



Talbot Mackenzie & Associates

Consulting Arborists

# **1224 Richardson St, Victoria**

## **Construction Impact Assessment &**

## **Tree Preservation Plan**

Prepared For: 1224 Richardson Property Corp  
Attention: Tim Stemp  
1224 Richardson St  
Victoria, BC  
V8V 3E1

Prepared By: Talbot, Mackenzie & Associates  
Noah Borges – Consulting Arborist  
ISA Certified # PN-8409A  
TRAQ – Qualified

Date of Issuance: May 13, 2019  
Updated August 19, 2019

Box 48153 RPO - Uptown Victoria, BC V8Z 7H6  
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## Talbot Mackenzie & Associates

Consulting Arborists

Jobsite Property: 1224 Richardson Street, Saanich

Date of Site Visit: May 1, 2019

Site Conditions: Residential lot. No ongoing construction activity.

**Summary:** We anticipate Ash tree #4 (81cm DBH), located on a neighbour's property to the east, will be significantly impacted by excavation to construct building C's foundation and surrounding retaining wall. A significant portion of its crown (~50%) would also conflict with the new building. We recommend this tree be removed prior to construction. Roots from Ash #2 and Black Locust #3 (both also located on adjacent properties) are also likely to be encountered during excavation for construction of buildings B and C, respectively. We anticipate both can be retained and recommend an arborist supervise any excavation within their critical root zones and prune any severed roots back to sound tissue. Black Locust #3 will also require pruning to attain clearance from building C but we do not anticipate its health will be significantly impacted as a result.

### **Scope of Assignment:**

- Inventory the existing bylaw protected trees and any trees on municipal or neighbouring properties that could potentially be impacted by construction or that are within three metres of the property line
- Review the proposal to demolish the existing building and construct three new buildings and a parking area
- Comment on how construction activity may impact existing trees
- Prepare a tree retention and construction damage mitigation plan for those trees deemed suitable to retain given the proposed impacts

**Methodology:** We visually examined the trees on the property and prepared an inventory in the attached Tree Resource Spreadsheet. No trees were tagged. Information such as tree species, DBH (1.4m), crown spread, critical root zone (CRZ), health, structure, and relative tolerance to construction impacts were included in the inventory. The by-law protected trees with their identification numbers were labelled on the attached Site Plan. The conclusions reached were based on the information provided within the attached plans from Christine Lintott Architects (dated March 2019).

**Limitations:** No exploratory excavations have been requested and thus the conclusions reached are based solely on critical root zone calculations and our best judgement using our experience and expertise. The location, size and density of roots are often difficult to predict without exploratory excavations and therefore the impacts to the trees may be more or less severe than we anticipate.

An underground servicing plan was not available for comment.

**Summary of Tree Resource:** Five trees were inventoried, none of which are on the subject property. There is one Hawthorn tree on the municipal frontage (#1) and four on adjacent properties #2-5)



Municipal Hawthorn #1 (31cm DBH below union).



Ash #2 (~75cm DBH). We could not measure this tree's DBH as it is growing through the neighbour's fence.



Black Locust #3 (left, ~60cm DBH) and Ash #4 (right, 81cm DBH). These trees are both growing within 1m of the fence. We did not measure the DBH of #3 as it is located on the neighbour's property. The DBH of #4 was provided by City of Victoria Parks.



Black Locust #3 (left) had some dieback and large deadwood but is in fair health. The existing garage on the subject property is located within this tree's CRZ. Ash #4 has some dieback and is in fair health.



Holly #5 (~40cm DBH). We did not measure the DBH of this tree as it is located on the neighbour's property.

**Trees to be Removed:** We anticipate one tree, **Ash #4** (81cm DBH), will require removal as a result of the excavation to construct building C. The lower floor of the building, which will be constructed below the existing grade, and the surrounding retaining wall will likely require excavation to the east property line. The tree is approximately 0.5m from the fence. We anticipate large, structural roots will be encountered, resulting in significant health and structural impacts. In addition, about half of the tree's crown would have to be pruned for building clearance and would likely require entire limbs to be removed. Therefore, we recommend the tree be removed prior to construction. If the neighbour wishes to retain this tree, we anticipate the risk associated with whole tree failure will increase considerably. The neighbour should be notified of the proposed impacts to their tree. This tree is bylaw protected.

### **Potential Impacts on Trees to be Retained and Mitigation Measures**

- **Ash #2** (~75cm DBH) is located across the driveway west of the subject property and is approximately 5.5m from the northwest corner of the retaining wall surrounding building B. Less than one-quarter of this tree's CRZ will be impacted and we do not anticipate its health will be impacted. We recommend the project arborist prune any roots encountered back to sound tissue at the edge of excavation. We were unable to measure this tree as there it is growing through a neighbour's fence and is conflicting with a garage roof. It may be by-law protected (80cm DBH or greater).
- **Black Locust #3** (~60cm DBH) is also located next to the east fence line but is approximately 3m from the northeast building corner. To minimize root loss, we recommend limiting the extent of excavation at the northwest corner of building C. If excavation occurs 1m outside the building footprint, we anticipate less than one-quarter of this tree's CRZ will be impacted. Large roots (>3cm in diameter) will likely be encountered, which may exacerbate this tree's already declining health condition. We recommend the project arborist supervise all excavation within this tree's CRZ and prune any roots encountered back to sound tissue at the edge of excavation.

Crown pruning will also be required to attain building clearance. This tree is growing asymmetrically away from the adjacent ash tree, which limits the number of conflicting limbs. There appear to be suitable laterals to prune back to, and we anticipate the largest branches that will have to be removed are about 4cm in diameter. It should be noted that this tree is already in fair to poor health condition. Depending on the number and size of roots encountered, the root loss and crown pruning may expedite this tree's decline. It may be prudent to remove this tree and plant young, well-structured replacement trees. The neighbour should be notified of the proposed impacts to their tree. This tree is not by-law protected.

- **Driveway:** We do not anticipate any trees will be impacted by construction of the proposed common driveway or parking area.
- **Underground Services:** An underground site servicing plan was not available for comment. Based on discussions with the applicant, the underground services will likely either be run down the west or east sides of the property. There is a sanitary sewer ROW on the west side

of the property. If underground services are run down the west side of the property, excavation will likely be required within the CRZ of Ash #2, potentially resulting in significant impacts if roots are damaged or severed. If they are aligned on the east side of the property, excavation may occur within the CRZ of municipal Hawthorn #1. Alternative excavation techniques (e.g. hydro-vac, air-spade, or a combination of machine and hand-digging) would likely be recommended in each case. We recommend the project arborist review the site servicing plan once it becomes available to evaluate the potential impacts to trees to be retained and recommend mitigation measures.

- **Arborist Supervision:** All excavation occurring within the critical root zones of protected trees should be completed under supervision by the project arborist. Any severed roots must be pruned back to sound tissue to reduce wound surface area and encourage rapid compartmentalization of the wound. In particular, the following activities should be completed under the direction of the project arborist:
  - Excavation within the CRZs of Ash #2 and Black Locust #3 for construction of buildings B and C
  - Any excavation within the CRZ of trees to be retained for the installation of underground services
- **Barrier Fencing:** The areas surrounding the trees to be retained should be isolated from the construction activity by erecting protective barrier fencing. Where possible, the fencing should be erected at the perimeter of the critical root zones. The barrier fencing must be a minimum of 4 feet in height, of solid frame construction that is attached to wooden or metal posts. A solid board or rail must run between the posts at the top and the bottom of the fencing. This solid frame can then be covered with plywood, or flexible snow fencing. The fencing must be erected prior to the start of any construction activity on site (i.e. demolition, excavation, construction), and remain in place through completion of the project. Signs should be posted around the protection zone to declare it off limits to all construction related activity. The project arborist must be consulted before this fencing is removed or moved for any purpose.
- **Minimizing Soil Compaction:** In areas where construction traffic must encroach into the critical root zones of trees to be retained, efforts must be made to reduce soil compaction where possible by displacing the weight of machinery and foot traffic. This can be achieved by one of the following methods:
  - Installing a layer of hog fuel or coarse wood chips at least 20 cm in depth and maintaining it in good condition until construction is complete.
  - Placing medium weight geotextile cloth over the area to be used and installing a layer of crushed rock to a depth of 15 cm over top.
  - Placing two layers of 19mm plywood.
  - Placing steel plates.
- **Demolition of the Existing Building:** The demolition of the existing house and any services that must be removed or abandoned, must take the critical root zone of the trees to be retained into account. If any excavation or machine access is required within the critical root zones of

trees to be retained, it must be completed under the supervision and direction of the project arborist. If temporarily removed for demolition, barrier fencing must be erected immediately after the supervised demolition.

- **Mulching:** Mulching can be an important proactive step in maintaining the health of trees and mitigating construction related impacts and overall stress. Mulch should be made from a natural material such as wood chips or bark pieces and be 5-8cm deep. No mulch should be touching the trunk of the tree. See “methods to avoid soil compaction” if the area is to have heavy traffic.
- **Blasting:** Care must be taken to ensure that the area of blasting does not extend beyond the necessary footprints and into the critical root zones of surrounding trees. The use of small low-concussion charges and multiple small charges designed to pre-shear the rock face will reduce fracturing, ground vibration, and overall impact on the surrounding environment. Only explosives of low phytotoxicity and techniques that minimize tree damage should be used. Provisions must be made to ensure that blasted rock and debris are stored away from the critical root zones of trees.
- **Scaffolding:** This assessment has not included impacts from potential scaffolding including canopy clearance pruning requirements. If scaffolding is necessary and this will require clearance pruning of retained trees, the project arborist should be consulted. Depending on the extent of pruning required, the project arborist may recommend that alternatives to full scaffolding be considered such as hydraulic lifts, ladders or platforms. Methods to avoid soil compaction may also be recommended (see “Minimizing Soil Compaction” section).
- **Landscaping and Irrigation Systems:** The planting of new trees and shrubs should not damage the roots of retained trees. The installation of any in-ground irrigation system must take into account the critical root zones of the trees to be retained. Prior to installation, we recommend the irrigation technician consult with the project arborist about the most suitable locations for the irrigation lines and how best to mitigate the impacts on the trees to be retained. This may require the project arborist supervise the excavations associated with installing the irrigation system. Excessive frequent irrigation and irrigation which wets the trunks of trees can have a detrimental impact on tree health and can lead to root and trunk decay.
- **Arborist Role:** It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:
  - Locating the barrier fencing
  - Reviewing the report with the project foreman or site supervisor
  - Locating work zones, where required
  - Supervising any excavation within the critical root zones of trees to be retained
  - Reviewing and advising of any pruning requirements for machine clearances
- **Review and Site Meeting:** Once the project receives approval, it is important that the project arborist meet with the principals involved in the project to review the information contained herein. It is also important that the arborist meet with the site foreman or supervisor before any



site clearing, tree removal, demolition, or other construction activity occurs and to confirm the locations of the tree protection barrier fencing.

Please do not hesitate to call us at (250) 479-8733 should you have any further questions.

Thank you,



Noah Borges  
ISA Certified #PN-8409A  
TRAQ – Qualified

Talbot Mackenzie & Associates  
ISA Certified Consulting Arborists

Encl. 1-page tree resource spreadsheet, 1-page site survey, 12-page site and building plans, 1-page barrier fencing specifications, 2-page tree resource spreadsheet methodology and definitions

**Disclosure Statement**

Arborists are professionals who examine trees and use their training, knowledge and experience to recommend techniques and procedures that will improve their health and structure or to mitigate associated risks.

Trees are living organisms, whose health and structure change, and are influenced by age, continued growth, climate, weather conditions, and insect and disease pathogens. Indicators of structural weakness and disease are often hidden within the tree structure or beneath the ground. It is not possible for an Arborist to identify every flaw or condition that could result in failure or can he/she guarantee that the tree will remain healthy and free of risk.

Remedial care and mitigation measures recommended are based on the visible and detectable indicators present at the time of the examination and cannot be guaranteed to alleviate all symptoms or to mitigate all risk posed.

**1224 Richardson St  
Tree Resource Spreadsheet**

Tree ID	Common Name	Latin Name	DBH (cm) ~ approximate	Crown Spread (m)	CRZ (m)	Relative Tolerance	Health	Structure	Remarks and Recommendations	By-Law Protected
1	Hawthorn	<i>Crataegus oxycantha</i>	31 below unions	6	3.5	Moderate	Poor	Fair/poor	Municipal tree (ID: 21386), significant dieback	N (Municipal)
2	European Ash	<i>Fraxinus excelsior</i>	~75	12	8.5	Moderate	Fair	Fair	Neighbour's tree, ~4m from property line, growing on far edge of laneway through fence, cracks in driveway, dieback, 2nd stem may have been pruned historically, large pruning wounds, overhangs to near property line (may be by-law protected)	N (Neighbour's)
3	Black Locust	<i>Robinia pseudoacacia</i>	~60	10	6.0	Good	Fair	Fair	Neighbour's tree, next to fence, asymmetric crown due to competition with ash, dieback, large deadwood, overhangs ~3.5m	N (Neighbour's)
4	European Ash	<i>Fraxinus excelsior</i>	81	14	8.5	Moderate	Fair	Fair	Neighbour's tree, 0.5m from fence, some dieback	N (Neighbour's)
5	Holly	<i>Ilex spp.</i>	~40	6	4.0	Good	Good	Fair	Neighbour's tree, >3m from property line	N (Neighbour's)

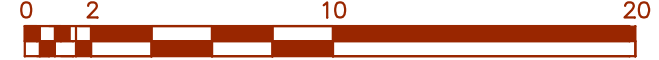
**BC LAND SURVEYORS SITE PLAN OF:**

**Civic: 1224 Richardson Street**

**Legal Parcel C (DD 381881) of Section 26,  
Fairfield Farm Estate, Victoria City, Plan 13**

Parcel Identifier: 009-343-211  
in the City of Victoria

Scale 1:250 Distances are in metres



The intended print size is 18" by 24"

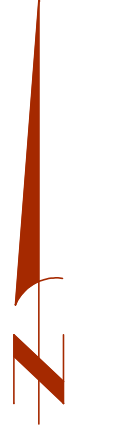
**LEGEND**

Elevations are to geodetic datum.

- UP ○ - denotes - utility pole
- UPT ○ - denotes - utility pole with transformer
- WM ● - denotes - water meter
- ### + - denotes - existing elevation

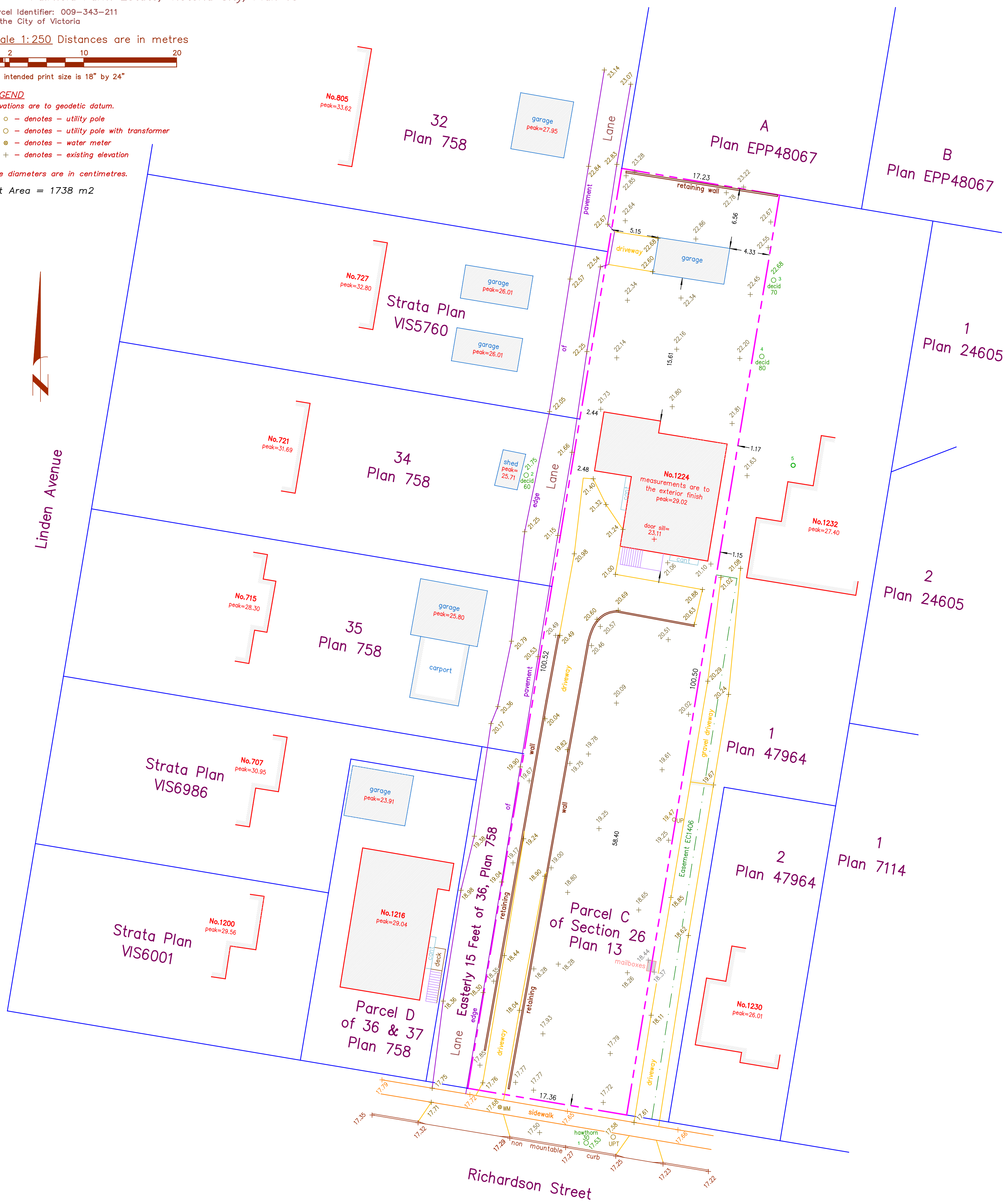
Tree diameters are in centimetres.

Lot Area = 1738 m<sup>2</sup>



Linden Avenue

Richardson Street



January 15, 2019

File : 12,917-9  
**POWELL & ASSOCIATES**  
 B C Land Surveyors  
 250-2950 Douglas Street  
 Victoria, BC V8T 4N4  
 phone (250) 382-8855

Setbacks are derived from field survey.

Parcel dimensions shown hereon are derived from Land Title Office records.

This document shows the relative location of the surveyed features and shall not be used to define property boundaries.

# 1224 Richardson Street

Christine Lintott Architects  
 Suite 1 - 864 Queens Avenue, Victoria, BC V8T 1M5  
 Telephone: 250.384.1969  
 www.lintottarchitect.ca



Issue	Date
For Rezoning/ Development Permit	March --, 2019

Revision No.	Description	Date
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## Project Scope:

- Demolition of two (2) existing buildings and sitework
- New construction of three (3) buildings at three storeys each
- Twenty four (24) total Affordable Housing units: six (6) two-bedroom units, eighteen (18) one-bedroom units
- New surface parking lot with ten (10) total stalls and Photovoltaic (PV) canopy
- New landscaping and paved entry sidewalks
- Photovoltaic (PV) panels on building roofs and parking lot canopy
- Short-term and long-term bicycle parking provided: eighteen (18) short-term stalls, twenty-six (26) long-term stalls

## APPLICANT

1224 RICHARDSON PROPERTY CORP

250-415-6240

CONTACT: TIM STEMPE  
 TimP993@hotmail.com

## ARCHITECT

CHRISTINE LINTOTT ARCHITECTS  
 SUITE 1 - 864 QUEENS AVENUE  
 VICTORIA, BC V8T 1M5

250-384-1969

CONTACT: CHRISTINE LINTOTT  
 Christine@lintottarchitect.ca

## LANDSCAPE ARCHITECT

LADR LANDSCAPE ARCHITECTS  
 3 - 864 QUEENS AVENUE  
 VICTORIA, BC V8T 1M5

250-598-0105

CONTACT: BEV WINDJACK  
 bwindjack@ladrla.ca

## SURVEYOR

POWELL & ASSOCIATES  
 250 - 2950 DOUGLAS STREET  
 VICTORIA, BC V8T 4N4

250-382-8855

Consultant



## Project Area Tables:

Building A Floor Area - Zoning	
Name	Area
Electrical	2 m <sup>2</sup>
Mechanical	1 m <sup>2</sup>
Unit 1A	40 m <sup>2</sup>
Unit 1B	40 m <sup>2</sup>
Unit 2A	42 m <sup>2</sup>
Unit 2B	42 m <sup>2</sup>
Unit 3A	45 m <sup>2</sup>
Unit 3B	45 m <sup>2</sup>
	258 m <sup>2</sup>

Building B Floor Area - Zoning	
Name	Area
Mechanical	1 m <sup>2</sup>
Unit 1A	41 m <sup>2</sup>
Unit 1B	41 m <sup>2</sup>
Unit 1C	61 m <sup>2</sup>
Unit 2A	42 m <sup>2</sup>
Unit 2B	42 m <sup>2</sup>
Unit 2C	61 m <sup>2</sup>
Unit 3A	45 m <sup>2</sup>
Unit 3B	45 m <sup>2</sup>
Unit 3C	69 m <sup>2</sup>
	448 m <sup>2</sup>

Building C Floor Area - Zoning	
Name	Area
Unit 1A	41 m <sup>2</sup>
Unit 1B	40 m <sup>2</sup>
Unit 1C	60 m <sup>2</sup>
Unit 2A	44 m <sup>2</sup>
Unit 2B	43 m <sup>2</sup>
Unit 2C	61 m <sup>2</sup>
Unit 3A	45 m <sup>2</sup>
Unit 3B	45 m <sup>2</sup>
Unit 3C	70 m <sup>2</sup>
	450 m <sup>2</sup>

Project Information Table	
	Proposed
Zone	NEW ZONE
Site Area	1,738.22 m <sup>2</sup>
Total Floor Area <sup>1</sup>	1,157m <sup>2</sup>
Commercial Floor Area	N/A
Floor Space Ratio	0.67:1
Site Coverage %	31%
Open Site Space %	56%
Height of Buildings <sup>2</sup>	Building A = 9.40m    Building B = 10.08m    Building C = 9.95m
Storeys #	3 storeys
Parking Stalls #	0.2 per unit (<45m <sup>2</sup> ) x 18 => 3.6 0.5 per unit (>45m <sup>2</sup> and <70m <sup>2</sup> ) x 6 => 3.0 Visitor = 0.1 per unit x 24 => 2.4 Total required: 9
Bicycle Parking #	Long Term: 26 Long Term Spaces proposed 18 Short Term Spaces proposed 1 space per unit that is (<45m <sup>2</sup> ) => 18 1.25 spaces per dwelling unit that is (>45m <sup>2</sup> ) => 7.5 Short Term: 6 spaces per building x 3 buildings => 18
<b>Building Setbacks</b>	
Front Yard (South)	7.09m
Rear Yard (North)	9.35m
Side Yard (East)	1.81m
Side Yard (West)	3.09m
<b>Residential Use Details</b>	
Total Number of Units	24
Unit Type Breakdown	18 one-bedroom units, 6 two-bedroom units
Ground Oriented Units	24 residential units
Minimum Unit Floor Area	40m <sup>2</sup>
Total Residential Floor Area	1,153m <sup>2</sup>

<sup>1</sup> Long term bicycle parking not included in area calculation per zoning bylaw amendment 18-017.  
<sup>2</sup> Refer to elevation drawings for height calculations. See A1.02 for average grade calculations.

