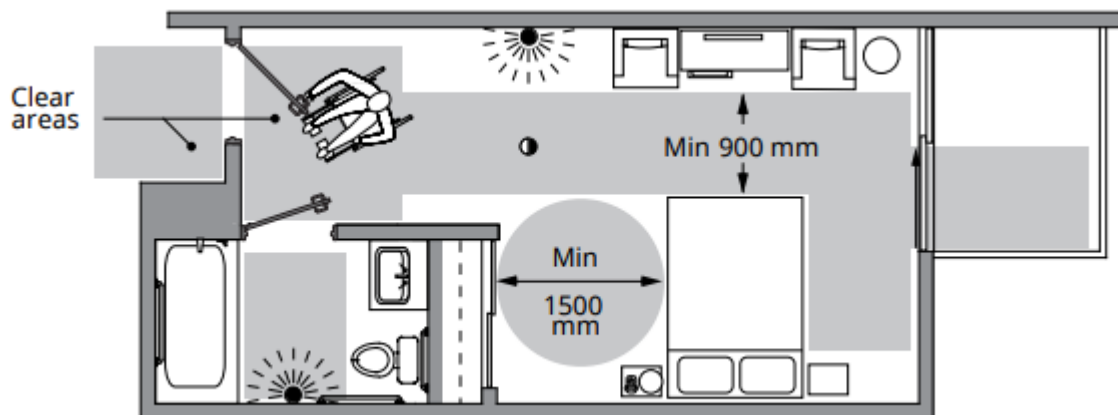
Scott Hartman, Chief Administrative Officer

## Illustrations: Acceptable Accessible and Adaptable Unit Designs

### Reference:

British Columbia Office of Housing and Construction Standards, Building Accessibility Handbook 2020, [2020\\_building\\_accessibility\\_handbook.pdf](#)

Figure 1. Acceptable layout of an accessible sleeping area



### Notes:

- a turning area of not less than 1,500 mm in diameter on one side of a bed,
- a clearance of not less than 900 mm to allow for functional use of the room or space by persons using wheelchairs,
- when a balcony is provided, an accessible balcony,
- at least one closet that provides
  - o a clear opening not less than 900 mm wide,
  - o clothes hanger rods capable of being lowered to a height of 1,200 mm,
  - o at least one shelf capable of being lowered to a height of 1,200 mm,
- e) accessible light switches, thermostats and other controls that are specifically provided for use by the occupant located between 900 mm and 1,200 mm above the finished floor
- f) accessible electrical outlets
- g) an adaptable bathroom, or access to an adaptable bathroom, with a water closet, grab bars, lavatory, mirror, bathtub or a shower conforming to accessibility provision standards.

### Adaptable dwelling unit kitchens

- The kitchen in an adaptable dwelling unit shall be designed so that the cooktop and sink are adjacent or have a continuous counter between them

### Controls, switches and outlets

- Controls and switches intended for occupant use, including cable and data outlets shall be mounted 455mm to 1,200mm above the floor

