



**NCC 2022 Section J Vol. 1 J1V3 Assessment**  
**135 Badgerys Creek Road, Bradfield**  
**Creative Vision**

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### Revision History

Issue	Project	Description	Author	Checked	Date
1.0	P22001	NCC Section J 2022 J1V3 Assessment	SN	LW	29 <sup>th</sup> August 2025

### Confidentiality & Liability

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## 1. Executive Summary

Aspire Sustainability Consulting has been engaged to assess the non-Class 2 components of the proposed mixed-use development at 135 Badgerys Creek Road, Bradfield, NSW 2556, against Section J Verification Method J1V3 of the 2022 National Construction Code (NCC) Volume 1. This advice covers Section J Parts J4-J5. J Parts J6-J9 must be achieved in design by relevant services disciplines for the whole development.

J1V3 Verification Method assessments provide design flexibility regarding building fabric & services which do not comply with Deemed-to-Satisfy (DtS) provisions. The assessment allows 'trade-offs' which must improve the building envelope as a system, however thermal comfort requirements have been introduced to NCC 2022 which ensures these trade-offs do not detrimentally impact the comfort of the building occupants.

To comply with the J1V3 Verification Method, annual energy consumption of the proposed building is to be no more than the annual energy consumption of a reference building which complies with the DtS requirements under the following scenarios:

- The **reference building** is modelled with **reference fabric** and **reference services**;
- The **proposed building** is modelled with **proposed fabric** and **reference services**.

This assessment assumes the building services design complies with Section J DtS provisions.

**Table 1: J1V3 Verification Method Model Results**

End Use	Reference (DtS) Building with Reference Fabric & Reference Services		Proposed Building with Proposed Fabric & Reference Services	
	(kWh)	(g/CO <sub>2</sub> /kWh)	(kWh)	(g/CO <sub>2</sub> /kWh)
Cooling	278,668	206,616	276,382	219,104
Heating	63,673	183,311	54,442	188,740
Fans	12,586	119,748	13,497	129,571
Lighting	712,461	656,599	712,461	656,599
Equipment	356,394	328,450	356,394	328,450
<b>Total</b>	<b>1,423,782</b>	<b>1,494,724</b>	<b>1,413,176</b>	<b>1,522,464</b>
% Improvement over Reference	<b>0.74% Improvement   Complies ✓</b>			

### Thermal Comfort

J1V3(1)(b) requires buildings of classes 3, 5, 6, 7, 8 & 9 targeting compliance with Section J through a Verification Method to demonstrate a Predicted Mean Vote (PMV) of +/- 1 is achieved for 95% of air-conditioned NLA for 98% of occupied hours. The assessment concludes J1V3(1)(b) is achieved; results are contained in Appendix A.

The following section provides a summary of the fabric requirements for the development.

## 2. Proposed Building Fabric Performance Summary

The following tables provide a summary of the fabric requirements for the development.

**Table 2: Part J4D6 Building Fabric Performance Requirements**

Fabric Element	Required Total System R-Value	Notes
Roofs/Ceilings	$\geq R3.99$ (Abs $\leq 0.45$ )	Please see Section 5.1.1.
External Walls	Varies between $\geq R1.40$ to $\geq 1.48$ (Abs $\leq 0.60$ )	Please see Section 5.1.3.
Internal Walls	Varies between $\geq R1.49$ to $\geq R1.61$	Please see Section 5.1.3.
Floors to Unconditioned Space Below	$\geq R2.00$ to be achieved for the Class 3 floors that are exposed to unconditioned space below.	Please see Section 5.1.5.
Ceilings to Unconditioned Space Above	$\geq R3.20$	Please see Section 5.1.1.
Slab on Ground	No Insulation Required	Please see Section 5.1.5.

Mark ups showing locations where insulation should be applied are contained in Appendix B.

**Table 3: Part J4D6 Glazing Total System Performance Requirements**

Space	Orientation	Total System U-Value	Total System SHGC	Notes
Hotels / Co-working / L1 Tavern	All	$\leq 3.00$	$\leq 0.21$	Please see Section 5.1.4.
Medical / Commercial / Gym / Childcare	All	$\leq 3.00$	$\leq 0.21$	Please see Section 5.1.4.
Restaurant / GF Tavern / Retail / Communal	All	$\leq 5.00$	$\leq 0.30$	Please see Section 5.1.4.

A detailed breakdown of the DtS façade calculator showing inputs used in the reference model is contained in Appendix C. Glazing performance values outlined above refer to total system values, which is a combined performance value of both the frame and glass.

### 2.1. Disclaimer

Performance requirements contained within this report are based on current documentation as indicated in Section 2.3. Following changes to the referenced documents, it should be communicated to Aspire Sustainability Consulting for review to ensure any changes do not impact compliance with the NCC.

The following sections contain a breakdown of the information used to carry out the assessment, as well as details on the Section J performance requirements to be adopted throughout the development.

### 3. Introduction

Aspire Sustainability Consulting has been engaged by Creative Vision to assess the non-Class 2 components of the proposed mixed-use development at 135 Badgerys Creek Road, Bradfield, NSW 2556, against Section J Verification Method J1V3 of the 2022 National Construction Code (NCC).

#### 3.1. Project Address & NCC Climate Zone

The development is located at 135 Badgerys Creek Road, Bradfield, NSW 2556 and is located within NCC Climate Zone 6.

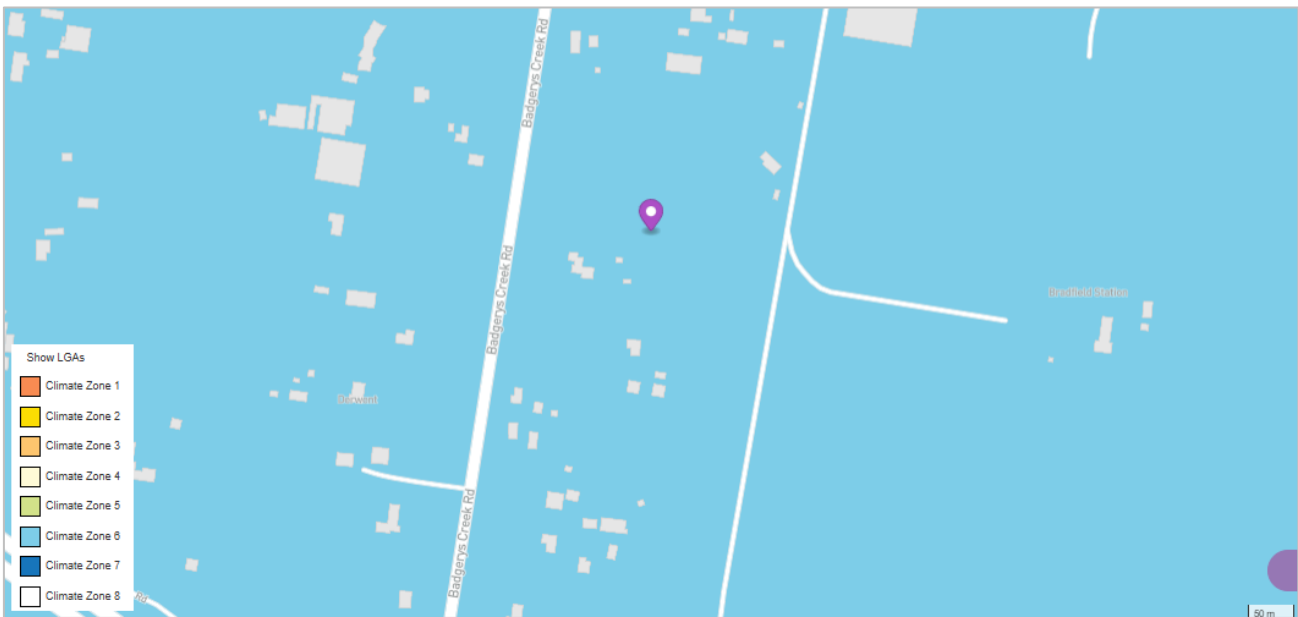


Figure1 Site Area

#### 3.2. Building Classes

The following NCC classes are applicable:

Table 4: Summary of Building Classes

Building Class	Level
Class 3	Stage 1: Level 02 to 10 (Hotel) Stage 2: Level 01 to 03 (Hotel)
Class 5	Stage 1: Level 11 (Business Lounge) Stage 2: Level 02 (Commercial) Stage 2: Level 02 to 03 (Co-working – TBC)
Class 6	Stage 1: Level 01, & 11 (Restaurant) Stage 2-3: Ground Floor (Retail, Café & Restaurant)
Class 9a/5 (TBC)	Stage 2: Level 01 to 02 (Medical)
Class 9b	Stage 1: Lower Ground & Ground Floor (Conference Facility) Stage 2: Level 01 (Gym) Stage 2: Level 03 (Childcare) Stage 3: Ground Floor (Communal)

### 3.3. Information used for Assessment

The following documents were used to complete the assessment:

- Architectural drawings, For Submission: 22/09/25;
- NCC 2022 Façade Calculator; &
- NCC 2022 Volume 1.

### 3.4. Compliance Verification Requirements

This advice provides performance requirements relating to the building fabric (J4), glazing (J4) & building sealing (J5). The remaining J Parts J6-J9 must be documented in design by relevant services engineers.

**Table 5: Section J Documentation Requirements**

Section J Part	Comment
Part J4 – Building Fabric & Glazing	Performance requirements outlined in this report must be achieved in design.
Part J5 – Building Sealing	Performance requirements outlined in this report must be achieved in design.
Part J6 – Air Conditioning and Ventilation	DTS Compliance to be documented by <b>Mechanical Engineer</b> .
Part J7 – Artificial lighting and Power	DTS Compliance to be documented by <b>Electrical Engineer</b> .
Part J8 – Heated Water Supply and Swimming Pool and Spa Pool Plant	DTS compliance to be documented by <b>Hydraulics Engineer</b> .
Part J9 – Energy Monitoring and On-site Distributed energy resources	DTS Compliance to be documented by <b>Electrical Engineer</b> .

The following Sections outline inputs used as the basis of the NCC 2022 J1V3 Assessment.

## 4. J1V3 Input Summary

The following tables contain the input data used in the J1V3 Reference Model.

