

# Section J Report

**849-859 Pacific Highway  
Chatswood 2067**

**Prepared for  
BB Wilson Property Pty Ltd**

**Prepared by  
GREENPERCH PTY LTD  
November 2024**



**Prepared on behalf of**  
 BB Wilson Property Pty Ltd  
 c/o Billbergia Group

**Prepared by:**  
 GREENPERCH PTY LTD  
 ABN 81 679 640 825  
 JOB NUMBER: 224-N250

**Contact Details**  
 GREENPERCH PTY LTD  
 e: consulting@greenperch.com.au  
 a: L2, 65-71 Belmore Rd,  
 Randwick NSW 2031  
 p: 1300 140 946  
 or 0422 144 603  
 po: PO Box 100 Kingsford 2032

REVISION	PREPARED	DRAWINGS
1 (14/12/23)	MP and checked JP	DA SET – 12.12.2023 PBD Architects
2 (15/12/23)	MP and checked JP	DA SET – 14.12.2023 PBD Architects
3 (21/11/24)	MP and checked JP	SDDA SET – 01.11.2024 PBD Architects

## Table of Contents

<b>INTRODUCTION AND SITE CONTEXT .....</b>	<b>3</b>
<b>SECTION J SUMMARY .....</b>	<b>6</b>
<b>SECTION J REQUIREMENTS AND INITIATIVES.....</b>	<b>20</b>
Part J1 Energy efficiency performance requirements .....	20
Part J2 Energy efficiency.....	22
Part J3 Elemental provisions for a sole-occupancy unit of a Class 2 building or a Class 4 part of a building .....	23
Part J4 Building fabric.....	25
Part J5 Building sealing.....	29
Part J6 Air-conditioning and ventilation.....	31
Part J7 Artificial lighting and power .....	32
Part J8 Heated water supply and swimming pool and spa pool plant .....	39
Part J9 Energy monitoring and on-site distributed energy resources.....	41
<b>APPENDIX A – GLAZING CALCULATORS .....</b>	<b>44</b>
<b>APPENDIX B – SECTION J CONDITIONED FLOOR AREAS .....</b>	<b>58</b>

## INTRODUCTION AND SITE CONTEXT

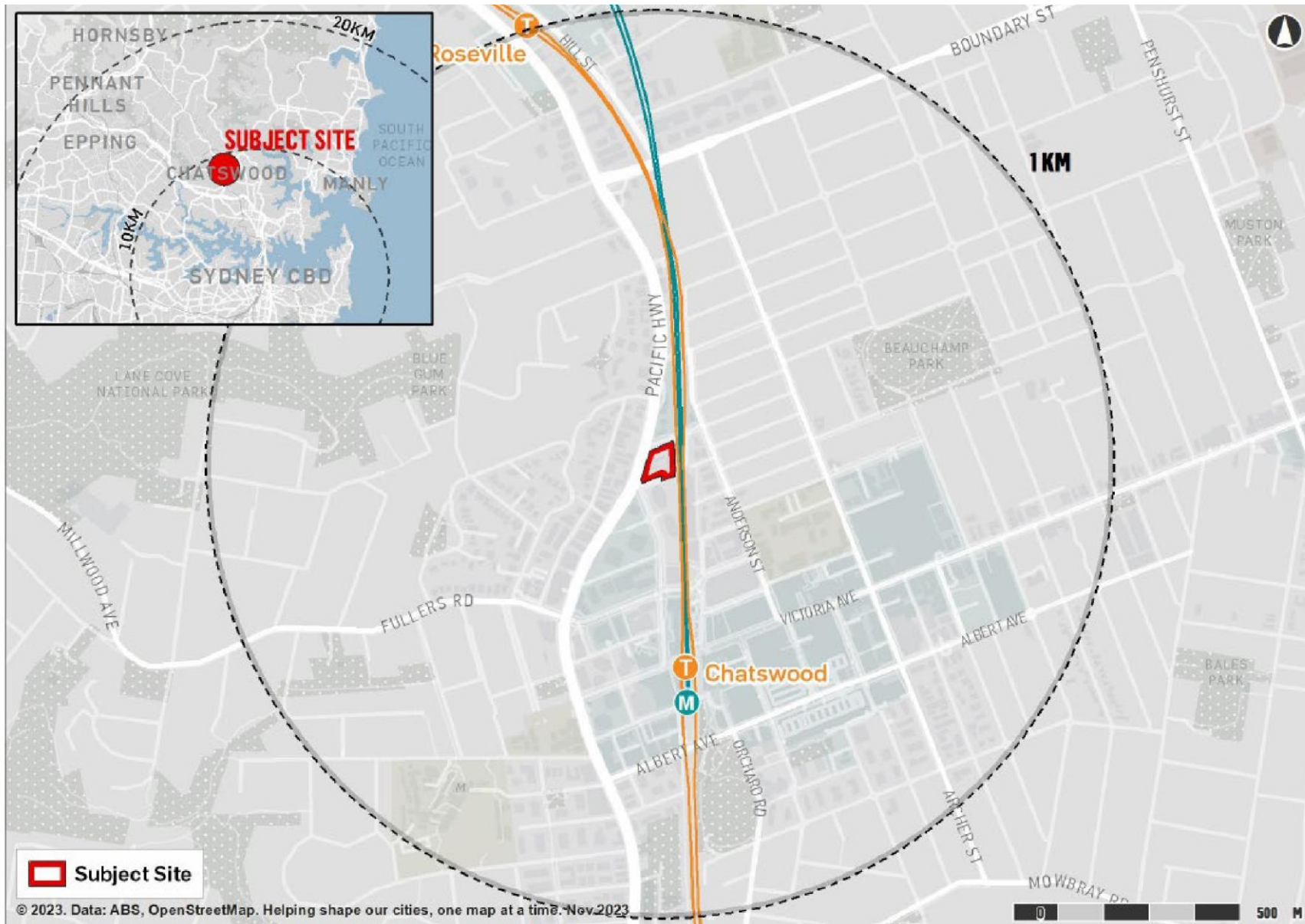
The vision for the project is to deliver a new mixed-use development that fosters a dynamic live-work-play lifestyle. The development will feature a diverse range of housing options, including affordable housing, complemented by retail and commercial uses.

The proposal broadly seeks SSD approval for the construction and operation of a 36-storey mixed-use development with residential and commercial uses, on site car parking, landscaping and public domain works. Specifically, the SSDA seeks development consent for:

- Site preparation works including the demolition of existing structures and tree removal
- Bulk excavation to accommodate the proposed 6 level basement structure
- Construction of a 36-storey mixed use development comprising –
  - Retail and commercial uses
  - Childcare centre
  - Two residential towers with 332 apartments including 308 residential apartments and 24 x live-work units
- 6 levels of basement with access from O'Brien Street
- Public domain works, including landscaping, street trees, and publicly accessible open spaces
- Reticulation of site services and infrastructure



Site Context Photo - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood



Site Location Plan - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood (source: Urbis 2024)

Descriptor	Site Details
Proponent / Applicant	Billbergia (BB WILSON PROPERTY PTY LTD)
SSD Reference	SSD-74319707
Street Address	849, 853, and 859 Pacific Highway and 2 and 8 Wilson Street, Chatswood
Legal Description	<ul style="list-style-type: none"> <li>▪ Lot 1 DP 1189541 (8 Wilson Street (Lot 1 O'Brien Street))</li> <li>▪ SP 52947 (2 Wilson Street)</li> <li>▪ SP 1496 (849 Pacific Highway)</li> <li>▪ SP 60178 (853 Pacific Highway)</li> <li>▪ SP 10110 (859 Pacific Highway)</li> <li>▪ SP2 land fronting Pacific Highway</li> </ul>
Site Area	4,294 sqm
Land Configuration	<p>The site has an irregular shaped configuration and an area of 4,294 sqm (excluding the parcel of land zoned SP2 Infrastructure). The site is bound by Wilson Street (to north), O'Brien Street (to south), Pacific Highway (to west) and the T1 North Shore and Western Line, T9 Northern Line, and Metro North-West Line (to east).</p>
Existing Development	<p>The site is currently occupied with a mixture of 3-5 storey multi-residential buildings and a commercial building at 8 Wilson Street.</p>
Local Context	<p>The site is located within the suburb of Chatswood in the Willoughby Local Government Area. Chatswood is located 6km north of the Sydney CBD within Sydney's Lower North Shore. The site is in proximity and highly accessible to the commercial centres of North Sydney and Macquarie Park.</p> <p>The site is located at the north-western extent of the Chatswood CBD within convenient walking distance of local amenities, facilities, and services. The area is well advanced in its transition from an older style commercial precinct into a thriving mixed-use area characterised by commercial and residential land uses.</p>

## SECTION J SUMMARY

This report summarises the Section J initiatives for the proposed redevelopment at 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood. The report has been prepared by GreenPerch on behalf of BB Wilson Property Pty Ltd c/o Billbergia Group. The NCC 2022 and Section J components have been used for this analysis. The site is located in Chatswood, Sydney, and is classified under NCC climate zone 5. GreenPerch worked closely with the design team, to ensure that a high degree of energy-efficiency was achieved. In particular, a strong emphasis was placed on the passive efficiency of the building, including passive heating, passive cooling, natural lighting and natural ventilation.



Site Aerial Photograph - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood (source: Urbis 2024)



Ground Floor Plan - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood

The GreenPerch team have worked very closely with the design team, to ensure a high level of energy-efficiency and environmental sustainability. Importantly, a strong emphasis was placed on the passive efficiency of the building (including passive heating, passive cooling, natural lighting and natural ventilation). The architects have done a very diligent job to ensure that these passive systems are working effectively, through a very careful and intelligent blend of innovative architectural design and passive thermal comfort techniques.

The good Section J and thermal comfort results are a testament to the success of this excellent architectural design, on a tricky site. Intelligent and high-tech facades have greatly helped this achievement, including shading devices and high-performance specifications for all windows and glazed doors (including double glazing and quality frames, for all apartments, childcare, commercial, retail, live-work and other non-residential).

High performance double glazing with some tinting has been proposed for most zones. This includes units, wintergardens and the main non-residential areas, such as the retail, the childcare and the small commercial zones (live-work areas).

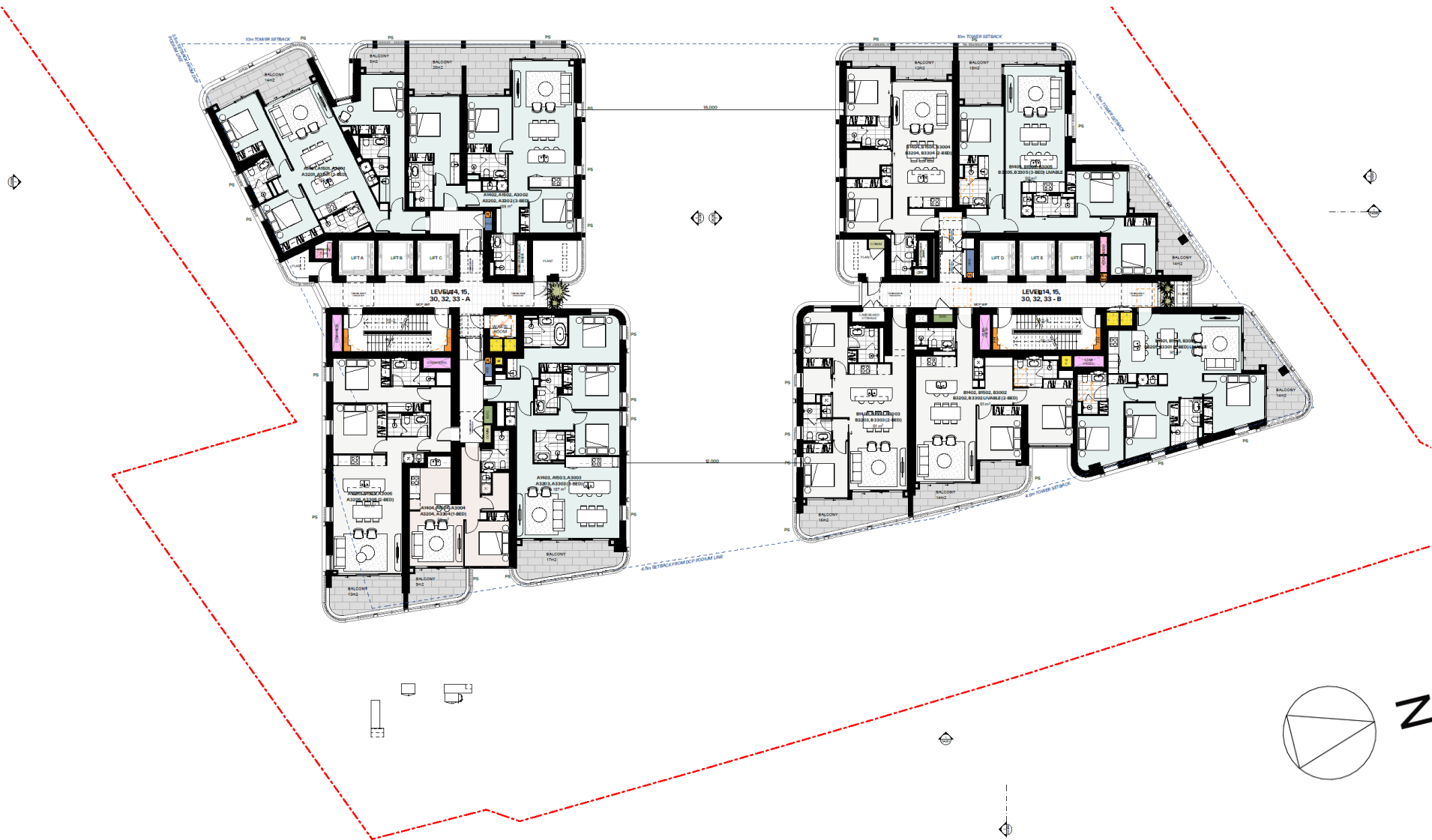


3D Render - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood

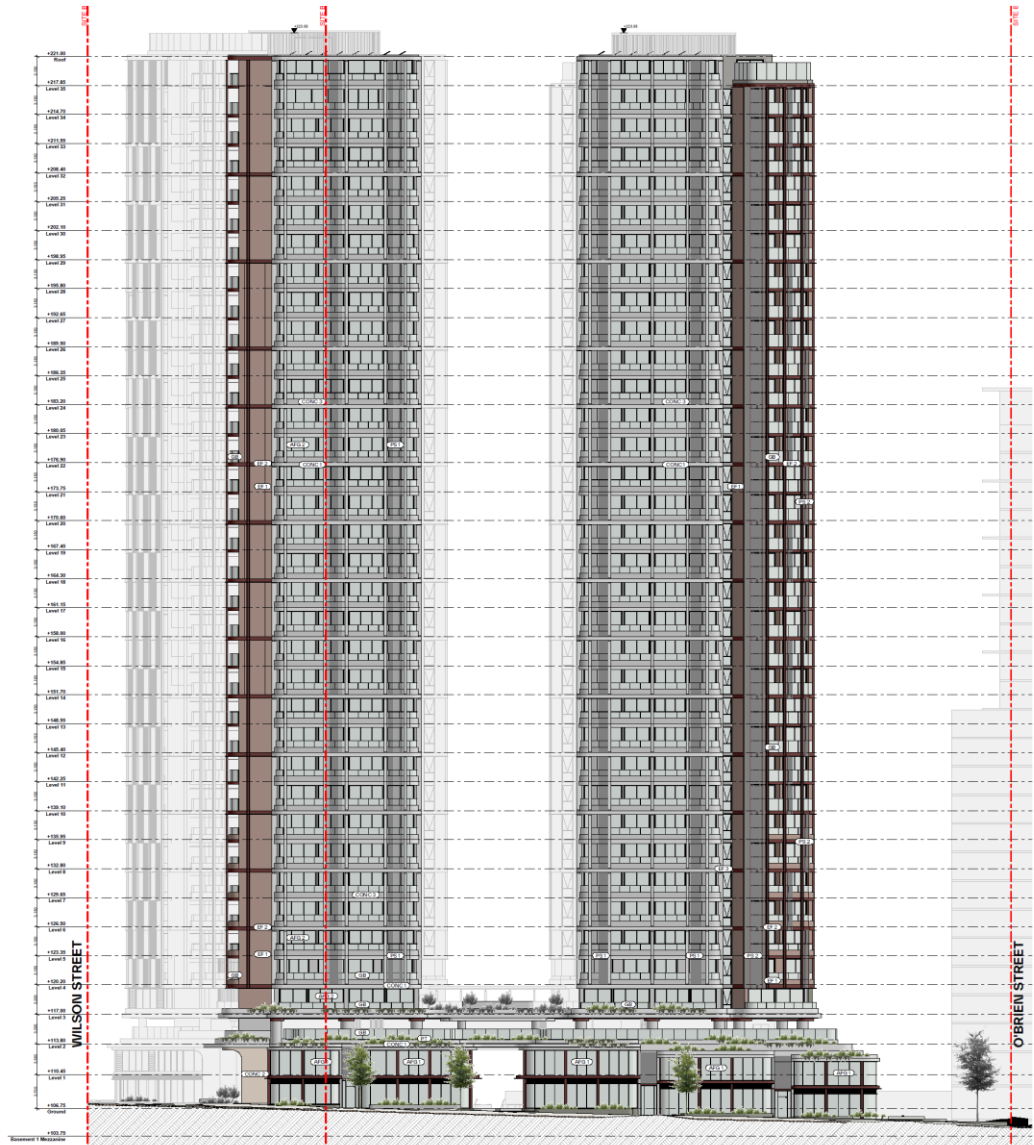
The table below shows the building fabric summary, based on the current DTS (Deemed-to-Satisfy) targets. The new targets and ratings apply to the new components of the retail/commercial building (i.e. new walls, floors, roofs, ceilings, windows, etc).