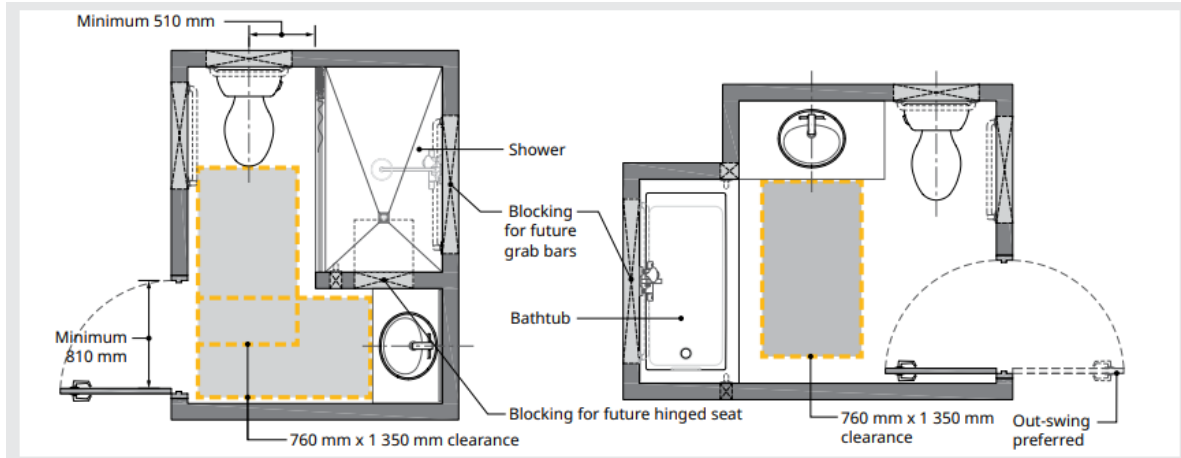
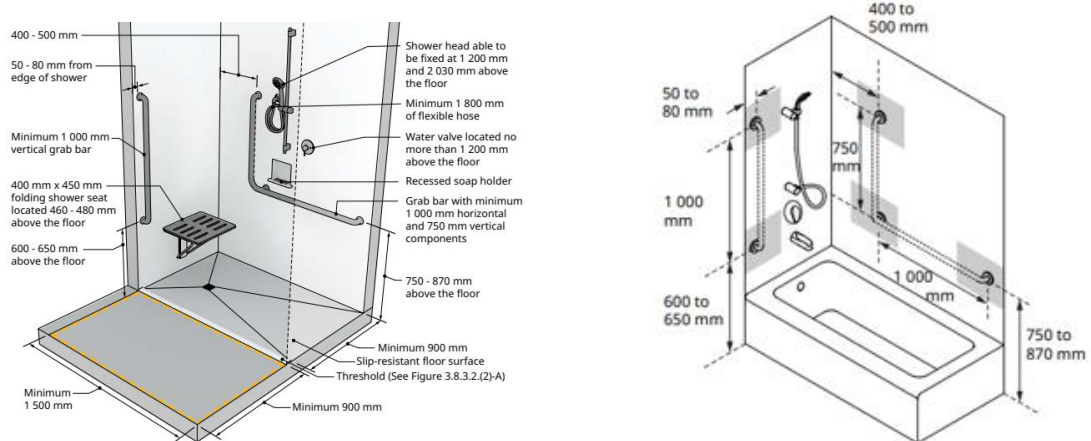


Figure 3: Accessible shower and acceptable grab bar layout of an adaptable dwelling unit bathtub



Notes:

Bathroom designed to be adaptable for use by persons using wheelchairs by providing:

- a) Clear floor space:
  - in front of the lavatory (no less than 760mm wide and 1,350mm deep)
  - exclusive of door swing, connecting to the route through doorway
- b) Walls adjacent to the water closet and bathtub or shower to accommodate the future installation of grab bars, and their acceptable positions.