Drawing List	
A0.00	Project Data
A1.01	Site Plan
A1.02	Survey & Height Calculations
A1.03	Street Elevations
A2.01	Floor Plans - Building A
A2.02	Floor Plans - Building B
A2.03	Floor Plans - Building C
A3.01	Elevations & Sections - Building A
A3.02	Elevations & Sections - Building B
A3.03	Elevations & Sections - Building C
A3.11	Spatial Separations
A3.12	Spatial Separations

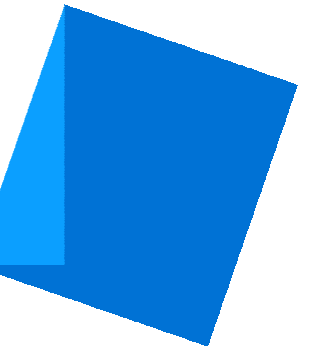
1224 Richardson  
 - ASH Concept  
 Victoria, BC

Project Data

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Checked by	CL

A0.00

Scale As indicated



Issue Date

For Rezoning/  
 Development Permit March --, 2019

Revision No. Description Date

Consultant

1224 Richardson  
 - ASH Concept  
 Victoria, BC

Site Plan

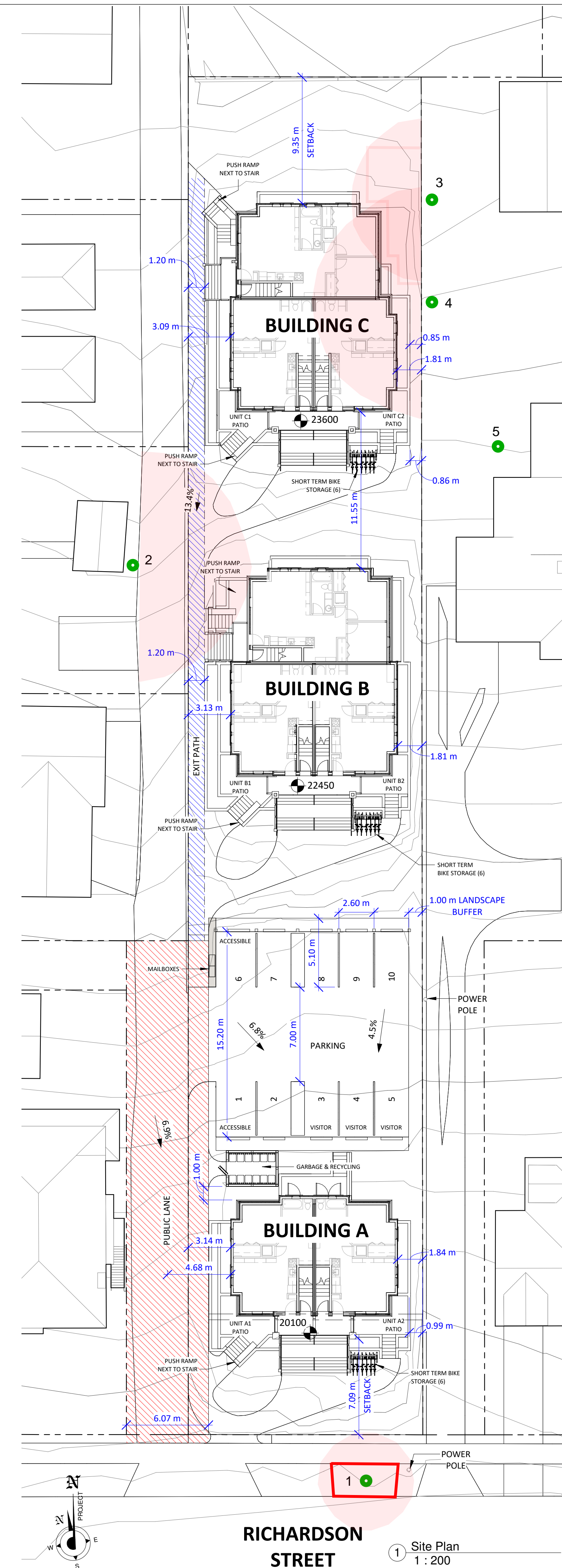
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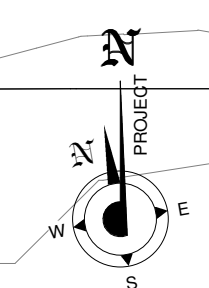
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A1.01

Scale 1 : 200



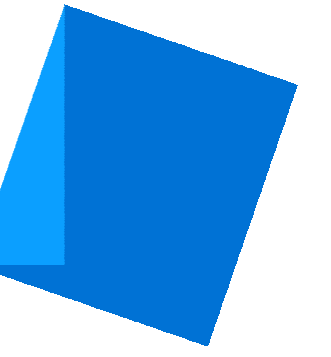
— BARRIER FENCING  
 ● CRITICAL ROOT ZONE



RICHARDSON STREET

1 Site Plan  
 1 : 200





Issue	Date
For Rezoning/ Development Permit	March --, 2019

Revision No.	Description	Date
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Consultant

1224 Richardson  
- ASH Concept  
Victoria, BC

Street Elevations

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A1.03

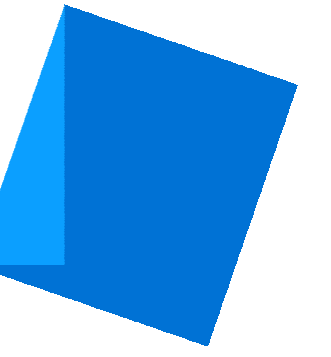
Scale 1 : 150



② Street Elevation - Public Lane  
1 : 150



① Street Elevation - Richardson Street  
1 : 150

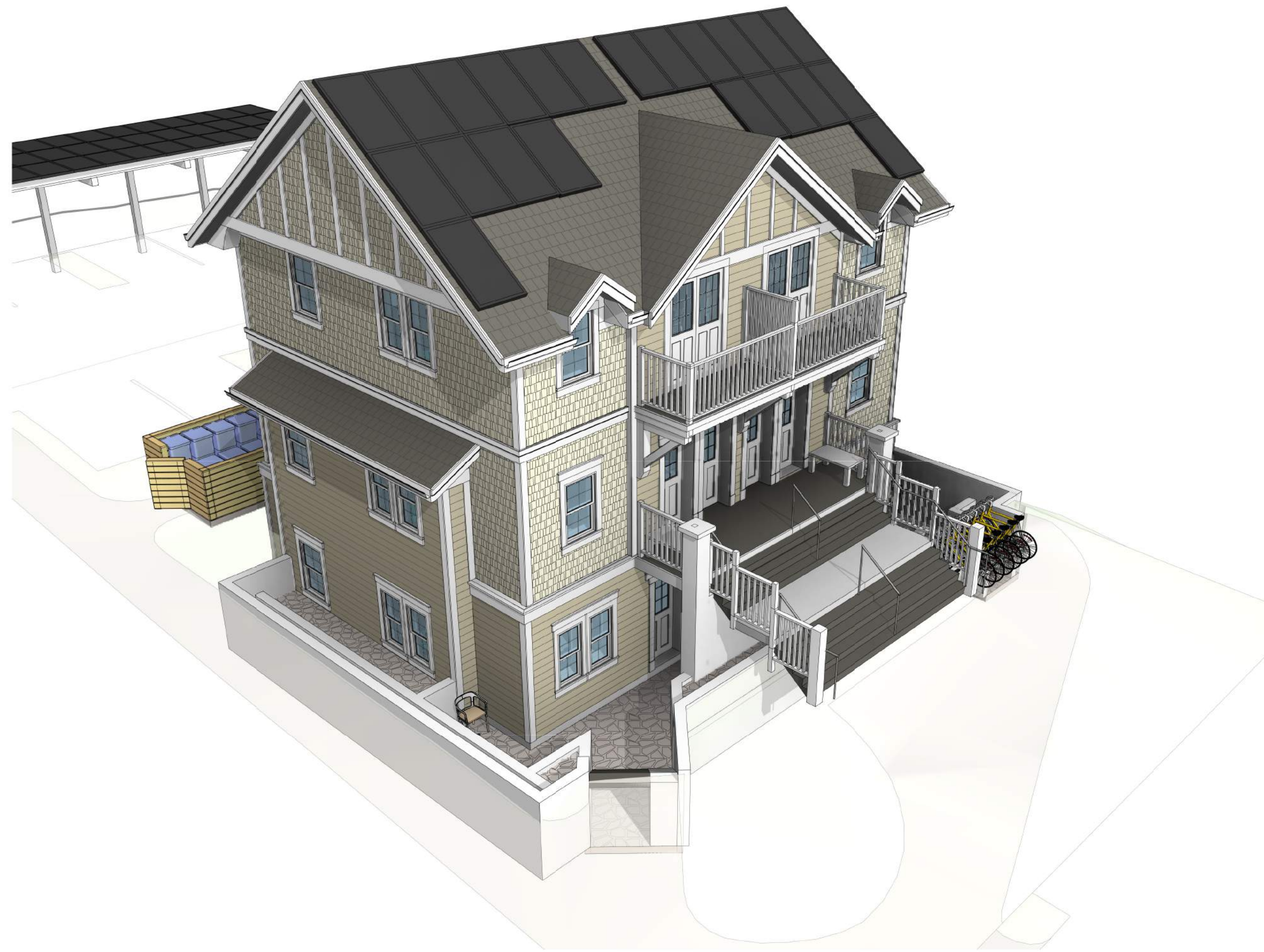


ASH Richardson

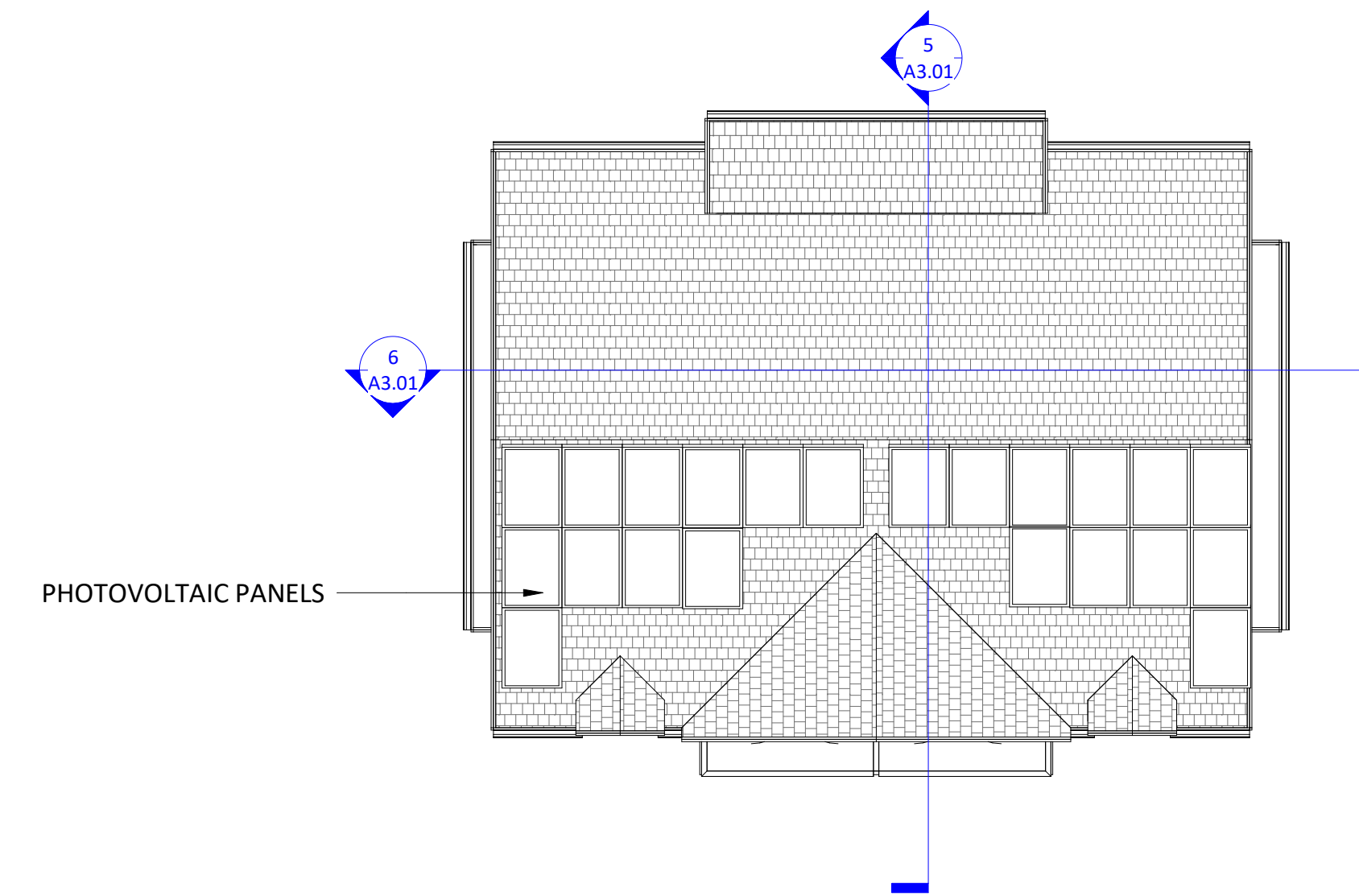
Victoria, BC

Floor Plans - Building A

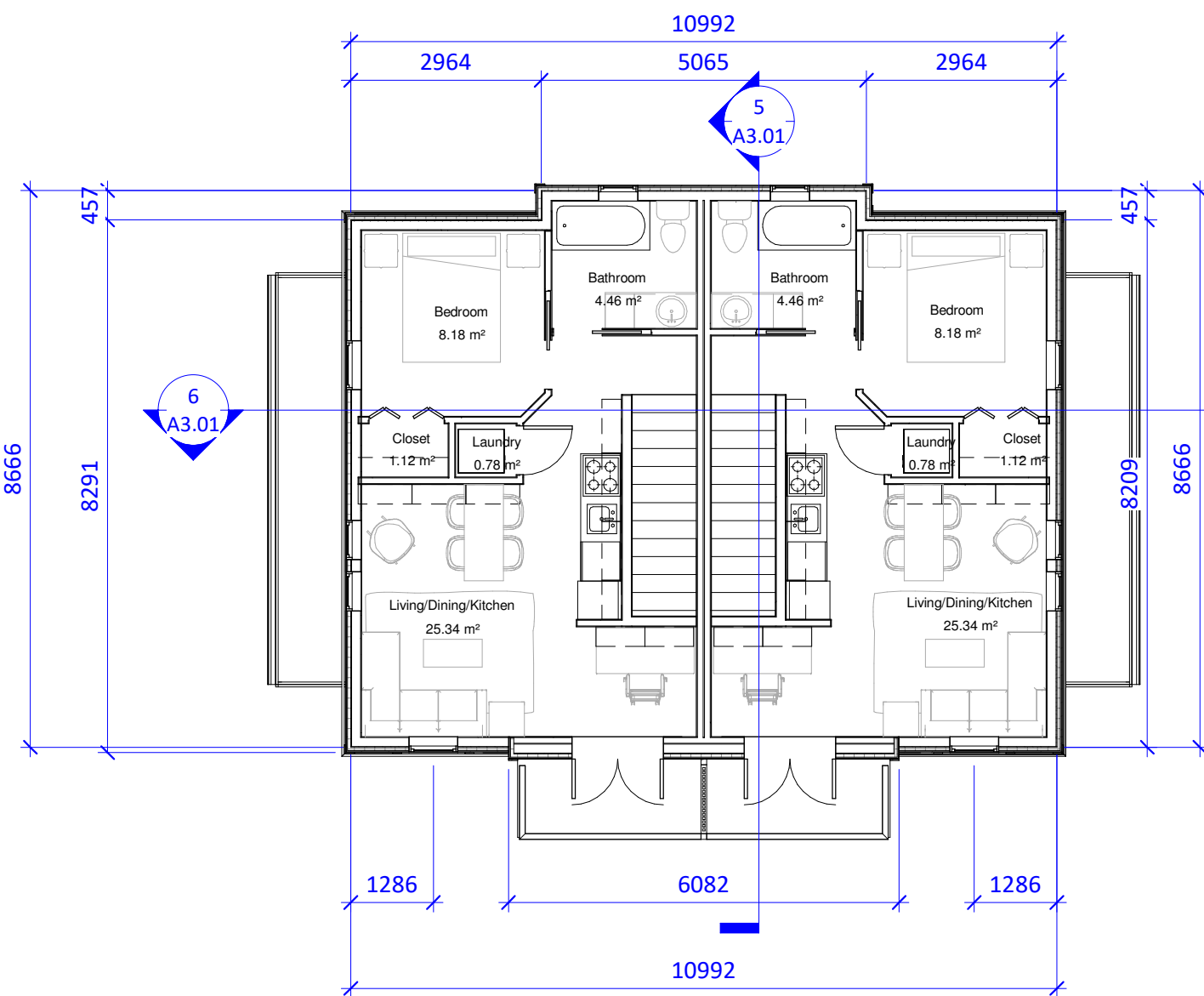
A2.01



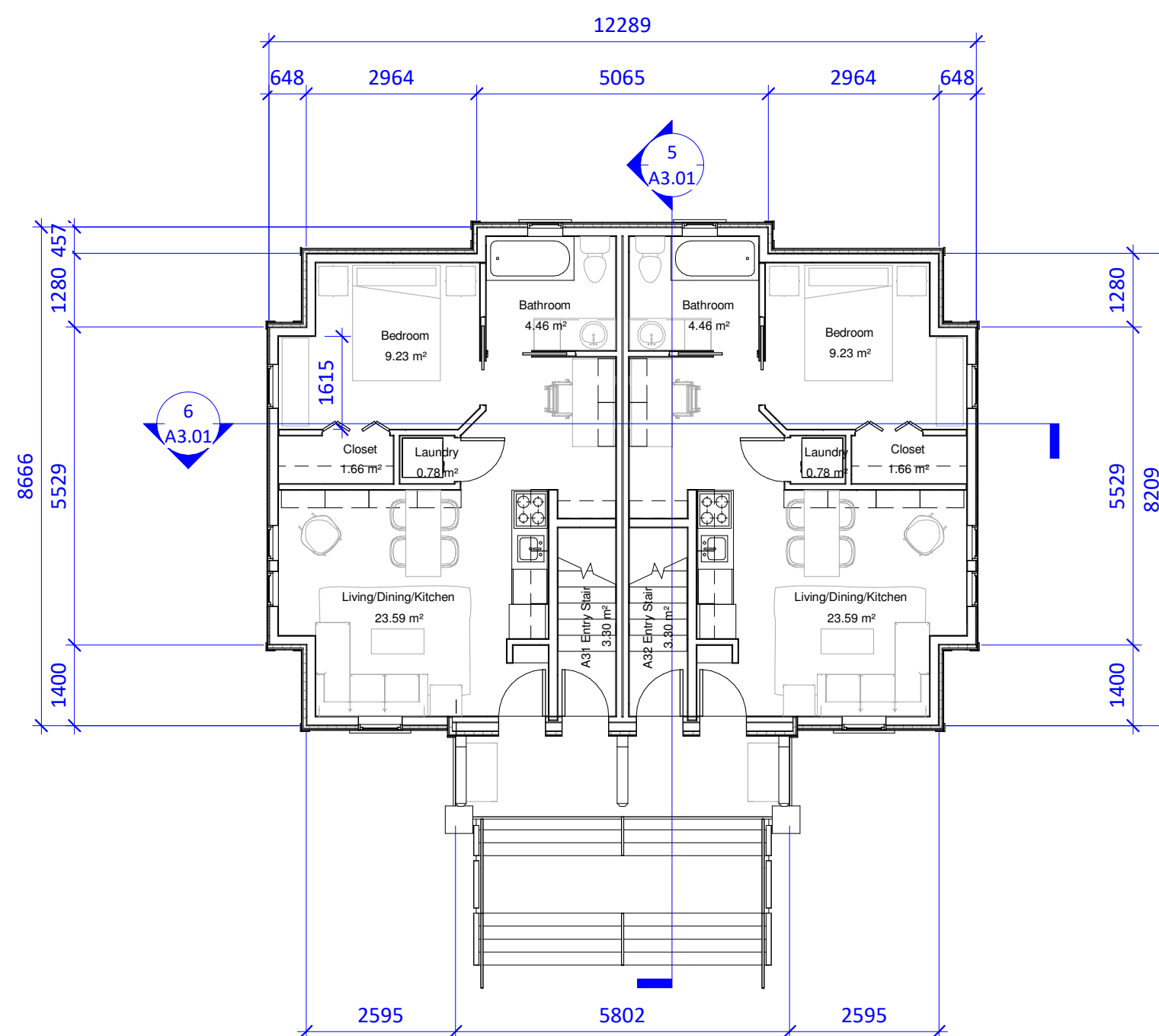
5 3D Overview of Building A



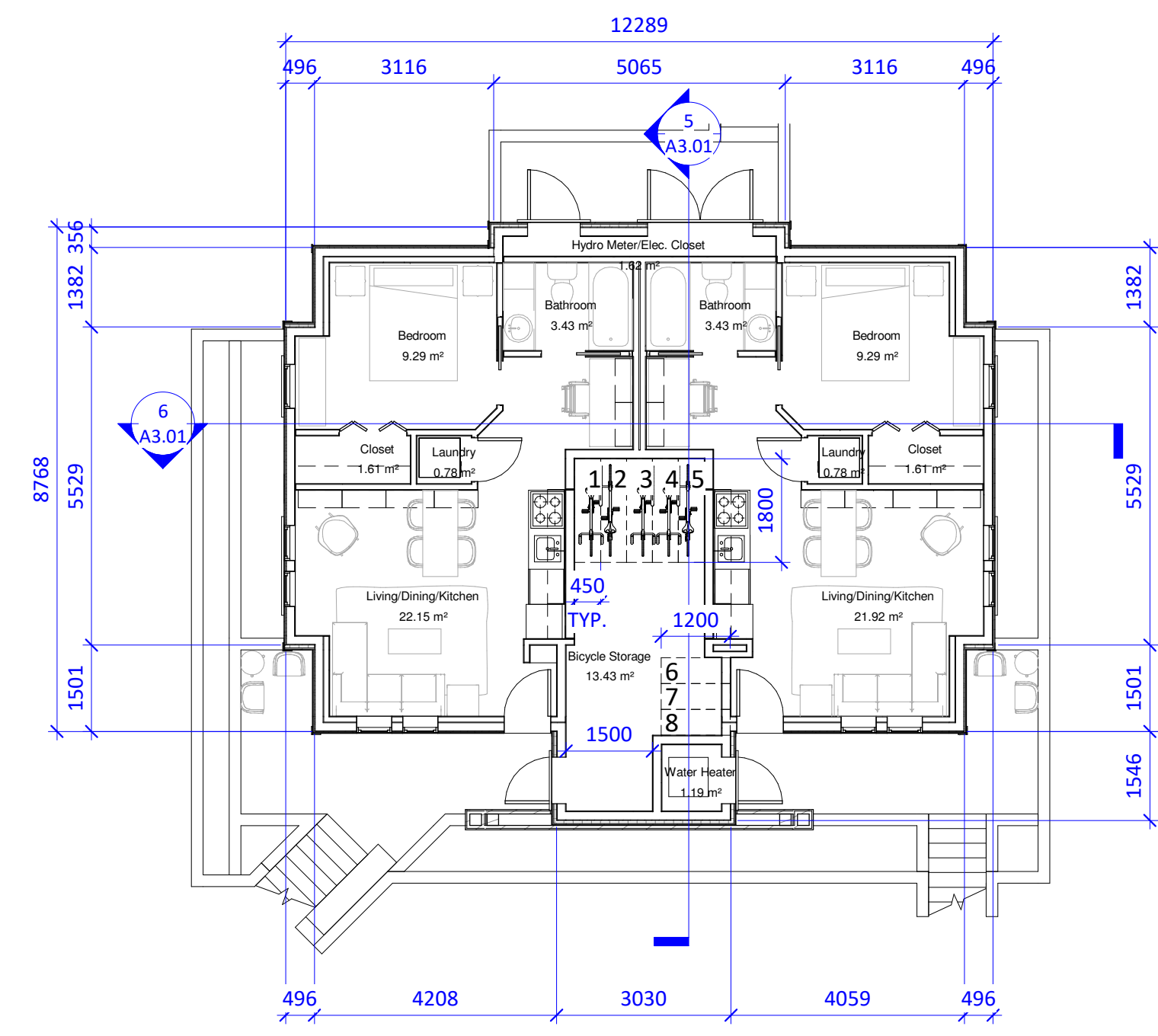
4 Roof Plan - Building A  
1 : 100



3 Floor Plan - Level 3 - Building A  
1 : 100

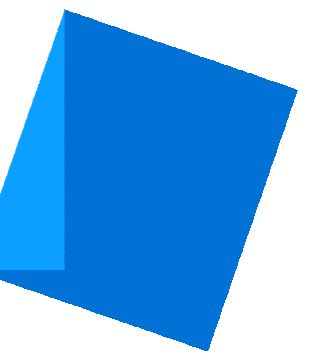


2 Floor Plan - Level 2 - Building A  
1 : 100



1 Floor Plan - Level 1 - Building A  
1 : 100





Issue	Date
For Rezoning/ Development Permit	Jan. 4, 2019

Revision No.	Description	Date
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Consultant