Table 6: Input Data Summary – Reference & Proposed	
Conditioned Building Area:	17,243m <sup>2</sup>
<i>Please note the area input in the model is only related to the relevant areas for the energy simulation purpose and may not reflect the actual building floor areas of the proposed development.</i>	
Building Energy Simulation Software Used:	DesignBuilder v7 + EnergyPlus Simulation Engine v9
Weather Data for Simulation:	AUS_NSW_Sydney_IWEC.epw
Occupant Density (Table D2D18)	
Type of use	Occupant Density (m <sup>2</sup> /person)
Medical Room	15 m <sup>2</sup> /person
Class 3 Sole Occupancy Unit	15 m <sup>2</sup> /person
Co-working Space, Commercial, Business Lounge, Office	10 m <sup>2</sup> /person
Gymnasium	8 m <sup>2</sup> /person
Retail (entered ground or below)	3 m <sup>2</sup> /person
Retail (above ground level)	5 m <sup>2</sup> /person
Childcare	4 m <sup>2</sup> /person
Dining Room, Kitchen, Restaurant, Café, Tavern, Communal Space	1 m <sup>2</sup> /person
All other spaces	Simulated as unoccupied
Internal Heat Gains for Appliances and Equipment (Specification 35 Table S35C2I)	
Application	Internal sensible heat gain rate (W/m <sup>2</sup> )
Co-working Space, Commercial, Business Lounge, Office	11 W/m <sup>2</sup>
Class 3 Sole Occupancy Unit	160 W/room
Comms.	100 W/m <sup>2</sup>
Retail, Restaurant, Childcare, Gymnasium, Communal, Medical Room	5 W/m <sup>2</sup>
All other spaces	Simulated with no Load
Internal Heat Gains for Occupants and Hot Meals (Specification 35 Table S35C2n)	
Application	Internal sensible heat gain per person (W)
Dinning Room, Restaurant or Café	80W sensible heat gain and 80W latent heat gain
Occupied Spaces	75W sensible heat gain and 55W latent heat gain

Maximum Illumination Power Density (Section J - Part J7D3 Table J7D3a)	
Space	Maximum illumination power density (W/m <sup>2</sup> )
Office Space, Common rooms, Lounge	4.5 W/m <sup>2</sup>
WC's	3 W/m <sup>2</sup>
Corridors, Medical Room	5 W/m <sup>2</sup>
Garbage, Storage	1.5 W/m <sup>2</sup>
Restaurant, Retail, Dining Room, Gymnasium	14 W/m <sup>2</sup>
Kitchen	4 W/m <sup>2</sup>
Entry Lobby, Foyer	9 W/m <sup>2</sup>
Additional Inputs	
Systems	A DtS compliant HVAC system (COP 3.2 heating, 3.1 Cooling) has been used for the purpose of this simulation in accordance with Specification 34. Please note compliance with Part J6, NCC 2022 shall be confirmed in design by the project engineer.
Zoning	A perimeter zone of depth of 4m has been applied to conditioned areas.
Infiltration	0.35 air changes per hour when mechanical ventilation systems are operating. 0.7 air changes per hour at all other times.
Assumptions for Building Simulation	
<ul style="list-style-type: none"> <li>▪ All operation profiles used for the simulation are in accordance with Specification 35, NCC 2022;</li> <li>▪ Energy usage for heated water supply for food preparation and sanitary purposes, as well as energy usage for vertical transport systems and moving walkways has not been accounted for in this assessment, in accordance with Specification 34;</li> <li>▪ All building services (J6-J9) are assumed to be DtS compliant and will be documented by relevant engineers.</li> </ul>	

Table 7: Building Fabric Summary – Reference & Proposed Models		
Element	Reference Model (DTS)	Proposed Model
Roofs	≥R3.20	Refer to section 5.1.1.
Solar absorptance of roofs	≤0.45	≤0.45 (Light Colour)
Walls	≥R1.40	Refer to section 5.1.3.
Solar absorptance of external walls	≤0.60	≤0.60 (Medium Colour)
Internal Walls	≥R1.40	Refer to section 5.1.3.
Ceilings to Unconditioned Space Above	≥R3.20	≥R3.20
Floors to Unconditioned Space Below	≥R2.00	≥R2.00 to be achieved for the Class 3 floors that are exposed to unconditioned space below.
Slab on ground	≥R2.00	No Insulation Required
Glazing Area and Shading		
Element	Reference Model (DTS)	Proposed Model
Glazing	<p><b>Stage 1 &amp; 2</b>  <i>Medical / Office / Gym:</i>            U3.53, SHGC 0.185  <i>Hotel:</i>            U1.56, SHGC 0.105  <i>Retail / Restaurant / Tavern:</i>            U4.70, SHGC 0.164</p> <p><b>Stage 3</b>  <i>Communal &amp; Café:</i>            U4.78, SHGC 0.19</p> <p><i>Please see Appendix C for DTS façade calculator inputs.</i></p>	Refer to section 5.1.4.
Roof lights	No roof lights	No roof lights
Shading	No shading included in reference model	As per architectural documentation

## 5. Section J DTS Requirement Breakdown: Parts J4-J5

For the purpose of this report, the building envelope means any part of the building fabric that separates a conditioned space from either the exterior of the building or an un-conditioned space within the building.

### 5.1. J4 Building Fabric

The following requirements must be implemented in design:

**Table 8: Thermal Construction Requirements**

Insulation must be installed in compliance with AS/NZS 4859.1:	<ul style="list-style-type: none"> <li>▪ adjoining insulation must abut / overlap and butt up against studs, joists, noggins, etc. where the insulation must be against the member;</li> <li>▪ it must form a continuous barrier &amp; must not interfere with services or fittings.</li> <li>▪ do not affect the safe or effective operation of a service or fitting</li> </ul>
Reflective insulation must be installed with:	<ul style="list-style-type: none"> <li>▪ the necessary airspace to achieve the required R-Value between the reflective side of the insulation and the building lining or cladding;</li> <li>▪ the reflective insulation closely fitted against any penetration, door or window opening;</li> <li>▪ the reflective insulation adequately supported by framing members;</li> <li>▪ each adjoining sheet must either overlap not less than 50mm or be taped together.</li> </ul>
Bulk insulation must be installed so that:	<ul style="list-style-type: none"> <li>▪ it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling, or the like;</li> <li>▪ in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm.</li> </ul>

**Table 9: Thermal Breaks**

Roofs	<p>A roof that has metal sheet roofing fixed to metal purlins, metal rafters or metal battens and does not have a ceiling lining or has a ceiling lining fixed directly to those metal purlins, metal rafters or metal battens:</p> <p><u>Must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed at all points of contact between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens.</u></p>
Walls	<p>A wall that does not have a wall lining or has a wall lining that is fixed directly to the same metal frame and has lightweight external cladding such as weatherboards, fibre-cement or metal sheeting fixed to a metal frame:</p> <p><u>Must have a thermal break, consisting of a material with an R-Value of not less than R0.2, installed at all points of contact between the external cladding and the metal frame.</u></p>

The following pages contain indicative build-ups of constructions used in the proposed model.

**5.1.1. J4D4 Roof & Ceiling**

Insulation should be applied to areas highlighted in Appendix B, according to the values contained in the following table:

**Table 10: Indicative Build-up of Concrete External Roof, Required Minimum R3.99 Total System  
Insulation Batts with Reflective Backing facing Cavity Below**

Component	Fraction (%)	Thickness (mm)	Conductivity λ (W/m.K)	R-Value (m2.K/W)
Outdoor air film (7m/s)	-	-		0.03
200mm Concrete (SA <0.45)	100%	200	1.44	0.14
56mm R2.30 Kingspan K10 insulation (no breaks in insulation)	<b>Insulation (R2.30)</b>	<b>56</b>	<b>Insulation: 0.024</b>	<b>3.58</b>
	<b>Reflective Air Gap</b>	<b>≈100</b>		
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film	-	-		0.16
<b>Total Construction Thickness</b>		<b>≈369</b>		
<b>Total System R-Value</b>	-	-		<b>3.99</b>

Insulation installed must have a reflective backing that faces the cavity underneath. Should reflective backing not be installed, a re-calculation of the above roof system R-value will be required.

Insulation has been based on Kingspan K10 soffit board (56mm R2.30).

The above calculation does not consider breaks in insulation resulting from services penetrations. Should services penetrations be present within the insulation layer, the above calculation will be subject to an update.

**Table 11: Indicative Build-up of Ceiling to Unconditioned Space Above, Required Minimum R4.07 Total System Insulation**

Component		Fraction (%)	Thickness (mm)	Conductivity $\lambda$ (W/m.K)	R-Value (m <sup>2</sup> .K/W)
Indoor air film		-	-		0.11
200mm Concrete		100%	200	1.44	0.14
56mm R2.30 Kingspan K10 insulation (no breaks in insulation)	<b>Insulation (R2.30)</b>	<b>100%</b>	<b>56</b>	<b>Insulation: 0.024</b>	<b>3.58</b>
	<b>Reflective Air Gap</b>	<b>100%</b>	<b>≈100</b>		
13mm Plasterboard		100%	13	0.17	0.08
Indoor air film		-	-		0.16
<b>Total Construction Thickness</b>			<b>≈369</b>		
<b>Total System R-Value</b>		-	-		<b>4.07</b>

Insulation installed must have a reflective backing that faces the cavity underneath. Should reflective backing not be installed, a re-calculation of the above roof system R-value will be required.

Insulation has been based on Kingspan K10 soffit board (56mm R2.30).

The above calculation does not consider breaks in insulation resulting from services penetrations. Should services penetrations be present within the insulation layer, the above calculation will be subject to an update.

Mark-ups showing the constructions within the thermal envelope requiring insulation in accordance with the above tables can be found in Appendix B.

### 5.1.2. J4D5 Roof Lights

There are no proposed roof lights within the thermal envelope.

5.1.3. J4D6 Walls

External Walls

The following wall constructions are based on a bridged insulation layer containing **R2.00 90mm Mineral Wool** with a thermal conductivity of **0.045**, an **R0.20 Thermal Break** and a 35mm x 92mm steel frame comprising an **11% bridging area** (area where insulation cannot be installed due to frame) when viewed perpendicular to the vertical plane.