	Construction – Retail	Minimum to Pass NCC DTS (Deemed-to-Satisfy)
1	New Walls external (lightweight, etc)	R2.5 added + break (15mm EPS or equiv.) to give >R1.8 total
2	New Walls external (concrete/masonry/etc)	R2.5 added + break (15mm EPS or equiv.) to give >R1.8 total
3	Internal lightweight (next to storage, plant room)	R1.5 added + break (15mm EPS or equiv.) to give >R1.3 total
4	Internal concrete/block (next to storage, plant room)	R1.5 added + break (15mm EPS or equiv.) to give >R1.3 total
5	New Walls internal (between 2 conditioned spaces)	Optional insulation
6	New Floors (over basement or open air)	R1.7 added (R2.0 total) assuming no slab heating
7	New Floors (slab-on-ground)	Not applicable
8	Ceiling under roofs/terraces	R3.3 added, excl. air gap (R3.7 total)
9	GR office LW- U-value (Double-glaze + tint)	U-val. = 3.2 or less
10	GR office LW- SHGC (Double-glaze + tint)	SHGC = 0.24 or less
11	GR retail - U-value (Double-glaze + tint)	U-val. = 2.4 or less
12	GR retail - SHGC (Double-glaze + tint)	SHGC = 0.23 or less
13	L1 retail - U-value (Double-glaze + tint)	U-val. = 2.5 or less
14	L1 retail - SHGC (Double-glaze + tint)	SHGC = 0.27 or less
15	L1 commercial - U-value (Double-glaze + tint)	U-val. = 3.9 or less
16	L1 commercial - SHGC (Double-glaze + tint)	SHGC = 0.36 or less
17	L2 childcare - U-value (Double-glaze + tint)	U-val. = 3.2 or less
18	L2 childcare - SHGC (Double-glaze + tint)	SHGC = 0.29 or less
19	L3 commercial - U-value (Double-glaze + tint)	U-val. = 3.9 or less
20	L3 commercial - SHGC (Double-glaze + tint)	SHGC = 0.43 or less
21	L4 commercial - U-value (Single or double-glaze)	U-val. = 5.8 or less
22	L4 commercial - SHGC (Single or double-glaze)	SHGC = 0.49 or less

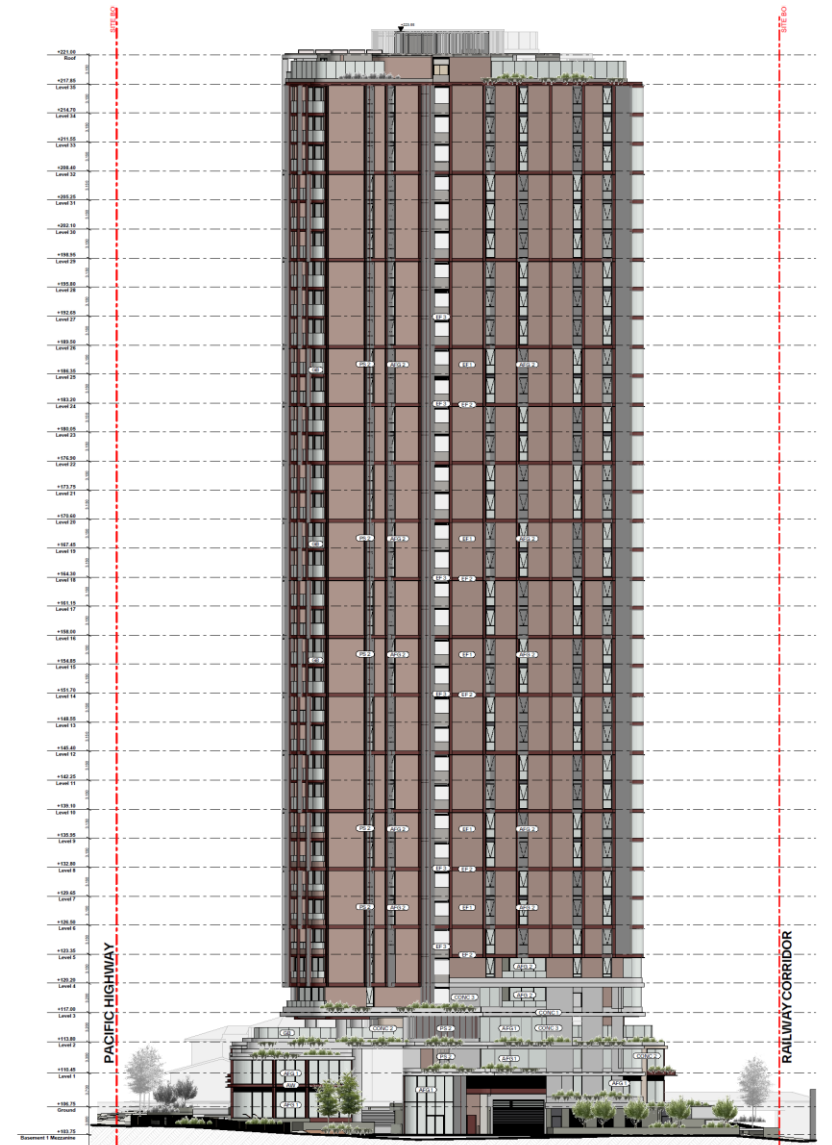
Note: Values above are based on simplified drawings and limited details at DA. This will need checking and recalculation at CC, especially for roof, floor and wall R-values. The use of a basic JV3 model is strongly recommended later, due to the complexity of the design. This JV3 approach will usually give significant flexibility and better construction costs, through VE.



TYPICAL PLAN (Levels 14-25 - not to scale) - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood



Elevation - West

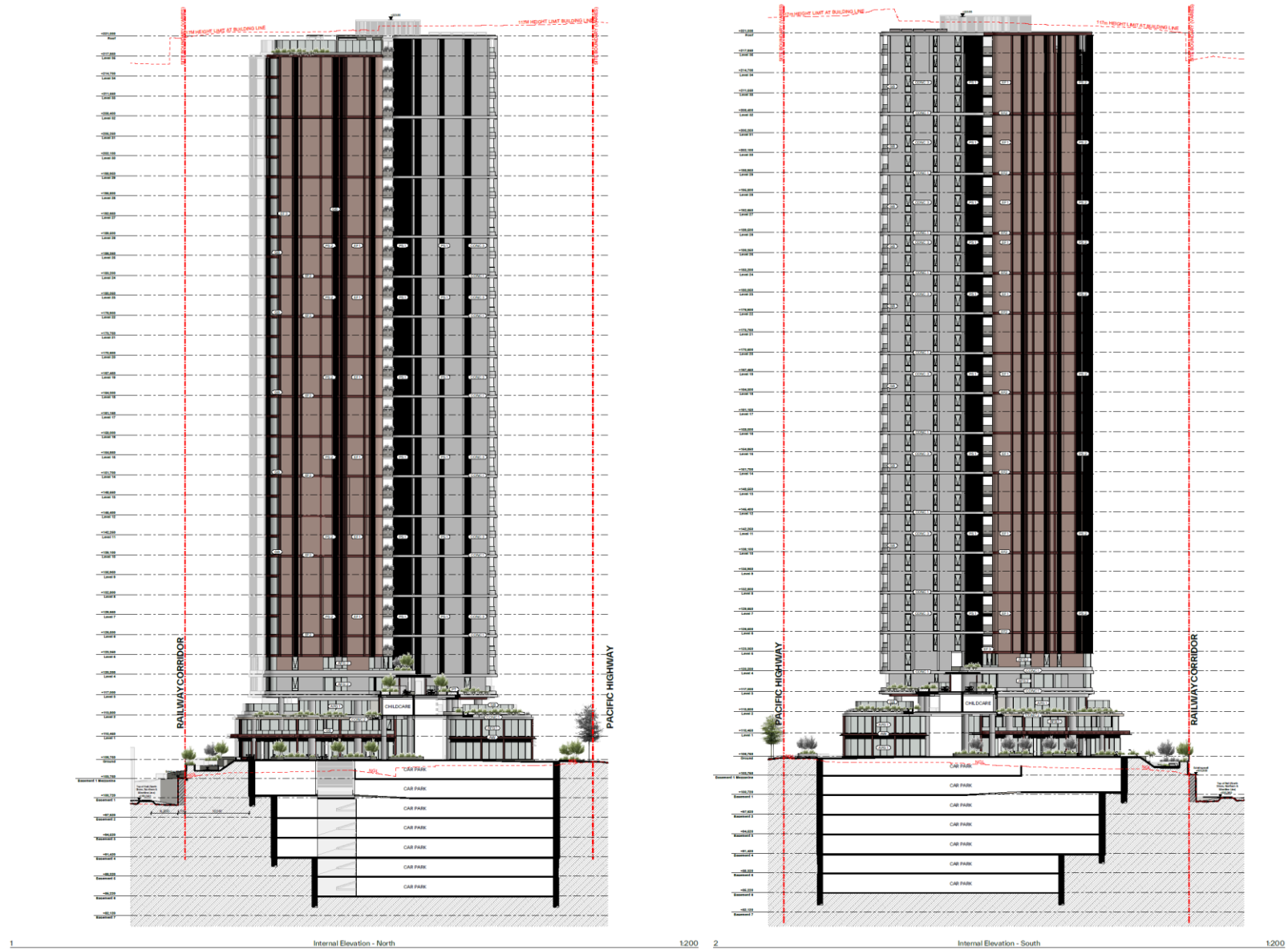


Elevation - South

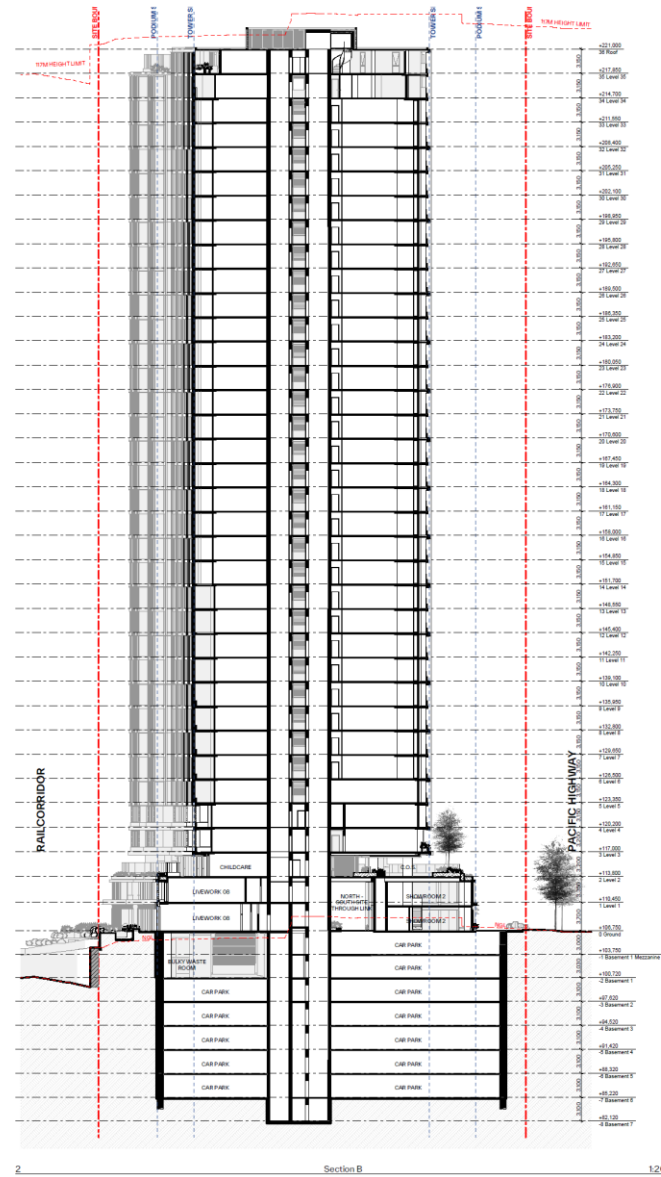
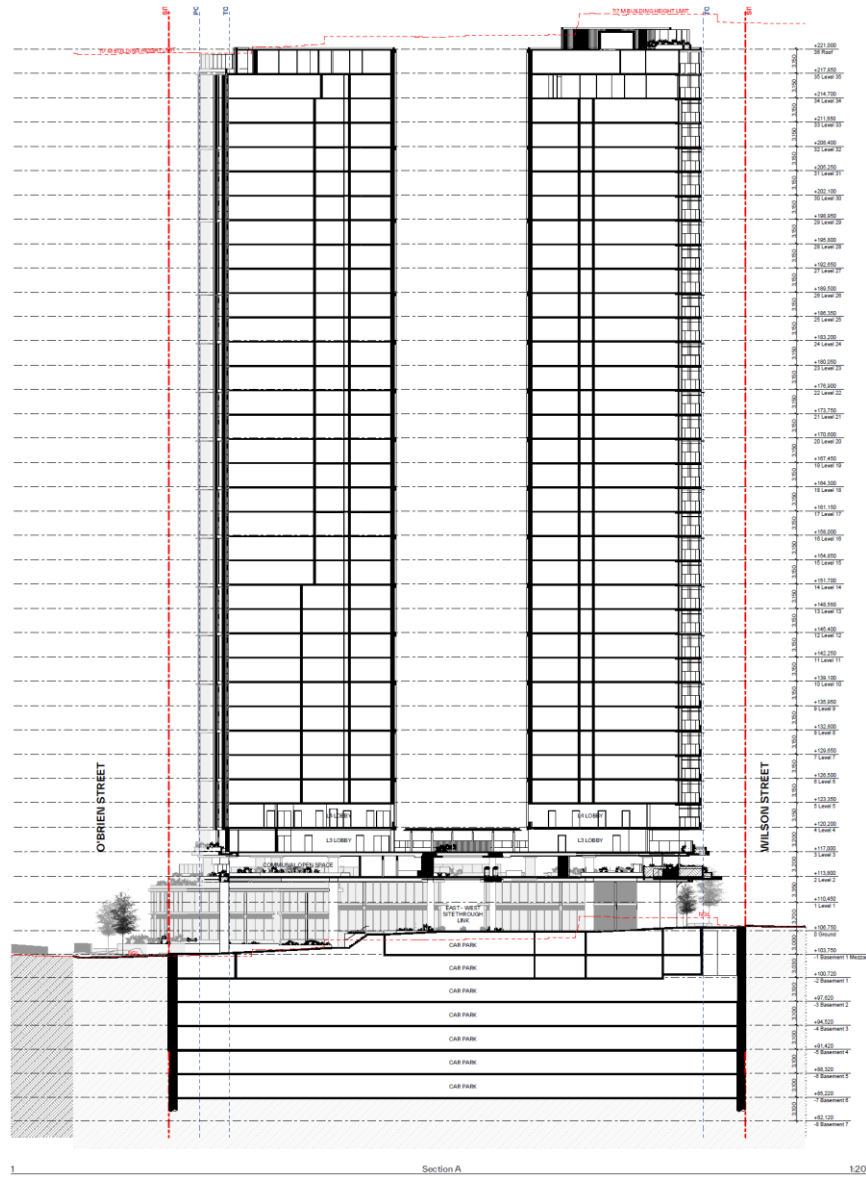
**ELEVATION 1 (West and South, not to scale) - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood**



ELEVATION 2 (East and North, not to scale) - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood



**ELEVATION 3 (Internal South and North, not to scale) - 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood**



SECTION 1 (not to scale) 849 - 859 Pacific Highway, and 2 and 8 Wilson Street, Chatswood

The plans below show the boundaries between the retail and the outside air or unconditioned areas (and added wall insulation):

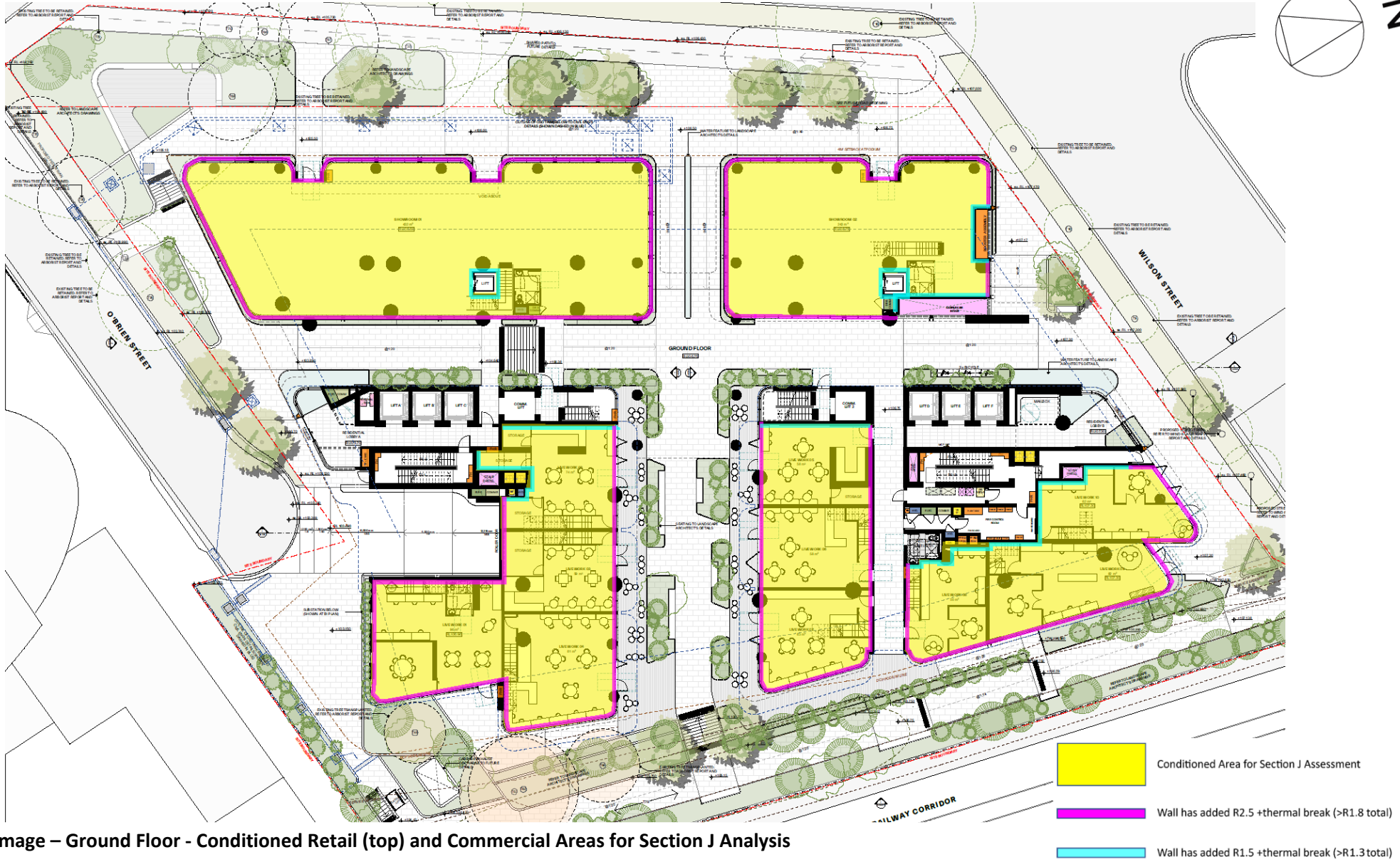


Image – Ground Floor - Conditioned Retail (top) and Commercial Areas for Section J Analysis



Image – 1st Floor - Conditioned Retail (top) and Commercial Areas for Section J Analysis

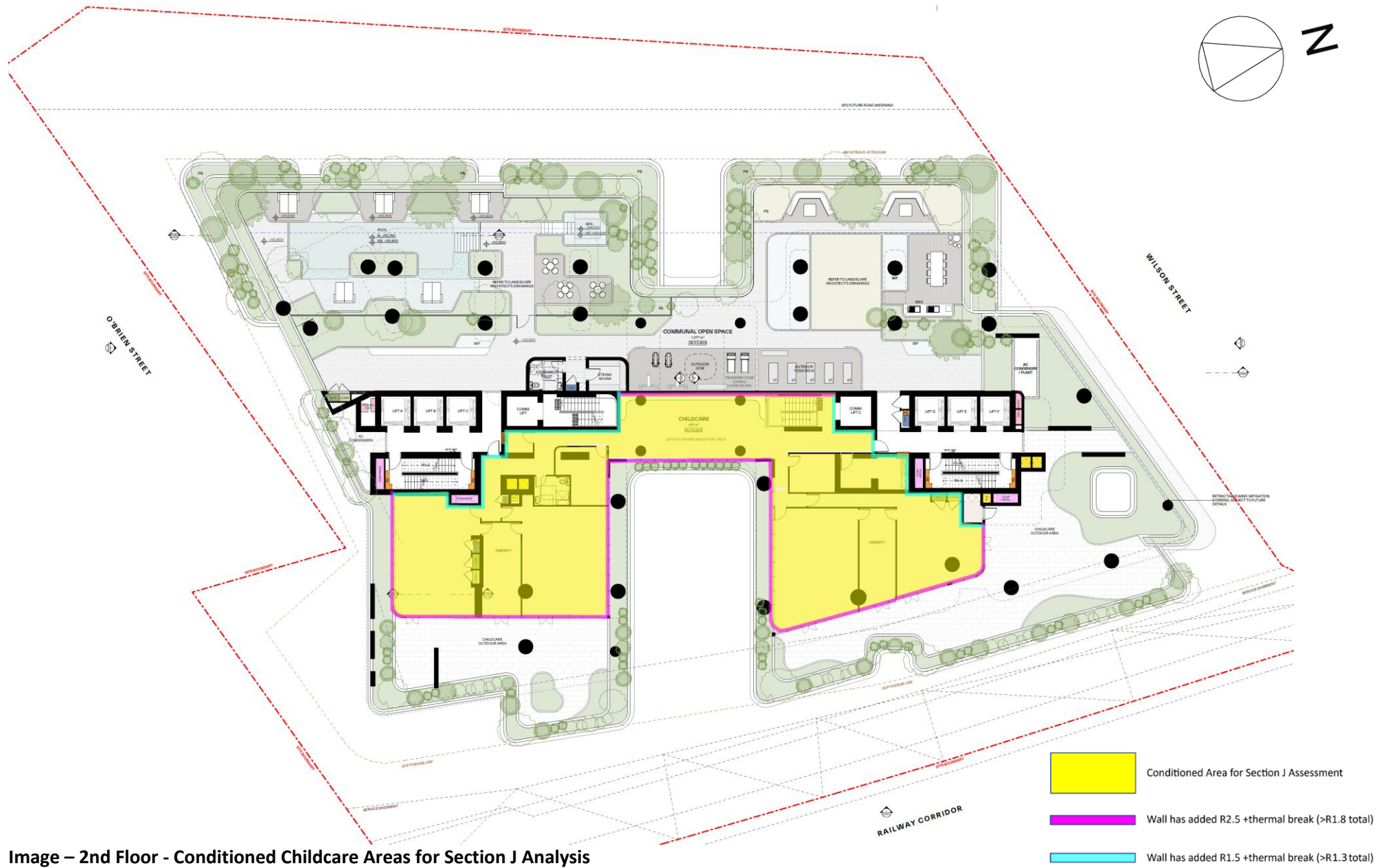


Image – 2nd Floor - Conditioned Childcare Areas for Section J Analysis

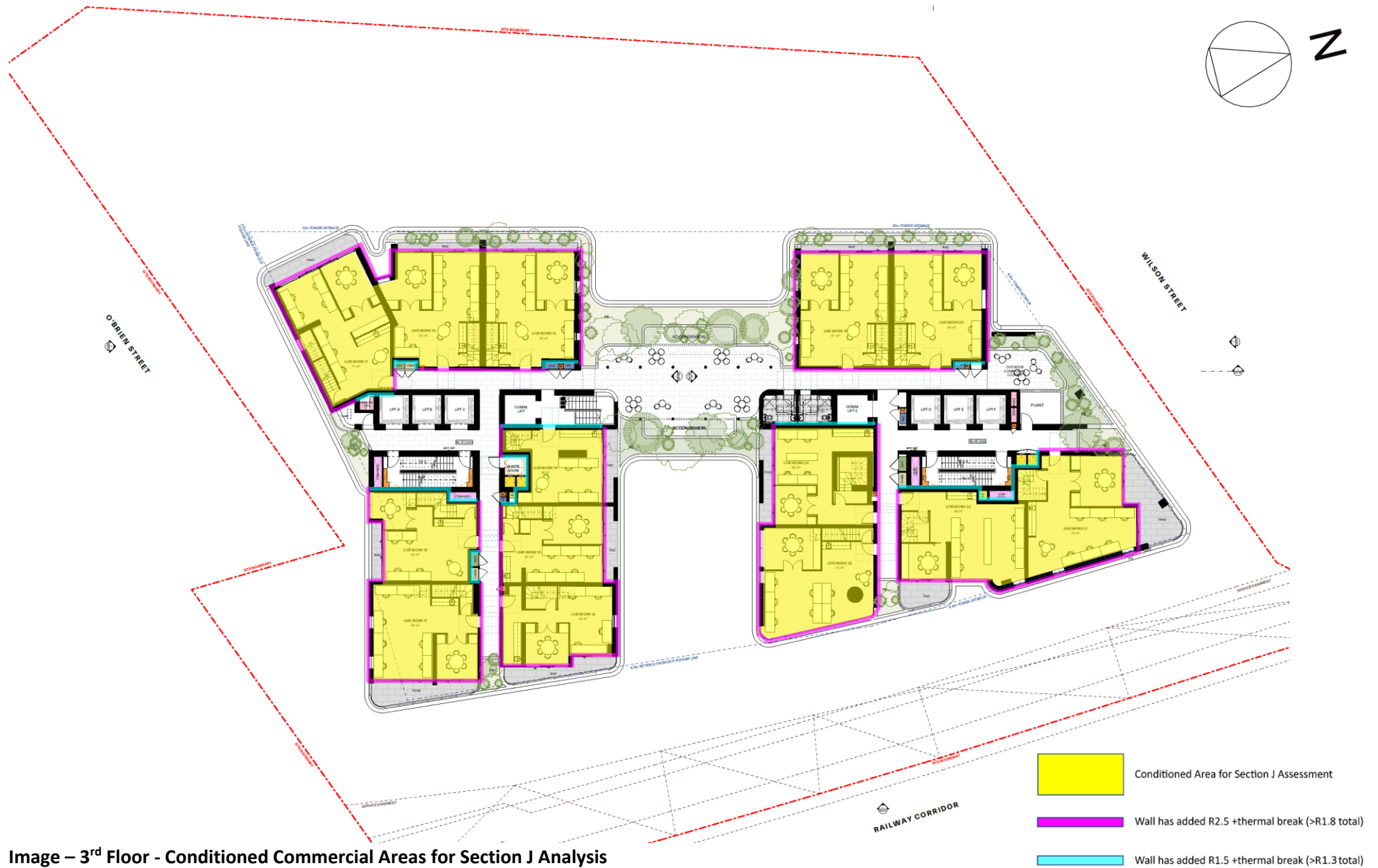




Image – 4<sup>th</sup> Floor - Conditioned Commercial Areas for Section J Analysis

## SECTION J REQUIREMENTS AND INITIATIVES

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
NCC Reference	Part J1 Energy efficiency performance requirements	Specific Project Initiative
<b>NSW J1F1</b> <b>Energy efficiency</b>	A building must— <ol style="list-style-type: none"> <li>reduce the energy consumption and energy peak demand of key energy using equipment; and</li> <li>reduce the greenhouse gas emissions that occur as a result of a building’s energy consumption and energy source; and</li> <li>for a <a href="#">sole-occupancy unit</a> of a Class 2 building or a Class 4 part of a building, improve occupant health and <a href="#">amenity</a> by mitigating the impact of extreme hot and cold weather events and energy blackouts; and</li> <li>for other than in a <a href="#">sole-occupancy unit</a> of a Class 2 building or a Class 4 part of a building, protect occupant health and <a href="#">amenity</a> by ensuring the building <a href="#">envelope</a> assists in the maintenance of acceptable internal conditions while the building is occupied; &amp;</li> <li>be able to accommodate the future installation of distributed energy resources.</li> </ol>	The development has been designed for this, as discussed in the summary table below.
<b>NSW J1P1</b> <b>Energy use</b>	A building incl <a href="#">services</a> , must have features that facilitate efficient use of energy appropriate to <ol style="list-style-type: none"> <li>the function and use of the building; and</li> <li>the level of human comfort required for the building use; and</li> <li>solar radiation being—                             <ol style="list-style-type: none"> <li>utilised for heating; and</li> <li>controlled to minimise energy for cooling; and</li> </ol> </li> <li>the energy source of the <a href="#">services</a>; and</li> <li>the sealing of the building <a href="#">envelope</a> against air leakage; and</li> <li>for a <a href="#">conditioned space</a>, achieving an hourly <a href="#">regulated energy</a> consumption, averaged over the annual <a href="#">hours of operation</a>, of not more than—                             <ol style="list-style-type: none"> <li>for a Class 6 building, 80 kJ/m<sup>2</sup>.hr; and</li> <li>for a Class 5, 7b, 8 or 9a building other than a <a href="#">ward area</a>, or a Class 9b <a href="#">school</a>, 43 kJ/m<sup>2</sup>.hr; and</li> <li>for all other building classifications, 15 kJ/m<sup>2</sup>.hr.</li> </ol> </li> </ol>	The development has been designed for this, as discussed in the summary table below.  Likewise, the conditioned spaces will all use efficient heating (with a high COP and low greenhouse gas intensity).  “Regulated energy consumption” means energy used for air-conditioning, heated water, artificial lighting and lifts, (minus the renewable energy generated and used on site).
<b>NSW J1P2</b> <b>Thermal performance</b> <b>Class 2/4</b>	Left blank for NSW	Not used – N/A