**ASH Richardson**

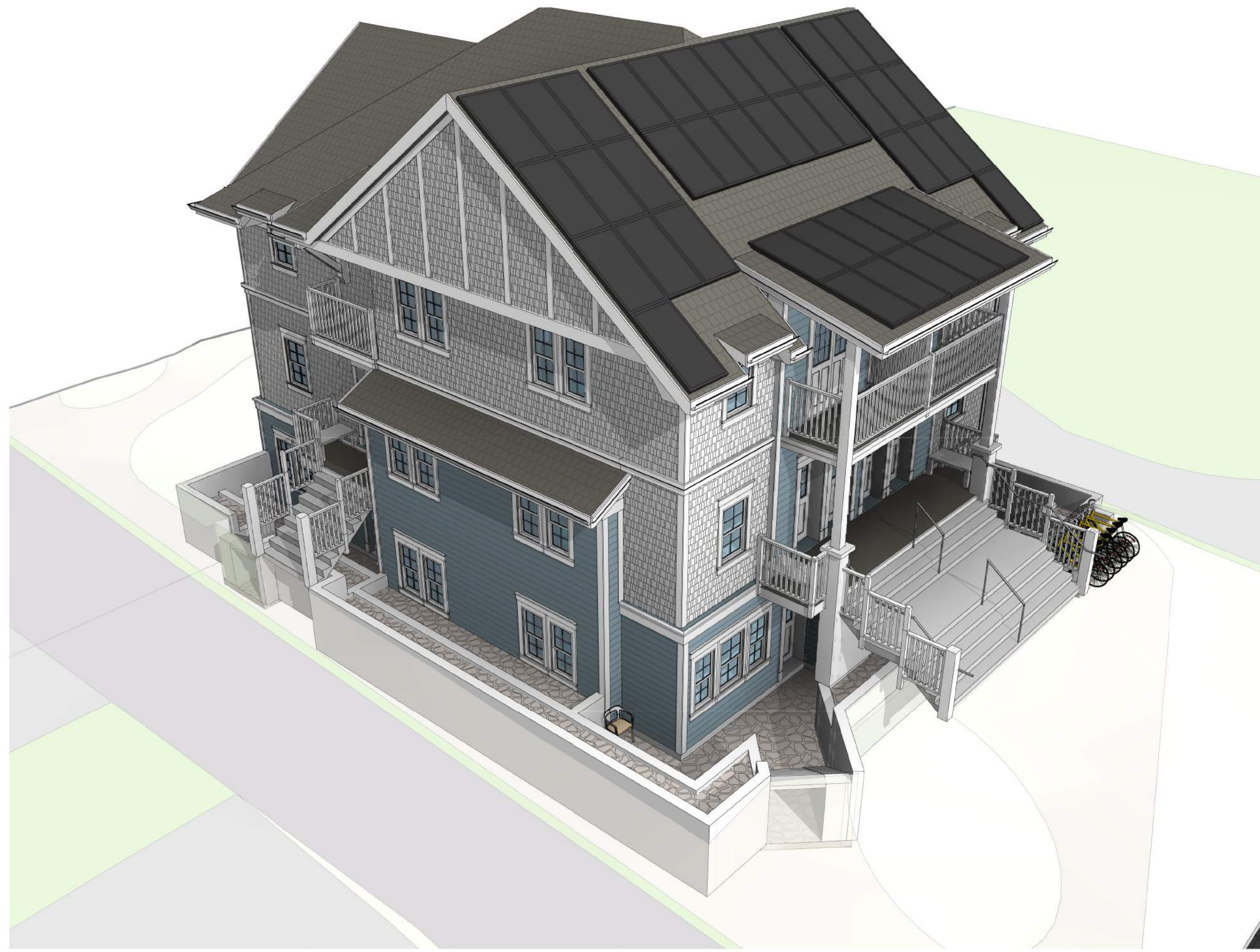
Victoria, BC

**Floor Plans - Building B**

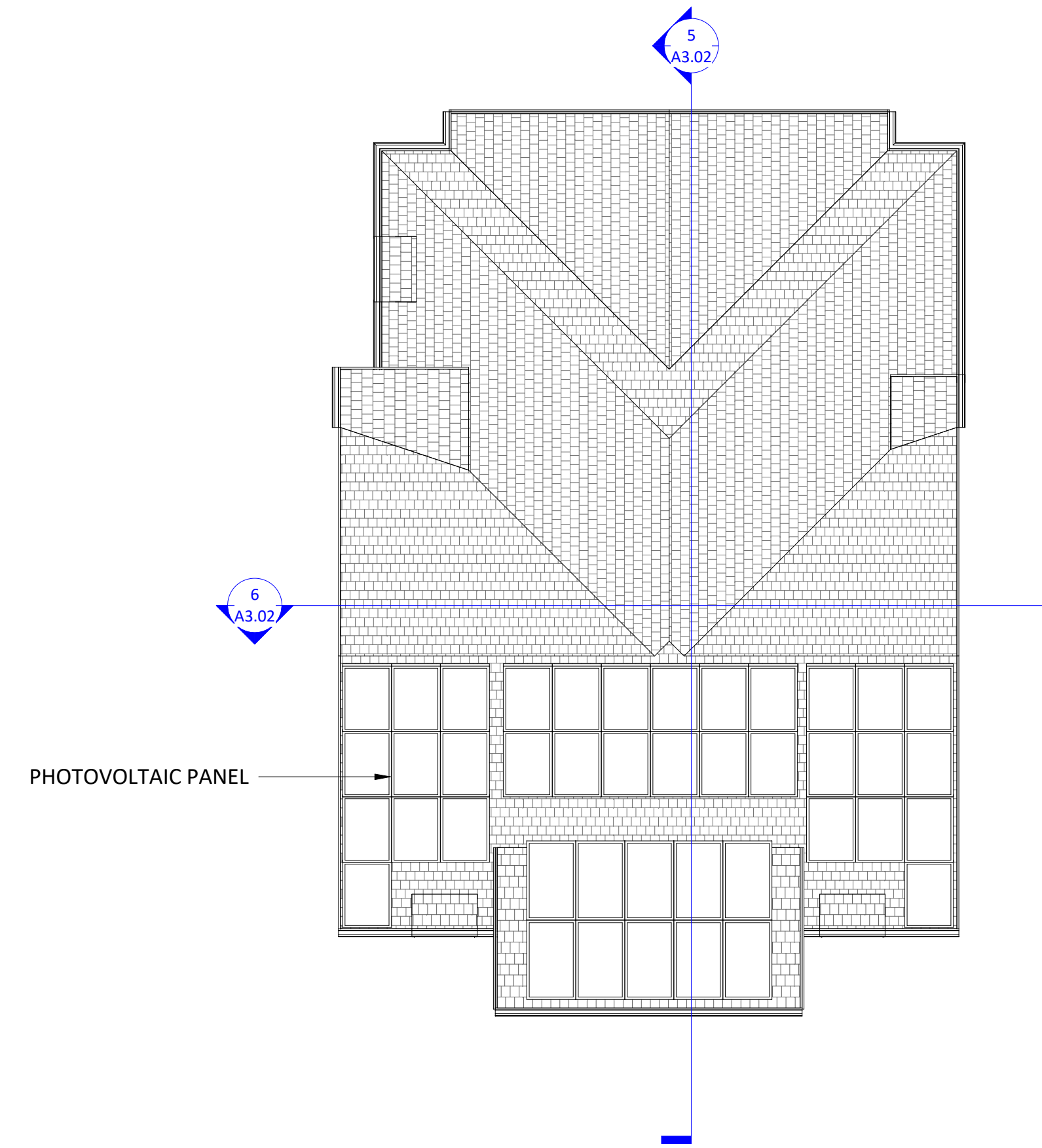
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**A2.02**

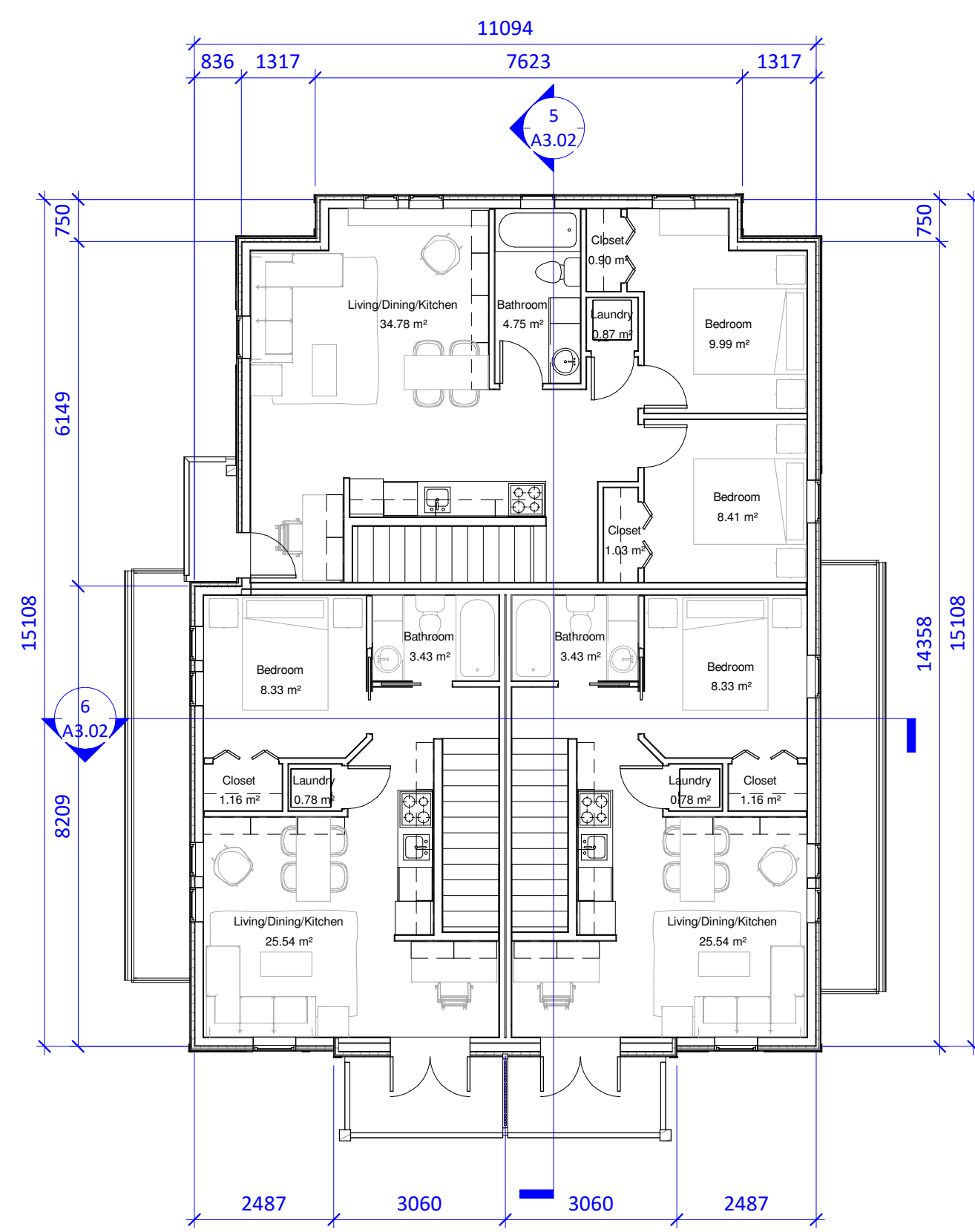
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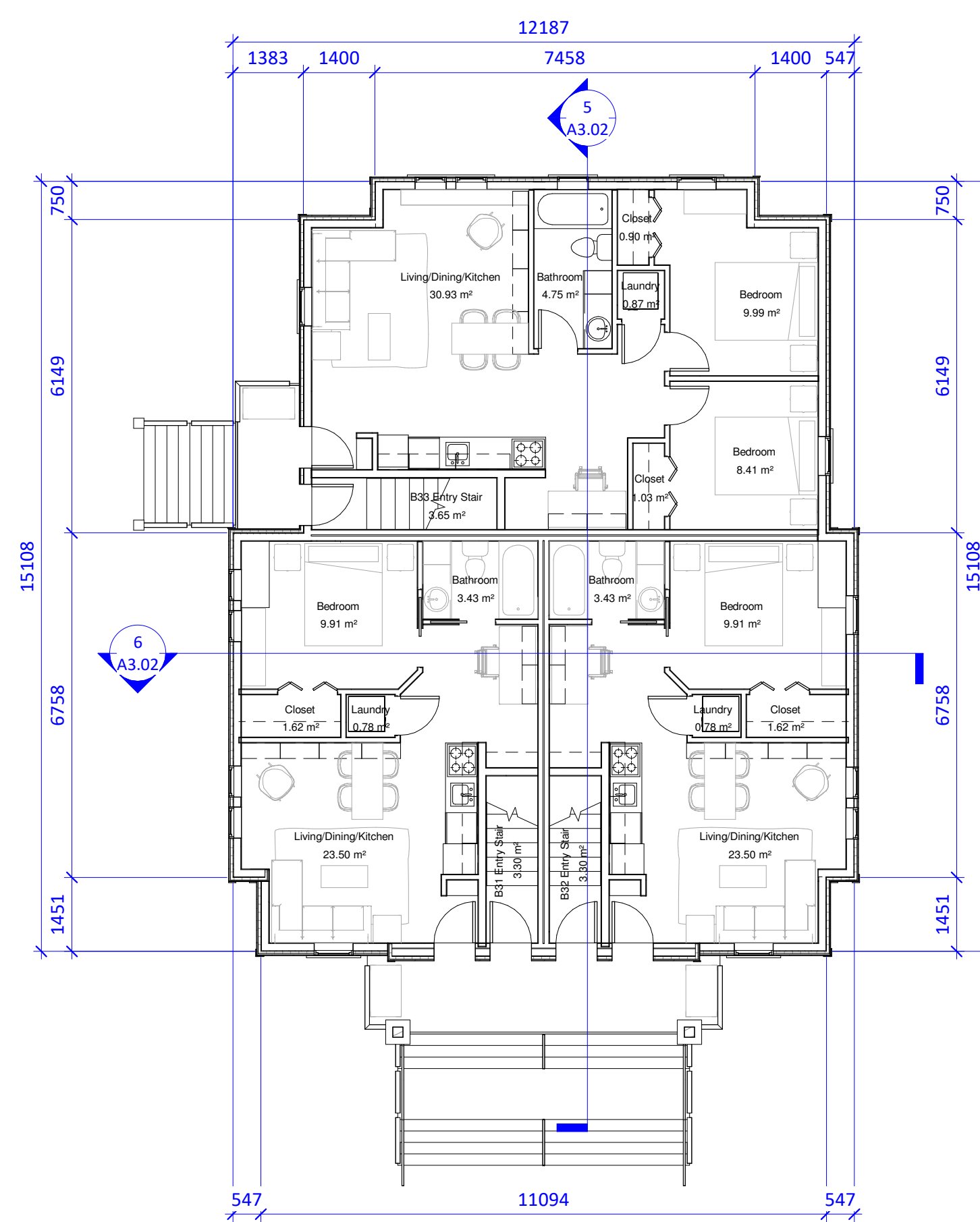
5 3D Overview of Building B



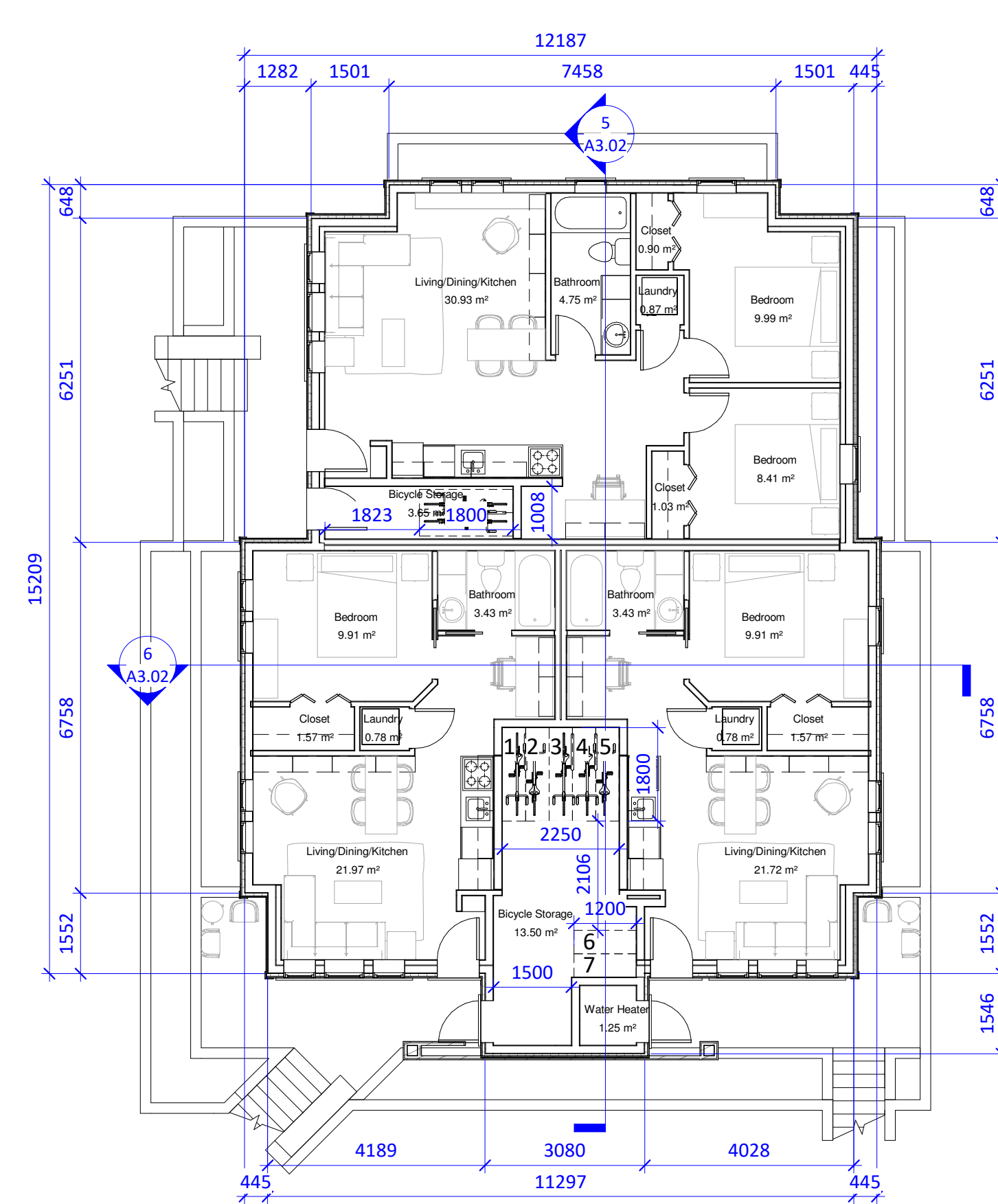
4 Roof Plan - Building B  
1 : 100



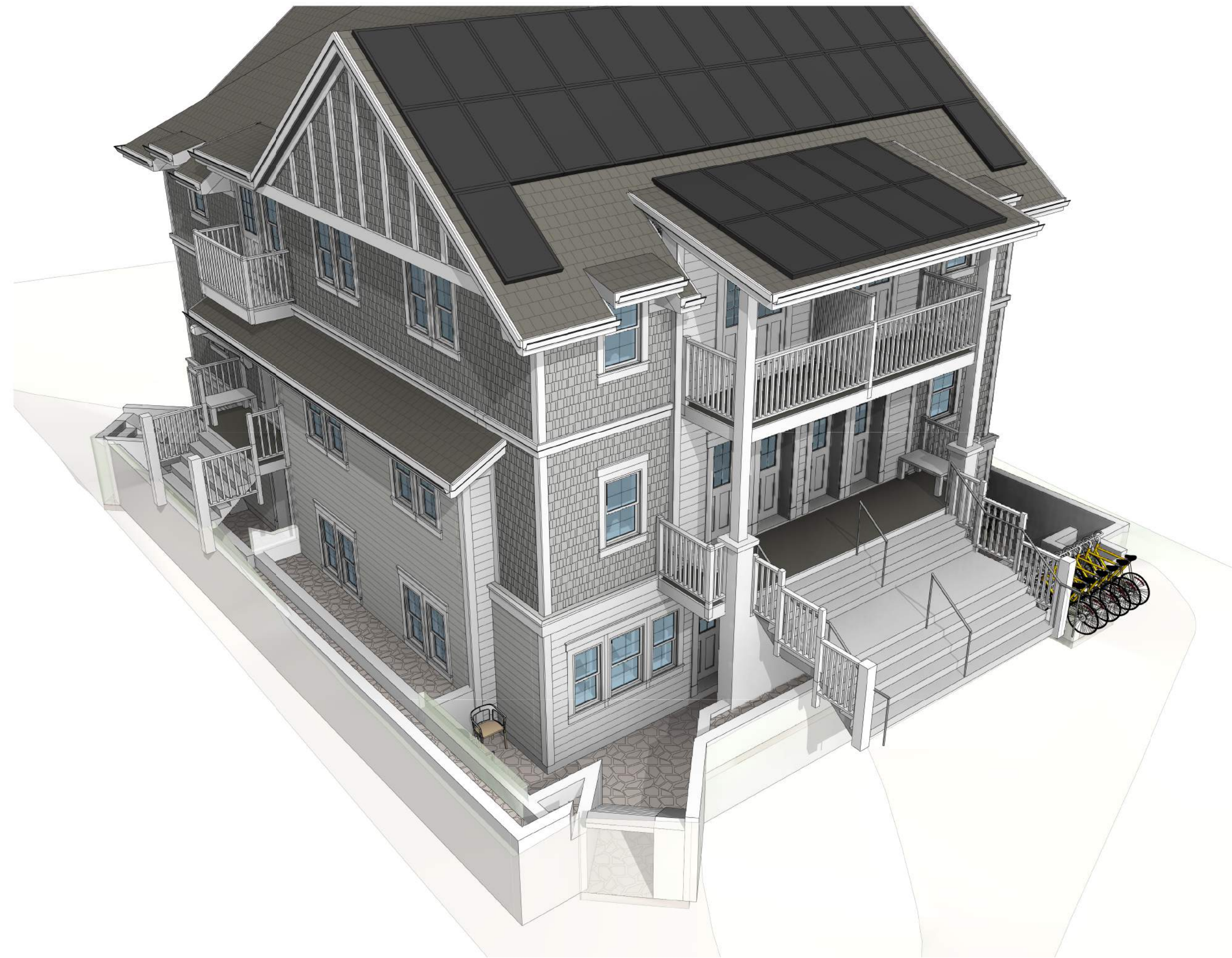
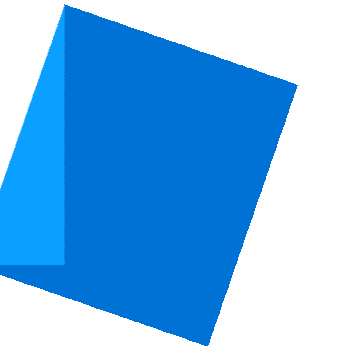
3 Floor Plan - Level 3 - Building B  
1 : 100