**Table 12: Indicative Build-up of Lightweight FC External Wall ≥R1.48 Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity λ (W/m.K)	R-Value (m2.K/W)
Outdoor air film (7m/s)	-	-		0.03
9mm Fibre cement	100%	9	0.25	0.04
Bridged Layer <b>R0.20 thermal break</b> 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Thermal Break (R0.20)</b>	<b>11%</b>	<b>10</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.075</b> <b><u>1.21</u></b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>124</b>		
<b>Total System R-Value</b>	-	-		<b>1.48</b>

The following wall construction is based on a bridged insulation layer containing **R2.00 90mm Mineral Wool** with a thermal conductivity of **0.045** a 35mm x 92mm steel frame comprising an **11% bridging area** (area where insulation cannot be installed due to frame) when viewed perpendicular to the vertical plane.

**Table 13: Indicative Build-up of Concrete External Wall ≥R1.41 Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity λ (W/m.K)	R-Value (m2.K/W)
Outdoor air film (7m/s)	-	-		0.03
200mm Concrete	100%	200	1.44	0.14
<b>Bridged Layer</b> R0.17 Air Gap 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Air Gap</b>	<b>100%</b>	<b>20</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.087</b> <b>1.04</b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>325</b>		
<b>Total System R-Value</b>	-	-		<b>1.41</b>

- Compliance will be achieved for similar walls with a thicker concrete layer.

**Table 14: Indicative Build-up of Brick Veneer External Wall  $\geq R1.44$  Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity $\lambda$ (W/m.K)	R-Value (m <sup>2</sup> .K/W)
Outdoor air film (7m/s)	-	-		0.03
110mm Brick	100%	110	0.65	0.17
<u>Bridged Layer</u> R0.17 Air Gap 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Air Gap</b>	<b>100%</b>	<b>20</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.087</b> <b><u>1.04</u></b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>235</b>		
<b>Total System R-Value</b>	-	-		<b>1.44</b>

Mark-ups showing the constructions within the thermal envelope requiring insulation in accordance with the above tables can be found in Appendix B.

### Internal Walls

The following wall constructions are based on a bridged insulation layer containing **R2.00 90mm Mineral Wool** with a thermal conductivity of **0.045**, an **R0.20 Thermal Break** and a 35mm x 92mm steel frame comprising an **11% bridging area** (area where insulation cannot be installed due to frame) when viewed perpendicular to the vertical plane.

**Table 15: Indicative Build-up of Lightweight Plasterboard Internal Wall ≥R1.61 Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity λ (W/m.K)	R-Value (m2.K/W)
Indoor air film (still air)	-	-		0.12
13mm Plasterboard	100%	13	0.17	0.08
Bridged Layer <b>R0.20 thermal break</b> 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Thermal Break (R0.20)</b>	<b>11%</b>	<b>10</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.075</b> <b>1.21</b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>128</b>		
<b>Total System R-Value</b>	-	-		<b>1.16</b>

The following wall construction is based on a bridged insulation layer containing **R2.00 90mm Mineral Wool** with a thermal conductivity of **0.045** a 35mm x 92mm steel frame comprising an **11% bridging area** (area where insulation cannot be installed due to frame) when viewed perpendicular to the vertical plane.

**Table 16: Indicative Build-up of Concrete Internal Wall ≥R1.50 Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity λ (W/m.K)	R-Value (m2.K/W)
Indoor air film (still air)	-	-		0.12
200mm Concrete	100%	200	1.44	0.14
<b>Bridged Layer</b> R0.17 Air Gap 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Air Gap</b>	<b>100%</b>	<b>20</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.087</b> <b>1.04</b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>325</b>		
<b>Total System R-Value</b>	-	-		<b>1.50</b>

- Compliance will be achieved for similar walls with a thicker concrete layer.

**Table 17: Indicative Build-up of Concrete Block Internal Wall  $\geq R1.49$  Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity $\lambda$ (W/m.K)	R-Value (m <sup>2</sup> .K/W)
Indoor air film (still air)	-	-		0.12
140mm Concrete Block	100%	140	1.10	0.13
<u>Bridged Layer</u> R0.17 Air Gap 35mm x 92mm steel stud @ 600 Centres @ 600 Noggings 90mm Insulation (R2.00)	<b>Air Gap</b>	<b>100%</b>	<b>20</b>	<b>Insulation: 0.045</b> <b>Bridged: 0.087</b> <b><u>1.04</u></b>
	<b>Frame</b>	<b>11%</b>	<b>92</b>	
	<b>Insulation (R2.00)</b>	<b>89%</b>	<b>90</b>	
13mm Plasterboard	100%	13	0.17	0.08
Indoor air film (still air)	-	-		0.12
<b>Total Construction Thickness</b>		<b>265</b>		
<b>Total System R-Value</b>	-	-		<b>1.49</b>

Mark-ups showing the constructions within the thermal envelope requiring insulation in accordance with the above tables can be found in Appendix B.

#### 5.1.4. J4D6 Glazing

Table 18 contains a summary of the glazing performance requirements to be achieved for the development.

**Table 18: Part 4D6 Glazing Total System Performance Requirements**

Space	Orientation	Total System U-Value	Total System SHGC
Hotels / Co-working / L1 Tavern	All	$\leq 3.00$	$\leq 0.21$
Medical / Commercial / Gym / Childcare	All	$\leq 3.00$	$\leq 0.21$
Restaurant / GF Tavern / Retail / Communal	All	$\leq 5.00$	$\leq 0.30$

The glazing performance values outlined above refer to total system values, which is a combined performance value of both the frame and glass. The NCC 2022 façade calculator inputs used to derive the total system glazing performance values for the Reference Model are contained in Appendix C.

All awnings and shading structures to be installed as per plans and elevations referenced. Should there be any changes to the glazing or shading configuration, the new layouts will need to be re-assessed to verify compliance with Section J.

#### 5.1.5. J4D7 Floors

##### External Floors Exposed to Unconditioned Space Below

**Table 19: Indicative Build-up of Floor to Unconditioned Space Below, Required Minimum R2.00 Total System**

Component	Fraction (%)	Thickness (mm)	Conductivity $\lambda$ (W/m.K)	R-Value (m <sup>2</sup> .K/W)
Indoor air film	-	-		0.11
200mm Concrete	100%	200	1.44	0.14
40mm R1.75 PIR Type Insulation (no breaks in insulation)	100%	40	Insulation: 0.024	<u>1.75</u>
Outdoor air film	-	-		0.04
<b>Total Construction Thickness</b>		<b>≈240</b>		
<b>Total System R-Value</b>				<b>4.07</b>

## 5.2. J5 Building Sealing

The following requirements relating to building sealing must be achieved in design. The below requirements shall be verified, if required, by the architect or builder.

**Table 20: Part J5 DtS Requirements**

J Part	Requirement
J5D3 - Chimneys & Flues	Any new exhaust fans, located within conditioned areas indicated in the project reference, must be fitted with a sealing device such as a self-closing damper or the like.
J5D4 – Roof Lights	A roof light must be sealed, or capable of being sealed, when serving a conditioned space or a habitable room in climate zones 4, 5, 6, 7 or 8.
J5D5 - Windows and Doors	<p>All doors, openable windows or the like (other than fire or smoke doors, a window complying with AS 2047, a shutter system readily operated either manually, mechanically or electronically by the occupant) must be sealed when forming part of the building envelope or in climate zones 4, 5, 6, 7 or 8;</p> <p>A seal to restrict air infiltration:</p> <ul style="list-style-type: none"> <li>▪ Must have a draft protection device for the bottom edge of a door; and</li> <li>▪ A foam or rubber compression strip, fibrous seal or the like, for all other door edges.</li> </ul> <p>An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like unless:</p> <ul style="list-style-type: none"> <li>▪ The conditioned space has a floor area of not more than 50 m<sup>2</sup>; or</li> <li>▪ A café, restaurant, open front shop or the like has a 3 m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space. At all other entrances, self-closing doors.</li> </ul> <p>A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like.</p>
J5D6 - Exhaust Fans	Any exhaust fans located within conditioned areas or habitable rooms in climate zones 4, 5, 6, 7 or 8 must be fitted with a sealing device such as a self-closing damper or the like.
J5D7 – Construction of Ceilings, Walls & Floors	<p>Construction forming elements of the envelope or in climate zones 4, 5, 6, 7 or 8 must be constructed to minimise air leakage via:</p> <ul style="list-style-type: none"> <li>▪ Enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or</li> <li>▪ Sealed at junctions and penetrations with close fitting architrave, skirting or cornice caulking, or skirting, architraves, cornices, or the like.</li> </ul> <p>The above requirements do not apply to openings, grilles or the like required for smoke hazard management.</p>
J5D8 – Evaporative Coolers	An evaporative cooler must be fitted with a self-closing damper or the like when serving a heated space or in climate zones 4, 5, 6, 7 or 8.

## Appendix A: Thermal Comfort Assessment Results

J1V3(1)(b) requires buildings of classes 3, 5, 7, 8 & 9 targeting compliance with Section J through a Verification Method to demonstrate a Predicted Mean Vote (PMV) of +/- 1 is achieved for 95% of air-conditioned NLA for 98% of occupied hours.

The following table shows the thermal comfort result summary for the development.