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
<b>NSW J1P3 - Energy usage of a sole-occupancy unit of a Class 2/4</b>	Left blank for NSW	Not used – N/A
<b>NSW J1P4 Renewable energy and electric vehicle charging</b>	A building must have features that facilitate the future installation of on-site renewable energy generation and storage and electric vehicle charging equipment.	The building will have features to allow for the future installation of on-site renewable energy generation and storage and electric vehicle charging equipment.
<b>NSW J1P5 Building fabric—Class 2 building and Class 4 parts of a building</b>	<p>(1) Thermal insulation in a building must be installed in a manner and have characteristics, which facilitate the efficient use of energy for artificial heating and cooling.</p> <p>(2) A building must have, to the degree necessary, thermal breaks installed between the framing and external cladding, to facilitate efficient thermal performance of the building envelope.</p> <p>Explanatory information            NSW J1P5 only applies to a Class 2 building or a Class 4 part of a building.            NSW J1P5(1) only applies to thermal insulation in a building where a development consent specifies that the insulation is to be provided as part of the development.            NSW J1P5(2) only applies to a metal framed roof and metal framed wall.</p>	<p>The Class 2 parts must have</p> <p>(1) Thermal insulation in a building must be installed in a manner and have characteristics, which facilitate the efficient use of energy for artificial heating and cooling.</p> <p>(2) A building must have, to the degree necessary, thermal breaks installed between the framing and external cladding, to facilitate efficient thermal performance of the building envelope - for metal cladding, since no metal roofs are used.</p>
<b>NSW J1P6 Building sealing—Class 2 building and Class 4 parts of a building</b>	<p>A building must have, to the degree necessary, a level of building sealing against air leakage to facilitate the efficient use of energy for artificial heating and cooling appropriate to—</p> <ul style="list-style-type: none"> <li>a) the function and use of the building; and</li> <li>b) the internal environment; and</li> </ul> <p>the geographic location of the building.</p>	<p>The class2 will have a level of building sealing against air leakage to facilitate the efficient use of energy for artificial heating and cooling appropriate to—</p> <ul style="list-style-type: none"> <li>a) the function and use of the building; and</li> <li>b) the internal environment; and</li> </ul> <p>the geographic location of the building.</p>
<b>NSW J1P7 Services—Class 2 building and Class 4 parts of a building</b>	<p>A building’s services must have features that, to the degree necessary, facilitate the efficient use of energy appropriate to—</p> <ul style="list-style-type: none"> <li>a) the function and use of the service; and</li> <li>b) the internal environment; and</li> <li>c) the geographic location of the building; and</li> <li>d) the energy source of the service.</li> </ul> <p>Applications            NSW J1P7 only applies to a Class 2 building or Class 4 part of a building.</p>	<p>The class 2 services will have features that, to the degree necessary, facilitate the efficient use of energy appropriate to—</p> <ul style="list-style-type: none"> <li>a) the function and use of the service; and</li> <li>b) the internal environment; and</li> <li>c) the geographic location of the building; and</li> <li>d) the energy source of the service.</li> </ul>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
NSW J1V1 NABERS Energy	Not used - J1V1 NABERS Energy	Not used – N/A
NSW J1V2 Green Star	Not used - J1V2 Green Star	Not used – N/A
NSW J1V3 Verification using reference	Not used - J1V3 Verification using a reference building	Not used – may be used later, pending glazing and façade designs
NSW J1V4 Verification of building envelope Sealing	Not used - J1V4 Verification of building envelope sealing	Not used – N/A
NSW J1V5 Verification using reference building for a Class 2 sole- occupancy unit	Not used - J1V5 Verification using a reference building for a Class 2 sole-occupancy unit	Not used – N/A
NCC Reference	Part J2 Energy efficiency	Specific Project Initiative
NSW J2D1 Deemed-to- Satisfy Provisions	<p>(1) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirements NSW J1P1 to NSW J1P7 are satisfied by complying with—</p> <ul style="list-style-type: none"> <li>a) NSW J2D2; and</li> <li>a) NSW J3D2 to J3D10; and</li> <li>b) NSW J4D2 to J4D7; and</li> <li>c) NSW J5D2 to J5D8; and</li> <li>d) NSW J6D2 to J6D13; and</li> <li>e) NSW J7D2 to J7D9; and</li> <li>f) J8D2 to NSW J8D4; and</li> <li>g) J9D2 to J9D5.</li> </ul> <p>(2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.</p>	The development has been designed for this, as discussed in the summary table below.

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
<b>NSW J2D2</b> <b>Application of Section J</b>	<p>(1) For a Class 3 and 5 to 9 building, Performance Requirement NSW J1P1 is satisfied by complying with—</p> <ol style="list-style-type: none"> <li>a. <a href="#">Part J4</a>, for the building <i>fabric</i>; and</li> <li>b. <a href="#">Part J5</a>, for building sealing; and</li> <li>c. <a href="#">Part J6</a>, for <i>air-conditioning</i> and ventilation; and</li> <li>d. <a href="#">Part J7</a>, for artificial lighting and power; and</li> <li>e. <a href="#">Part J8</a>, for heated water supply and <i>swimming pool</i> and spa pool plant; and</li> <li>f. <a href="#">J9D3</a>, for facilities for energy monitoring.</li> </ol> <p>(2) For a <a href="#">sole-occupancy unit</a> of a Class 2 building or a Class 4 part of a building, <a href="#">Performance Requirement NSW J1P5</a> is satisfied by complying with—</p> <ol style="list-style-type: none"> <li>a. <a href="#">J3D5</a> and <a href="#">J3D6</a>, for thermal breaks; and</li> <li>b. <a href="#">J4D3</a>, for general thermal construction; and</li> <li>c. <a href="#">J3D10(3)</a>, <a href="#">J3D10(5)</a> and <a href="#">J3D10(6)</a>, for floor edge insulation.</li> </ol> <p>(3) For a Class 2 building or a Class 4 part of a building, <a href="#">Performance Requirement NSW J1P6</a> is satisfied by complying with <a href="#">Part J5</a> for building sealing.</p> <p>(4) For a Class 2 building or a Class 4 part of a building, <a href="#">Performance Requirement NSW J1P7</a> is satisfied by complying with—</p> <ol style="list-style-type: none"> <li>a. <a href="#">Part J6</a>, for <i>air-conditioning</i> and ventilation; and</li> <li>b. <a href="#">J8D2</a>, for heated water supply; and</li> <li>c. <a href="#">J9D3</a>, for facilities for energy monitoring.</li> </ol> <p>(5) For a Class 2 to 9 building, <a href="#">Performance Requirement NSW J1P4</a> is satisfied by complying with <a href="#">J9D4</a> and <a href="#">J9D5</a>.</p>	The development has been designed for this, as discussed in the report and table below.
NCC Reference	Part J3 Elemental provisions for a sole-occupancy unit of a Class 2 building or a Class 4 part of a building	Specific Project Initiative
<b>NSW J3D1</b> <b>Deemed-to-Satisfy Provisions</b>	<p>(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements J1P1</a> to <a href="#">J1P4</a> are satisfied by complying with—</p> <ol style="list-style-type: none"> <li>a) NSW J2D2; and</li> <li>a) NSW J3D2 to J3D10; and</li> <li>b) NSW J4D2 to J4D7; and</li> </ol>	Only some applies to class 2,4 (in NSW)

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	c) NSW J5D2 to J5D8; and d) NSW J6D2 to J6D13; and e) NSW J7D2 to J7D9; and f) J8D2 to NSW J8D4; and g) J9D2 to J9D5. (2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.	
<b>NSW J3D2 Application of Part</b>	The <a href="#">Deemed-to-Satisfy Provisions</a> of this Part apply to building elements forming the external building <a href="#">fabric</a> and <a href="#">domestic services</a> of a <a href="#">sole-occupancy unit</a> of a Class 2 building and a Class 4 part of a building.	Only some applies to class 2,4 (in NSW)
<b>NSW J3D3 to J3D4 not included</b>	J3D3 to J3D4 – N/A for NSW not included (all apply to class2 and 4 but not NSW) - covers NatHERS targets and fans	Not used –applies to class 2,4 (but outside NSW, without BASIX)
<b>NSW J3D5  Roof thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building</b>	(1 ) A roof that— has metal sheet roofing directly 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, must have a thermal break, consisting of a material with an R-Value of greater than or equal to R0.2, installed between the metal sheet roofing and its supporting metal purlins, metal rafters or metal battens. (2) The requirements of (1) do not apply to roofs constructed using insulated sandwich panels.	Applies to class 2,4 (in NSW)  This must be implemented and signed off by building contractors.
<b>NSW J3D6  Wall thermal breaks of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building</b>	(1) A metal-framed wall that forms part of the building envelope 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 if the wall— <ul style="list-style-type: none"> <li>• does not have a wall lining or has a wall lining that is fixed directly to the same metal frame; and</li> <li>• is clad with weatherboards, fibre-cement or the like, or metal sheeting fixed to a metal frame.</li> </ul> (2) The requirements of (1) do not apply to walls constructed using insulated sandwich panels.	Applies to class 2,4 (in NSW)  This must be implemented and signed off by building contractors.

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
<b>NSW J3D7-J3D9 not included</b>	J3D7 to J3D9 – N/A for NSW not included (all apply to class2 and 4 but not NSW) – covers roof, walls, glazing without BASIX	Not used –applies to class 2,4 (but outside NSW, without BASIX)
<b>NSW J3D10</b> <b>Floors of a sole-occupancy unit of a Class 2 building or a Class 4 part of a building</b>	(3) A concrete slab-on-ground with an in-slab or in-screed heating or cooling system must have insulation with an R-Value at least 1.0 installed around the vertical edge of tis perimeter.  (5) Insulation required by (3) must— <ul style="list-style-type: none"> <li>• be water resistant; and</li> <li>• be continuous from the adjacent finished ground level—</li> <li>• to a depth of not less than 300 mm; or</li> <li>• for at least the full depth of the vertical edge of the concrete slab-on-ground.</li> </ul> (6) The requirements of (3) do not apply to an in-screed heating or cooling system used solely in a bathroom, amenity area or the like.	Applies to class 2,4 (in NSW).  This will only apply where slab heating/cooling is used.  This must be implemented and signed off by building contractors.
<b>NSW J3D11 to J3D15 not included</b>	J3D11 to J3D15 – N/A for NSW not included (all apply to class2 and 4 but not NSW) – covers glazing, shading, NatHERS targets	Not used –applies to class 2,4 (but outside NSW, without BASIX)
NCC Reference	Part J4 Building fabric	Specific Project Initiative
<b>NSW J4D1 Deemed-to-Satisfy Provisions</b>	(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements NSW J1P1</a> to <a href="#">NSW J1P7</a> are satisfied by complying with— <ol style="list-style-type: none"> <li>a) <a href="#">NSW J2D2</a>; and</li> <li>a) <a href="#">NSW J3D2</a> to <a href="#">J3D10</a>; and</li> <li>b) <a href="#">NSW J4D2</a> to <a href="#">J4D7</a>; and</li> <li>c) <a href="#">NSW J5D2</a> to <a href="#">J5D8</a>; and</li> <li>d) <a href="#">NSW J6D2</a> to <a href="#">J6D13</a>; and</li> <li>e) <a href="#">NSW J7D2</a> to <a href="#">J7D9</a>; and</li> <li>f) <a href="#">J8D2</a> to <a href="#">NSW J8D4</a>; and</li> <li>g) <a href="#">J9D2</a> to <a href="#">J9D5</a>.</li> </ol> (2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.	The development has been designed for this, as discussed in the summary table below.
<b>NSW J4D2 Application of Part</b>	(1) The Deemed-to-Satisfy Provisions of this Part apply to building elements forming the envelope of a Class 3 and Class 5 to 9 building. (2) NSW J4D3, applies to building elements forming the envelope of a sole-occupancy unit in a Class 2 building and a Class 4 part of a building. (3) (2) only applies to thermal insulation in a sole-occupancy unit in a Class 2 building and a Class 4 part of a building where a development consent specifies that the insulation is to be provided as part of the development.	DTS will apply to all changed conditioned areas. For example, since plant rooms are unconditioned, the “envelope” is the boundary between retail and plant rooms.

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
<p><b>NSW J4D3</b> <b>Thermal construction – general</b></p>	<p>(1) Where <a href="#">required</a>, insulation must comply with AS/NZS 4859.1 and be installed so that it—</p> <ol style="list-style-type: none"> <li>a. abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and</li> <li>b. forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and</li> <li>c. does not affect the safe or effective operation of a <a href="#">service</a> or fitting.</li> </ol> <p>(2) Where <a href="#">required, reflective insulation</a> must be installed with—</p> <ol style="list-style-type: none"> <li>a. the necessary airspace to achieve the <a href="#">required R-Value</a> between a reflective side of the <a href="#">reflective insulation</a> and a building lining or cladding; and</li> <li>b. the <a href="#">reflective insulation</a> closely fitted against any penetration, door or <a href="#">window</a> opening; and</li> <li>c. the <a href="#">reflective insulation</a> adequately supported by framing members; and</li> <li>d. each adjoining sheet of roll membrane being—               <ol style="list-style-type: none"> <li>i. overlapped not less than 50 mm; or</li> <li>ii. taped together.</li> </ol> </li> </ol> <p>(3) Where <a href="#">required</a>, bulk insulation must be installed so that—</p> <ol style="list-style-type: none"> <li>a. it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and</li> <li>b. in a ceiling, where there is no bulk insulation or <a href="#">reflective insulation</a> in the wall beneath, it overlaps the wall by not less than 50 mm.</li> </ol> <p>(4) Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in <a href="#">Specification 36</a>.</p> <p>(5) The <a href="#">required Total R-Value</a> and <a href="#">Total System U-Value</a>, including allowance for thermal bridging, must be—</p> <ol style="list-style-type: none"> <li>a. calculated in accordance with AS/NZS 4859.2 for a roof or floor; or</li> <li>b. determined in accordance with <a href="#">Specification 37</a> for <a href="#">wall-glazing construction</a>; or</li> <li>c. determined in accordance with <a href="#">Specification 39</a> or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.</li> </ol>	<p>Contractors will be obliged to adhere to these installation guidelines, in the final specifications. These will apply to all part of the envelope where thermal insulation is required.</p>
<p><b>NSW J4D4</b> <b>Roof and ceiling construction</b></p>	<p>(1) A roof or ceiling must achieve a <a href="#">Total R-Value</a> greater than or equal to—</p> <ol style="list-style-type: none"> <li>a. in <a href="#">climate zones</a> 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and</li> <li>b. in <a href="#">climate zone</a> 6, R3.2 for a downward direction of heat flow; and</li> <li>c. in <a href="#">climate zone</a> 7, R3.7 for an upward direction of heat flow; and</li> <li>d. in <a href="#">climate zone</a> 8, R4.8 for an upward direction of heat flow.</li> </ol> <p>(2) In <a href="#">climate zones</a> 1, 2, 3, 4, 5, 6 and 7, the solar absorptance of the upper surface of a roof must be not more than 0.45.</p>	<p><b>For conditioned retail/common areas , the Minimum Roof/Ceiling Insulation (for new roofs) is:</b></p> <ol style="list-style-type: none"> <li>1. Medium or light colour roof (or terrace) - R3.7 total – down. So, this requires approx. R3.3 added, excl. air gaps, assuming rigid, direct stick (foil-foam boards, etc)</li> <li>2. Dark colour – N/A with DTS, since roof solar absorption must be <math>\leq 0.45</math></li> </ol>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative																								
<p><b>NSW J4D5 Roof lights</b></p>	<p><u>Roof lights</u> must have—</p> <ol style="list-style-type: none"> <li>a. a total area of not more than 5% of the <u>floor area</u> of the room or space served; and</li> <li>b. transparent and translucent elements, including any imperforate ceiling diffuser, with a combined performance of—               <ol style="list-style-type: none"> <li>i. for <u>Total system SHGC</u>, in accordance with <u>Table J4D5</u>; and</li> <li>ii. for <u>Total system U-Value</u>, not more than U3.9.</li> <li>iii.</li> </ol> </li> </ol> <p>Table J4D5 Roof lights – Total system SHGC</p> <table border="1" data-bbox="394 512 958 770"> <thead> <tr> <th><u>Roof light shaft index</u> <small>Note 1</small></th> <th>Total area of <u>roof lights</u> up to 3.5% of the <u>floor area</u> of the room or space</th> <th>Total area of <u>roof lights</u> more than 3.5% and up to 5% of the <u>floor area</u> of the room or space</th> </tr> </thead> <tbody> <tr> <td>&lt;1.0</td> <td>≤ 0.45</td> <td>≤ 0.29</td> </tr> <tr> <td>≥ 1.0 to &lt; 2.5</td> <td>≤ 0.51</td> <td>≤ 0.33</td> </tr> <tr> <td>≥ 2.5</td> <td>≤ 0.76</td> <td>≤ 0.49</td> </tr> </tbody> </table>	<u>Roof light shaft index</u> <small>Note 1</small>	Total area of <u>roof lights</u> up to 3.5% of the <u>floor area</u> of the room or space	Total area of <u>roof lights</u> more than 3.5% and up to 5% of the <u>floor area</u> of the room or space	<1.0	≤ 0.45	≤ 0.29	≥ 1.0 to < 2.5	≤ 0.51	≤ 0.33	≥ 2.5	≤ 0.76	≤ 0.49	<p>Not applicable – no skylights or roof lights are proposed.</p>												
<u>Roof light shaft index</u> <small>Note 1</small>	Total area of <u>roof lights</u> up to 3.5% of the <u>floor area</u> of the room or space	Total area of <u>roof lights</u> more than 3.5% and up to 5% of the <u>floor area</u> of the room or space																								
<1.0	≤ 0.45	≤ 0.29																								
≥ 1.0 to < 2.5	≤ 0.51	≤ 0.33																								
≥ 2.5	≤ 0.76	≤ 0.49																								
<p><b>NSW J4D6 Walls and glazing</b></p>	<ol style="list-style-type: none"> <li>(1) The <u>Total System U-Value</u> of <u>wall-glazing construction</u>, including <u>wall-glazing construction</u> which wholly or partly forms the <u>envelope</u> internally, must not be greater than—         <ol style="list-style-type: none"> <li>a. for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a <u>ward area</u>, U2.0; and</li> <li>b. for a Class 3 or 9c building or a Class 9a <u>ward area</u>—             <ol style="list-style-type: none"> <li>i. in <u>climate zones</u> 1, 3, 4, 6 or 7, U1.1; or</li> <li>ii. in <u>climate zones</u> 2 or 5, U2.0; or</li> <li>iii. in <u>climate zone</u> 8, U0.9.</li> </ol> </li> </ol> </li> <li>(2) The <u>Total System U-Value</u> of <u>display glazing</u> must not be greater than U5.8.</li> <li>(3) The <u>Total System U-Value</u> of <u>wall-glazing construction</u> must be calculated in accordance with <u>Specification 37</u>.</li> <li>(4) Wall components of a <u>wall-glazing construction</u> must achieve a minimum <u>Total R-Value</u> of—         <ol style="list-style-type: none"> <li>a. where the wall is less than 80% of the area of the <u>wall-glazing construction</u>, R1.0; or</li> <li>b. where the wall is 80% or more of the area of the <u>wall-glazing construction</u>, the value specified in <u>Table J4D6a</u>.</li> </ol> </li> </ol>	<p><b>For the conditioned retail areas, the ‘whole-window’ glazing values (glass+ frame combined) are:</b></p> <table border="1" data-bbox="1458 855 1899 1161"> <thead> <tr> <th>Level</th> <th>Max U-value</th> <th>Max SHGC</th> </tr> </thead> <tbody> <tr> <td>GR office</td> <td>3.2</td> <td>0.24</td> </tr> <tr> <td>GR retail</td> <td>2.4</td> <td>0.23</td> </tr> <tr> <td>1 retail</td> <td>2.5</td> <td>0.27</td> </tr> <tr> <td>1 office</td> <td>3.9</td> <td>0.36</td> </tr> <tr> <td>2</td> <td>3.2</td> <td>0.29</td> </tr> <tr> <td>3</td> <td>3.9</td> <td>0.43</td> </tr> <tr> <td>4</td> <td>5.8</td> <td>0.49</td> </tr> </tbody> </table> <p><b>For the conditioned retail areas, "Total External Wall R-values" under DTS are advised to be:</b></p> <ul style="list-style-type: none"> <li>- Walls (external concrete/block/etc) = R2.5 added (+ break, 15mm EPS or equiv.) to give &gt;R1.8 total</li> <li>- Walls (external metal or cladding) = R2.5 added (+ break, 15mm EPS or equiv.) to give &gt;R 1.8 total</li> </ul>	Level	Max U-value	Max SHGC	GR office	3.2	0.24	GR retail	2.4	0.23	1 retail	2.5	0.27	1 office	3.9	0.36	2	3.2	0.29	3	3.9	0.43	4	5.8	0.49
Level	Max U-value	Max SHGC																								
GR office	3.2	0.24																								
GR retail	2.4	0.23																								
1 retail	2.5	0.27																								
1 office	3.9	0.36																								
2	3.2	0.29																								
3	3.9	0.43																								
4	5.8	0.49																								