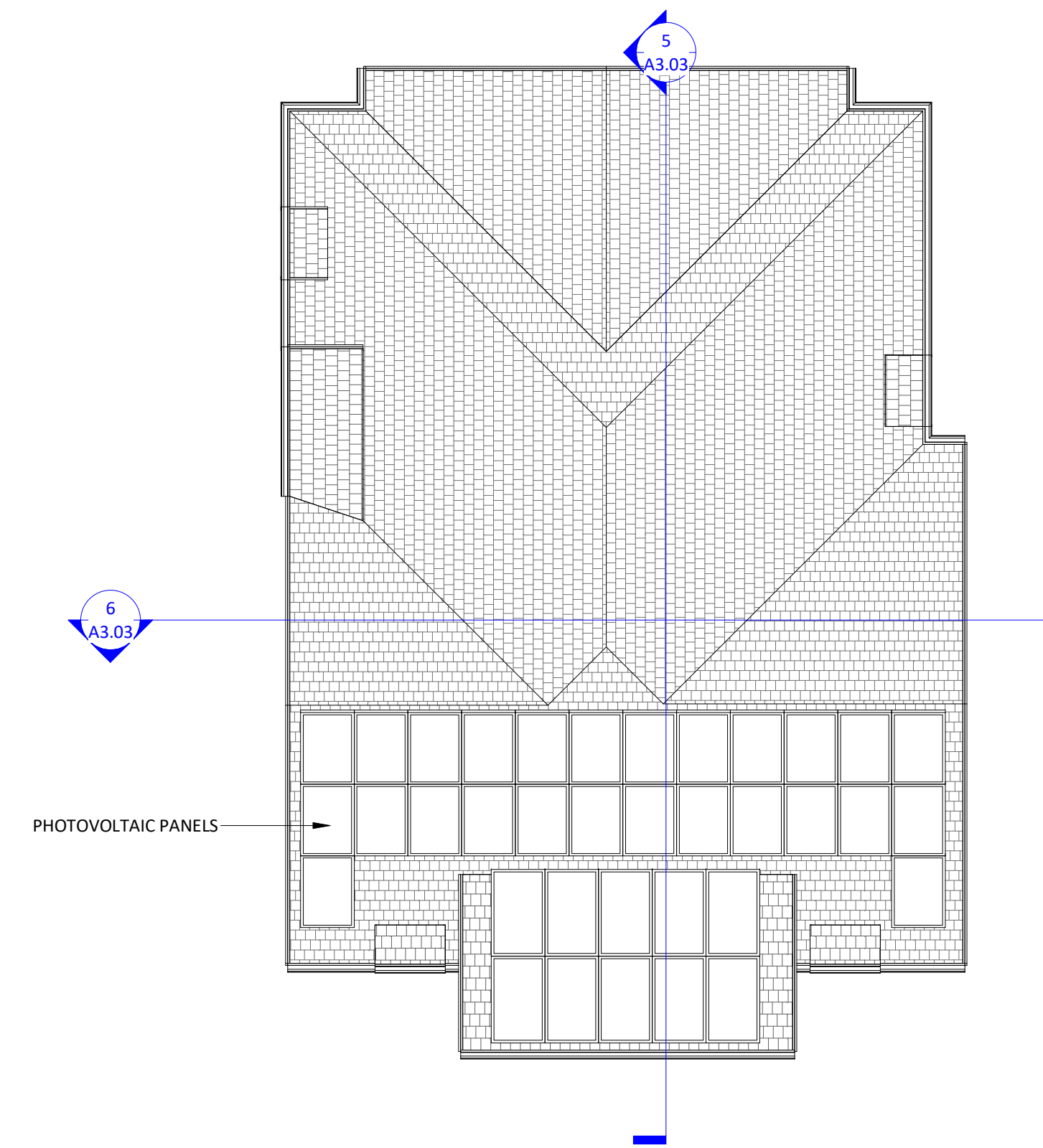
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1 : 100



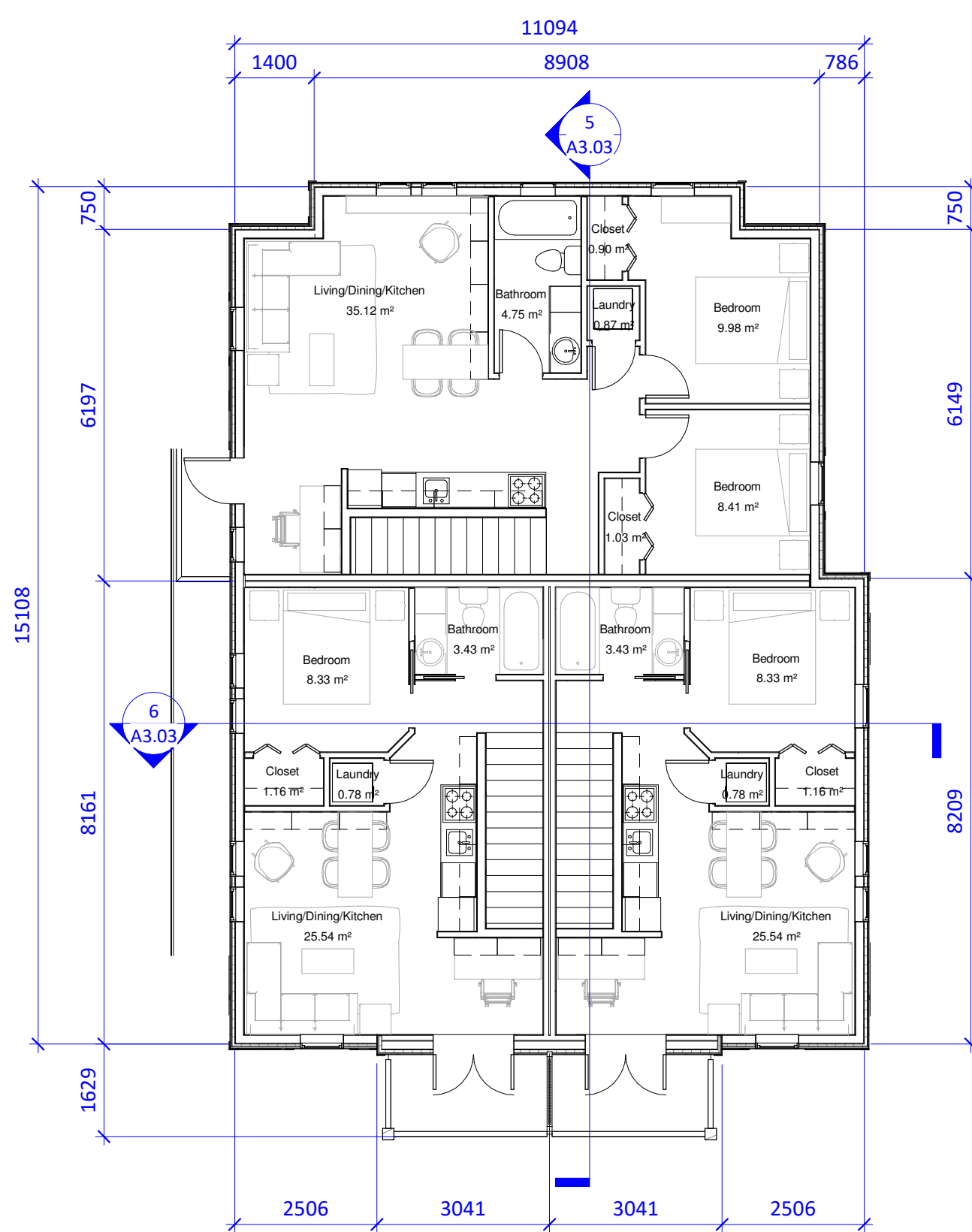
1 Floor Plan - Level 1 - Building B  
1 : 100