**Table 1: Area PMV Summary**

Area of occupied conditioned spaces within (PMV) of +/- 1 for >98% occupied hours.	<b>100.0% PASS</b>
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**Table 2: PMV Inputs**

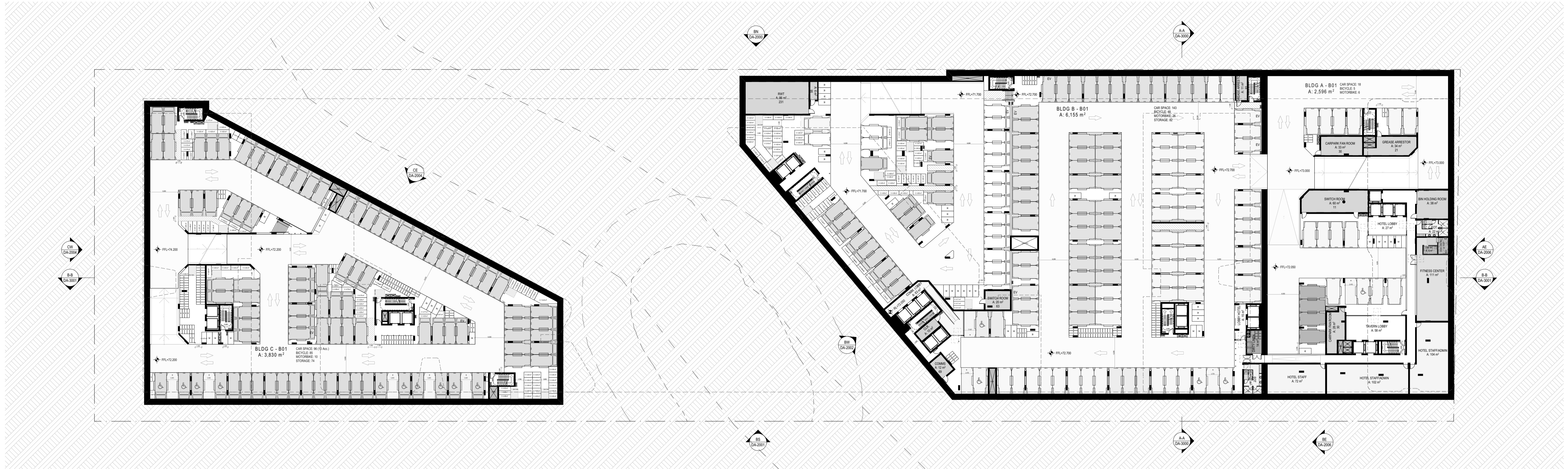
Input	Value
Summer Clo	0.85
Summer Air Speed	0.15m/s
Winter Clo	0.85
Winter Air Speed	0.15m/s
Humidity	Uncontrolled (Sydney IWEC)
Metabolic Rate	1 (ASHRAE DA09 Seated, Standing)
Cooling SP	23.5°C
Heating CP	21.5 °C

## Appendix B: Insulation Mark-ups

**Appendix B: Insulation Mark-ups**

- Roof:
- Ceiling:
- Floor:
- External Wall:
- Internal Wall:

Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



	BLDG A	BLDG B	BLDG C	TOTAL
MOTOBIKE	6	26	10	42
BICYCLE	5	48	85	138
STORAGE	0	82	74	156

**CAR PARKING LEGEND**

	BLDG A	BLDG B	BLDG C
RETAIL PREMISES CAR SPACE	0	0	0
RETAIL PREMISES CAR SPACE	0	0	0
HOTEL / CONFERENCE CAR SPACE	14 (1 ACC.)	44 (3 ACC.)	0
GYM CAR SPACE	0	44	0
MEDICIAL CAR SPACE	0	10 (1 ACC.)	0
COMMERCIAL CAR SPACE	0	8	0
CHILCARE CAR SPACE	0	0	0
RESIDENTIAL CAR SPACE	0	16	96 (10ACC.)
RESI. VISITOR CAR SPACE	0	17	0
TAVERN CAR SPACE	4	0	0
CAR SHARE	0	4	0
<b>TOTAL</b>	<b>18 (1 ACC.)</b>	<b>143 (4 ACC.)</b>	<b>96 (10ACC.)</b>

**NOTES:**

ACCESSIBLE PARKING SPACES WITH THEIR SHARED AREAS TO ACHIEVE A MIN. CLEAR HEAD HEIGHT OF 2.5M

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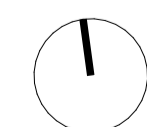
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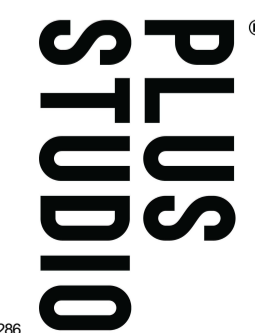
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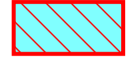
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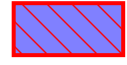
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**Appendix B: Insulation Mark-ups**

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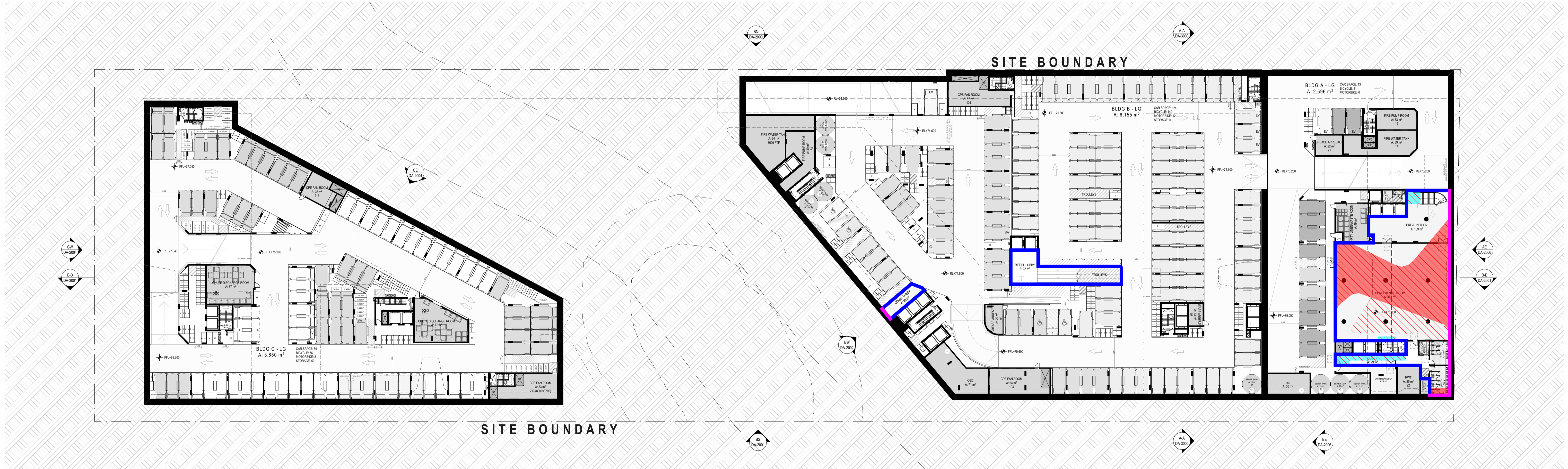
Ceiling: 

Floor: 

External Wall: 

Internal Wall: 

Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



	BLDG A	BLDG B	BLDG C	TOTAL
MOTOBIKE	0	12	8	20
BICYCLE	11	149	76	236
STORAGE	0	0	60	60

**CAR PARKING LEGEND**

	BLDG A	BLDG B	BLDG C
RETAIL PREMISES CAR SPACE	2	31 (1 ACC.)	0
RETAIL PREMISES CAR SPACE	0	84 (1 ACC.)	0
HOTEL / CONFERENCE CAR SPACE	1	0	0
GYM CAR SPACE	0	0	0
MEDICAL CAR SPACE	0	0	0
COMMERCIAL CAR SPACE	0	3 (1 ACC.)	0
CHILCARE CAR SPACE	0	6 (1 ACC.)	0
RESIDENTIAL CAR SPACE	0	0	35
RESI. VISITOR CAR SPACE	0	0	47
TAVERN CAR SPACE	10	0	0
CAR SHARE	0	0	7
<b>TOTAL</b>	<b>13</b>	<b>125 (4 ACC.)</b>	<b>89</b>

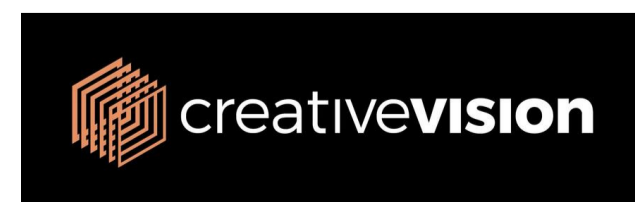
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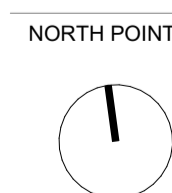
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**Appendix B: Insulation Mark-ups**

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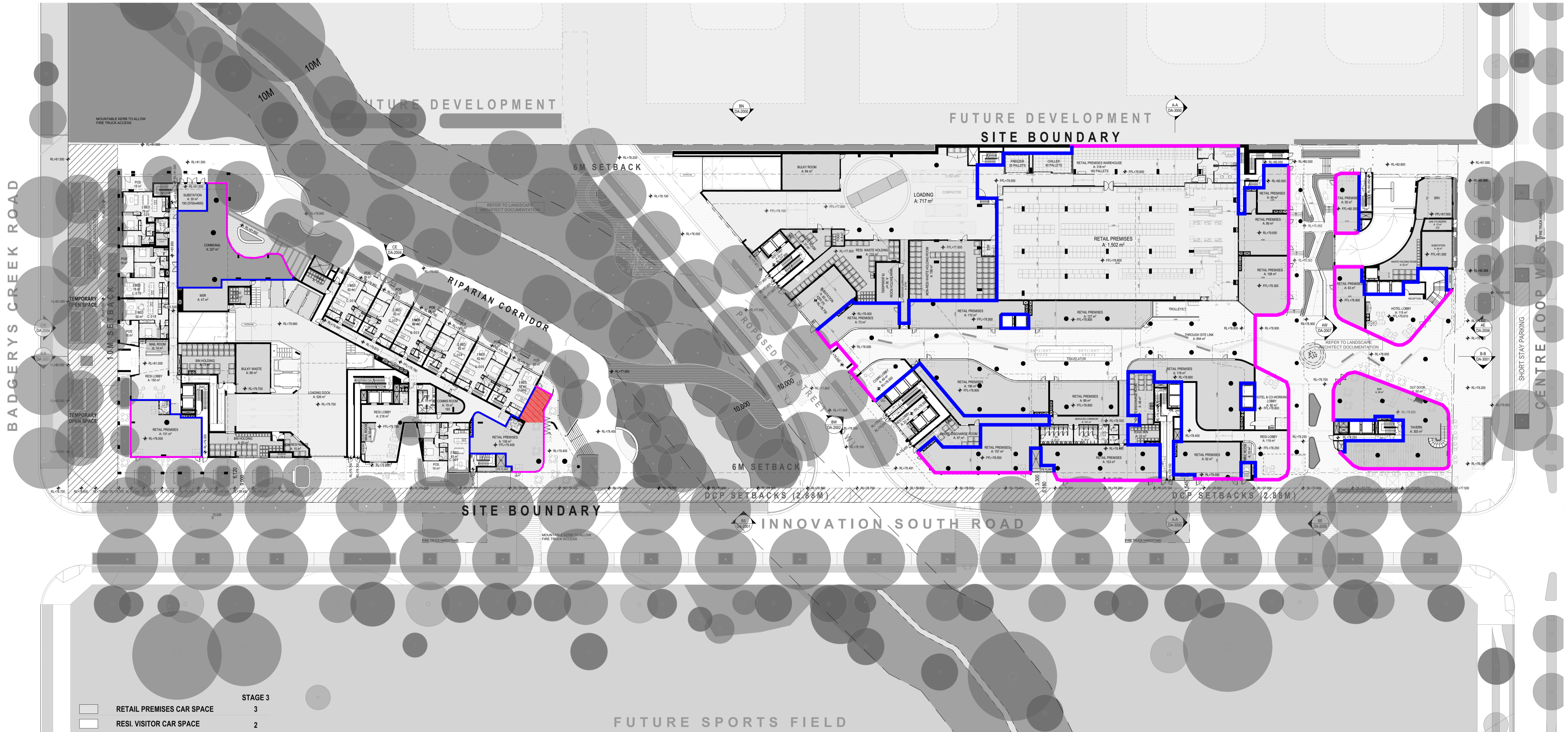
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Floor:

External Wall:

Internal Wall:

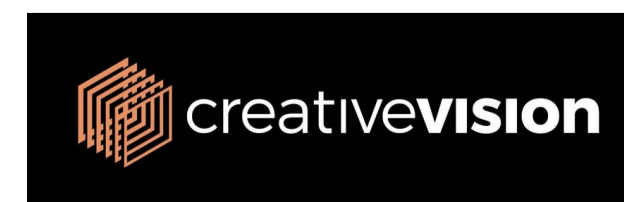
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**Appendix B: Insulation Mark-ups**

Roof: 

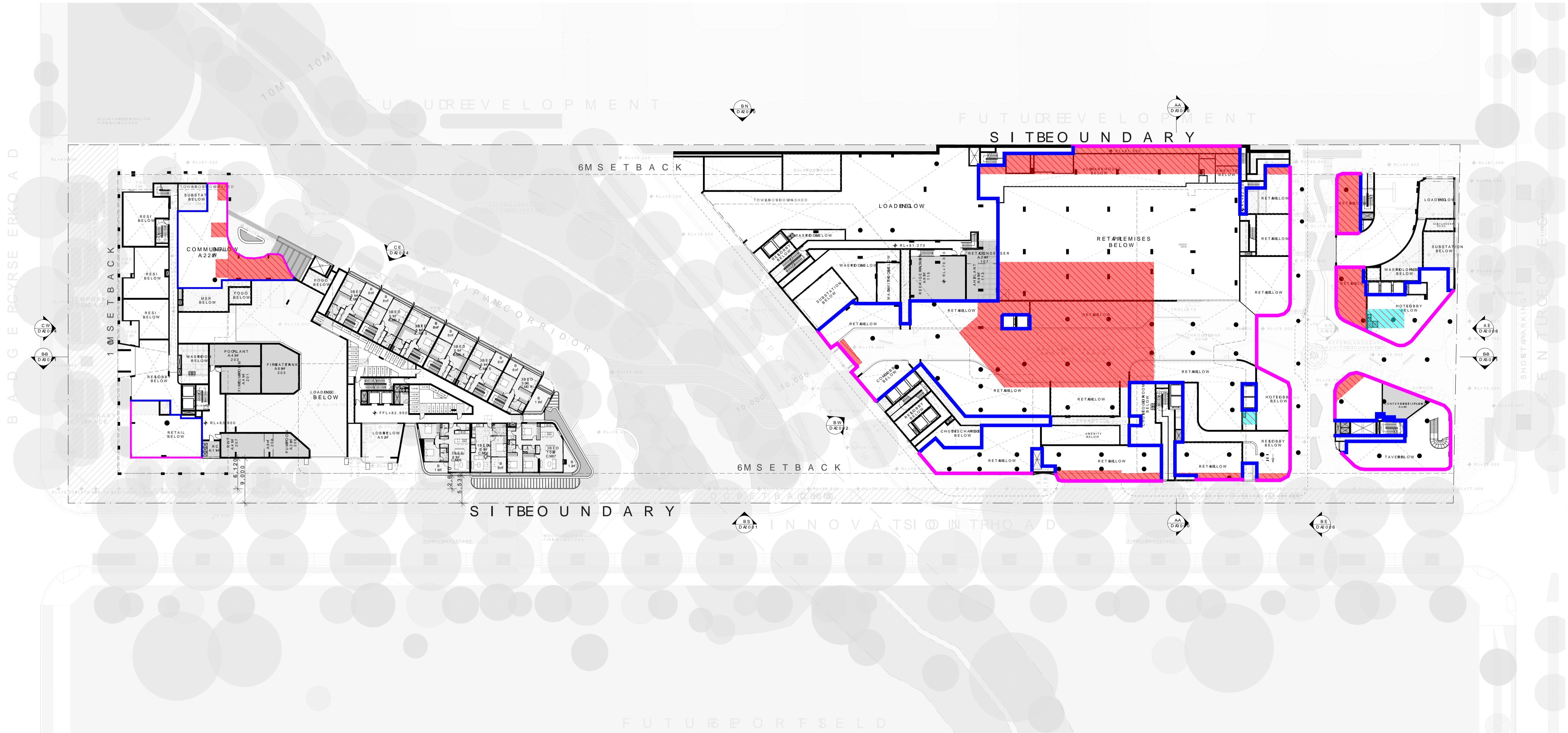
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Floor: 

External Wall: 

Internal Wall: 

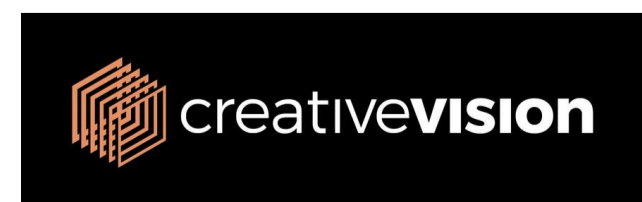
Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



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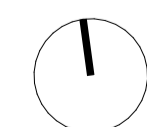
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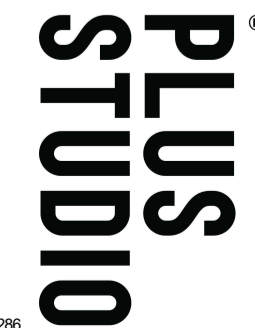


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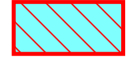
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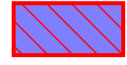
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**Appendix B: Insulation Mark-ups**

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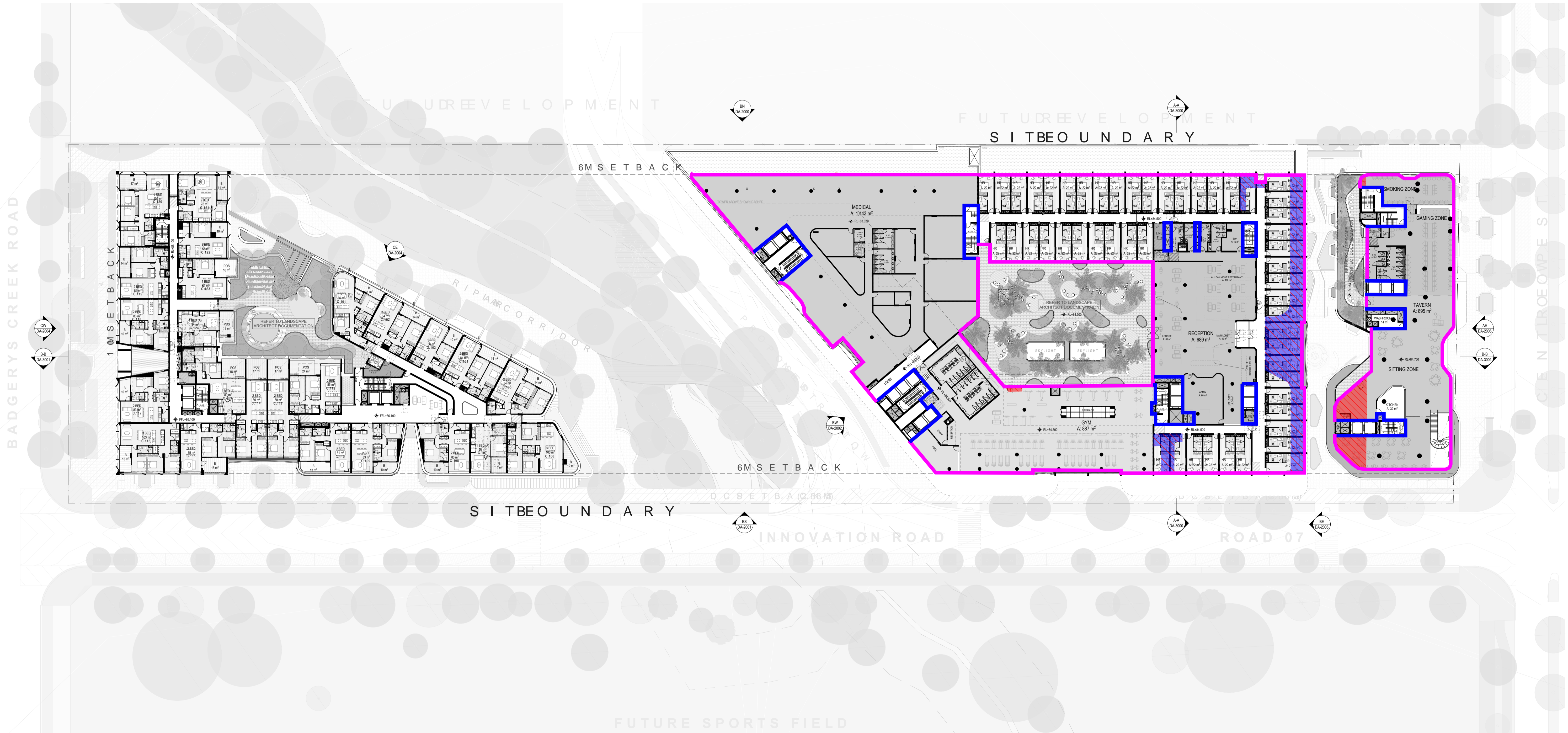
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Floor: 

External Wall: 