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative																											
	<p>NSW Table NSW J4D6a: Minimum wall Total R-Value - Wall area 80% or more of wall-glazing construction area</p> <table border="1" data-bbox="439 276 1032 536"> <thead> <tr> <th>Climate zone</th> <th>Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area</th> <th>Class 3 or 9c building or Class 9a ward area</th> </tr> </thead> <tbody> <tr><td>1</td><td>2.4</td><td>3.3</td></tr> <tr><td>2</td><td>1.4</td><td>1.4</td></tr> <tr><td>3</td><td>1.4</td><td>3.3</td></tr> <tr><td>4</td><td>1.4</td><td>2.8</td></tr> <tr><td>5</td><td>1.4</td><td>1.4</td></tr> <tr><td>6</td><td>1.4</td><td>2.8</td></tr> <tr><td>7</td><td>1.4</td><td>2.8</td></tr> <tr><td>8</td><td>1.4</td><td>3.8</td></tr> </tbody> </table> <p>(5) The <a href="#">solar admittance</a> of externally facing <a href="#">wall-glazing construction</a>, excluding <a href="#">wall-glazing construction</a> which is wholly internal, must not be greater than—</p> <ol style="list-style-type: none"> <li>for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a <a href="#">ward area</a>, the values specified in <a href="#">Table J4D6b</a>; and</li> <li>for a Class 3 or 9c building or a Class 9a <a href="#">ward area</a>, the values specified in <a href="#">Table J4D6c</a>.</li> </ol> <p>(6) The <a href="#">solar admittance</a> of a <a href="#">wall-glazing construction</a> must be calculated in accordance with <a href="#">Specification 37</a>.</p> <p>(7) The <a href="#">Total system SHGC</a> of <a href="#">display glazing</a> must not be greater than 0.81 divided by the applicable shading factor specified in <a href="#">S37C7</a>.</p>	Climate zone	Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area	Class 3 or 9c building or Class 9a ward area	1	2.4	3.3	2	1.4	1.4	3	1.4	3.3	4	1.4	2.8	5	1.4	1.4	6	1.4	2.8	7	1.4	2.8	8	1.4	3.8	<p><b>For the conditioned retail areas, "Total Wall R-values" next to non-conditioned, enclosed spaces (such as plant rooms, external bathrooms, etc) are:</b></p> <p>Walls masonry (next to store, etc) = R1.5 added (+ break, 15mm EPS or equiv.) to give &gt;R1.3 total</p> <p>Walls lightweight (next to store, etc) = R1.5 added (+ break, 15mm EPS or equiv.) to give &gt;R 1.3 total</p> <p><b>For the conditioned retail areas, "Total Wall R-values" next to other conditioned spaces are:</b></p> <ul style="list-style-type: none"> <li>- Lightweight walls – any or no insulation is OK</li> <li>- Masonry/concrete walls –any or no insulation is OK</li> </ul>
Climate zone	Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area	Class 3 or 9c building or Class 9a ward area																											
1	2.4	3.3																											
2	1.4	1.4																											
3	1.4	3.3																											
4	1.4	2.8																											
5	1.4	1.4																											
6	1.4	2.8																											
7	1.4	2.8																											
8	1.4	3.8																											
<p><b>NSW J4D7 Floors</b></p>	<p>(1) A floor must achieve the <a href="#">Total R-Value</a> specified in <a href="#">Table J4D7</a>.</p> <p>Table J4D7 Floors – Minimum Total R-Value</p> <table border="1" data-bbox="394 903 1066 1137"> <thead> <tr> <th>Location</th> <th>Climate zone 1— upwards heat flow</th> <th>Climate zones 2 and 3 — upwards and downwards heat flow</th> <th>Climate zones 4, 5, 6 and 7 — downwards heat flow</th> <th>Climate zone 8 — downwards heat flow</th> </tr> </thead> <tbody> <tr> <td>A floor without an in-slab heating or cooling system</td> <td>2.0</td> <td>2.0</td> <td>2.0</td> <td>3.5</td> </tr> <tr> <td>A floor with an in-slab heating or cooling system</td> <td>3.25</td> <td>3.25</td> <td>3.25</td> <td>4.75</td> </tr> </tbody> </table> <p>(2) For the purposes of (1), a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a <a href="#">Total R-Value</a> of R2.0, except—</p> <ol style="list-style-type: none"> <li>in <a href="#">climate zone</a> 8; or</li> <li>a Class 3, Class 9a <a href="#">ward area</a> or Class 9b building in <a href="#">climate zone</a> 7 that has a <a href="#">floor area</a> to floor perimeter ratio of less than or equal to 2.</li> </ol> <p>(3) A floor must be insulated around the vertical edge of its perimeter with insulation having an <a href="#">R-Value</a> greater than or equal to 1.0 when the floor—</p> <ol style="list-style-type: none"> <li>is a concrete slab-on-ground in <a href="#">climate zone</a> 8; or</li> <li>has an in-slab or in-screed heating or cooling system, except where used solely in a bathroom, amenity area or the like.</li> </ol>	Location	Climate zone 1— upwards heat flow	Climate zones 2 and 3 — upwards and downwards heat flow	Climate zones 4, 5, 6 and 7 — downwards heat flow	Climate zone 8 — downwards heat flow	A floor without an in-slab heating or cooling system	2.0	2.0	2.0	3.5	A floor with an in-slab heating or cooling system	3.25	3.25	3.25	4.75	<p><b>Floor Insulation for conditioned area under DTS:</b> Assuming no in-slab heating or cooling, the following insulation is required for the conditioned rooms:</p> <table border="1" data-bbox="1458 999 2112 1233"> <thead> <tr> <th>Floor type</th> <th>Minimum Total R-values</th> </tr> </thead> <tbody> <tr> <td>Slab above air/basement</td> <td>R2 total (i.e. R1.7 added)</td> </tr> <tr> <td>Slab on ground</td> <td>N/A - Optional insulation</td> </tr> </tbody> </table>	Floor type	Minimum Total R-values	Slab above air/basement	R2 total (i.e. R1.7 added)	Slab on ground	N/A - Optional insulation						
Location	Climate zone 1— upwards heat flow	Climate zones 2 and 3 — upwards and downwards heat flow	Climate zones 4, 5, 6 and 7 — downwards heat flow	Climate zone 8 — downwards heat flow																									
A floor without an in-slab heating or cooling system	2.0	2.0	2.0	3.5																									
A floor with an in-slab heating or cooling system	3.25	3.25	3.25	4.75																									
Floor type	Minimum Total R-values																												
Slab above air/basement	R2 total (i.e. R1.7 added)																												
Slab on ground	N/A - Optional insulation																												

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	(4) Insulation <a href="#">required</a> by (3) for a concrete slab-on-ground must— <ol style="list-style-type: none"> <li>a. be <a href="#">water resistant</a>; and</li> <li>b. be continuous from the adjacent finished ground level—               <ol style="list-style-type: none"> <li>i. to a depth not less than 300 mm; or</li> <li>ii. for the full depth of the vertical edge of the concrete slab-on-ground.</li> <li>iii.</li> </ol> </li> </ol>	
NCC Reference	Part J5 Building sealing	Specific Project Initiative
<b>NSW J5D1 Deemed-to-Satisfy Provisions</b>	(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements NSW J1P1</a> to <a href="#">NSW J1P7</a> are satisfied by complying with— <ol style="list-style-type: none"> <li>1. <a href="#">NSW J2D2</a>; and</li> <li>1. <a href="#">NSW J3D2</a> to <a href="#">J3D10</a>; and</li> <li>2. <a href="#">NSW J4D2</a> to <a href="#">J4D7</a>; and</li> <li>3. <a href="#">NSW J5D2</a> to <a href="#">J5D8</a>; and</li> <li>4. <a href="#">NSW J6D2</a> to <a href="#">J6D13</a>; and</li> <li>5. <a href="#">NSW J7D2</a> to <a href="#">J7D9</a>; and</li> <li>6. <a href="#">J8D2</a> to <a href="#">NSW J8D4</a>; and</li> <li>7. <a href="#">J9D2</a> to <a href="#">J9D5</a>.</li> </ol> (2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.	This will apply to conditioned areas. The ‘envelope’ is the boundary between a conditioned space and unconditioned (such as the outside air or unconditioned plant rooms).
<b>NSW J5D2 Application of Part</b>	The <a href="#">Deemed-to-Satisfy Provisions</a> of this Part apply to elements forming the <a href="#">envelope</a> of a Class 2 to 9 building, other than— <ol style="list-style-type: none"> <li>a. a building in <a href="#">climate zones</a> 1, 2, 3 and 5 where the only means of <a href="#">air-conditioning</a> is by using an evaporative cooler; or</li> <li>b. a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or</li> <li>c. in a Class 3 or Class 5-9 building, a building or space where the mechanical vent <a href="#">required</a> by <a href="#">Part F6</a> provides sufficient pressurisation to prevent infiltration; or</li> <li>d. parts of buildings that cannot be fully enclosed.</li> </ol>	DTS will apply to all changed conditioned areas. For example, since plant rooms are unconditioned, the “envelope” is the boundary between retail and plant rooms.
<b>NSW J5D3 Chimneys and flues</b>	The chimney or flue of an open solid-fuel burning appliance must be provided with a damper or flap that can be closed to seal the chimney or flue.	N/A - No solid-fuel burning appliances.
<b>NSW J5D4 Roof lights</b>	(1) A <a href="#">roof light</a> must be sealed, or capable of being sealed, when serving— <ol style="list-style-type: none"> <li>a. a <a href="#">conditioned space</a>; or</li> <li>b. a <a href="#">habitable room</a> in <a href="#">climate zones</a> 4, 5, 6, 7 or 8.</li> </ol> (2) A <a href="#">roof light required</a> by (1) to be sealed, or capable of being sealed, must be constructed with— <ol style="list-style-type: none"> <li>a. an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or</li> </ol>	N/A since no roof lights

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	b. a weatherproof seal; or c. a shutter system readily operated either manually, mechanically or electronically by the occupant.	
<b>NSW J5D5 Windows and doors</b>	(1) A door, openable <a href="#">window</a> or the like must be sealed— a. when forming part of the <a href="#">envelope</a> ; or b. in <a href="#">climate zones</a> 4, 5, 6, 7 or 8. (2) The requirements of (1) do not apply to— a. a <a href="#">window</a> complying with AS 2047; or b. a fire door or smoke door; or c. a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security. (3) A seal to restrict air infiltration— a. for the bottom edge of a door, must be a draft protection device; and b. for the other edges of a door or the edges of an openable <a href="#">window</a> or other such opening, may be a foam or rubber compression strip, fibrous seal or the like. (4) An entrance to a building, if leading to a <a href="#">conditioned space</a> must have an airlock, <a href="#">self-closing</a> door, <a href="#">rapid roller door</a> , revolving door or the like, other than— a. where the <a href="#">conditioned space</a> has a <a href="#">floor area</a> of not more than 50 m <sup>2</sup> ; or b. where a café, restaurant, open front shop or the like has— i. a 3 m deep un-conditioned zone between the main entrance, including an open front, and the <a href="#">conditioned space</a> ; and ii. at all other entrances to the café, restaurant, open front shop or the like, <a href="#">self-closing</a> doors. (5) A loading dock entrance, if leading to a <a href="#">conditioned space</a> , must be fitted with a <a href="#">rapid roller door</a> or the like.  <i>Applications -NSW J5D5(5) does not apply to a Class 2 building or a Class 4 part of a building.</i>	Seals must be fitted to the edges of new doors and windows (for retail and residential). This does not apply to:  (i) a window complying with AS 2047; or (ii) a fire door or smoke door; or (iii) a roller shutter/ security door  The external entrances to the conditioned space must have a self-closing door or the like.  A loading dock entrance into conditioned space, must use a rapid roller door or similar.
<b>NSW J5D6 Exhaust fans</b>	An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving— a. a <a href="#">conditioned space</a> ; or b. a <a href="#">habitable room</a> in <a href="#">climate zones</a> 4, 5, 6, 7 or 8.	Exhaust fans in all habitable spaces will be fitted with sealing devices, such as self-closing dampers.
<b>NSW J5D7 Construction of ceilings, walls and floors</b>	(1) Ceilings, walls, floors and any opening such as a <a href="#">window</a> frame, door frame, <a href="#">roof light</a> frame or the like must be constructed to minimise air leakage in accordance with (2)— a. when forming part of the <a href="#">envelope</a> ; or b. in <a href="#">climate zones</a> 4, 5, 6, 7 or 8. (2) Construction <a href="#">required</a> by (1) must be— a. enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or	Construction details will be developed later, to ensure walls, ceilings, floors and windows/doors minimise air leakage (using linings, caulking, skirting, architraves, cornices, etc).