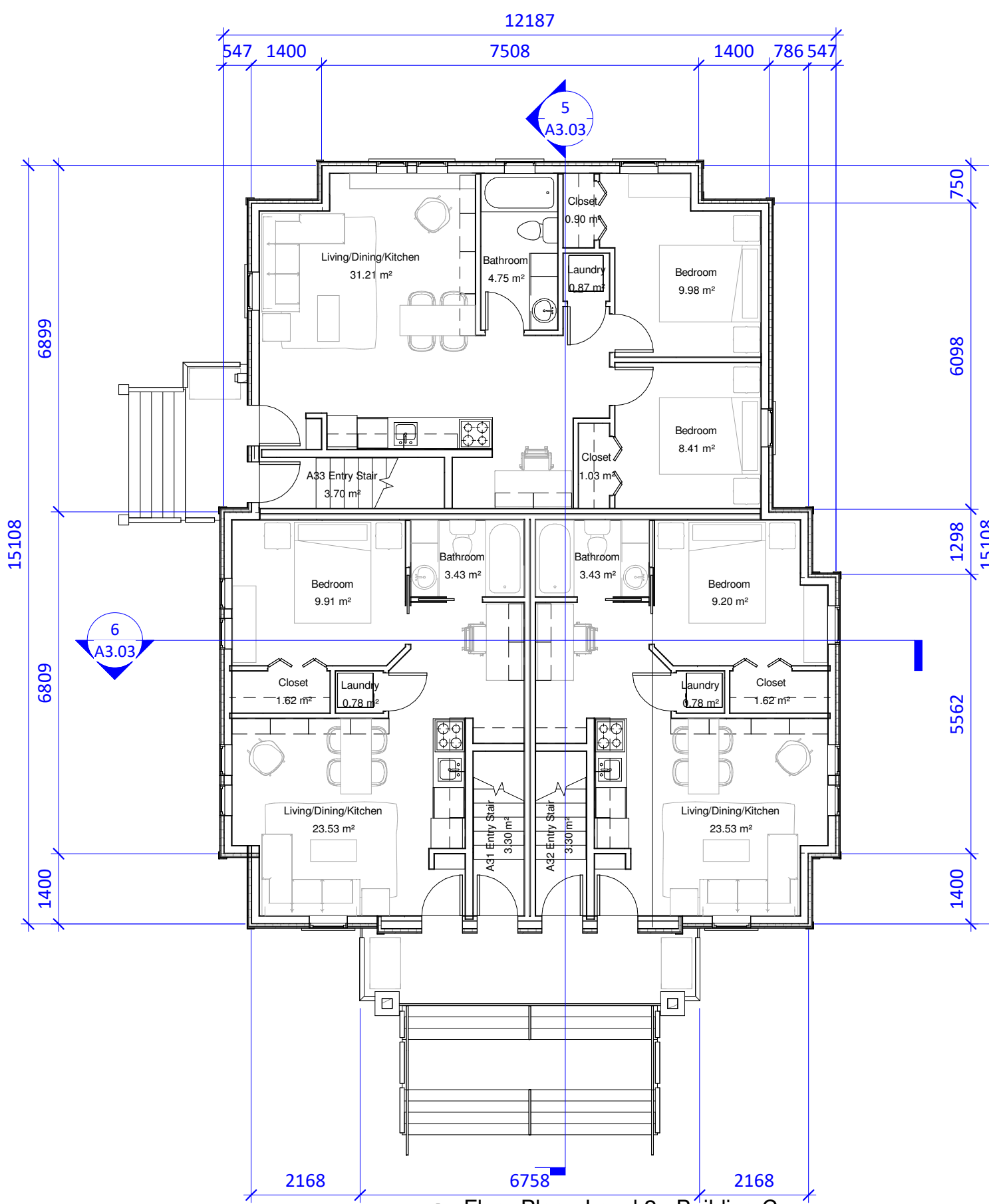
5 3D Overview of Building C



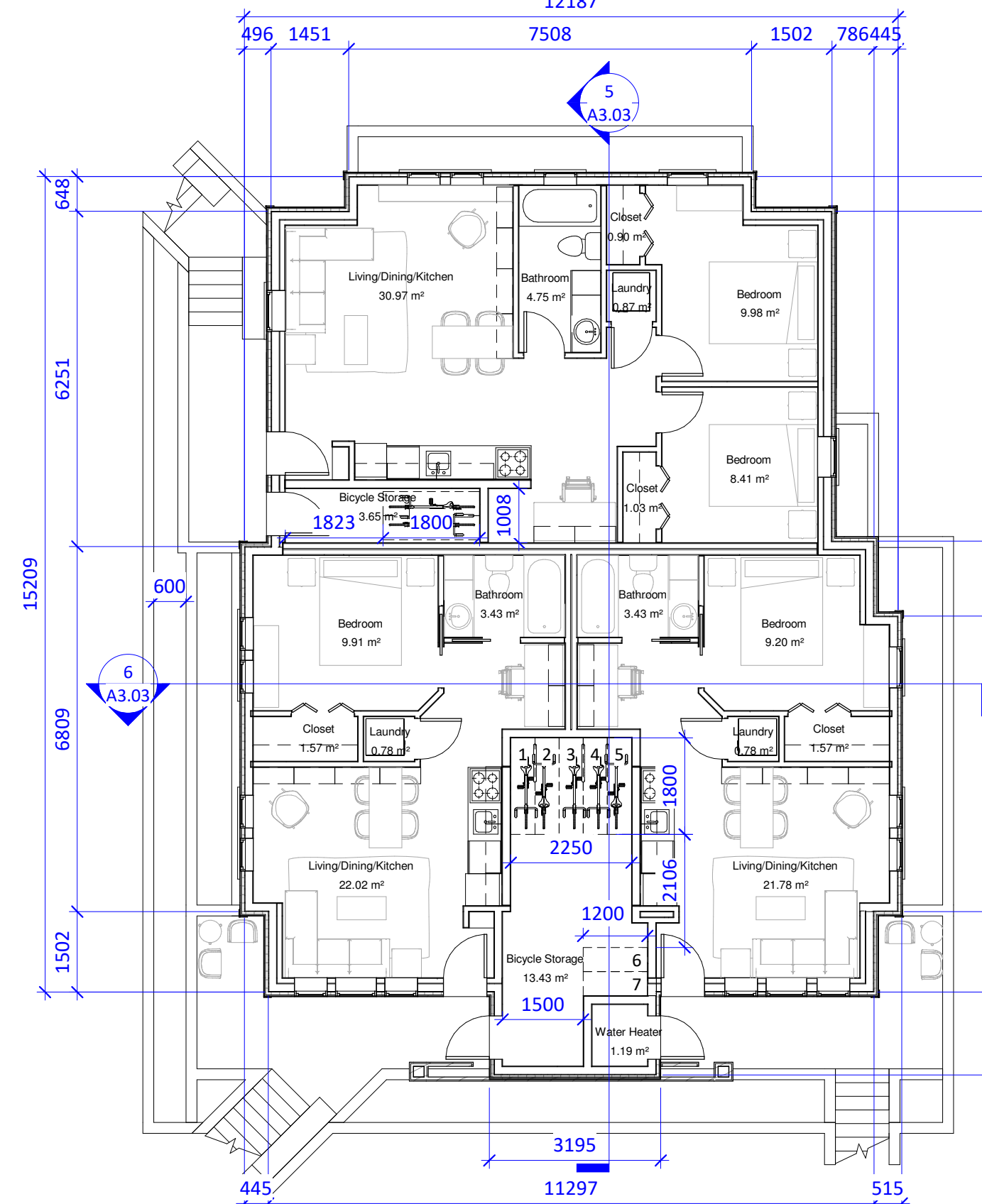
4 Roof Plan 1 : 100



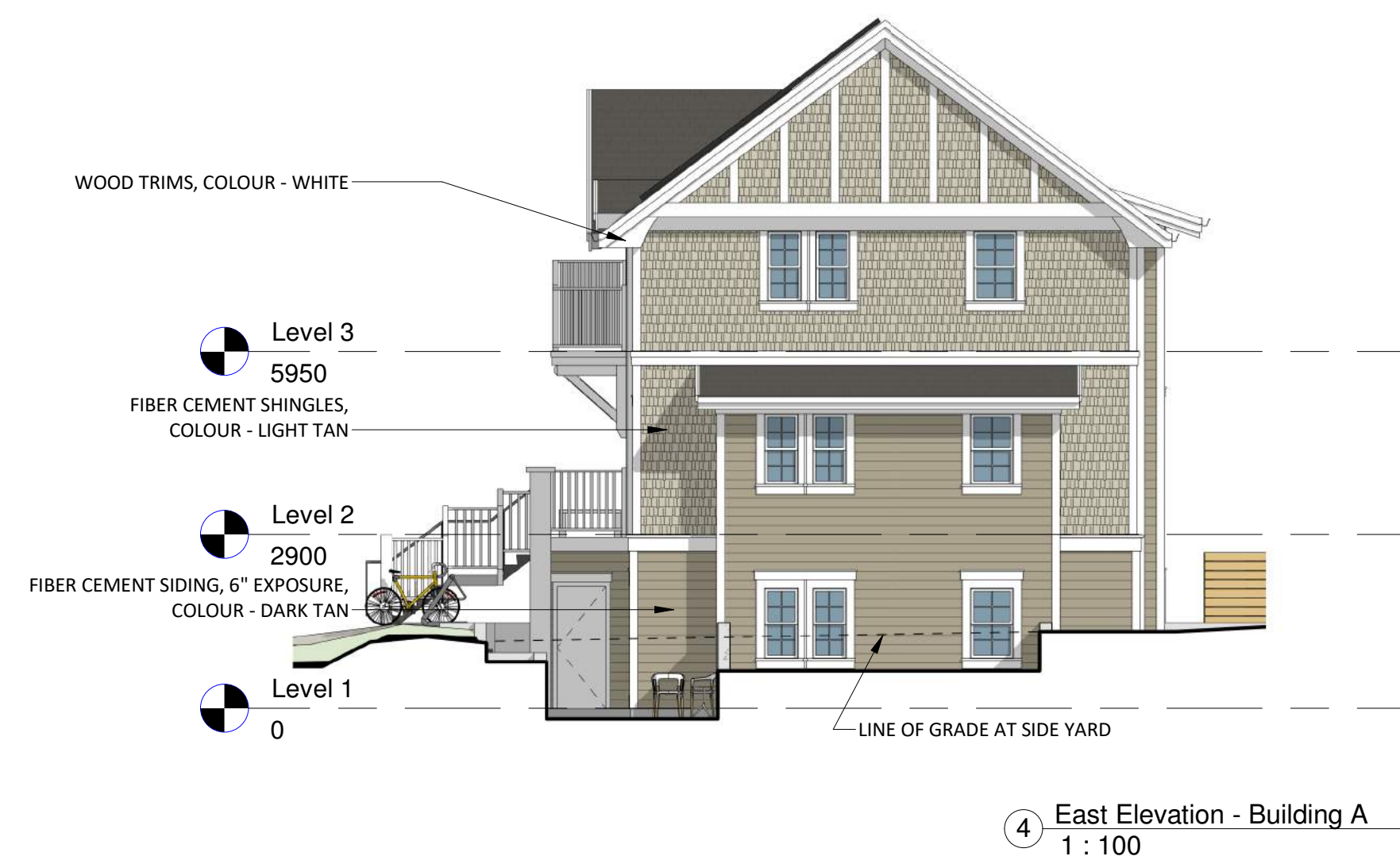
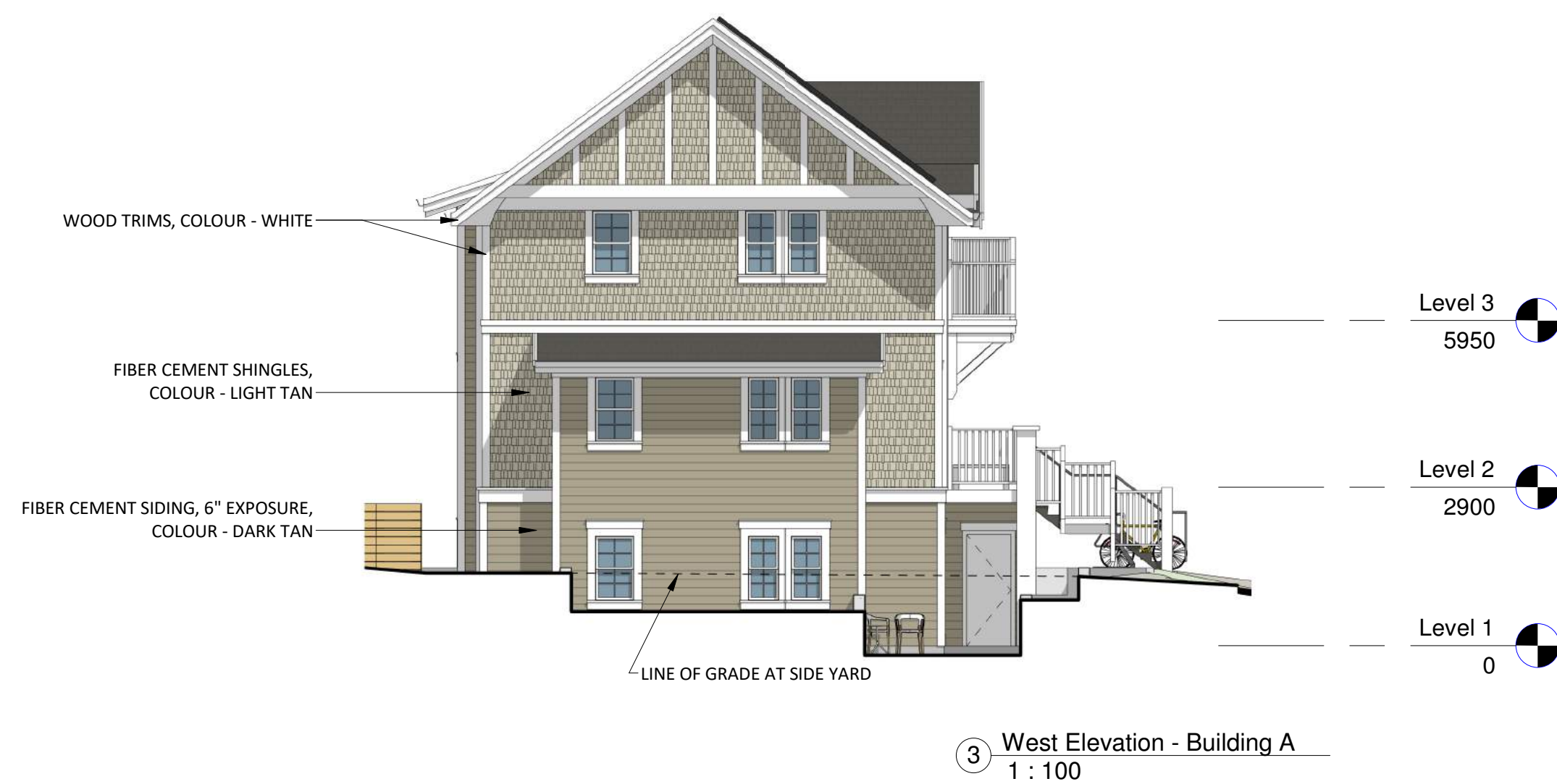
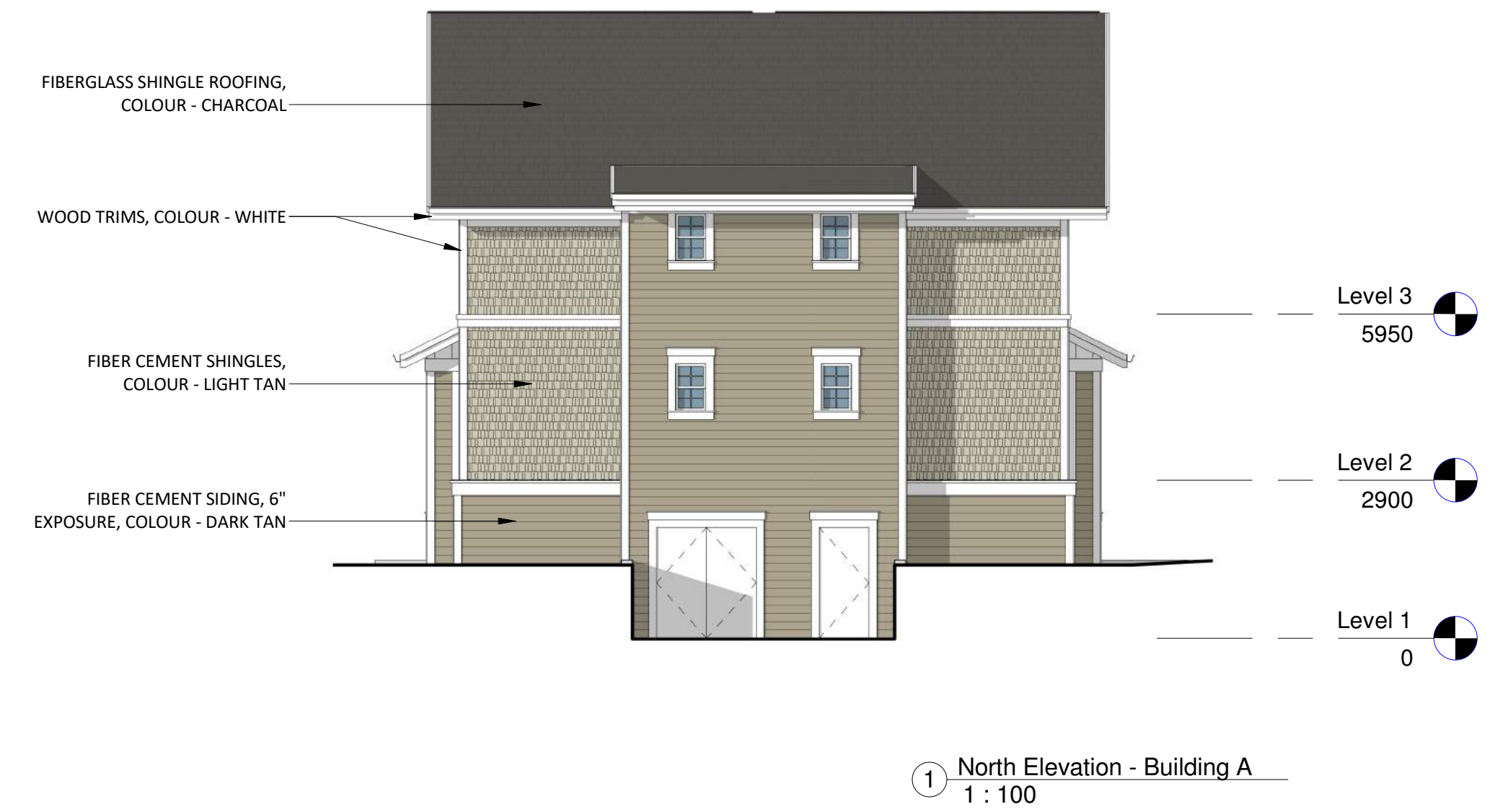
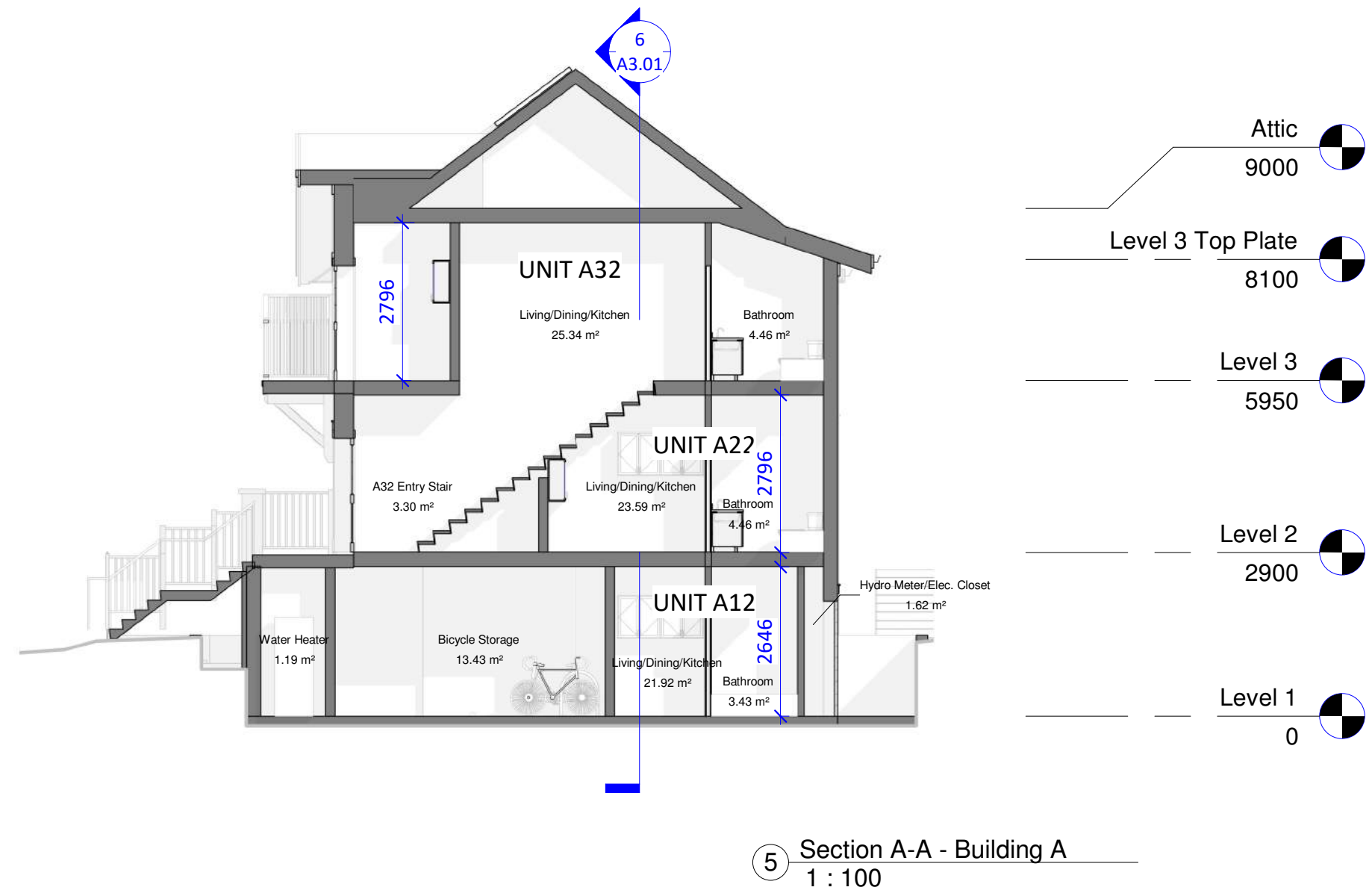
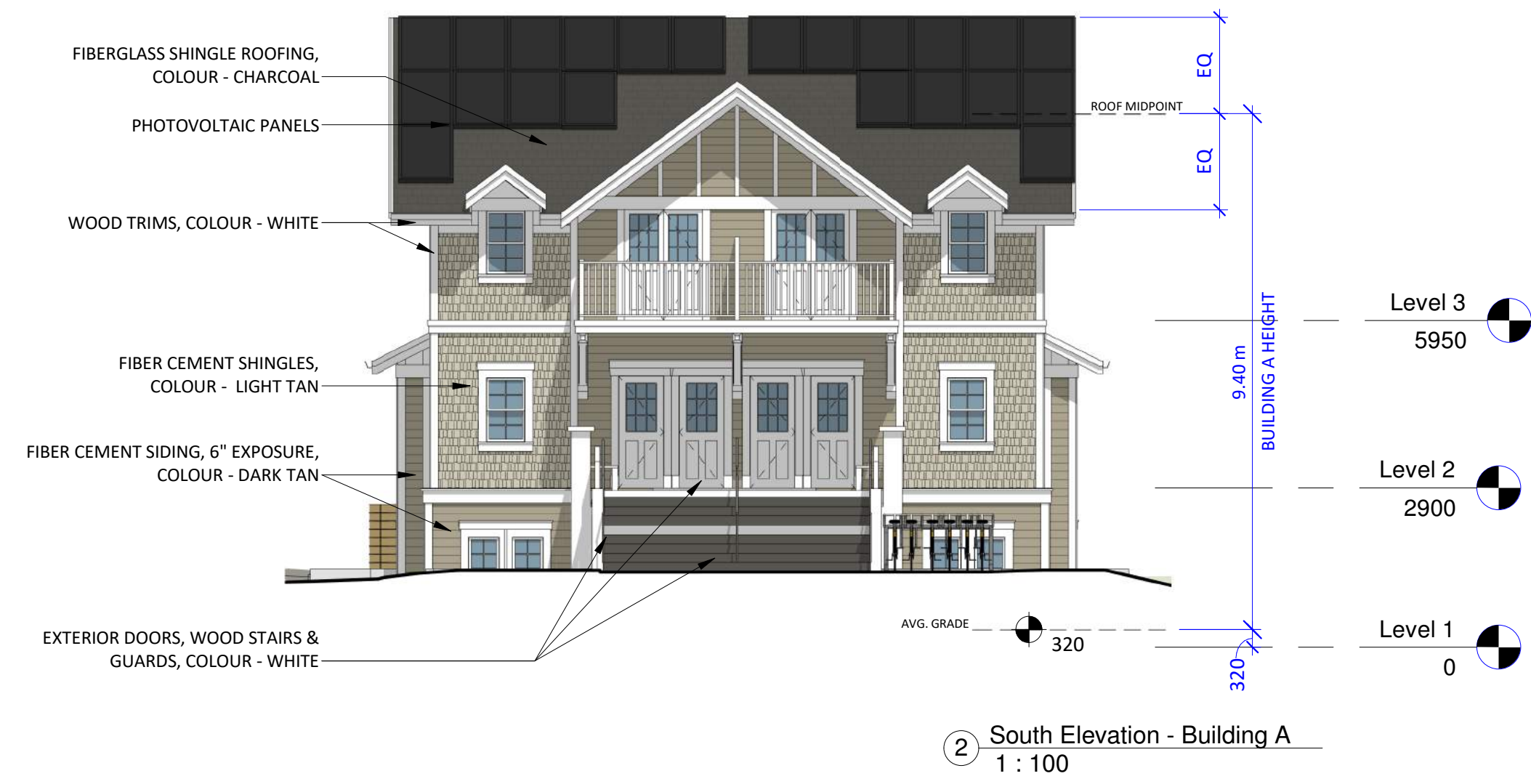
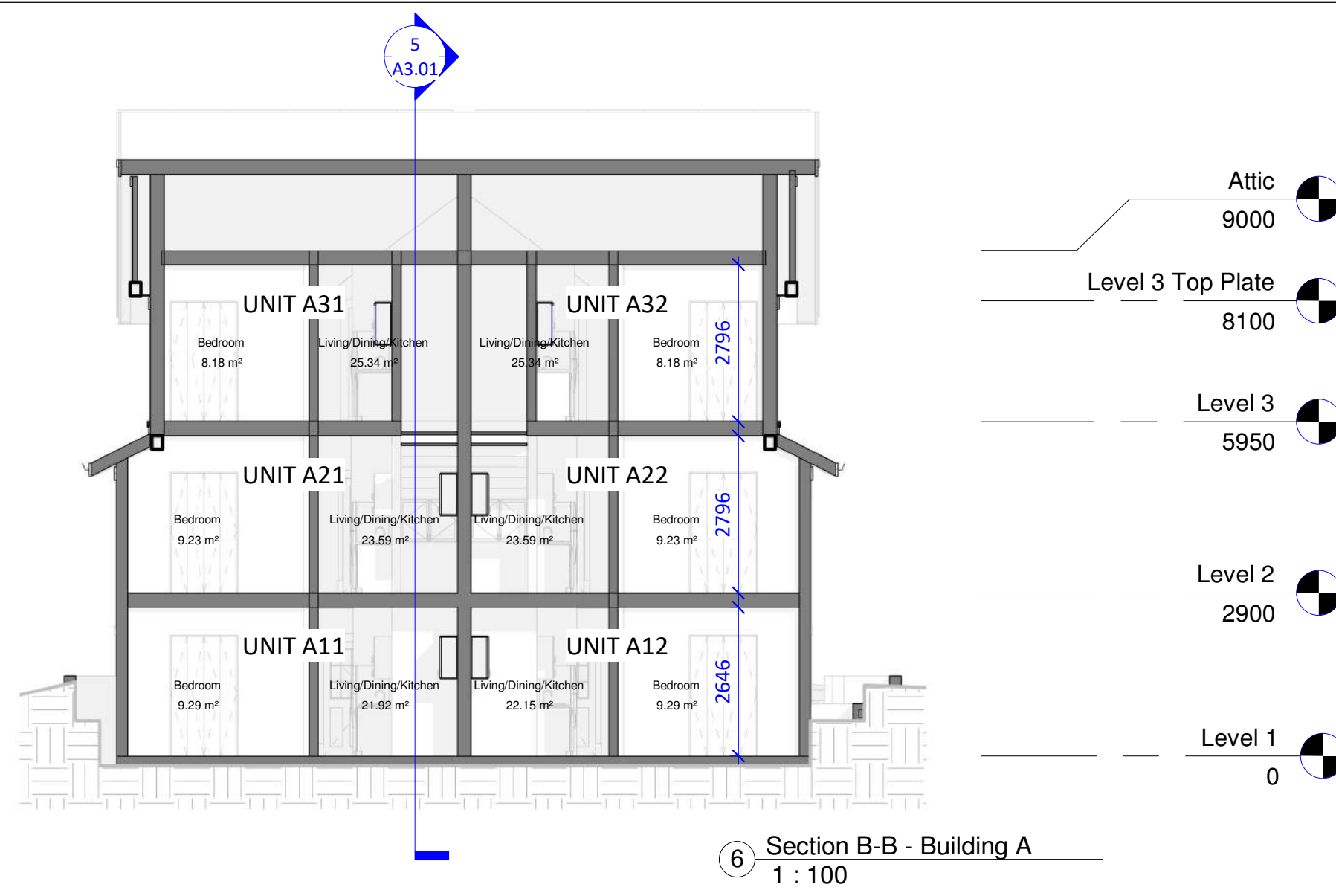
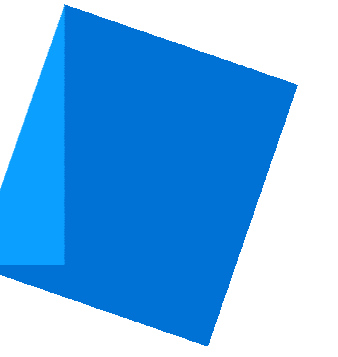
3 Floor Plan - Level 3 - Building C 1 : 100

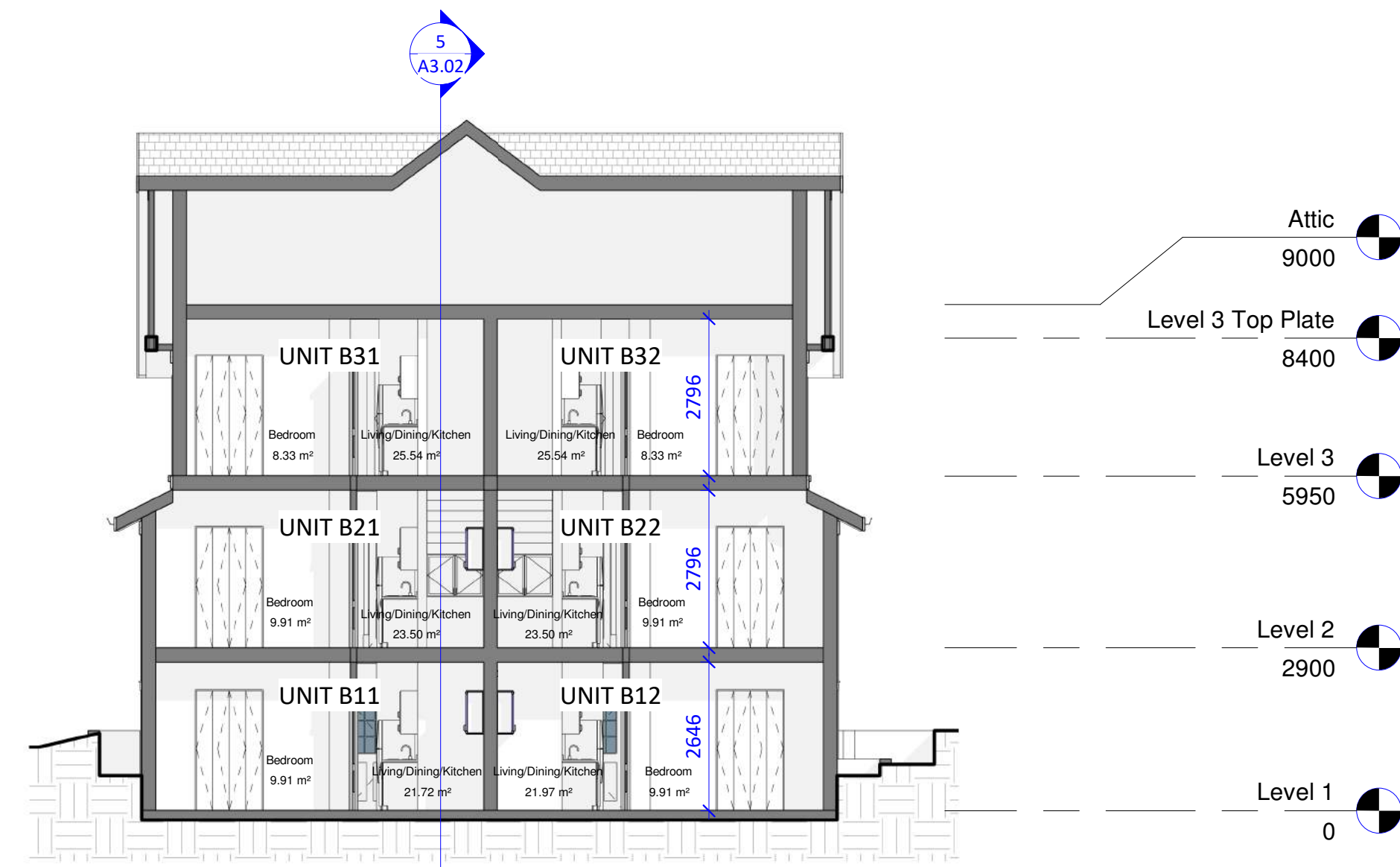
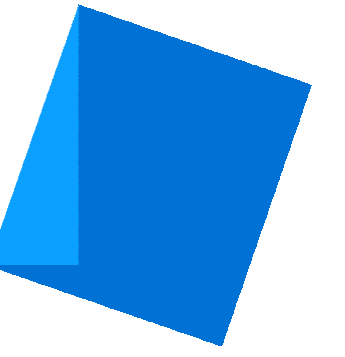


2 Floor Plan - Level 2 - Building C 1 : 100



1 Floor Plan - Level 1 - Building C 1 : 100

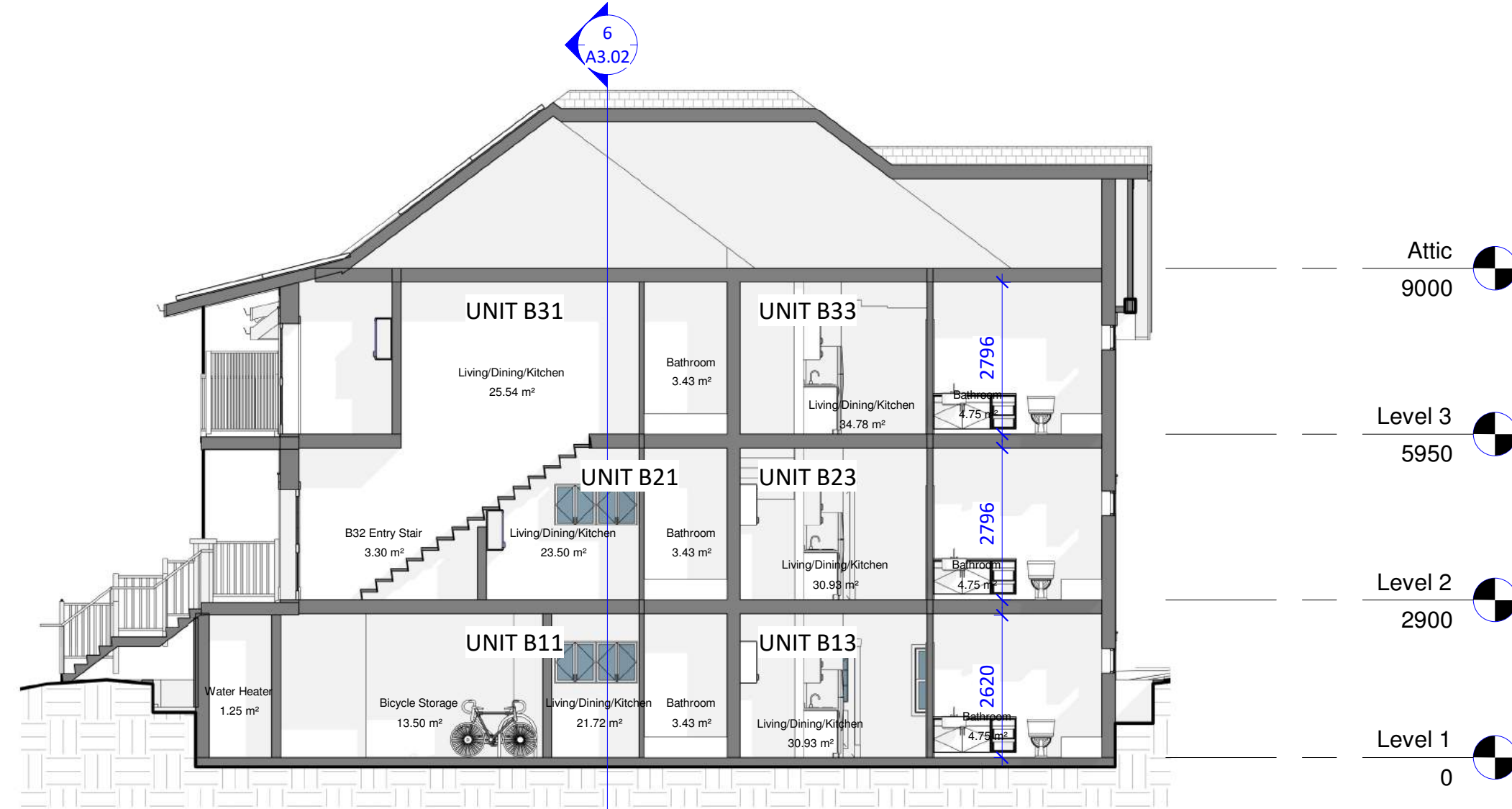




6 Section B-B - Building B  
1 : 100



3 South Elevation - Building B  
1 : 100



5 Section A-A - Building B  
1 : 100



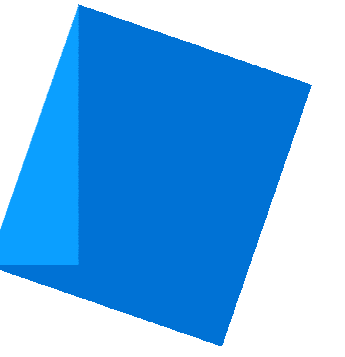
2 North Elevation - Building B  
1 : 100