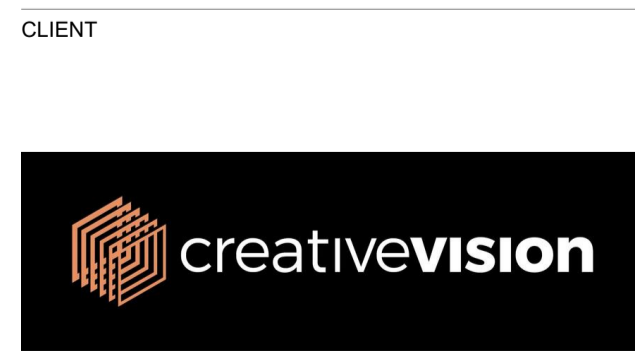
Internal Wall: 

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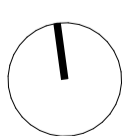


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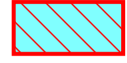
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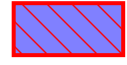
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Floor: 

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Internal Wall: 


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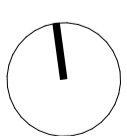


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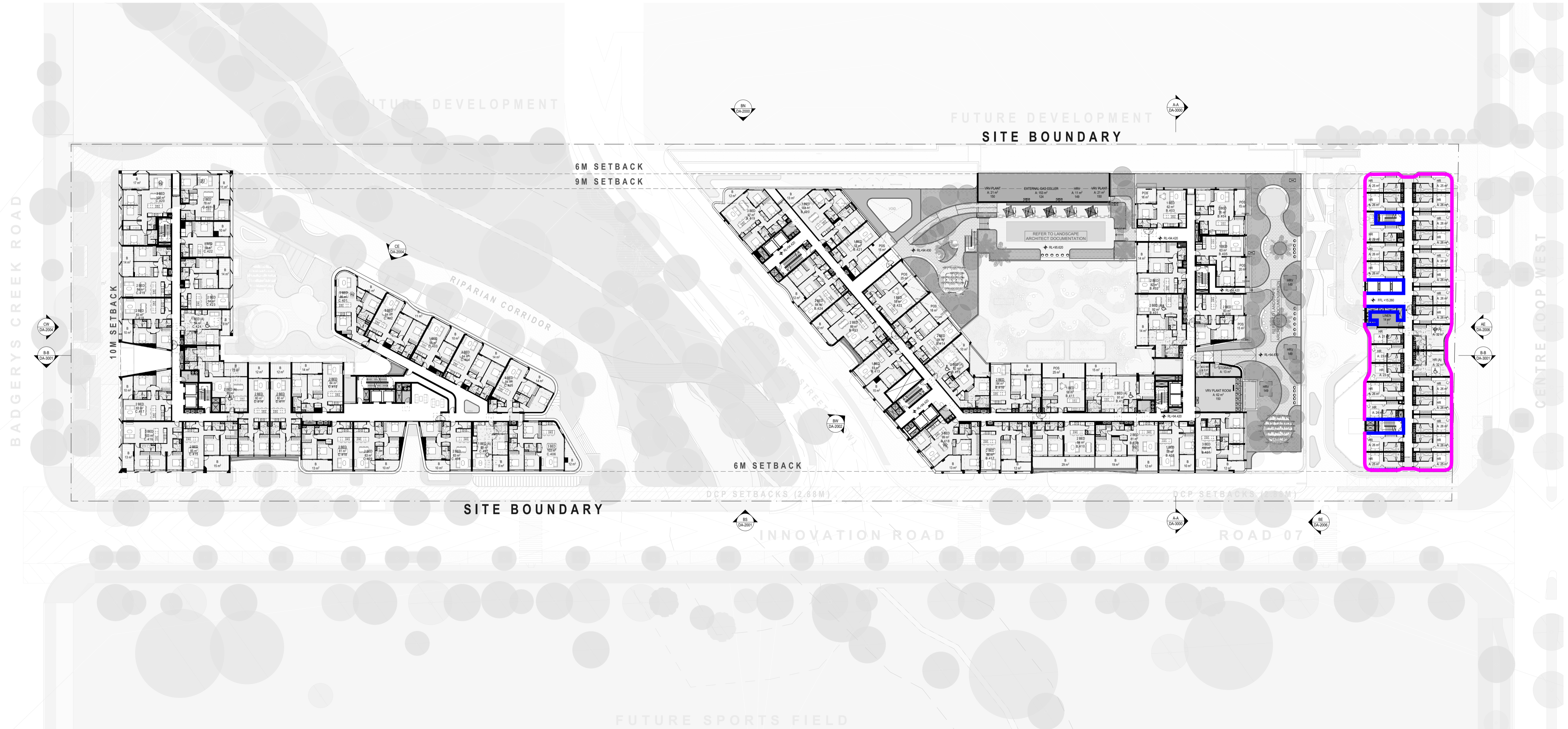
Ceiling: 

Floor: 


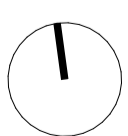
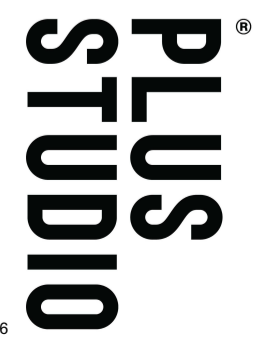
External Wall: 

Internal Wall: 


Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.

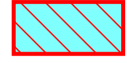


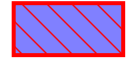
**FOR SUBMISSION**


REV A	CKD DC	APP AS	Status FOR SUBMISSION	DATE 9/22/2025	CLIENT 	Urban Planning ETHOS URBAN T: +61 2 9956 6962	Plandscape Consultant LAND + FORM T: +61 430 990 004	Traffic Consultant ASON GROUP T: +61 2 9083 6601	NORTH POINT 	SCALE 1:400 @A1 Size	ARCHITECT Gadgil Country Level 4, 222 Clarence Street Sydney, NSW 2000 Australia +61 2 8823 7000 sydney@plusstudio.co	PROJECT TITLE 135 Badgerys Creeks, Bradfield DEVELOPMENT APPLICATION	DRAWING TITLE GENERAL FLOOR PLAN - LEVEL 04
					Civil Consultant ADP CONSULTING T: +61 2 8043 7856	Structure Consultant JSBC CONSULTING T: +61 2 9963 7222	Services Consultant NEURON BUILD T: +61 401 222 862	DISCLAIMER In accepting and utilising this document, the recipient agrees that Plus Studio, retain all common law, statutory law and other rights including copyright and intellectual property rights. The recipient agrees not to use this document for any purpose other than its intended use; to waive all claims against Plus Studio resulting from unauthorised changes; or to reuse the document on other projects without the prior written consent of Plus Studio. Under no circumstances shall transfer of this document be deemed a sale. Plus Studio makes no warranties of fitness for any purpose. The Builder/Contractor shall verify all dimensions prior to any work commencing. Figured dimensions shall take precedence over scaled work.		Plus Architecture Sydney Pty Ltd ABN 34 600 506 303 Nominated Architects NSW 51 Dune 11622, A-Joe 10002 + R Pt 11286 plusstudio.co 2025 © Plus Architecture International Pty Ltd. All Rights Reserved. Plus Studio® is a trade mark of Plus Architecture International Pty Ltd.	CLIENT CREATIVEVISION cvision.com.au	PROJECT NUMBER 20799	STAGE DA
					APPROVED AS	CHECKED DC	DRAWN	DRAWING NUMBER DA-1004	REVISION A				


**Appendix B: Insulation Mark-ups**

Roof: 

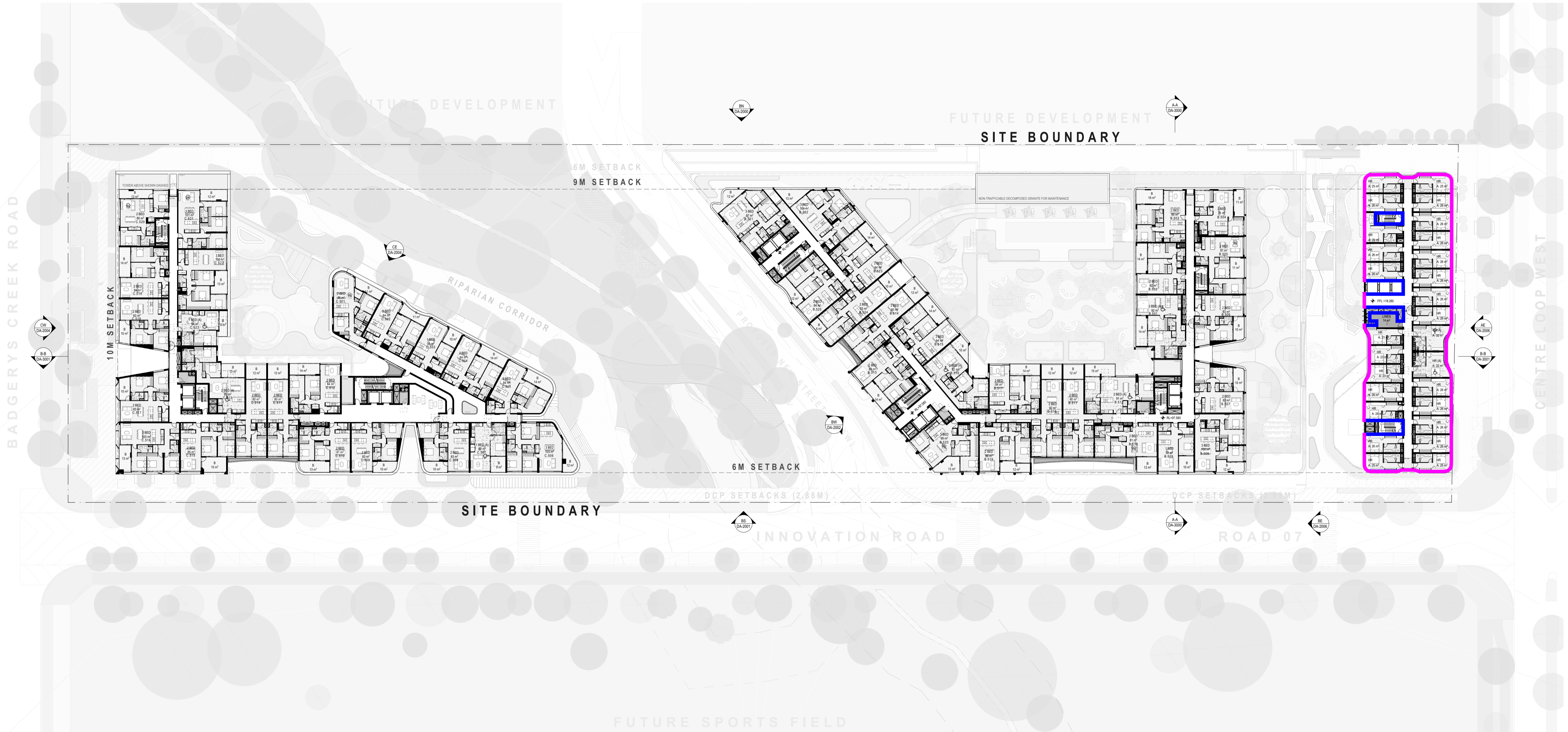
Ceiling: 