## MUNICIPAL SCAN: ACCESSIBLE AND ADAPTABLE HOUSING POLICIES IN METRO VANCOUVER

City	Policy Application	Date Applicable	Proportion	Incentives offered	Others
City of Burnaby	<a href="#">Adaptable-housing-policy</a> <ul style="list-style-type: none"> <li>Applies to new multi-unit and residential mixed-use developments.</li> <li>Applies to single-level units only.</li> </ul>	2013 Updated 2018	<ul style="list-style-type: none"> <li>20% of all single-level units in new multi-unit and residential mixed-use developments</li> <li>100% for senior oriented housing</li> </ul>	Yes. Floor area exemption <ul style="list-style-type: none"> <li>In RM, C and P Districts only, 1.86 m<sup>2</sup> (20 sq. ft.) for each adaptable housing unit and 0.93 m<sup>2</sup> (10 sq. ft.) for each adaptable bedroom in excess of the first adaptable bedroom within an adaptable housing unit, is excluded from gross floor area</li> </ul>	Architectural plans to clearly illustrate the accessible/adaptable features in each of the adaptable unit-types
City of Delta	<a href="#">7600 - Delta Zoning Bylaw.pdf</a> <ul style="list-style-type: none"> <li>Applies to any new apartment building</li> </ul>	2017	<ul style="list-style-type: none"> <li>20% of single storey apartment units required to be adaptable.</li> </ul>	Yes Floor area exemption.	
City of New Westminster	<a href="#">Adaptable Housing   City of New Westminster Bylaw 7464 2011 Zoning Amendment (Adaptable Housing) Bylaw.pdf</a> <ul style="list-style-type: none"> <li>Applies to all new developments with single-storey dwelling units in multi-unit residential occupancy buildings.</li> </ul>	2011	<ul style="list-style-type: none"> <li>40% of all single-storey dwelling units in multi-unit residential occupancy buildings</li> </ul>	Yes. Floor area exemption <ul style="list-style-type: none"> <li>1.85 m<sup>2</sup> (19.90 sq.ft.) for every one-bedroom adaptable housing unit.</li> <li>2.80 m<sup>2</sup> (30.14 sq.ft.) for every two-plus bedroom adaptable housing unit.</li> </ul>	
City of North Vancouver	<a href="#">Adaptable Design Policy</a> <ul style="list-style-type: none"> <li>Applies to all multi-unit buildings.</li> </ul>	2013	The policy outlines three levels of Adaptable Design Guidelines <ul style="list-style-type: none"> <li>Level One consists of basic design and features. Required in all multiple unit buildings with common corridors.</li> </ul>	Yes Floor area exemption <ul style="list-style-type: none"> <li>Level Two unit, 1.86 m<sup>2</sup> will be excluded</li> </ul>	



City	Policy Application	Date Applicable	Proportion	Incentives offered	Others
			<ul style="list-style-type: none"> <li>Level Two adaptable design provides access in and out of the building, common areas and individual units.</li> <li>Level Three adaptability provides full access in all unit spaces.</li> </ul>	<ul style="list-style-type: none"> <li>Level Three unit, 4.19 m<sup>2</sup> will be excluded</li> </ul>	
City of Pitt Meadows	Adaptable Housing Zoning Bylaw. <ul style="list-style-type: none"> <li>Applies to all rezoning applications for new multi-unit apartment dwellings (sharing a common corridor or external passageway).</li> </ul>	2016	<ul style="list-style-type: none"> <li>Provides design guidelines for adaptable units, such as necessary circulation space and door clearance, locations of some of the windows, switches, etc. to be operable with one hand.</li> <li>Requires at least one full accessible bathroom and one full accessible bedroom, which must be located on the same level. The accessible bathroom toilet must have room for future grab bar installation.</li> </ul>	-	Registration of a restrictive covenant on title to the subject lands ensuring the adaptability of the dwelling units in accordance with this policy is required.
City of Port Coquitlam	Zoning Bylaw	2012	30% of new apartment units	-	
City of Port Moody	Zoning Bylaw	2018	50% of single-storey residential dwelling units	Yes. floor area exemptions	
City of Vancouver	Zoning Bylaw  All new dwelling units must meet the adaptable housing requirements.	2019	Adaptable housing requirement applies to the design and construction of: <ol style="list-style-type: none"> <li>one and two unit dwellings</li> <li>laneway houses</li> <li>secondary suites</li> <li>row housing</li> <li>multi-unit residential buildings</li> </ol> The requirement does not apply to single room accommodation.	-	