4 West Elevation - Building B  
1 : 100



1 East Elevation - Building B  
1 : 100



Issue	Date
For Rezoning/ Development Permit	March --, 2019

Revision No.	Description	Date
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Consultant

ASH Richardson

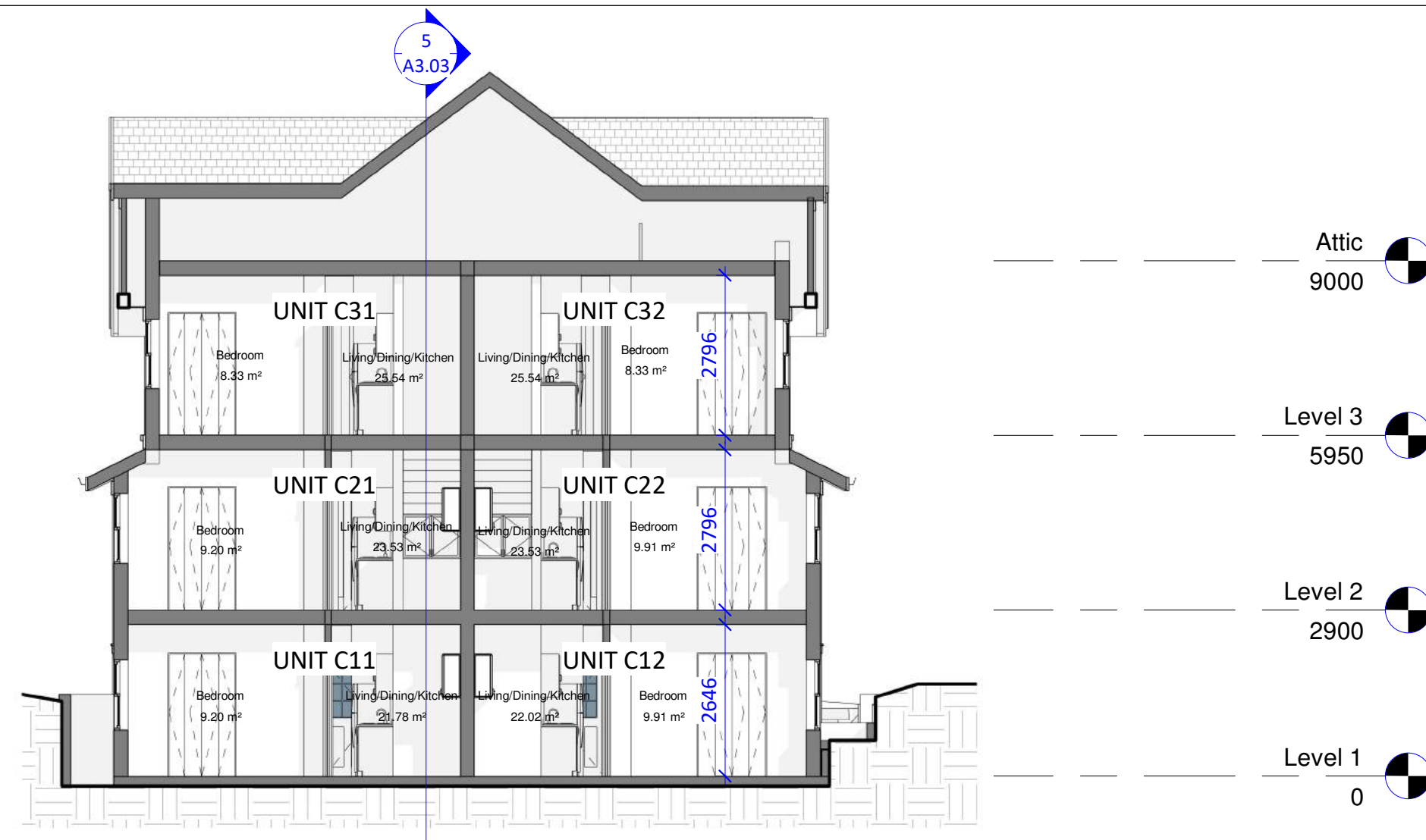
Victoria, BC

Elevations & Sections -  
Building C

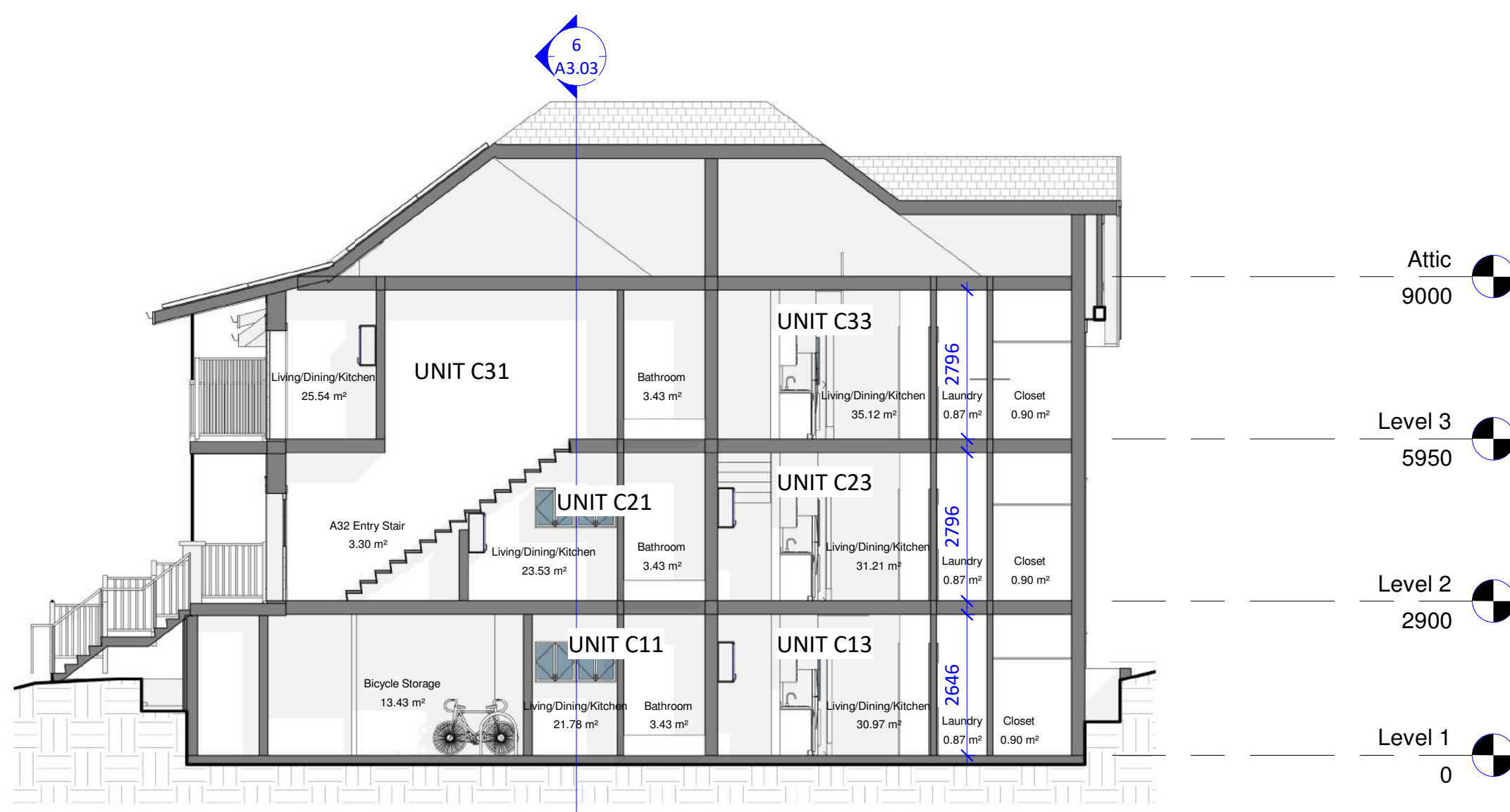
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A3.03

Scale 1 : 100



6 Section B-B - Building C  
1 : 100



5 Section A-A - Building C  
1 : 100



2 South Elevation - Building C  
1 : 100



1 North Elevation - Building C  
1 : 100



4 West Elevation - Building C  
1 : 100



3 East Elevation - Building C  
1 : 100

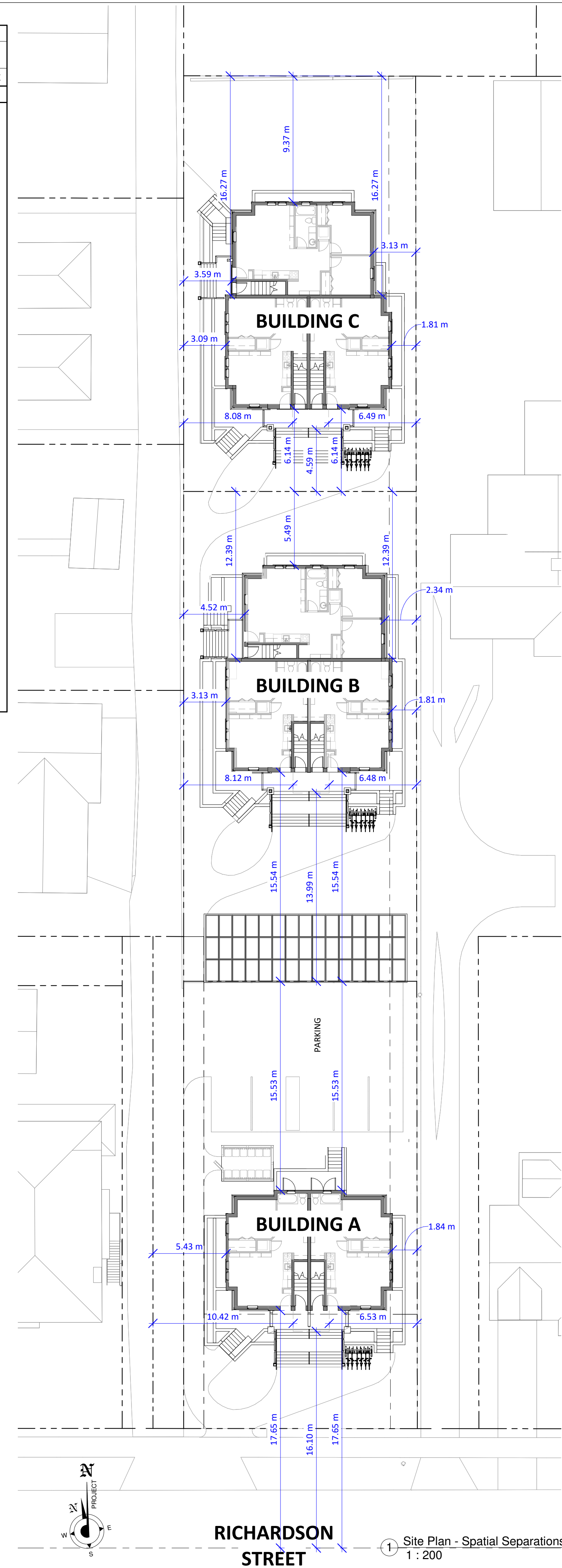
**LIMITING DISTANCE & SPATIAL SEPARATIONS ANALYSIS**

BUILDING FACE OR FIRE COMPARTMENT	LIMITING DISTANCE (m)	WALL AREA (m <sup>2</sup> )	GLAZING AREA (m <sup>2</sup> )	UNPROTECTED OPENINGS (%)		WALL F.R.R. <sup>1</sup> (hr)	NON-COMBUSTIBLE REQUIREMENTS	
				MAXIMUM	PROPOSED		WALL	CLADDING
<b>BUILDING A</b>								
EAST BIKE STOR.	6.53	4.38	1.64	90	37	3/4		
EAST LEVEL 1-A	1.84	17.87	2.07	11	12	1		■
EAST LEVEL 2-A	1.84	23.50	2.07	11	9	1		■
EAST LEVEL 3-A	1.84	22.69	2.07	11	9	1		■
NORTH LEVEL 1-A	15.53	8.49	0.46	100	6	3/4		
NORTH LEVEL 1-B	15.53	8.55	0.46	100	6	3/4		
NORTH LEVEL 2-A	15.53	17.57	0.46	100	3	3/4		
NORTH LEVEL 2-B	15.53	17.57	0.46	100	3	3/4		
NORTH LEVEL 3-A	15.53	15.64	0.46	100	3	3/4		
NORTH LEVEL 3-B	15.53	15.59	0.46	100	3	3/4		
WEST LEVEL 1-A	5.43	18.15	2.07	74	11	3/4		
WEST BIKE STOR.	10.42	4.38	1.64	100	37	3/4		
WEST LEVEL 2-A	5.43	24.78	2.07	74	8	3/4		
WEST LEVEL 3-A	5.43	23.82	2.07	74	9	3/4		
SOUTH LEVEL 1-A	17.65	13.65	1.26	100	9	3/4		
SOUTH BIKE STOR.	16.10	6.29	0	100	0	3/4		
SOUTH LEVEL 1-B	17.65	13.65	1.26	100	9	3/4		
SOUTH LEVEL 2-A	17.65	14.18	2.45	100	17	3/4		
SOUTH LEVEL 2-B	17.65	14.18	2.45	100	17	3/4		
SOUTH LEVEL 3-A	17.65	19.29	5.34	100	28	3/4		
SOUTH LEVEL 3-B	17.65	19.29	5.34	100	28	3/4		

BUILDING FACE OR FIRE COMPARTMENT	LIMITING DISTANCE (m)	WALL AREA (m <sup>2</sup> )	GLAZING AREA (m <sup>2</sup> )	UNPROTECTED OPENINGS (%)		WALL F.R.R. <sup>1</sup> (hr)	NON-COMBUSTIBLE REQUIREMENTS	
				MAXIMUM	PROPOSED		WALL	CLADDING
<b>BUILDING B</b>								
EAST BIKE STOR.	6.48	4.12	1.64	88	39	3/4		
EAST LEVEL 1-A	1.81	22.53	2.07	11	9	1		■
EAST LEVEL 1-B	2.19	13.90	0.81	15	6	1		■
EAST LEVEL 2-A	1.81	23.52	2.07	11	9	1		■
EAST LEVEL 2-B	2.19	19.29	0.81	15	4	1		■
EAST LEVEL 3-A	1.81	22.76	2.07	11	9	1		■
EAST LEVEL 3-B	2.19	19.48	0.81	15	4	1		■
NORTH LEVEL 1-A	12.39	0.71	0	100	0	3/4		
NORTH LEVEL 1-B	5.49	19.98	2.32	76	12	3/4		
NORTH LEVEL 1-C	12.39	1.60	0	100	0	3/4		
NORTH LEVEL 2-A	12.39	1.76	0	100	0	3/4		
NORTH LEVEL 2-B	5.49	29.25	2.32	76	8	3/4		
NORTH LEVEL 2-C	12.39	4.08	0	100	0	3/4		
NORTH LEVEL 3-A	5.49	28.65	2.32	76	8	3/4		
NORTH LEVEL 3-B	12.39	2.09	0	100	0	3/4		
WEST LEVEL 1-A	4.67	14.14	3.71	51	26	3/4		
WEST LEVEL 1-B	4.67	2.78	0 <sup>1</sup>	51	0	3/4		
WEST LEVEL 1-C	3.13	22.53	2.53	26	11	3/4		■
WEST BIKE STOR.	8.12	4.12	1.64	100	40	3/4		
WEST LEVEL 2-A	4.67	16.34	2.45	51	15	3/4		
WEST LEVEL 2-B	3.13	23.51	2.53	26	11	3/4		■
WEST LEVEL 3-A	4.67	22.49	4.09	51	18	3/4		
WEST LEVEL 3-B	3.13	22.95	2.53	26	11	3/4		■
SOUTH LEVEL 1-A	15.54	13.75	2.07	100	15	3/4		
SOUTH BIKE STOR.	13.99	6.08	0	100	0	3/4		
SOUTH LEVEL 1-B	15.54	13.75	2.07	100	15	3/4		
SOUTH LEVEL 2-A	15.54	14.18	2.45	100	17	3/4		
SOUTH LEVEL 2-B	15.54	14.19	2.45	100	17	3/4		
SOUTH LEVEL 3-A	15.54	19.32	5.34	100	28	3/4		
SOUTH LEVEL 3-B	15.54	19.32	5.34	100	28	3/4		

BUILDING FACE OR FIRE COMPARTMENT	LIMITING DISTANCE (m)	WALL AREA (m <sup>2</sup> )	GLAZING AREA (m <sup>2</sup> )	UNPROTECTED OPENINGS (%)		WALL F.R.R. <sup>1</sup> (hr)	NON-COMBUSTIBLE REQUIREMENTS	
				MAXIMUM	PROPOSED		WALL	CLADDING
<b>BUILDING C</b>								
EAST BIKE STOR.	6.49	4.26	1.64	88	39	3/4		
EAST LEVEL 1-A	1.81	22.48	2.07	11	9	1		■
EAST LEVEL 1-B	2.98	10.40	0.81	25	8	1		■
EAST LEVEL 2-A	1.81	23.47	2.07	11	9	1		■
EAST LEVEL 2-B	2.98	19.38	0.81	25	4	1		■
EAST LEVEL 3-A	1.81	22.63	2.07	11	9	1		■
EAST LEVEL 3-B	2.98	17.97	0.81	25	4	1		■
NORTH LEVEL 1-A	16.27	1.69	0	100	0	3/4		
NORTH LEVEL 1-B	9.37	19.80	2.32	100	12	3/4		
NORTH LEVEL 1-C	16.27	0.77	0	100	0	3/4		
NORTH LEVEL 2-A	16.27	4.10	0	100	0	3/4		
NORTH LEVEL 2-B	9.37	29.10	2.32	100	8	3/4		
NORTH LEVEL 2-C	16.27	1.90	0	100	0	3/4		
NORTH LEVEL 3-A	9.37	29.36	2.32	100	8	3/4		
WEST LEVEL 1-A	3.74	13.62	2.45	35	18	1		■
WEST LEVEL 1-B	3.74	2.73	0 <sup>1</sup>	35	0	1		■
WEST LEVEL 1-C	3.09	22.39	2.53	25	11	1		■
WEST BIKE STOR.	8.08	4.26	1.64	100	39	3/4		■
WEST LEVEL 2-A	3.74	16.30	2.45	35	15	1		■
WEST LEVEL 2-B	3.09	23.52	2.53	25	11	1		■
WEST LEVEL 3-A	3.74	21.03	2.45	35	12	1		■
WEST LEVEL 3-B	3.09	22.62	2.53	25	11	1		■
SOUTH LEVEL 1-A	6.14	13.65	2.07	90	15	3/4		
SOUTH BIKE STOR.	4.59	6.29	0	52	0	3/4		
SOUTH LEVEL 1-B	6.14	13.65	2.07	90	15	3/4		
SOUTH LEVEL 2-A	6.14	14.21	2.45	90	17	3/4		
SOUTH LEVEL 2-B	6.14	14.21	2.45	90	17	3/4		
SOUTH LEVEL 3-A	6.14	19.44	5.34	90	27	3/4		
SOUTH LEVEL 3-B	6.14	19.44	5.34	90	27	3/4		

<sup>1</sup> 3/4HR FIRE RATED, THERMALLY BROKEN DOOR REQUIRED



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 www.lintottarchitect.ca

Issue	Date
For Rezoning/ Development Permit	March --, 2019

Revision No.	Description	Date
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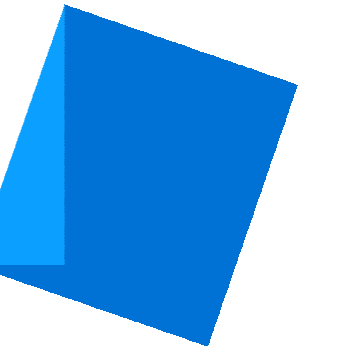
Consultant