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	b. sealed at junctions and penetrations with— <ul style="list-style-type: none"> <li>i. close fitting architrave, skirting or cornice; or</li> <li>ii. expanding foam, rubber compressible strip, caulking or the like.</li> </ul> (3) The requirements of (1) do not apply to openings, grilles or the like <u>required</u> for smoke hazard management.	
<b>NSW J5D8 Evaporative coolers</b>	An evaporative cooler must be fitted with a self-closing damper or the like— <ul style="list-style-type: none"> <li>a. when serving a heated space; or</li> <li>b. in <u>climate zones</u> 4, 5, 6, 7 or 8.</li> </ul>	NA – no evaporative coolers.
NCC Reference	Part J6 Air-conditioning and ventilation	Specific Project Initiative
<b>NSW J6D1  Deemed-to-Satisfy Provisions</b>	(1) Where a <u>Deemed-to-Satisfy Solution</u> is proposed, <u>Performance Requirements NSW J1P1</u> to <u>NSW J1P7</u> are satisfied by complying with— <ol style="list-style-type: none"> <li>1. <u>NSW J2D2</u>; and</li> <li>1. <u>NSW J3D2</u> to <u>J3D10</u>; and</li> <li>2. <u>NSW J4D2</u> to <u>J4D7</u>; and</li> <li>3. <u>NSW J5D2</u> to <u>J5D8</u>; and</li> <li>4. <u>NSW J6D2</u> to <u>J6D13</u>; and</li> <li>5. <u>NSW J7D2</u> to <u>J7D9</u>; and</li> <li>6. <u>J8D2</u> to <u>NSW J8D4</u>; and</li> <li>7. <u>J9D2</u> to <u>J9D5</u>.</li> </ol> (2) Where a <u>Performance Solution</u> is proposed, the relevant <u>Performance Requirements</u> must be determined in accordance with <u>A2G2(3)</u> and <u>A2G4(3)</u> as applicable.	DTS for J6 will apply to the building. During the design development, the HVAC systems will be designed by the mechanical engineers to meet all these conditions.
<b>NSW J6D2 Application of Part</b>	(1) The <u>Deemed-to-Satisfy Provisions</u> of this Part do not apply to a Class 8 <u>electricity network substation</u> . (2) <u>J6D10</u> does not apply to a Class 2 building or a Class 4 part of a building.	DTS for J6 will apply to the building. However, <u>J6D10</u> does not apply to the Class 2 building.
<b>NSW J6D3 Air-conditioning system control</b>	Not included here – Refer to NCC 2022 for details of: J6D3	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
<b>NSW J6D4 Mech vent. system control</b>	Not included here – Refer to NCC 2022 for details of: J6D4	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
<b>NSW J6D5 Fans and duct systems</b>	Not included here – Refer to NCC 2022 for details of: J6D5	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
<b>NSW J6D6 Ductwork insulation</b>	Not included here – Refer to NCC 2022 for details of: J6D6	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
NSW J6D7 Ductwork sealing	Not included here – Refer to NCC 2022 for details of: J6D7	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D8 Pump systems	Not included here – Refer to NCC 2022 for details of: J6D8	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D9 Pipework insulation	Not included here – Refer to NCC 2022 for details of: J6D9	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D10 Space heating	Not included here – Refer to NCC 2022 for details of: J6D10	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D11 Refrigerant chillers	Not included here – Refer to NCC 2022 for details of: J6D11	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D12 Unitary air-conditioning equipment	Not included here – Refer to NCC 2022 for details of: J6D12	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NSW J6D13 Heat rejection equipment	Not included here – Refer to NCC 2022 for details of: J6D13	The HVAC will be designed and verified by the mechanical engineers to meet these conditions.
NCC Reference	Part J7 Artificial lighting and power	Specific Project Initiative
NSW J7D1 Deemed-to-Satisfy Provisions	(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements NSW J1P1</a> to <a href="#">NSW J1P7</a> are satisfied by complying with— <ul style="list-style-type: none"> <li>a) <a href="#">NSW J2D2</a>; and</li> <li>a) <a href="#">NSW J3D2</a> to <a href="#">J3D10</a>; and</li> <li>b) <a href="#">NSW J4D2</a> to <a href="#">J4D7</a>; and</li> <li>c) <a href="#">NSW J5D2</a> to <a href="#">J5D8</a>; and</li> <li>d) <a href="#">NSW J6D2</a> to <a href="#">J6D13</a>; and</li> <li>e) <a href="#">NSW J7D2</a> to <a href="#">J7D9</a>; and</li> <li>f) <a href="#">J8D2</a> to <a href="#">NSW J8D4</a>; and</li> <li>g) <a href="#">J9D2</a> to <a href="#">J9D5</a>.</li> </ul> (2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable	DTS for J7 will apply to internal and external areas.
NSW J7D2 Application of Part	(1) The Deemed-to-Satisfy Provisions of this Part do not apply to a Class 2 building or a Class 4 part of a building. (2) J7D3, J7D4 and J7D6(1)(b) do not apply to a Class 8 electricity network substation.	DTS for J7 will apply to internal and external areas.

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative																																																																														
<b>NSW J7D3 Artificial lighting</b>	<p>(1) This subclause does not apply in NSW.</p> <p>(2) In a Class 3 or Class 5 to 9 building—</p> <p>a. (2) In a Class 3 or Class 5 to 9 building—for artificial lighting, the aggregate design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum <i>illumination power density</i> in <a href="#">Table J7D3a</a>; and</p> <p>b. the aggregate design illumination power load in (a) is the sum of the design illumination power loads in each of the spaces served; and</p> <p>c. where there are multiple lighting systems serving the same space, the design illumination power load for (b) is—</p> <ol style="list-style-type: none"> <li>i. the total illumination power load of all systems; or</li> <li>ii. where a control system permits only one system to operate at a time based on the highest illumination power load; or determined by the formula                             <math display="block">\frac{[H \times T/2 + P \times (100 - T/2)]}{100}</math> </li> </ol> <p>d. In the formula at (c)(ii)—</p> <ol style="list-style-type: none"> <li>i. H = the highest illumination power load; and</li> <li>ii. T = the time for which the maximum illumination power load will occur, expressed as a percentage; and</li> <li>iii. P = the predominant illumination power load.</li> </ol>	<p>Lighting for areas will satisfy the power targets, including:</p> <table border="1" data-bbox="1456 279 2083 1391"> <thead> <tr> <th>Space</th> <th>W/m2</th> </tr> </thead> <tbody> <tr><td>Auditorium, church and public hall</td><td>8</td></tr> <tr><td>Board room and conference room</td><td>5</td></tr> <tr><td>Carpark - general</td><td>2</td></tr> <tr><td>Carpark - entry zone (first 15 m of travel) during the daytime</td><td>11.5</td></tr> <tr><td>Carpark - entry zone (next 4 m of travel) during the day</td><td>2.5</td></tr> <tr><td>Carpark - entry zone (first 20 m of travel) during night time</td><td>2.5</td></tr> <tr><td>Common rooms, spaces and corridors in a Class 2 building</td><td>4.5</td></tr> <tr><td>Control room, switch room and like - intermittent monitoring</td><td>3</td></tr> <tr><td>Control room, switch room and like - constant monitoring</td><td>4.5</td></tr> <tr><td>Corridors</td><td>5</td></tr> <tr><td>Courtroom</td><td>4.5</td></tr> <tr><td>Dormitory of a Class 3 building used for sleeping only</td><td>3</td></tr> <tr><td>Dormitory of a Class 3 building used for sleeping and study</td><td>4</td></tr> <tr><td>Entry lobby from outside the building</td><td>9</td></tr> <tr><td>Health-care – infant children's wards &amp; emergency departm.</td><td>4</td></tr> <tr><td>Health-care - examination room</td><td>4.5</td></tr> <tr><td>Health-care exam room intensive care +high dependency</td><td>6</td></tr> <tr><td>Health-care - other patient care areas incl. wards+ corridors</td><td>2.5</td></tr> <tr><td>Kitchen and food preparation area</td><td>4</td></tr> <tr><td>Laboratory - artificially lit to an ambient level 400 lx or more</td><td>6</td></tr> <tr><td>Library - stack and shelving area</td><td>2.5</td></tr> <tr><td>Library - reading room and general areas</td><td>4.5</td></tr> <tr><td>Lounge area for communal use in a Class 3 or 9c building</td><td>4.5</td></tr> <tr><td>Museum gallery - circulation, cleaning and service lighting</td><td>2.5</td></tr> <tr><td>Office - artificially lit to an ambient level of 200 lx or more</td><td>4.5</td></tr> <tr><td>Office - artificially lit to an ambient level of less than 200 lx</td><td>2.5</td></tr> <tr><td>Plant room where ave. 160 lx vertical illuminance needed</td><td>4</td></tr> <tr><td>Plant rooms with a horizontal illuminance target of 80 lx</td><td>2</td></tr> <tr><td>Restaurant, café, bar, hotel lounge or space food or drinks</td><td>14</td></tr> <tr><td>Retail space including a museum and gallery-sale of objects</td><td>14</td></tr> <tr><td>School - general purpose learning areas and tutorial rooms</td><td>4.5</td></tr> <tr><td>Sole-occupancy unit of a Class 3 or 9c building</td><td>5</td></tr> <tr><td>Storage</td><td>1.5</td></tr> <tr><td>Service area, cleaner's room and the like</td><td>1.5</td></tr> <tr><td>Toilet, locker room, staff room, rest room and the like</td><td>3</td></tr> <tr><td>Wholesale storage area - vertical illuminance target 160 lx</td><td>4</td></tr> <tr><td>Stairways, including fire-isolated stairways</td><td>2</td></tr> <tr><td>Lift cars</td><td>3</td></tr> </tbody> </table>	Space	W/m2	Auditorium, church and public hall	8	Board room and conference room	5	Carpark - general	2	Carpark - entry zone (first 15 m of travel) during the daytime	11.5	Carpark - entry zone (next 4 m of travel) during the day	2.5	Carpark - entry zone (first 20 m of travel) during night time	2.5	Common rooms, spaces and corridors in a Class 2 building	4.5	Control room, switch room and like - intermittent monitoring	3	Control room, switch room and like - constant monitoring	4.5	Corridors	5	Courtroom	4.5	Dormitory of a Class 3 building used for sleeping only	3	Dormitory of a Class 3 building used for sleeping and study	4	Entry lobby from outside the building	9	Health-care – infant children's wards & emergency departm.	4	Health-care - examination room	4.5	Health-care exam room intensive care +high dependency	6	Health-care - other patient care areas incl. wards+ corridors	2.5	Kitchen and food preparation area	4	Laboratory - artificially lit to an ambient level 400 lx or more	6	Library - stack and shelving area	2.5	Library - reading room and general areas	4.5	Lounge area for communal use in a Class 3 or 9c building	4.5	Museum gallery - circulation, cleaning and service lighting	2.5	Office - artificially lit to an ambient level of 200 lx or more	4.5	Office - artificially lit to an ambient level of less than 200 lx	2.5	Plant room where ave. 160 lx vertical illuminance needed	4	Plant rooms with a horizontal illuminance target of 80 lx	2	Restaurant, café, bar, hotel lounge or space food or drinks	14	Retail space including a museum and gallery-sale of objects	14	School - general purpose learning areas and tutorial rooms	4.5	Sole-occupancy unit of a Class 3 or 9c building	5	Storage	1.5	Service area, cleaner's room and the like	1.5	Toilet, locker room, staff room, rest room and the like	3	Wholesale storage area - vertical illuminance target 160 lx	4	Stairways, including fire-isolated stairways	2	Lift cars	3
Space	W/m2																																																																															
Auditorium, church and public hall	8																																																																															
Board room and conference room	5																																																																															
Carpark - general	2																																																																															
Carpark - entry zone (first 15 m of travel) during the daytime	11.5																																																																															
Carpark - entry zone (next 4 m of travel) during the day	2.5																																																																															
Carpark - entry zone (first 20 m of travel) during night time	2.5																																																																															
Common rooms, spaces and corridors in a Class 2 building	4.5																																																																															
Control room, switch room and like - intermittent monitoring	3																																																																															
Control room, switch room and like - constant monitoring	4.5																																																																															
Corridors	5																																																																															
Courtroom	4.5																																																																															
Dormitory of a Class 3 building used for sleeping only	3																																																																															
Dormitory of a Class 3 building used for sleeping and study	4																																																																															
Entry lobby from outside the building	9																																																																															
Health-care – infant children's wards & emergency departm.	4																																																																															
Health-care - examination room	4.5																																																																															
Health-care exam room intensive care +high dependency	6																																																																															
Health-care - other patient care areas incl. wards+ corridors	2.5																																																																															
Kitchen and food preparation area	4																																																																															
Laboratory - artificially lit to an ambient level 400 lx or more	6																																																																															
Library - stack and shelving area	2.5																																																																															
Library - reading room and general areas	4.5																																																																															
Lounge area for communal use in a Class 3 or 9c building	4.5																																																																															
Museum gallery - circulation, cleaning and service lighting	2.5																																																																															
Office - artificially lit to an ambient level of 200 lx or more	4.5																																																																															
Office - artificially lit to an ambient level of less than 200 lx	2.5																																																																															
Plant room where ave. 160 lx vertical illuminance needed	4																																																																															
Plant rooms with a horizontal illuminance target of 80 lx	2																																																																															
Restaurant, café, bar, hotel lounge or space food or drinks	14																																																																															
Retail space including a museum and gallery-sale of objects	14																																																																															
School - general purpose learning areas and tutorial rooms	4.5																																																																															
Sole-occupancy unit of a Class 3 or 9c building	5																																																																															
Storage	1.5																																																																															
Service area, cleaner's room and the like	1.5																																																																															
Toilet, locker room, staff room, rest room and the like	3																																																																															
Wholesale storage area - vertical illuminance target 160 lx	4																																																																															
Stairways, including fire-isolated stairways	2																																																																															
Lift cars	3																																																																															