City	Policy Application	Date Applicable	Proportion	Incentives offered	Others
District of North Vancouver	<a href="#">Accessible Design Policy for Multi-Family Housing.pdf</a> Applies to <ul style="list-style-type: none"> <li>• multi-unit rezoning applications</li> <li>• form and character multi-unit development permit applications proposing 4 or more new multi-units or ground-oriented multi-units.</li> </ul>	2015/17	Sets targets for the percentage of units with basic accessible design features and enhanced accessible design features.  Basic accessible design features: <ul style="list-style-type: none"> <li>• 100% of multi-units,</li> <li>• 15% for ground-oriented multi units</li> </ul> Enhanced accessible design features: <ul style="list-style-type: none"> <li>• Encouraged in ground-oriented multi-units</li> <li>• 5% for multi-units that are not ground oriented</li> <li>• 100% for multi-unit apartments intended for people with sensory and/or mobility impairments.</li> </ul>		Accessible Design Checklist  Floor plans for the accessible units required.
Township of Langley	Adaptable Housing Requirements  <a href="#">Bylaw-1842-Official-Community-Plan.pdf</a>	2013	<ul style="list-style-type: none"> <li>• 5% of single detached, townhouse or rowhouse units</li> <li>• 10% of apartment units in each development</li> </ul>		A covenant shall be placed on title ensuring the adaptability of the dwelling units



# INFORMATION BULLETIN

## IN-STREAM PROTECTION FOR ADAPTABLE UNIT PROVISIONS

This information bulletin provides guidance on the Province's effective dates for adaptable dwelling unit requirements in the 2024 *BC Building Code*.

Relevant information:

- [Provincial Information Bulletin \(Sep 13, 2024\)](#)
- [Provincial Information Bulletin No. B24-01-R \(Sep 19, 2024\)](#)
- [Provincial Information Bulletin No. B24-10-R \(Sep 20, 2024\)](#)
- [Provincial Information Bulletin No. B24-09-R3 \(Dec 23, 2024\)](#)

Building permit applications made before March 10, 2025, are subject to the adaptable dwelling unit requirements in the *BC Building Code* of 2018. Building permit applications made on or after March 10, 2025, will be subject to the adaptable dwelling unit requirements in the *BC Building Code* of 2024.

The Province of BC has released new effective dates for adaptable dwelling unit requirements for projects that meet in-stream provisions outlined in Bulletin No. B24-10-R (Sep 20, 2024) and B24-01-R (Sep 19, 2024), linked above.

For projects that are in-stream, adaptable dwelling units and the features within those units can continue to follow the *BC Building Code* 2018 design requirements if the:

- drawings for the project include information on any of the following:
  - the number of dwelling units in a residential occupancy,
  - the dimensions of dwelling units in a residential occupancy, or
  - the dimensions of structural components or assemblies that are designed to resist seismic or lateral forces
- drawings have been prepared by, or prepared under the supervision of, a registered professional or registrant of the Applied Science Technologists & Technicians of BC before **March 8, 2024**, and
- the building permit is applied for before **March 8, 2027**.

These drawings may not have been submitted to a local authority if there was no application in advance of a building permit application, however the date of these drawings would be used to determine that they were complete before March 8, 2024.

If these three criteria are met, then adaptable dwelling unit requirements in the 2018 *BC Building Code* apply to the project. However, a building permit for the project must be applied for on or before March 8, 2027, AND work must continue to completion without interruption, other than work stoppages considered reasonable to industry. If these three criteria are met but the building permit is applied for on or after March 8, 2027, then the adaptable dwelling unit requirements in the 2024 *BC Building Code* apply to the project.

#### City of Maple Ridge Information

The City must receive a declaration (signed and sealed by the registered professional that prepared or reviewed the applicable drawings) to certify the required criteria to be in-stream for adaptable unit requirements are met. The declaration will be required as part of the development permit approval and building permit application for a project. Note that designers for in-stream development projects can voluntarily apply the 2024 *BC Building Code* adaptable dwelling unit provisions ahead of March 8, 2027.

Structural and architectural drawings are required to separately clarify which Building Code edition the adaptable dwelling unit requirements, the project is designed to.

#### **For more information, please contact the**

Planning and Building Department at:

T. 604.467.7311

[BuildingEnquiries@MapleRidge.ca](mailto:BuildingEnquiries@MapleRidge.ca)