**1224 Richardson - ASH Concept**  
 Victoria, BC

Spatial Separations

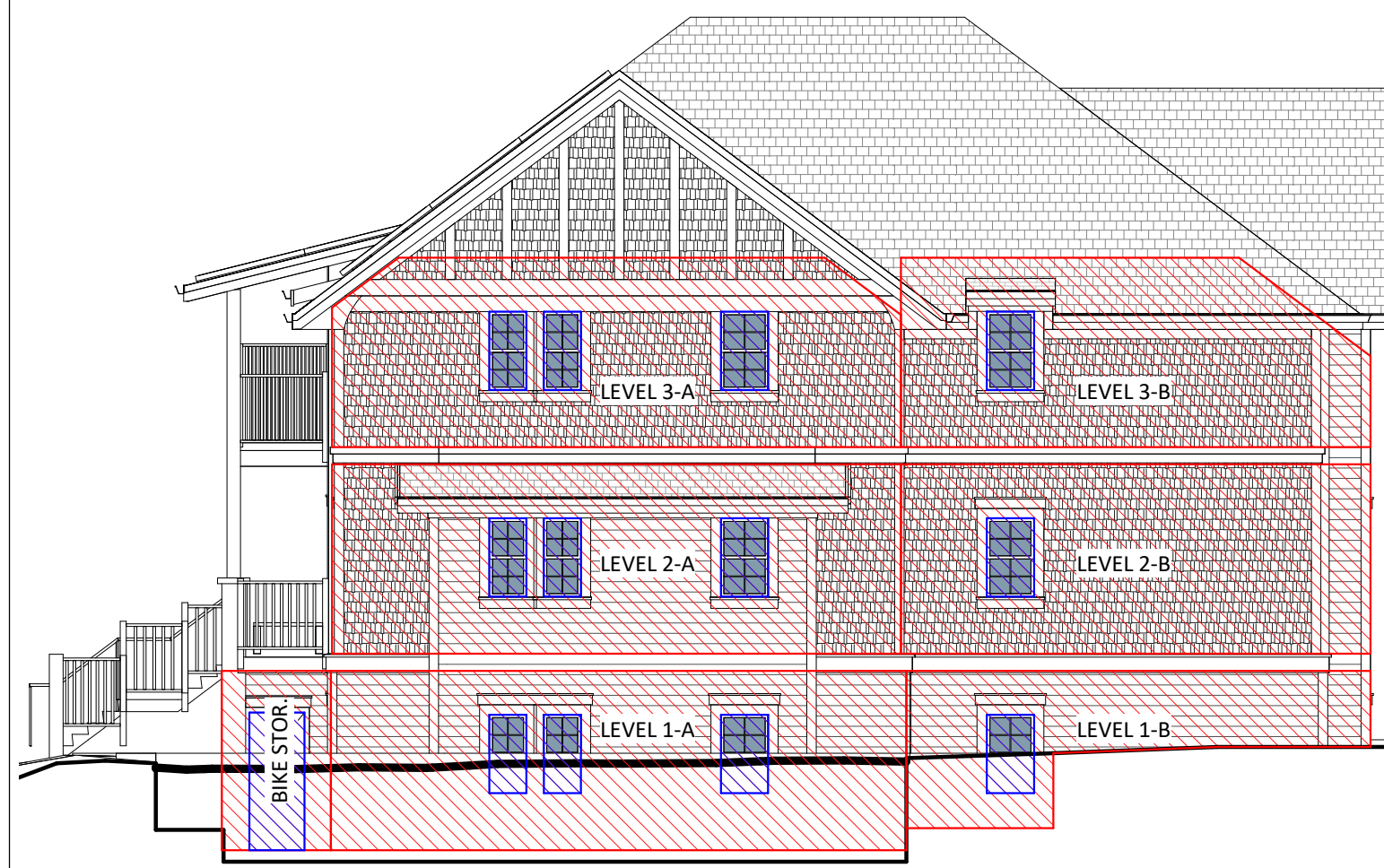
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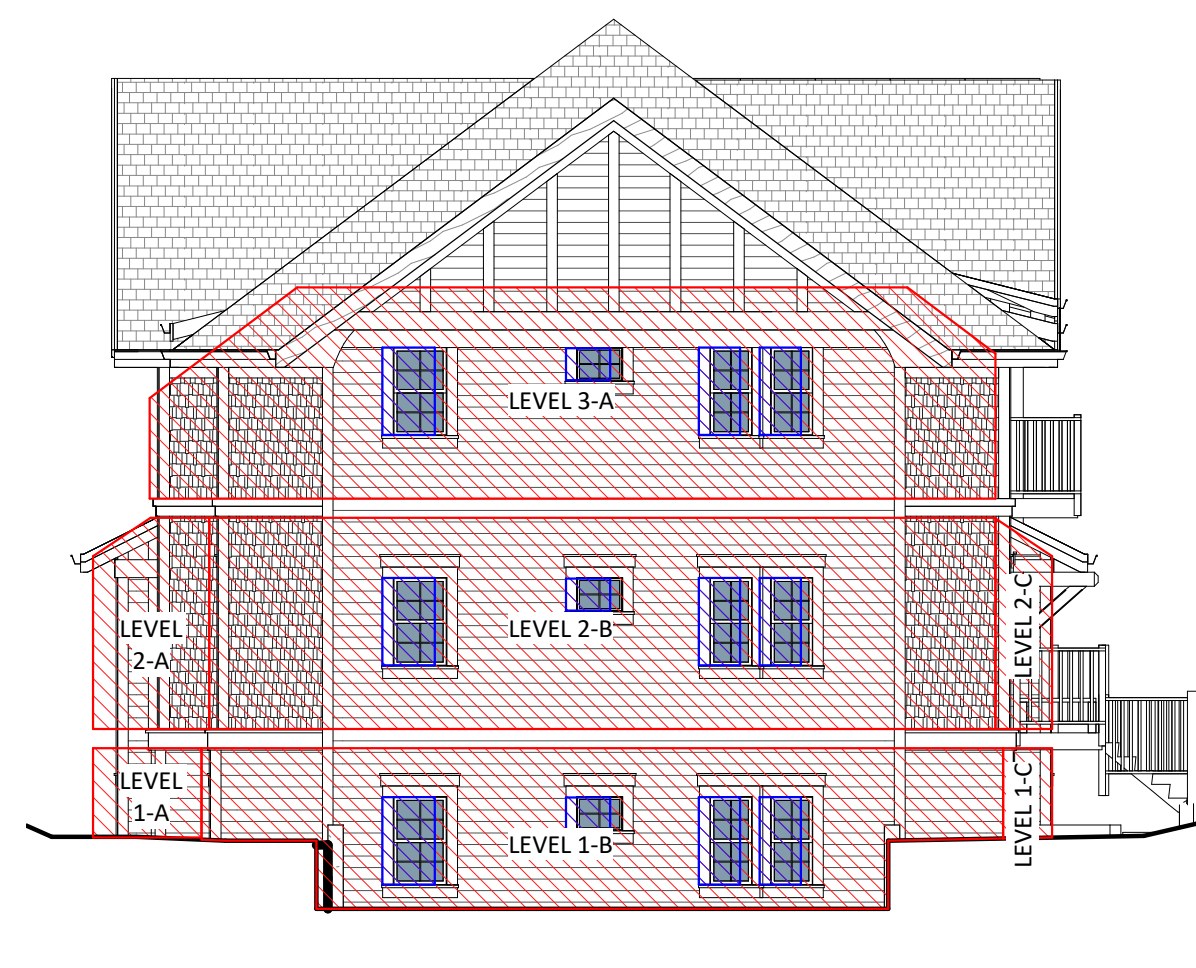


1224 Richardson  
 - ASH Concept  
 Victoria, BC

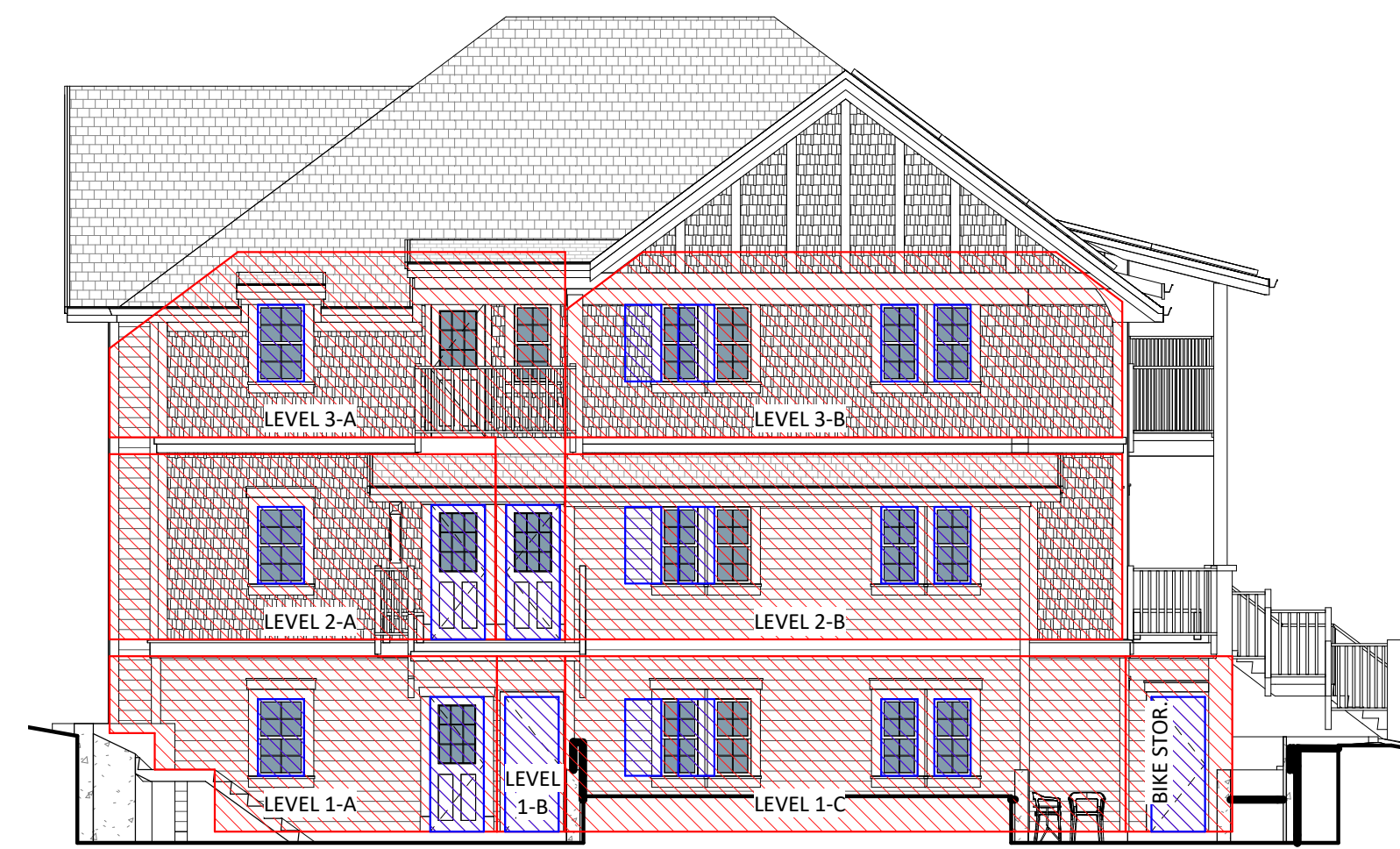
Spatial Separations



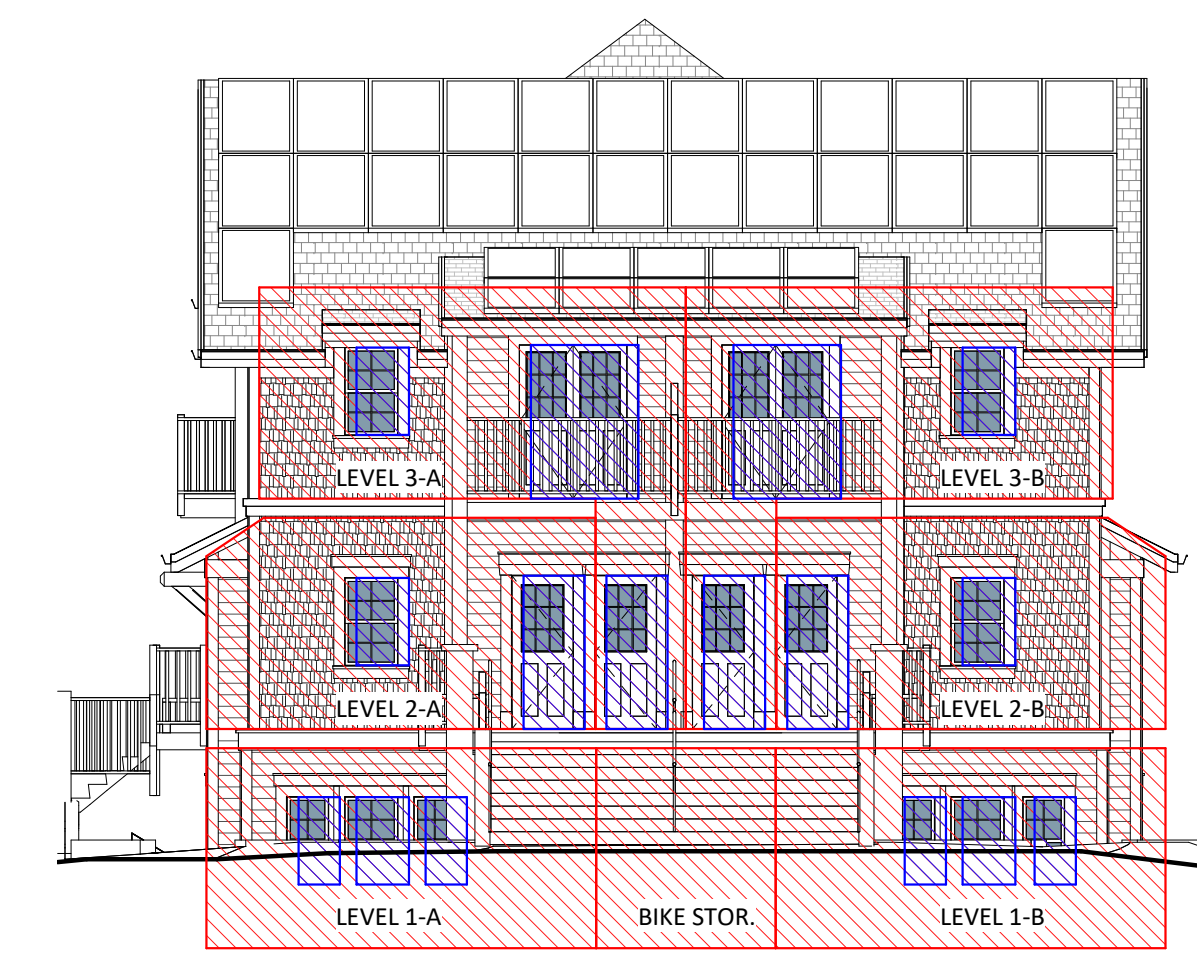
12 Separations - Building C - East  
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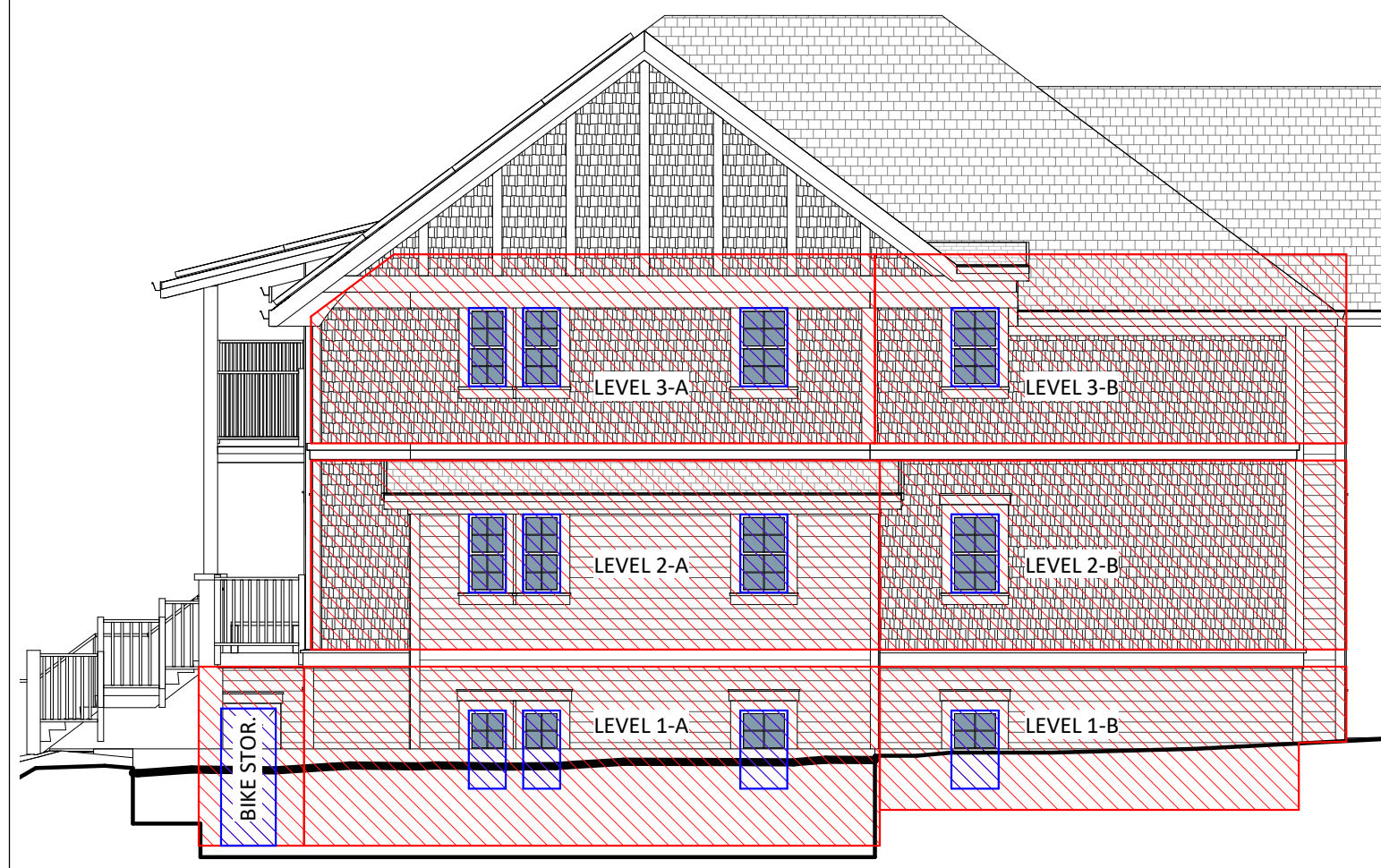
9 Separations - Building C - North  
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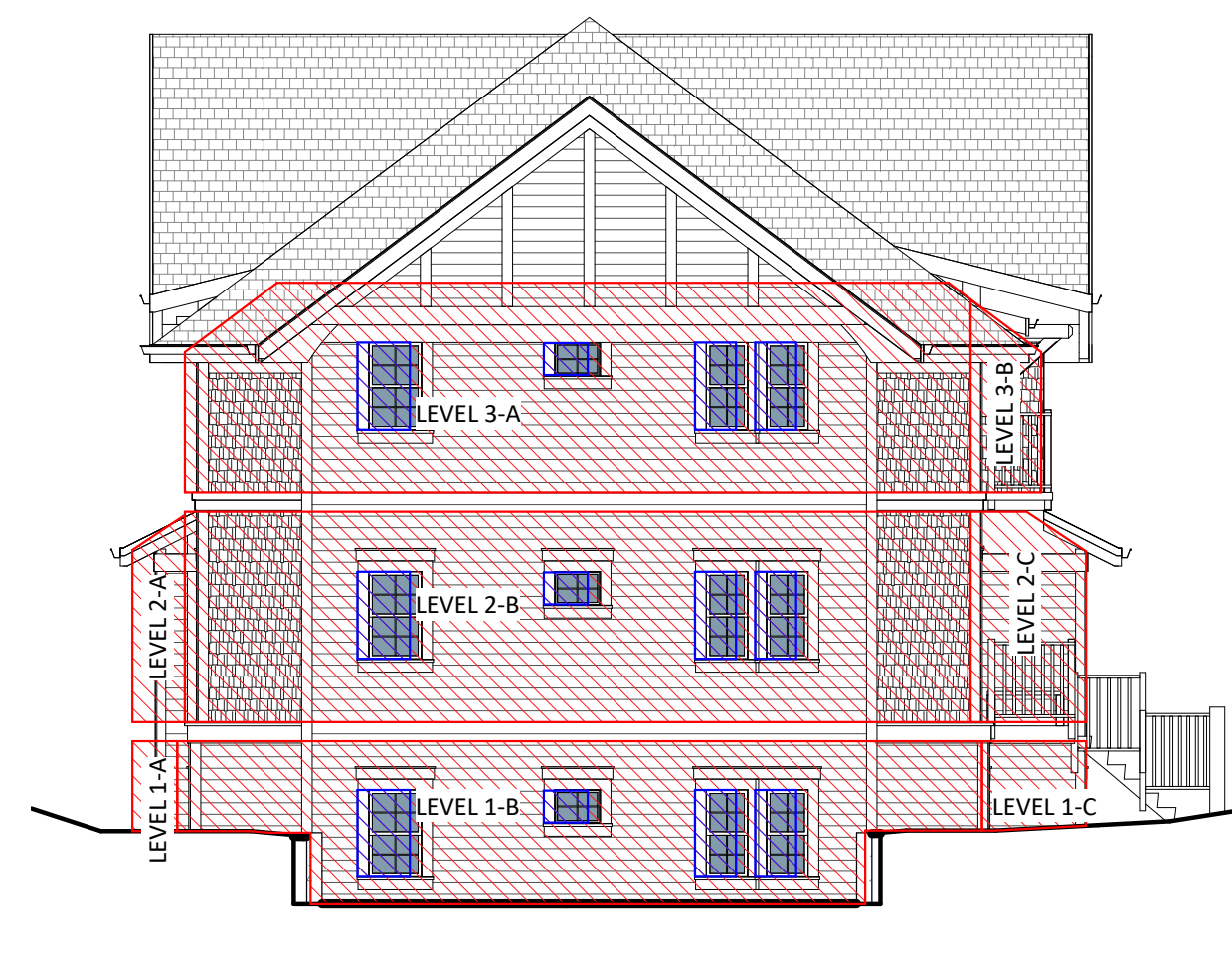
11 Separations - Building C - West  
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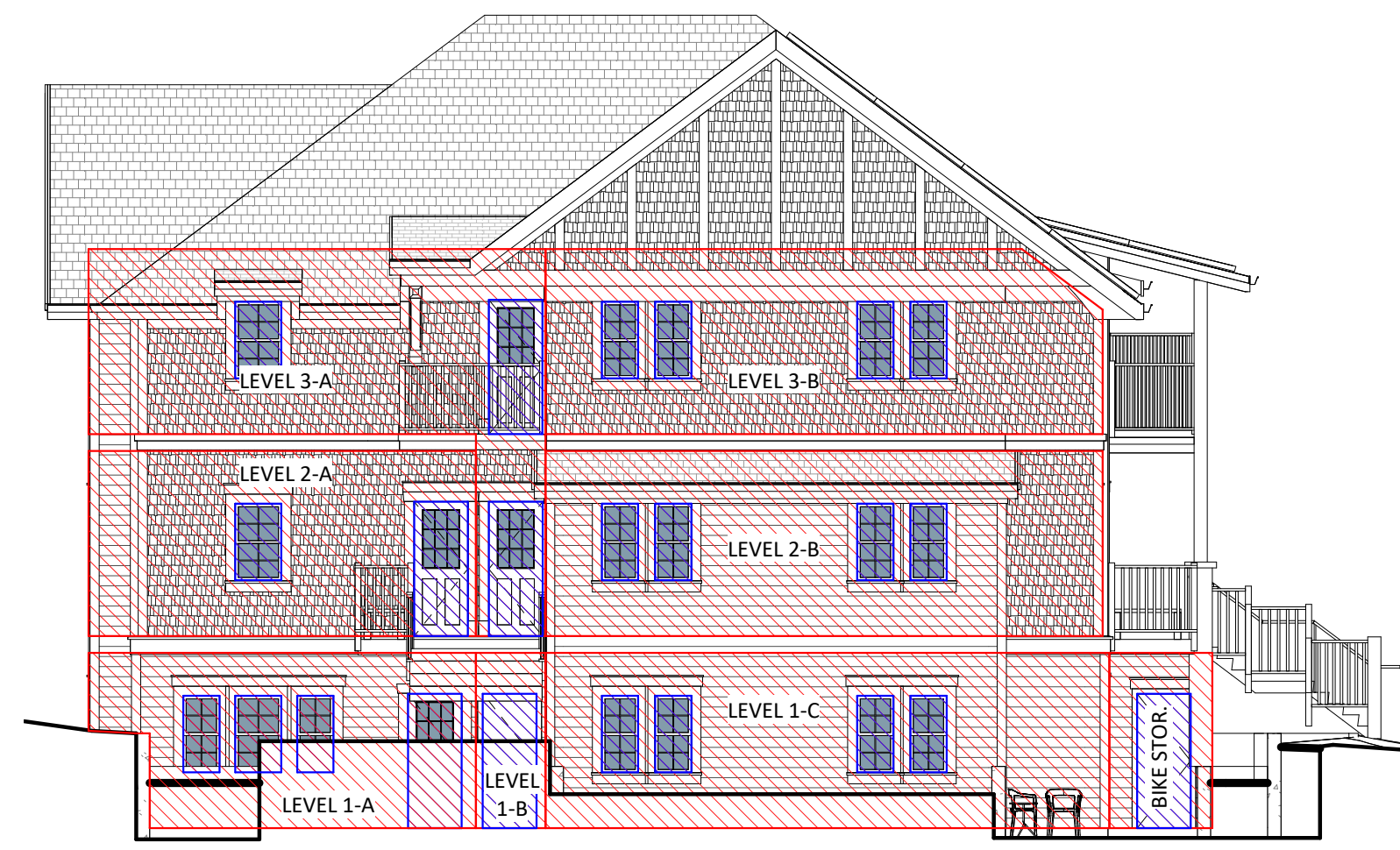
10 Separations - Building C - South  
 1 : 100