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative																																																																														
	<p>Table J7D3a Maximum illumination power density</p> <table border="1"> <thead> <tr> <th data-bbox="398 300 1108 323">Space</th> <th data-bbox="1120 300 1433 323">Maximum illumination power density</th> </tr> </thead> <tbody> <tr><td>Auditorium, church and public hall</td><td>8</td></tr> <tr><td>Board room and conference room</td><td>5</td></tr> <tr><td><a href="#">Carpark</a> - general</td><td>2</td></tr> <tr><td><a href="#">Carpark</a> - entry zone (first 15 m of travel) during the daytime</td><td>11.5</td></tr> <tr><td><a href="#">Carpark</a> - entry zone (next 4 m of travel) during the day</td><td>2.5</td></tr> <tr><td><a href="#">Carpark</a> - entry zone (first 20 m of travel) during night time</td><td>2.5</td></tr> <tr><td>Common rooms, spaces and corridors in a Class 2 building</td><td>4.5</td></tr> <tr><td>Control room, switch room and the like - intermittent monitoring</td><td>3</td></tr> <tr><td>Control room, switch room and the like - constant monitoring</td><td>4.5</td></tr> <tr><td>Corridors</td><td>5</td></tr> <tr><td>Courtroom</td><td>4.5</td></tr> <tr><td>Dormitory of a Class 3 building used for sleeping only</td><td>3</td></tr> <tr><td>Dormitory of a Class 3 building used for sleeping and study</td><td>4</td></tr> <tr><td>Entry lobby from outside the building</td><td>9</td></tr> <tr><td>Health-care - infants' and children's wards and emergency department</td><td>4</td></tr> <tr><td>Health-care - examination room</td><td>4.5</td></tr> <tr><td>Health-care - examination room in intensive care and high dependency ward</td><td>6</td></tr> <tr><td>Health-care - all other <a href="#">patient care areas</a> including wards and corridors</td><td>2.5</td></tr> <tr><td>Kitchen and food preparation area</td><td>4</td></tr> <tr><td>Laboratory - artificially lit to an ambient level of 400 lx or more</td><td>6</td></tr> <tr><td>Library - stack and shelving area</td><td>2.5</td></tr> <tr><td>Library - reading room and general areas</td><td>4.5</td></tr> <tr><td>Lounge area for communal use in a Class 3 or 9c building</td><td>4.5</td></tr> <tr><td>Museum and gallery - circulation, cleaning and service lighting</td><td>2.5</td></tr> <tr><td>Office - artificially lit to an ambient level of 200 lx or more</td><td>4.5</td></tr> <tr><td>Office - artificially lit to an ambient level of less than 200 lx</td><td>2.5</td></tr> <tr><td>Plant room where an average of 160 lx vertical illuminance is required on a vertical panel such as in switch rooms</td><td>4</td></tr> <tr><td>Plant rooms with a horizontal illuminance target of 80 lx</td><td>2</td></tr> <tr><td>Restaurant, café, bar, hotel lounge and a space for the serving and consumption of food or drinks</td><td>14</td></tr> <tr><td>Retail space including a museum and gallery whose purpose is the sale of objects</td><td>14</td></tr> <tr><td><a href="#">School</a> - general purpose learning areas and tutorial rooms</td><td>4.5</td></tr> <tr><td><a href="#">Sole-occupancy unit</a> of a Class 3 or 9c building</td><td>5</td></tr> <tr><td>Storage</td><td>1.5</td></tr> <tr><td>Service area, cleaner's room and the like</td><td>1.5</td></tr> <tr><td>Toilet, locker room, staff room, rest room and the like</td><td>3</td></tr> <tr><td>Wholesale storage area with a vertical illuminance target of 160 lx</td><td>4</td></tr> <tr><td>Stairways, including <a href="#">fire-isolated stairways</a></td><td>2</td></tr> <tr><td>Lift cars</td><td>3</td></tr> </tbody> </table>	Space	Maximum illumination power density	Auditorium, church and public hall	8	Board room and conference room	5	<a href="#">Carpark</a> - general	2	<a href="#">Carpark</a> - entry zone (first 15 m of travel) during the daytime	11.5	<a href="#">Carpark</a> - entry zone (next 4 m of travel) during the day	2.5	<a href="#">Carpark</a> - entry zone (first 20 m of travel) during night time	2.5	Common rooms, spaces and corridors in a Class 2 building	4.5	Control room, switch room and the like - intermittent monitoring	3	Control room, switch room and the like - constant monitoring	4.5	Corridors	5	Courtroom	4.5	Dormitory of a Class 3 building used for sleeping only	3	Dormitory of a Class 3 building used for sleeping and study	4	Entry lobby from outside the building	9	Health-care - infants' and children's wards and emergency department	4	Health-care - examination room	4.5	Health-care - examination room in intensive care and high dependency ward	6	Health-care - all other <a href="#">patient care areas</a> including wards and corridors	2.5	Kitchen and food preparation area	4	Laboratory - artificially lit to an ambient level of 400 lx or more	6	Library - stack and shelving area	2.5	Library - reading room and general areas	4.5	Lounge area for communal use in a Class 3 or 9c building	4.5	Museum and gallery - circulation, cleaning and service lighting	2.5	Office - artificially lit to an ambient level of 200 lx or more	4.5	Office - artificially lit to an ambient level of less than 200 lx	2.5	Plant room where an average of 160 lx vertical illuminance is required on a vertical panel such as in switch rooms	4	Plant rooms with a horizontal illuminance target of 80 lx	2	Restaurant, café, bar, hotel lounge and a space for the serving and consumption of food or drinks	14	Retail space including a museum and gallery whose purpose is the sale of objects	14	<a href="#">School</a> - general purpose learning areas and tutorial rooms	4.5	<a href="#">Sole-occupancy unit</a> of a Class 3 or 9c building	5	Storage	1.5	Service area, cleaner's room and the like	1.5	Toilet, locker room, staff room, rest room and the like	3	Wholesale storage area with a vertical illuminance target of 160 lx	4	Stairways, including <a href="#">fire-isolated stairways</a>	2	Lift cars	3	
Space	Maximum illumination power density																																																																															
Auditorium, church and public hall	8																																																																															
Board room and conference room	5																																																																															
<a href="#">Carpark</a> - general	2																																																																															
<a href="#">Carpark</a> - entry zone (first 15 m of travel) during the daytime	11.5																																																																															
<a href="#">Carpark</a> - entry zone (next 4 m of travel) during the day	2.5																																																																															
<a href="#">Carpark</a> - entry zone (first 20 m of travel) during night time	2.5																																																																															
Common rooms, spaces and corridors in a Class 2 building	4.5																																																																															
Control room, switch room and the like - intermittent monitoring	3																																																																															
Control room, switch room and the like - constant monitoring	4.5																																																																															
Corridors	5																																																																															
Courtroom	4.5																																																																															
Dormitory of a Class 3 building used for sleeping only	3																																																																															
Dormitory of a Class 3 building used for sleeping and study	4																																																																															
Entry lobby from outside the building	9																																																																															
Health-care - infants' and children's wards and emergency department	4																																																																															
Health-care - examination room	4.5																																																																															
Health-care - examination room in intensive care and high dependency ward	6																																																																															
Health-care - all other <a href="#">patient care areas</a> including wards and corridors	2.5																																																																															
Kitchen and food preparation area	4																																																																															
Laboratory - artificially lit to an ambient level of 400 lx or more	6																																																																															
Library - stack and shelving area	2.5																																																																															
Library - reading room and general areas	4.5																																																																															
Lounge area for communal use in a Class 3 or 9c building	4.5																																																																															
Museum and gallery - circulation, cleaning and service lighting	2.5																																																																															
Office - artificially lit to an ambient level of 200 lx or more	4.5																																																																															
Office - artificially lit to an ambient level of less than 200 lx	2.5																																																																															
Plant room where an average of 160 lx vertical illuminance is required on a vertical panel such as in switch rooms	4																																																																															
Plant rooms with a horizontal illuminance target of 80 lx	2																																																																															
Restaurant, café, bar, hotel lounge and a space for the serving and consumption of food or drinks	14																																																																															
Retail space including a museum and gallery whose purpose is the sale of objects	14																																																																															
<a href="#">School</a> - general purpose learning areas and tutorial rooms	4.5																																																																															
<a href="#">Sole-occupancy unit</a> of a Class 3 or 9c building	5																																																																															
Storage	1.5																																																																															
Service area, cleaner's room and the like	1.5																																																																															
Toilet, locker room, staff room, rest room and the like	3																																																																															
Wholesale storage area with a vertical illuminance target of 160 lx	4																																																																															
Stairways, including <a href="#">fire-isolated stairways</a>	2																																																																															
Lift cars	3																																																																															

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	<p>(1) In areas not listed above, the maximum <a href="#">illumination power density</a> is—</p> <ul style="list-style-type: none"> <li>(a) for an illuminance not more than 80 lx, 2 W/m<sup>2</sup>; and</li> <li>(b) for an illuminance more than 80 lx and not more than 160 lx, 2.5 W/m<sup>2</sup>; and</li> <li>(c) for an illuminance more than 160 lx and not more than 240 lx, 3 W/m<sup>2</sup>; and</li> <li>(d) for an illuminance more than 240 lx and not more than 320 lx, 4.5 W/m<sup>2</sup>; and</li> <li>(e) for an illuminance more than 320 lx and not more than 400 lx, 6 W/m<sup>2</sup>; and</li> <li>(f) for an illuminance more than 400 lx and not more than 600 lx, 10 W/m<sup>2</sup>; and</li> <li>(g) for an illuminance more than 600 lx and not more than 800 lx, 11.5 W/m<sup>2</sup>.</li> </ul> <p>(2) For enclosed spaces with a Room Aspect Ratio of less than 1.5, the maximum <a href="#">illumination power density</a> may be increased by dividing it by an adjustment factor for room aspect which is 0.5 + (Room Aspect Ratio/3).</p> <p>(3) The Room Aspect Ratio of the enclosed space is determined by the formula: A/(H x C), where—</p> <ul style="list-style-type: none"> <li>(a) A is the area of the enclosed space; and</li> <li>(b) H is the height of the space measured from the floor to the highest part of the ceiling; and</li> <li>(c) C is the perimeter of the enclosed space at floor level.</li> </ul> <p>(4) In addition to 2, the maximum <a href="#">illumination power density</a> may be increased by dividing it by the <a href="#">illumination power density</a> adjustment factor in <a href="#">Table J7D3b</a> and <a href="#">Table J7D3c</a> and where the control device is not installed to comply with J6D4.</p> <p>(5) Circulation spaces are included in the allowances listed in the Table.</p> <p>(3) The requirements of (1) and (2) do not apply to the following:</p> <ul style="list-style-type: none"> <li>a. Emergency lighting provided in accordance with <a href="#">Part E4</a>.</li> <li>b. Signage, display lighting within cabinets and display cases that are fixed in place.</li> <li>c. Lighting for accommodation within the residential part of a <a href="#">detention centre</a>.</li> <li>d. A heater where the heater also emits light, such as in bathrooms.</li> <li>e. Lighting of a specialist process nature such as in a surgical operating theatre, fume cupboard or clean workstation.</li> <li>f. Lighting of performances such as theatrical or sporting.</li> <li>g. Lighting for the permanent display and preservation of works of art or objects in a museum or gallery other than for retail sale, purchase or auction.</li> <li>h. Lighting installed solely to provide photosynthetically active radiation for indoor plant growth on green walls and the like.</li> </ul> <p>(4) For the purposes of <a href="#">Table J7D3b</a>, the following control devices must comply with <a href="#">Specification 40</a>:</p> <ul style="list-style-type: none"> <li>a. Lighting timers.</li> <li>b. Motion detectors.</li> <li>c. Daylight sensors and dynamic lighting control devices.</li> </ul>	

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
<p><b>NSW J7D4</b> <b>Interior artificial lighting and power control</b></p>	<p>(1) All artificial lighting of a room or space must be individually operated by—</p> <ol style="list-style-type: none"> <li>a. a switch; or</li> <li>b. other control device; or</li> <li>c. a combination of (a) and (b).</li> </ol> <p>(2) An occupant activated device, such as a room security device, a motion detector in accordance with <a href="#">Specification 40</a>, or the like, must be provided in the <a href="#">sole-occupancy unit</a> of a Class 3 building, other than where providing accommodation for people with a disability or the aged, to cut power to the artificial lighting, air-conditioner, local exhaust fans and bathroom heater when the <a href="#">sole-occupancy unit</a> is unoccupied.</p> <p>(3) An artificial lighting switch or other control device in (1) must—</p> <ol style="list-style-type: none"> <li>a. if an artificial lighting switch, be located in a visible and easily accessed position—               <ol style="list-style-type: none"> <li>i. in the room or space being switched; or</li> <li>ii. in an adjacent room or space from where 90% of the lighting being switched is visible; and</li> </ol> </li> <li>b. for other than a single functional space such as an auditorium, theatre, <a href="#">swimming pool</a>, sporting stadium or warehouse—               <ol style="list-style-type: none"> <li>i. if in a Class 5 building or a Class 8 laboratory, not operate lighting for an area of more than 250 m<sup>2</sup>; or</li> <li>ii. if in a Class 3, 6, 7, 8 (other than a laboratory) or 9 building, not operate lighting for an area of more than—                   <ol style="list-style-type: none"> <li>1. 250 m<sup>2</sup> for a space of not more than 2000 m<sup>2</sup>; or</li> <li>2. 1000 m<sup>2</sup> for a space of more than 2000 m<sup>2</sup>.</li> </ol> </li> </ol> </li> </ol> <p>(4) 95% of the light fittings in a building or storey of a building, other than a Class 3 building of more than 250 m<sup>2</sup> must be controlled by—</p> <ol style="list-style-type: none"> <li>a. a time switch in accordance with <a href="#">Specification 40</a>; or</li> <li>b. an occupant sensing device such as—               <ol style="list-style-type: none"> <li>i. a security key card reader that registers a person entering and leaving the building; or</li> <li>ii. a motion detector in accordance with <a href="#">Specification 40</a>.</li> </ol> </li> </ol> <p>(5) In a Class 5, 6 or 8 building of more than 250 m<sup>2</sup>, artificial lighting in a natural lighting zone adjacent to <a href="#">windows</a> must be separately controlled from artificial lighting not in a natural lighting zone in the same <a href="#">storey</a> except where—</p> <ol style="list-style-type: none"> <li>a. the room containing the natural lighting zone is less than 20 m<sup>2</sup>; or</li> <li>b. the room’s natural lighting zone contains less than 4 luminaires; or</li> <li>c. 70% or more of the luminaires in the room are in the natural lighting zone.</li> </ol> <p>(6) Artificial lighting in a <a href="#">fire-isolated stairway</a>, <a href="#">fire-isolated passageway</a> or <a href="#">fire-isolated ramp</a>, must be controlled by a motion detector in accordance with <a href="#">Specification 40</a>.</p>	<p>These lighting requirements apply to retail, childcare and office spaces (but not the residential). All relevant targets must be applied.</p> <p>For example, this building, the following will be ensured in the new lighting design:</p> <p>Lighting for each room or space will be individually operated by a switch or other control device.</p> <p>Lighting switches or other control devices will—</p> <ul style="list-style-type: none"> <li>- be in a visible position in the room/space <b>OR</b></li> <li>- be in an adjacent room/space (lighting is visible).</li> <li>- not operate lighting for an area &gt; 250m<sup>2</sup></li> </ul> <p>Artificial lighting in the foyer</p> <ol style="list-style-type: none"> <li>a. of more than 250 W within a single zone; and</li> <li>b. adjacent to windows,</li> </ol> <p>must be controlled by a daylight sensor and dynamic lighting control device in accordance with Specification 40.</p>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	<p>(7) Artificial lighting in a foyer, corridor and other circulation spaces—</p> <ol style="list-style-type: none"> <li>a. of more than 250 W within a single zone; and</li> <li>b. adjacent to <a href="#">windows</a>,</li> </ol> <p>must be controlled by a daylight sensor and dynamic lighting control device in accordance with <a href="#">Specification 40</a>.</p> <p>(8) Artificial lighting for daytime travel in the first 19 m of travel in a <a href="#">carpark</a> entry zone must be controlled by a daylight sensor in accordance with <a href="#">Specification 40</a>.</p> <p>(9) The requirements of (1), (2), (3), (4), (5), (6), (7) and (8) do not apply to the following:</p> <ol style="list-style-type: none"> <li>a. Emergency lighting in accordance with <a href="#">Part E4</a>.</li> <li>b. Where artificial lighting is needed for 24 hour occupancy such as for a manufacturing process, parts of a hospital, an airport control tower or within a <a href="#">detention centre</a>.</li> </ol> <p>(10) The requirements of (4) do not apply to the following:</p> <ol style="list-style-type: none"> <li>a. Artificial lighting in a space where the sudden loss of artificial lighting would cause an unsafe situation such as—           <ol style="list-style-type: none"> <li>i. in a <a href="#">patient care area</a> in a Class 9a building or in a Class 9c building; or</li> <li>ii. a plant room or lift motor room; or</li> <li>iii. a workshop where power tools are used.</li> </ol> </li> <li>b. A heater where the heater also emits light, such as in bathrooms.</li> </ol>	
<b>NSW J7D5 Interior decorative and display lighting</b>	<p>(1) Interior decorative and display lighting, such as for a foyer mural or art display, must be controlled—</p> <ol style="list-style-type: none"> <li>a. separately from other artificial lighting; and</li> <li>b. by a manual switch for each area other than when the operating times of the displays are the same in a number of areas such as in a museum, art gallery or the like, in which case they may be combined; and</li> <li>c. by a time switch in accordance with <a href="#">Specification 40</a> where the display lighting exceeds 1 kW.</li> </ol> <p>(2) Window display lighting must be controlled separately from other display lighting.</p>	<p>Interior decorative and display lighting will be controlled—</p> <ul style="list-style-type: none"> <li>- separately from other artificial lighting; and</li> <li>- by a manual switch for each area; and</li> <li>- by a time-switch in accordance with Specification J6 if display lighting exceeds 1 kW.</li> </ul>
<b>NSW J7D6 Exterior artificial lighting</b>	<p>(1) Exterior artificial lighting attached to or directed at the facade of a building, must—</p> <ol style="list-style-type: none"> <li>a. be controlled by—           <ol style="list-style-type: none"> <li>i. a daylight sensor; or</li> <li>ii. a time switch that is capable of switching on and off electric power to the system at variable pre-programmed times and on variable pre-programmed days; and</li> </ol> </li> <li>b. when the total lighting load exceeds 100 W—           <ol style="list-style-type: none"> <li>i. use LED luminaires for 90% of the total lighting load; or</li> </ol> </li> </ol>	<p>Perimeter lighting will be deigned to have:</p> <ul style="list-style-type: none"> <li>- (A) a daylight sensor; or</li> <li>- (B) a time switch with pre-programmed times/days AND</li> <li>- LEDs for &gt;90% fittings or</li> <li>- Motion sensors or</li> <li>- Time switches (if façade/sign decoration lights)</li> </ul>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative										
	<ul style="list-style-type: none"> <li>ii. be controlled by a motion detector in accordance with <a href="#">Specification 40</a>; or</li> <li>iii. when used for decorative purposes, such as façade lighting or signage lighting, have a separate time switch in accordance with <a href="#">Specification 40</a>.</li> </ul> <p>(2) The requirements of (1)(b) do not apply to the following:</p> <ul style="list-style-type: none"> <li>a. Emergency lighting in accordance with <a href="#">Part E4</a>.</li> <li>b. Lighting around a <a href="#">detention centre</a>.</li> </ul>											
<p><b>NSW J7D7</b> <b>Boiling water and chilled water storage units</b></p>	<p>Power supply to a boiling water or chilled water storage unit must be controlled by a time switch in accordance with <a href="#">Specification 40</a>.</p>	<p>Power supply to a boiling water or chilled water storage unit will be controlled by a time switch.</p>										
<p><b>J7D8</b> <b>Lifts</b></p>	<p>Lifts must—</p> <ul style="list-style-type: none"> <li>a. be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes; and</li> <li>b. achieve the idle and standby energy performance level in <a href="#">Table J7D8a</a>; and</li> </ul> <table border="1" data-bbox="394 807 952 1043"> <caption>Table J7D8a Lift idle and standby energy performance level</caption> <thead> <tr> <th>Rated load</th> <th>Idle and standby energy performance level in accordance with ISO 25745-2 <sup>Note</sup></th> </tr> </thead> <tbody> <tr> <td>Less than or equal to 800 kg</td> <td>2</td> </tr> <tr> <td>801 kg to less than or equal to 2000 kg</td> <td>3</td> </tr> <tr> <td>2001 kg to less than or equal to 4000 kg</td> <td>4</td> </tr> <tr> <td>Greater than 4000 kg</td> <td>5</td> </tr> </tbody> </table> <p>▼ Table Notes</p> <p>Applies to the standby power used after 30 minutes.</p> <ul style="list-style-type: none"> <li>c. achieve— <ul style="list-style-type: none"> <li>i. the energy efficiency class in <a href="#">Table J7D8b</a>; or</li> <li>ii. if a dedicated goods lift, energy efficiency class D in accordance with ISO 25745-2.</li> </ul> </li> </ul>	Rated load	Idle and standby energy performance level in accordance with ISO 25745-2 <sup>Note</sup>	Less than or equal to 800 kg	2	801 kg to less than or equal to 2000 kg	3	2001 kg to less than or equal to 4000 kg	4	Greater than 4000 kg	5	<p>Lifts for retail will be selected to meet the following targets:</p> <ul style="list-style-type: none"> <li>(a) lighting &amp; ventilation turned off, if lift unused &gt;15 mins &amp;</li> <li>(b) achieve the idle/standby performance in <a href="#">Table J7D8a</a>; and</li> <li>(c) achieve the energy efficiency class in <a href="#">Table J7D8b</a>;</li> </ul>
Rated load	Idle and standby energy performance level in accordance with ISO 25745-2 <sup>Note</sup>											
Less than or equal to 800 kg	2											
801 kg to less than or equal to 2000 kg	3											
2001 kg to less than or equal to 4000 kg	4											
Greater than 4000 kg	5											
<p><b>NSW J7D9</b> <b>Escalators and moving walkways</b></p>	<p>Escalators and moving walkways must have the ability to slow to between 0.2 m/s and 0.05 m/s when unused for more than 15 minutes.</p>	<p>Not applicable – no escalators are proposed.</p>										