Floor: 

External Wall: 

Internal Wall: 

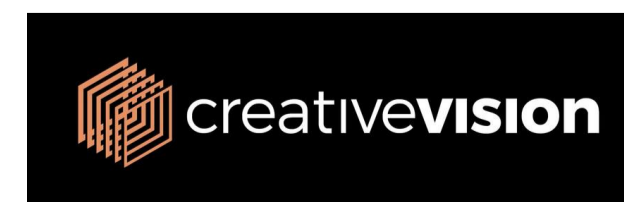
Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



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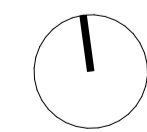
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NORTH POINT



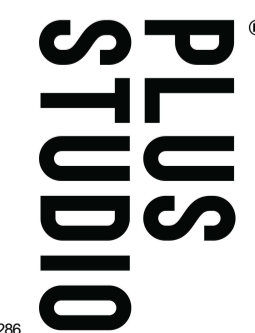
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DEVELOPMENT APPLICATION

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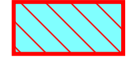
DRAWING TITLE  
GENERAL FLOOR PLAN - LEVEL 05-08

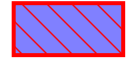
PROJECT NUMBER  
20799  
DRAWING NUMBER  
DA-1005


STAGE  
DA  
REVISION  
A


**Appendix B: Insulation Mark-ups**

Roof: 

Ceiling: 

Floor: 

External Wall: 

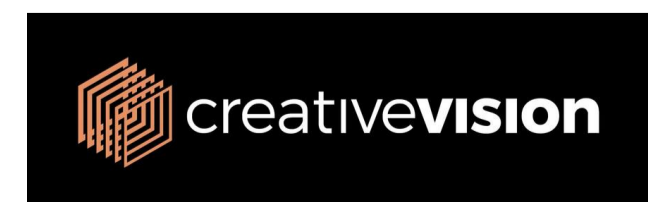
Internal Wall: 

Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



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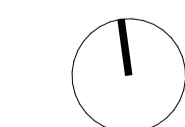
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135 Badgerys Creeks, Bradfield  
DEVELOPMENT APPLICATION

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DRAWING TITLE  
**GENERAL FLOOR PLAN - LEVEL 09**


PROJECT NUMBER  
20799


DRAWING NUMBER  
DA-1009


STAGE  
DA


REVISION  
A


**Appendix B: Insulation Mark-ups**

Roof: 

Ceiling: 

Floor: 

External Wall: 

Internal Wall: 


Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.

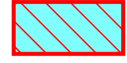


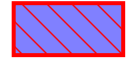
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					ADP CONSULTING	JSBC CONSULTING	NEURON BUILD				Plus Architecture International Pty Ltd ABN 34 600 506 303 Nominate Architects NSW G'Done 11622, A-Joe 10002 + R Piv 11296 plusstudio.co 2025 © Plus Architecture International Pty Ltd. All Rights Reserved. Plus Studio® is a trade mark of Plus Architecture International Pty Ltd.	CLIENT CREATIVEVISION cvision.com.au	PROJECT NUMBER 20799	STAGE DA	
												APPROVED	CHECKED	DRAWN	REVISION A
												AS	DC		


**Appendix B: Insulation Mark-ups**

Roof: 

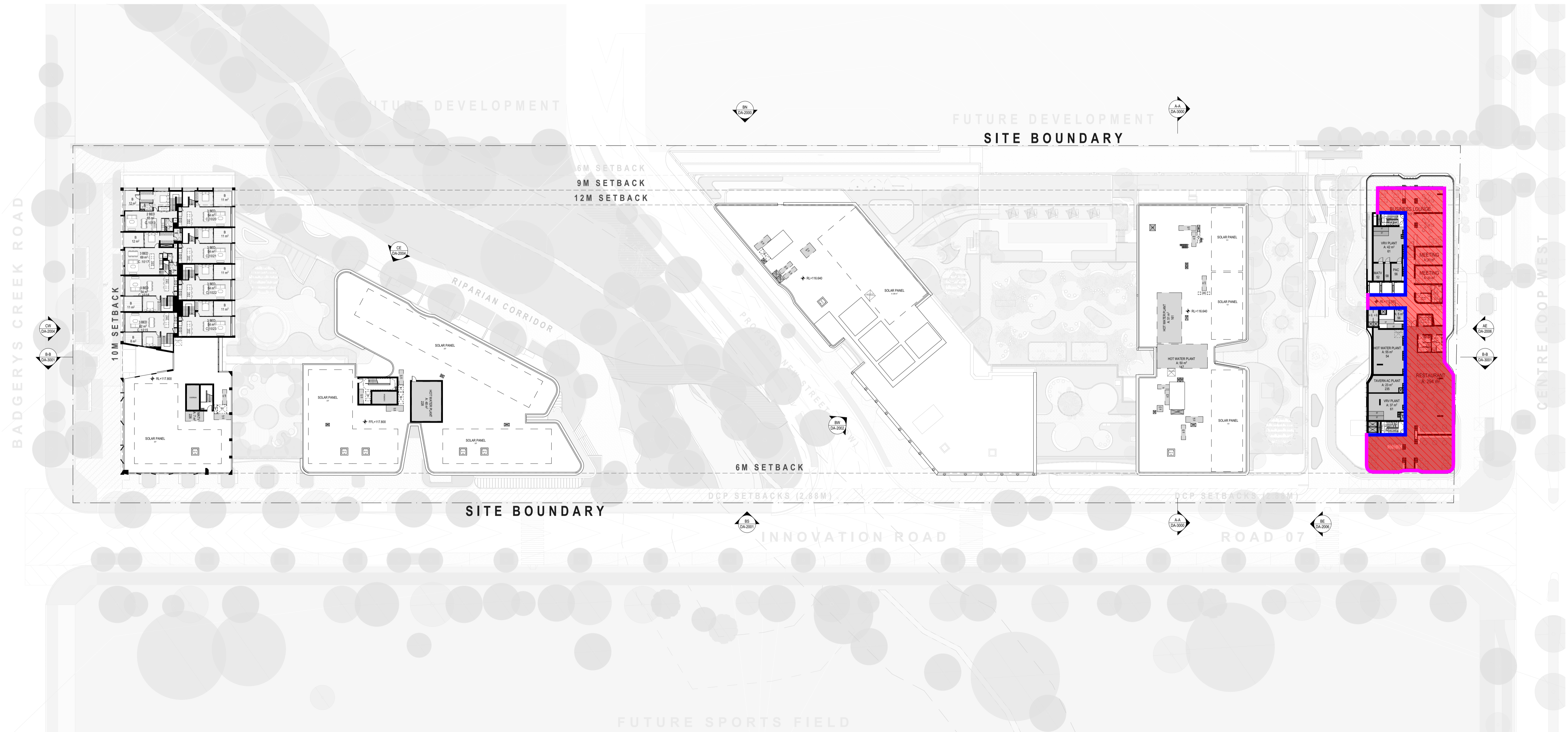
Ceiling: 

Floor: 

External Wall: 

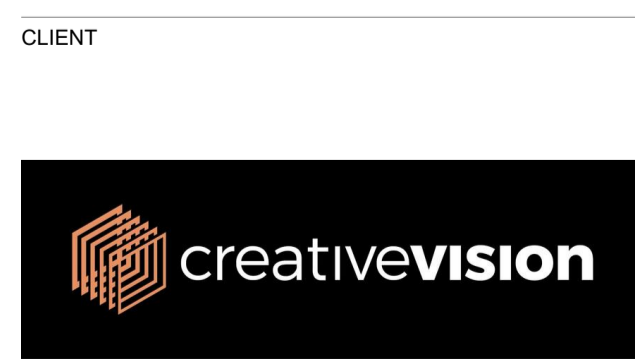
Internal Wall: 

Please refer to Section 5.1.1, 5.1.3 & 5.1.5 for detailed requirements regarding the required R-values for building fabric within the Thermal Envelope.