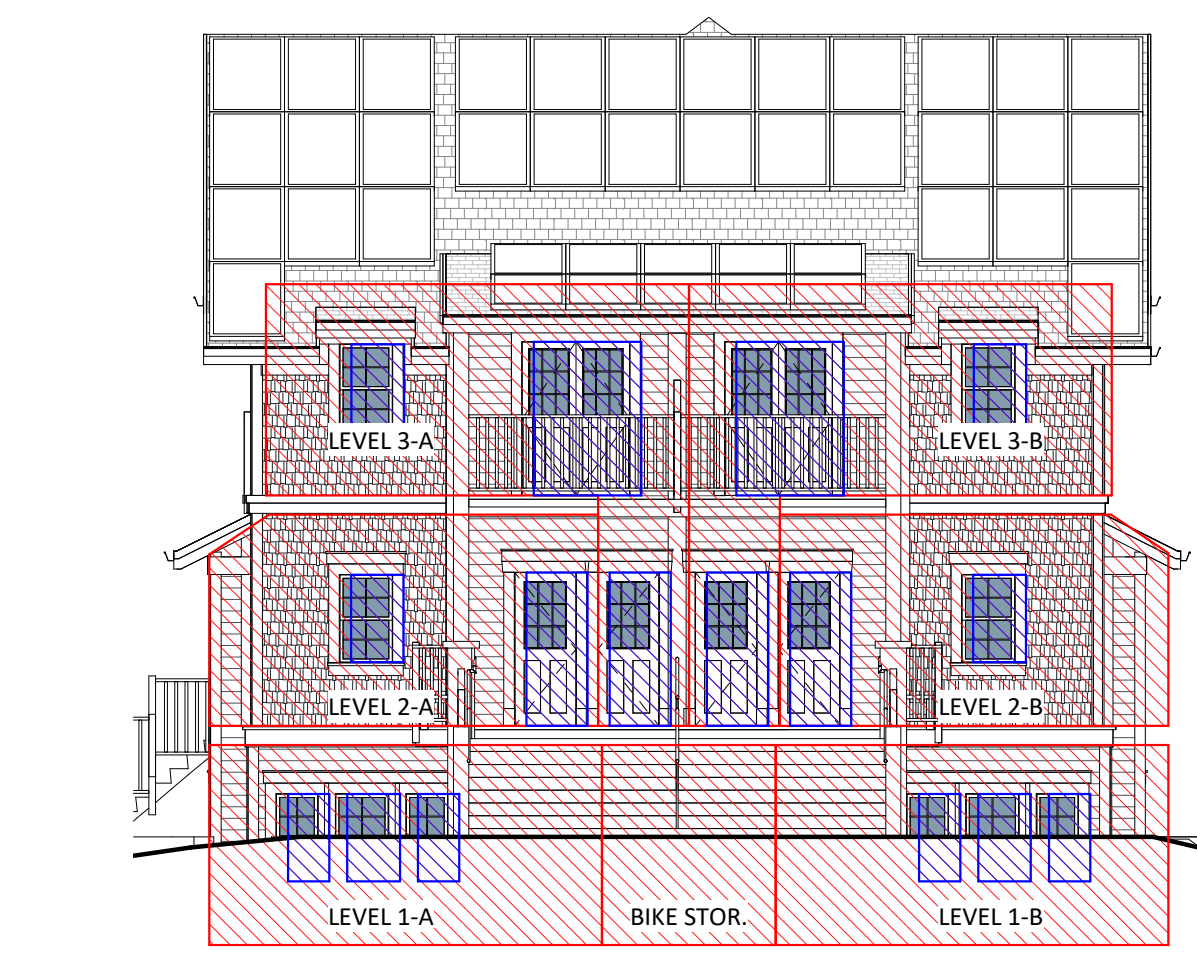
8 Separations - Building B - East  
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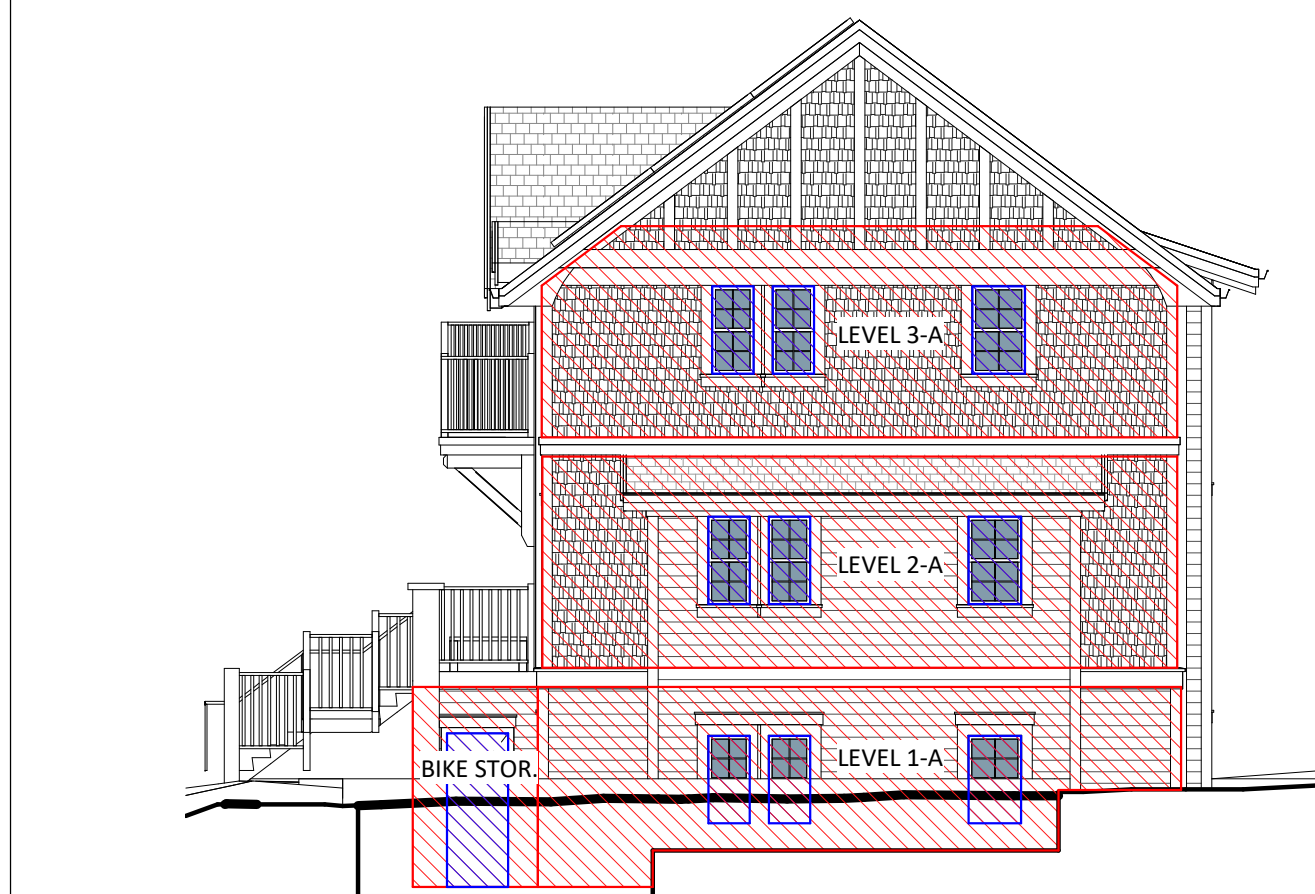
5 Separations - Building B - North  
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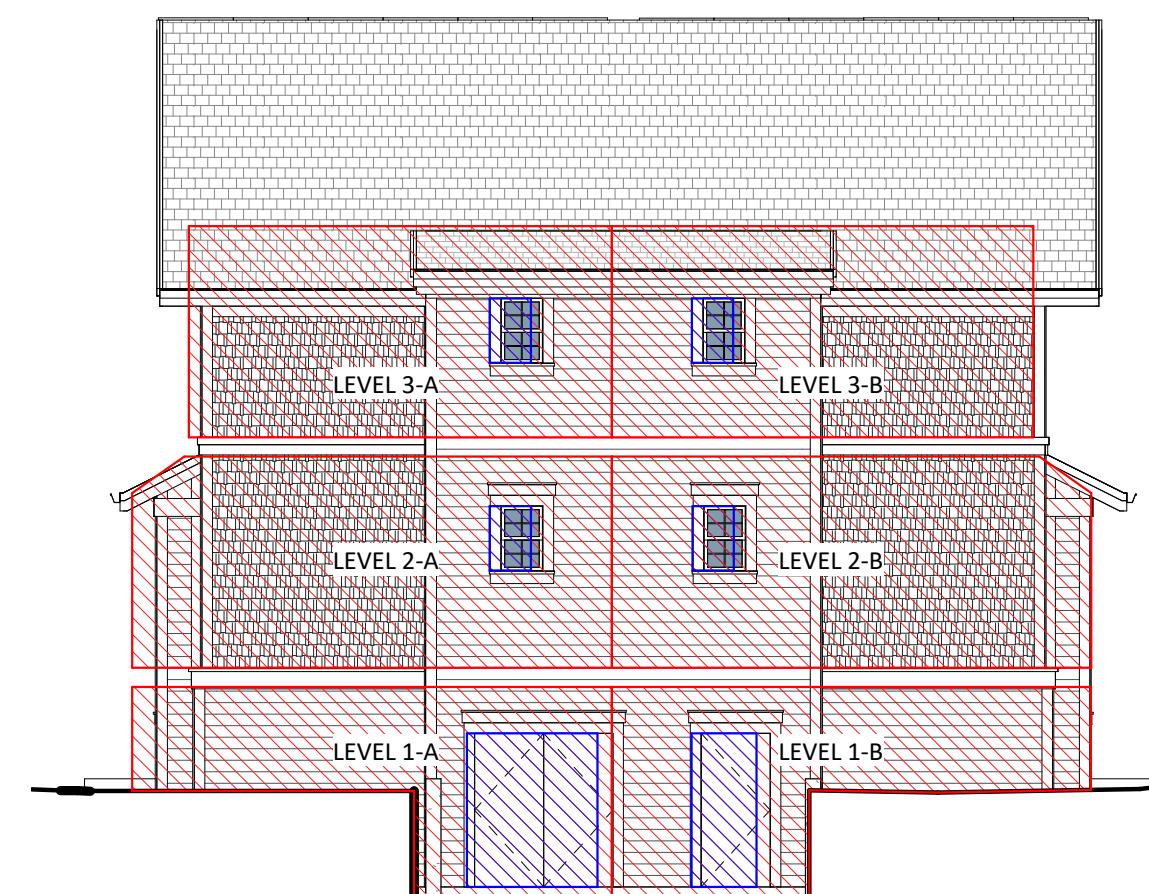
7 Separations - Building B - West  
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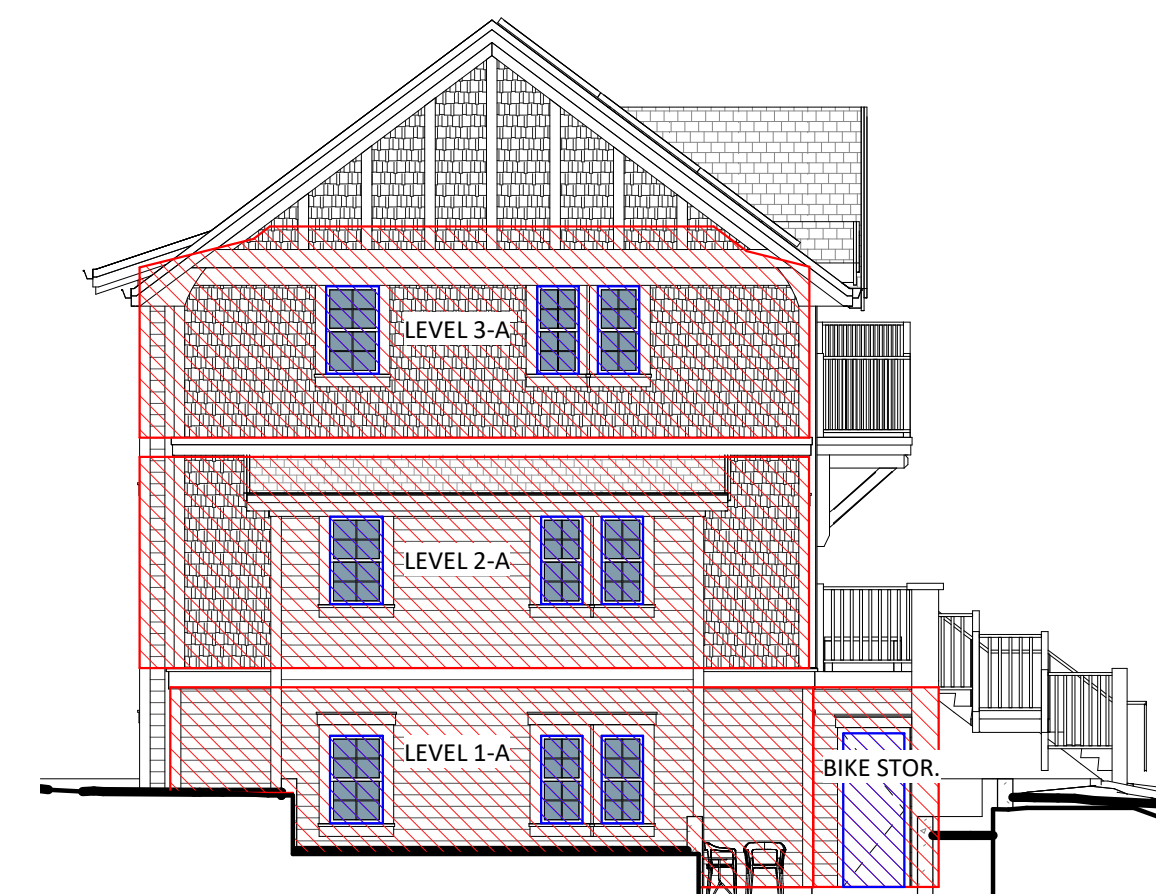
6 Separations - Building B - South  
 1 : 100



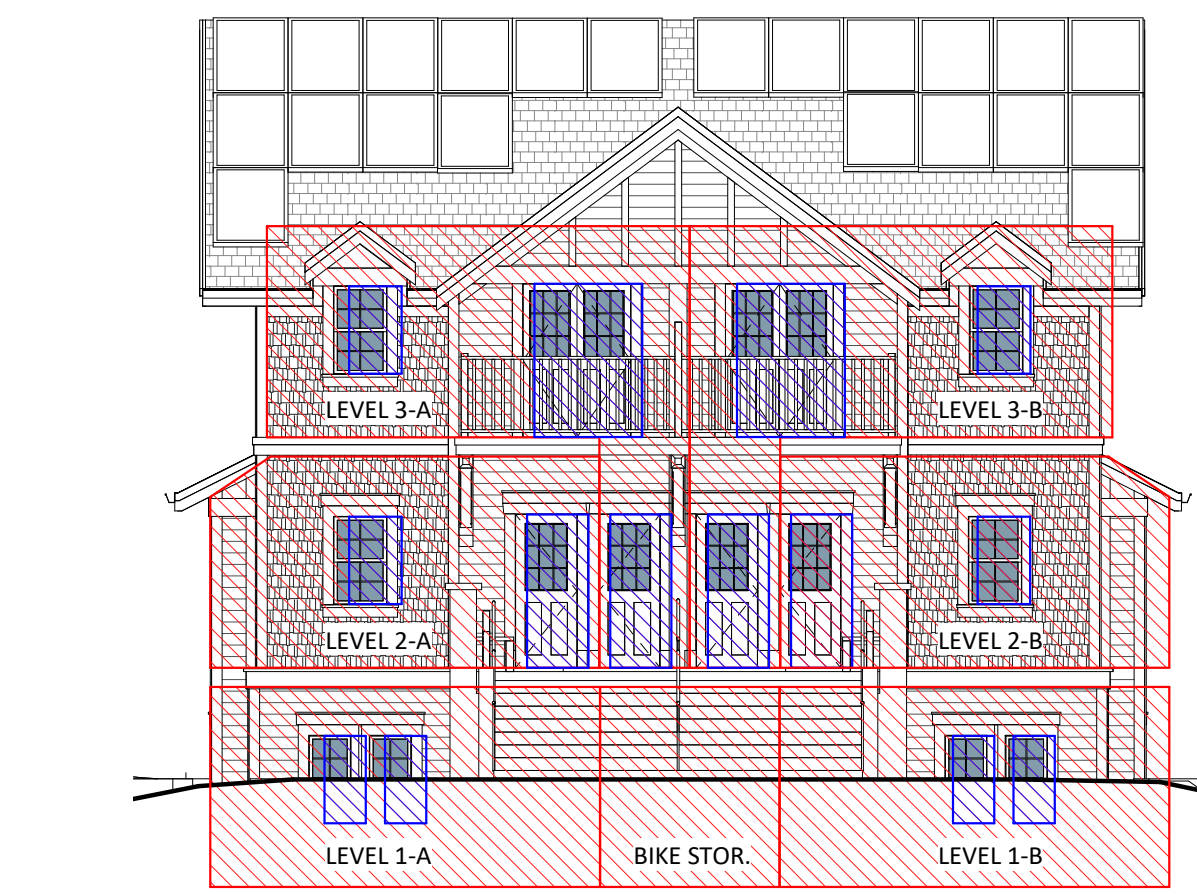
4 Separations - Building A - East  
 1 : 100



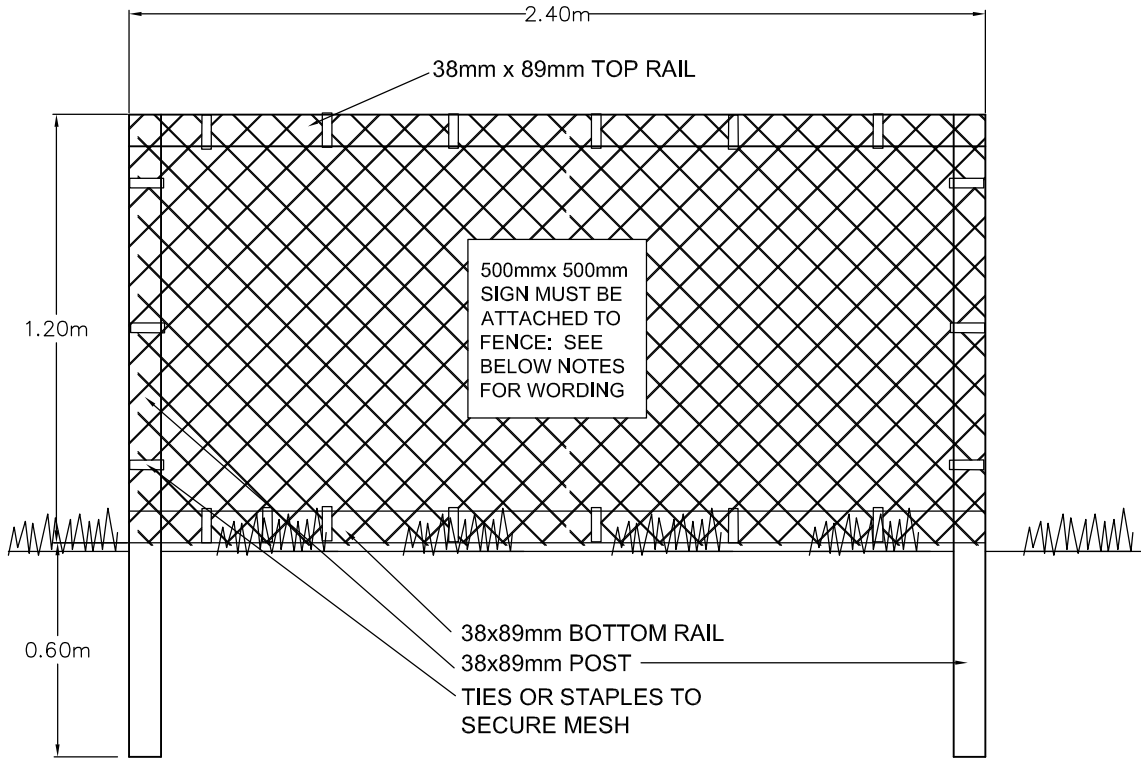
1 Separations - Building A - North  
 1 : 100



3 Separations - Building A - West  
 1 : 100



2 Separations - Building A - South  
 1 : 100



**TREE PROTECTION FENCING**

1. FENCE WILL BE CONSTRUCTED USING 38 mm X 89mm WOOD FRAME: TOP, BOTTOM AND POSTS \* USE ORANGE SNOW-FENCING MESH AND SECURE THE WOOD FRAME WITH "ZIP" TIES OR GALVANIZED STAPLES.
  2. ATTACH A 500mm X 500mm SIGN WITH THE FOLLOWING WORDING: WARNING- TREE PROTECTION AREA. THIS SIGN MUST BE AFFIXED ON EVERY FENCE OR AT LEAST EVERY 10 LINEAR METERS.
- \* IN ROCKY AREAS, METAL POSTS (T-BAR OR REBAR) DRILLED INTO ROCK WILL BE ACCEPTED





## Talbot Mackenzie & Associates

Consulting Arborists

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Fax: (250) 479-7050

Email: tmtreehelp@gmail.com

### **Tree Resource Spreadsheet Methodology and Definitions**

**Tag:** Tree identification number on a metal tag attached to tree with nail or wire, generally at eye level. Trees on municipal or neighboring properties are not tagged.

NT: No tag due to inaccessibility or ownership by municipality or neighbour.

**DBH:** Diameter at breast height – diameter of trunk, measured in centimetres at 1.4m above ground level. For trees on a slope, it is taken at the average point between the high and low side of the slope.

\* Measured over ivy

~ Approximate due to inaccessibility or on neighbouring property

**Crown Spread:** Indicates the diameter of the crown spread measured in metres to the dripline of the longest limbs.

**Relative Tolerance Rating:** Relative tolerance of the tree species to construction related impacts such as root pruning, crown pruning, soil compaction, hydrology changes, grade changes, and other soil disturbance. This rating does not take into account individual tree characteristics, such as health and vigour. Three ratings are assigned based on our knowledge and experience with the tree species: Poor (P), Moderate (M) or Good (G).

**Critical Root Zone:** A calculated radial measurement in metres from the trunk of the tree. It is the optimal size of tree protection zone and is calculated by multiplying the DBH of the tree by 10, 12 or 15 depending on the tree's Relative Tolerance Rating. This methodology is based on the methodology used by Nelda Matheny and James R. Clark in their book "Trees and Development: A Technical Guide to Preservation of Trees During Land Development."

- 15 x DBH = Poor Tolerance of Construction
- 12 x DBH = Moderate
- 10 x DBH = Good

To calculate the critical root zone, the DBH of multiple stems is considered the sum of 100% of the diameter of the largest stem and 60% of the diameter of the next two largest stems. It should be noted that these measures are solely mathematical calculations that do not consider factors such as restricted root growth, limited soil volumes, age, crown spread, health, or structure (such as a lean).

**Health Condition:**

- Poor - significant signs of visible stress and/or decline that threaten the long-term survival of the specimen
- Fair - signs of stress
- Good - no visible signs of significant stress and/or only minor aesthetic issues

**Structural Condition:**

- Poor - Structural defects that have been in place for a long period of time to the point that mitigation measures are limited
- Fair - Structural concerns that are possible to mitigate through pruning
- Good - No visible or only minor structural flaws that require no to very little pruning

**Retention Status:**

- X - Not possible to retain given proposed construction plans
- Retain - It is possible to retain this tree in the long-term given the proposed plans and information available. This is assuming our **recommended mitigation measures are followed**
- Retain \* - See report for more information regarding potential impacts
- TBD (To Be Determined) - The impacts on the tree could be significant. However, in the absence of exploratory excavations and in an effort to retain as many trees as possible, we recommend that the final determination be made by the supervising project arborist at the time of excavation. The tree might be possible to retain depending on the location of roots and the resulting impacts, but concerned parties should be aware that the tree may require removal.
- NS - Not suitable to retain due to health or structural concerns