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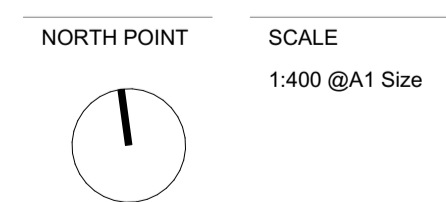
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Structure Consultant  
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PROJECT TITLE  
135 Badgerys Creeks, Bradfield  
DEVELOPMENT APPLICATION

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CREATIVEVISION  
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DRAWING TITLE  
**GENERAL FLOOR PLAN - LEVEL 11**

PROJECT NUMBER  
20799

DRAWING NUMBER  
DA-1011

STAGE  
DA

REVISION  
A

## Appendix C: Façade Calculator Inputs & Results (for Reference DtS model inputs)

### Stage 1 & 2: Medical, Office, Childcare and Gym

NCC 2019 Wall and Glazing Allowance Calculator v2.0												
Method 2 of Specification J1.5a												
Building name and description					Classification			Climate Zone				
135 Badgerys Creeks, Bradfield - Stage 1 & 2: Medical / Office / Gym					Other			6				
Calculated Area-Weighted U-Value					1.99			Calculated Representative Air-Conditioning Energy Value				104.3
Allowable Area-Weighted U-Value					2.00			Allowable Representative Air-Conditioning Energy Value				104.5
Building total U-Value allowance met					100%			Building total SHGC allowance met				100%
Check Values		Wall Element Requirements			Met			Display Glazing Element Requirements				-
Visible												
Use of this calculator does not guarantee compliance with the NCC. The disclaimer and a version update check are available at the bottom of the page												
Element Description					U-Value			SHGC and Shading				
ID	Description (optional)	Element Type	Facing Sector	Area (m <sup>2</sup> )	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used	
1	L02-1-Office-Medical				Not counted							Not counted
2	North Wall	Wall	North	60.70	0.70	3% of building total					Not counted	
3	North Glazing	Glazing	North	150.55	3.53	40% of building total	0.185	2.7			57% of building total	
4	West Wall	Wall	East	48.44	0.70	3% of building total					Not counted	
5	West Glazing	Glazing	East	110.16	3.53	29% of building total	0.185	2.7			32% of building total	
6	South Wall	Wall	South	17.34	0.70	1% of building total					Not counted	
7	South Glazing	Glazing	South	13.50	3.53	4% of building total	0.185	2.7			2% of building total	
8	East Wall	Wall	East	9.56	0.70	1% of building total					Not counted	
9	East Glazing	Glazing	East	32.40	3.53	9% of building total	0.185	2.7			9% of building total	
10	Internal	Wall	Internal	228.35	0.70	12% of building total					Not counted	

### Stage 1: Hotel

NCC 2019 Wall and Glazing Allowance Calculator v2.0												
Method 2 of Specification J1.5a												
Building name and description					Classification			Climate Zone				
135 Badgerys Creeks, Bradfield - Stage 1: Hotel					3, 9c or 9a ward			6				
Calculated Area-Weighted U-Value					1.09			Calculated Representative Air-Conditioning Energy Value				46.4
Allowable Area-Weighted U-Value					1.10			Allowable Representative Air-Conditioning Energy Value				46.7
Building total U-Value allowance met					100%			Building total SHGC allowance met				100%
Check Values		Wall Element Requirements			Met			Display Glazing Element Requirements				-
Visible												
Use of this calculator does not guarantee compliance with the NCC. The disclaimer and a version update check are available at the bottom of the page												
Element Description					U-Value			SHGC and Shading				
ID	Description (optional)	Element Type	Facing Sector	Area (m <sup>2</sup> )	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used	
1	Level 02-3 - Class 3 Hotel				Not counted							Not counted
2	North Wall	Wall	North	16.87	0.70	1% of building total					Not counted	
3	North Glazing	Glazing	North	43.71	1.56	8% of building total	0.105	3			15% of building total	
4	East Wall	Wall	East	76.55	0.70	7% of building total					Not counted	
5	East Glazing	Glazing	East	136.11	1.56	26% of building total	0.105	3			39% of building total	
6	West Wall	Wall	West	64.04	0.70	5% of building total					Not counted	
7	West Glazing	Glazing	West	118.53	1.56	23% of building total	0.105	3			36% of building total	
8	South Wall	Wall	South	16.87	0.70	1% of building total					Not counted	
9	South Glazing	Glazing	South	43.68	1.56	8% of building total	0.105	3			10% of building total	
10	Internal	Wall	Internal	236.88	0.70	20% of building total					Not counted	

Stage 2: Hotel

### NCC 2019 Wall and Glazing Allowance Calculator v2.0

Method 2 of Specification J1.5a

<b>Building name and description</b>		<b>Classification</b>	<b>Climate Zone</b>
135 Badgerys Creeks, Bradfield - Stage 2: Hotel		3.9c or 9a ward	6
Calculated Area-Weighted U-Value	1.09	Calculated Representative Air-Conditioning Energy Value	84.5
Allowable Area-Weighted U-Value	1.10	Allowable Representative Air-Conditioning Energy Value	84.6
<b>Building total U-Value allowance met</b>	<b>100%</b>	<b>Building total SHGC allowance met</b>	<b>100%</b>
<b>Check Values</b>	<b>Wall Element Requirements</b>	<b>Display Glazing Element Requirements</b>	
Visible	Met	-	

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Element Description					U-Value		SHGC and Shading				
ID	Description (optional)	Element Type	Facing Sector	Area (m <sup>2</sup> )	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used
1	Level 02-2 - Class 3 Hotel					Not counted					Not counted
2	North Wall	Wall	North	86.12	0.70	4% of building total					Not counted
3	North Glazing	Glazing	North	203.45	1.60	21% of building total	0.109	2.7			40% of building total
4	East Wall	Wall	East	92.55	0.70	4% of building total					Not counted
5	East Glazing	Glazing	East	113.40	1.60	12% of building total	0.109	2.7			19% of building total
6	East Glazing	Glazing	East	18.06	1.60	2% of building total	0.109	2.15			3% of building total
7	West Wall	Wall	West	38.25	0.70	2% of building total					Not counted
8	West Glazing	Glazing	West	75.60	1.60	8% of building total	0.109	2.7			13% of building total
9	South Wall	Wall	South	133.55	0.70	6% of building total					Not counted
10	South Glazing	Glazing	South	174.15	1.60	18% of building total	0.109	2.7			22% of building total
11	South Glazing	Glazing	South	23.11	1.60	2% of building total	0.109	2.15			3% of building total
12	Internal	Wall	Internal	444.03	0.70	20% of building total					Not counted

Stage 1 & 2: Retail, Restaurant, and Tavern

### NCC 2019 Wall and Glazing Allowance Calculator v2.0

Method 2 of Specification J1.5a

<b>Building name and description</b>		<b>Classification</b>	<b>Climate Zone</b>
135 Badgerys Creeks, Bradfield - Stage 1 & 2: Class 6 Retail/Restaurant/Tavern		Other	6
Calculated Area-Weighted U-Value	2.00	Calculated Representative Air-Conditioning Energy Value	251.5
Allowable Area-Weighted U-Value	2.00	Allowable Representative Air-Conditioning Energy Value	253.0
<b>Building total U-Value allowance met</b>	<b>100%</b>	<b>Building total SHGC allowance met</b>	<b>100%</b>
<b>Check Values</b>	<b>Wall Element Requirements</b>	<b>Display Glazing Element Requirements</b>	
Visible	Met	-	

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Element Description					U-Value		SHGC and Shading				
ID	Description (optional)	Element Type	Facing Sector	Area (m <sup>2</sup> )	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used
1	GF_North Wall	Wall	North	299.20	0.71	3% of building total					Not counted
2	GF_North Glazing	Glazing	North	36.65	4.70	2% of building total	0.164				0% of building total
3	GF_East wall	Wall	East	40.27	0.71	0% of building total					Not counted
4	GF_East Glazing	Glazing	East	282.53	4.70	19% of building total	0.164				30% of building total
5	GF_South wall	Wall	South	109.30	0.71	1% of building total					Not counted
6	GF_South Glazing	Glazing	South	348.66	4.70	23% of building total	0.164				23% of building total
7	GF_West wall	Wall	West	73.91	0.71	1% of building total					Not counted
8	GF_West Glazing	Glazing	West	141.63	4.70	9% of building total	0.164				15% of building total
9	GF_Internal wall	Wall	Internal	1567.26	0.71	16% of building total					Not counted
10	L1 N Wall	Wall	North	22.72	0.71	0% of building total					Not counted
11	L1 E Wall	Wall	East	54.08	0.71	1% of building total					Not counted
12	L1 S Wall	Wall	South	22.72	0.71	0% of building total					Not counted
13	L1 W Wall	Wall	West	2.50	0.71	0% of building total					Not counted
14	lw Int Wall	Wall	Internal	231.68	0.71	2% of building total					Not counted
15	L1 N GLAZ	Glazing	North	33.60	4.70	2% of building total	0.164				0% of building total
16	L1 S GLAZ	Glazing	South	33.60	4.70	2% of building total	0.164				2% of building total
17	L1 E GLAZ	Glazing	East	138.88	4.70	9% of building total	0.164				15% of building total
18	L1 W GLAZ	Glazing	West	138.88	4.70	9% of building total	0.164				15% of building total

Stage 3: Class 9b Communal & Class 6 Cafe

NCC 2019 Wall and Glazing Allowance Calculator v2.0		
Method 2 of Specification J1.5a		
<b>Building name and description</b>		<b>Classification</b>
135 Badgerys Creeks, Bradfield - Stage 3: Communal & Café		Other
<b>Climate Zone</b>		6
Calculated Area-Weighted U-Value	2.00	Calculated Representative Air-Conditioning Energy Value
Allowable Area-Weighted U-Value	2.00	106.1
<b>Building total U-Value allowance met</b>	<b>100%</b>	Allowable Representative Air-Conditioning Energy Value
		106.6
		<b>Building total SHGC allowance met</b>
		<b>100%</b>
<b>Check Values</b>	<b>Wall Element Requirements</b>	<b>Display Glazing Element Requirements</b>
Visible	Met	-

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Element Description				U-Value		SHGC and Shading					
ID	Description (optional)	Element Type	Facing Sector	Area (m <sup>2</sup> )	U-Value	U-Value Element share of allowance used	SHGC	Glazing Height (m)	Shading Height (m)	Shading Projection (m)	SHGC Element share of allowance used
1 GF: Communal				Not counted							
2	North Wall	Wall	North	69.98	0.71	2% of building total					Not counted
3	East Wall	Wall	East	64.36	0.71	2% of building total					Not counted
4	South Wall	Wall	South	4.58	0.71	0% of building total					Not counted
5	South Glazing	Glazing	South	12.26	4.78	3% of building total	0.199	4.9			2% of building total
6	West Wall	Wall	West	8.35	0.71	0% of building total					Not counted
7	West Glazing	Glazing	West	174.67	4.78	39% of building total	0.199	4.9			55% of building total
8	Internal Wall	Wall	Internal	484.88	0.71	16% of building total					Not counted
9 GF: Café				Not counted							
10	North Wall	Wall	North	2.22	0.71	0% of building total					Not counted
11	North Glazing	Glazing	North	33.34	4.78	7% of building total	0.199	3.75			13% of building total
12	East Wall	Wall	East	3.99	0.71	0% of building total					Not counted
13	East Glazing	Glazing	East	59.85	4.78	13% of building total	0.199	3.75			18% of building total
14	South Wall	Wall	South	4.12	0.71	0% of building total					Not counted
15	South Glazing	Glazing	South	61.73	4.78	14% of building total	0.199	3.75			12% of building total
16	Internal Wall	Wall	Internal	96.44	0.71	3% of building total					Not counted