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
NCC Reference	Part J8 Heated water supply and swimming pool and spa pool plant	Specific Project Initiative
<b>NSW J8D1</b> <b>Deemed-to-Satisfy Provisions</b>	(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements NSW J1P1</a> to <a href="#">NSW J1P7</a> are satisfied by complying with— <ol style="list-style-type: none"> <li>1. <a href="#">NSW J2D2</a>; and</li> <li>1. <a href="#">NSW J3D2</a> to <a href="#">J3D10</a>; and</li> <li>2. <a href="#">NSW J4D2</a> to <a href="#">J4D7</a>; and</li> <li>3. <a href="#">NSW J5D2</a> to <a href="#">J5D8</a>; and</li> <li>4. <a href="#">NSW J6D2</a> to <a href="#">J6D13</a>; and</li> <li>5. <a href="#">NSW J7D2</a> to <a href="#">J7D9</a>; and</li> <li>6. <a href="#">J8D2</a> to <a href="#">NSW J8D4</a>; and</li> <li>7. <a href="#">J9D2</a> to <a href="#">J9D5</a>.</li> </ol> (2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.	DTS for J8 will apply to hot water only.
<b>NSW J8D2</b> <b>Heated water supply</b>	A heated water supply system for food preparation and sanitary purposes must be designed and installed in accordance with <a href="#">Part B2</a> of NCC Volume Three — Plumbing Code of Australia.	The system will be designed & installed in accordance with Part B2 of NCC Vol. Three — Plumbing Code of Australia.
<b>NSW J8D3</b> <b>Swimming pool heating and pumping</b>	(1) Heating for a <a href="#">swimming pool</a> must be by— <ol style="list-style-type: none"> <li>a. a solar heater; or</li> <li>b. a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or</li> <li>c. a geothermal heater; or</li> <li>d. a gas heater that—                             <ol style="list-style-type: none"> <li>i. if rated to consume 500 MJ/hour or less, achieves a minimum gross thermal efficiency of 86%; or</li> <li>ii. if rated to consume more than 500 MJ/hour, achieves a minimum gross thermal efficiency of 90%; or</li> </ol> </li> <li>e. a heat pump; or</li> <li>f. a combination of (a) to (e).</li> </ol> (2) Where some or all of the heating <a href="#">required</a> by (1) is by a gas heater or a heat pump, the <a href="#">swimming pool</a> must have— <ol style="list-style-type: none"> <li>a. a cover with a minimum <a href="#">R-Value</a> of 0.05; and</li> <li>b. a time switch to control the operation of the heater.</li> </ol> (3) A time switch must be provided to control the operation of a circulation pump for a <a href="#">swimming pool</a> .	N/A since no pool for commercial  NSW J8D3 does not apply to a Class 2 building and a Class 4 part of a building.


NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	<p>(4) Where <a href="#">required</a>, a time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days.</p> <p>(5) Pipework carrying heated or chilled water for a <a href="#">swimming pool</a> must comply with the insulation requirements of <a href="#">J6D9</a>.</p> <p>(6) For the purpose of J8D3, a <a href="#">swimming pool</a> does not include a spa pool.</p> <p>Applications - NSW J8D3 does not apply to a Class 2 building and a Class 4 part of a building.</p>	
<p><b>NSW J8D4 Spa pool heating and pumping</b></p>	<p>(1) Heating for a spa pool that shares a water recirculation system with a <a href="#">swimming pool</a> must be by—</p> <ol style="list-style-type: none"> <li>a. a solar heater; or</li> <li>b. a heater using reclaimed heat from another process such as reject heat from a refrigeration plant; or</li> <li>c. a geothermal heater; or</li> <li>d. a gas heater that—             <ol style="list-style-type: none"> <li>i. if rated to consume 500 MJ/hour or less, achieves a minimum gross thermal efficiency of 86%; or</li> <li>ii. if rated to consume more than 500 MJ/hour, achieves a minimum gross thermal efficiency of 90%; or</li> </ol> </li> <li>e. a heat pump; or</li> <li>f. a combination of (a) to (e).</li> </ol> <p>(2) Where some or all of the heating <a href="#">required</a> by (1) is by a gas heater or a heat pump, the spa pool must have—</p> <ol style="list-style-type: none"> <li>a. a cover with a minimum <a href="#">R-Value</a> of 0.05; and</li> <li>b. a push button and a time switch to control the operation of the heater.</li> </ol> <p>(3) A time switch must be provided to control the operation of a circulation pump for a spa pool having a capacity of 680 L or more.</p> <p>(4) Where <a href="#">required</a>, a time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days.</p> <p>(5) Pipework carrying heated or chilled water for a spa pool must comply with the insulation requirements of <a href="#">J6D9</a>.</p> <p>Applications - J8D4 does not apply to a Class 2 building and a Class 4 part of a building.</p>	<p>N/A since no spa for commercial</p> <p>J8D4 does not apply to a Class 2 building and a Class 4 part of a building.</p>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
NCC Reference	Part J9 Energy monitoring and on-site distributed energy resources	Specific Project Initiative
NSW J9D1 Deemed-to-Satisfy Provisions	<p>(1) Where a <a href="#">Deemed-to-Satisfy Solution</a> is proposed, <a href="#">Performance Requirements NSW J1P1</a> to <a href="#">NSW J1P7</a> are satisfied by complying with—</p> <ol style="list-style-type: none"> <li>1. <a href="#">NSW J2D2</a>; and</li> <li>1. <a href="#">NSW J3D2</a> to <a href="#">J3D10</a>; and</li> <li>2. <a href="#">NSW J4D2</a> to <a href="#">J4D7</a>; and</li> <li>3. <a href="#">NSW J5D2</a> to <a href="#">J5D8</a>; and</li> <li>4. <a href="#">NSW J6D2</a> to <a href="#">J6D13</a>; and</li> <li>5. <a href="#">NSW J7D2</a> to <a href="#">J7D9</a>; and</li> <li>6. <a href="#">J8D2</a> to <a href="#">NSW J8D4</a>; and</li> <li>7. <a href="#">J9D2</a> to <a href="#">J9D5</a>.</li> </ol> <p>(2) Where a <a href="#">Performance Solution</a> is proposed, the relevant <a href="#">Performance Requirements</a> must be determined in accordance with <a href="#">A2G2(3)</a> and <a href="#">A2G4(3)</a> as applicable.</p>	DTS for J9 will apply to this building.
NSW J9D2 Application of Part	<p>The <a href="#">Deemed-to-Satisfy Provisions</a> of this Part do not apply—</p> <ol style="list-style-type: none"> <li>a. within a <a href="#">sole-occupancy unit</a> of a Class 2 building or a Class 4 part of a building; or</li> <li>b. to a Class 8 <a href="#">electricity network substation</a>.</li> </ol>	DTS for J9 will apply to this building.
NSW J9D3 Facilities for energy monitoring	<p>(1) A building or <a href="#">sole-occupancy unit</a> with a <a href="#">floor area</a> of more than 500 m<sup>2</sup> must have energy meters configured to record the time-of-use consumption of gas and electricity.</p> <p>(2) A building with a <a href="#">floor area</a> of more than 2 500 m<sup>2</sup> must have energy meters configured to enable individual time-of-use energy data recording, in accordance with (3), of—</p> <ol style="list-style-type: none"> <li>a. <a href="#">air-conditioning</a> plant including, where appropriate, heating plant, cooling plant and air handling fans; and</li> <li>b. artificial lighting; and</li> <li>c. appliance power; and</li> <li>d. central hot water supply; and</li> <li>e. internal transport devices including lifts, escalators and moving walkways where there is more than one serving the building; and</li> <li>f. on-site <a href="#">renewable energy</a> equipment; and</li> <li>g. on-site electric vehicle charging equipment; and</li> <li>h. on-site <a href="#">battery systems</a>; and</li> <li>i. other ancillary plant.</li> </ol>	<p>Since the affected building has a floor area over 500 m<sup>2</sup>, it will need the facility to record the consumption of gas and electricity.</p> <p>Since the affected retail building also has a floor area more than 2,500 m<sup>2</sup> the building must have the facility to record individually the energy consumption of—</p> <ol style="list-style-type: none"> <li>(i) air-conditioning plant including, where appropriate, heating plant, cooling plant and air handling fans; and</li> <li>(ii) artificial lighting; and</li> <li>(iii) appliance power; and</li> <li>(iv) central hot water supply; and</li> <li>(v) internal transport devices including lifts, escalators and travelators if more than one serves the building; and</li> <li>(vi) other ancillary plant.</li> </ol>


NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	<p>(3) Energy meters <a href="#">required</a> by (2) must be interlinked by a communication system that collates the time-of-use energy data to a single interface monitoring system where it can be stored, analysed and reviewed</p> <p>(4) The provisions of (2) do not apply to energy meters serving—</p> <ul style="list-style-type: none"> <li>a. a Class 2 building where the total <a href="#">floor area</a> of the common areas is less than 500 m<sup>2</sup>; or</li> <li>b. individual <a href="#">sole-occupancy units</a> with a <a href="#">floor area</a> of less than 2 500 m<sup>2</sup>.</li> </ul>	
<p><b>NSW J9D4 Facilities for electric vehicle charging equipment</b></p>	<p>(1) Subject to (2), a <a href="#">carpark</a> associated with a Class 2, 3, 5, 6, 7b, 8 or 9 building must be provided with electrical distribution boards dedicated to electric vehicle charging—</p> <ul style="list-style-type: none"> <li>a. in accordance with <a href="#">Table J9D4</a> in each <a href="#">storey</a> of the <a href="#">carpark</a>; and</li> <li>b. labelled to indicate use for electric vehicle charging equipment.</li> </ul> <p>(2) Electrical distribution boards dedicated to serving electric vehicle charging in a <a href="#">carpark</a> must—</p> <ul style="list-style-type: none"> <li>a. be fitted with a charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand; and</li> <li>b. when associated with a Class 2 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily; and</li> <li>c. when associated with a Class 5 to 9 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 9:00 am to 5:00 pm daily; and</li> <li>d. when associated with a Class 3 building, have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 48 kWh from 11:00 pm to 7:00 am daily; and</li> <li>e. be sized to support the future installation of a 7 kW (32 A) type 2 electric vehicle charger in— <ul style="list-style-type: none"> <li>i. 100% of the car parking spaces associated with a Class 2 building; or</li> <li>ii. 10% of car parking spaces associated with a Class 5 or 6 building; or</li> <li>iii. 20% of car parking spaces associated with a Class 3, 7b, 8 or 9 building; and</li> </ul> </li> </ul>	<p>This building does have new carparks so these “Facilities for electric vehicle charging equipment” will apply.</p> <p>The electrical engineer will ensure all switchboards and labels are implemented as per J9D4.</p>

NCC Reference	SECTION J – Energy Efficiency Requirement	Specific Project Initiative
	<p>f. contain space of at least 36 mm width of DIN rail per outgoing circuit for individual sub-circuit electricity metering to record electricity use of electric vehicle charging equipment; and</p> <p>g. be labelled to indicate the use of the space <u>required</u> by (f) is for the future installation of metering equipment.</p> <p><i>Limitations - J9D4 does not apply to a stand-alone Class 7a building.</i></p>	
<p><b>NSW J9D5 Facilities for solar photovoltaic and battery systems</b></p>	<p>(1) The main electrical switchboard of a building must—</p> <ol style="list-style-type: none"> <li>a. contain at least two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of each space for—               <ol style="list-style-type: none"> <li>i. a solar photovoltaic system; and</li> <li>ii. a <u>battery system</u>; and</li> </ol> </li> <li>b. be sized to accommodate the installation of solar photovoltaic panels producing their maximum electrical output on at least 20% of the building roof area.</li> </ol> <p>(2) At least 20% of the roof area of a building must be left clear for the installation of solar photovoltaic panels, except for buildings—</p> <ol style="list-style-type: none"> <li>a. with installed solar photovoltaic panels on—               <ol style="list-style-type: none"> <li>i. at least 20% of the roof area; or</li> <li>ii. an equivalent generation capacity elsewhere on-site; or</li> </ol> </li> <li>b. where 100% of the roof area is shaded for more than 70% of daylight hours; or</li> <li>c. with a roof area of not more than 55 m<sup>2</sup>; or</li> <li>d. where more than 50% of the roof area is used as a terrace, <u>carpark</u>, roof garden, <u>roof light</u> or the like.</li> </ol> <p><i>Limitations</i></p> <ol style="list-style-type: none"> <li>1. The requirements of J9D5(1)(a)(i) and (b) do not apply to a building with solar photovoltaic panels installed on at least 20% of the roof area.</li> <li>2. The requirements of J9D5(1)(a)(ii) and (b) do not apply to a building with <u>battery systems</u> installed.</li> </ol>	<p>As shown by the roof plan, over 20% of the residential roof area has been left clear (suitable for the installation of solar photovoltaic panels in the future).</p> <p>Note: The requirements of J9D5(1)(a)(i) and (b) do not apply to a building with solar photovoltaic panels installed on at least 20% of the roof area.</p>

APPENDIX A – GLAZING CALCULATORS



**Façade**  
Report



National Construction Code

**Calculator**

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level GR - Office

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 5 - office building

**Storeys Above Ground**  
1

**Tool Version**  
1.1 (April 2020)

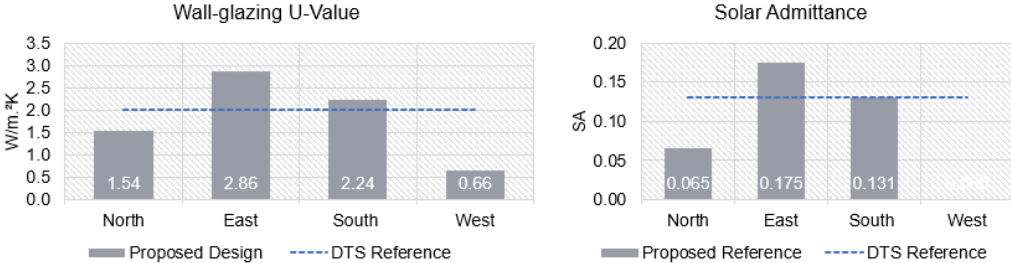
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

Compliant Solution =

Non-Compliant Solution =

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m<sup>2</sup>.K)</b>	1.54	2.86	2.24	0.66	1.99
<b>Solar Admittance</b>	0.07	0.17	0.13	0.065	0.131
<b>AC Energy Value</b>					107

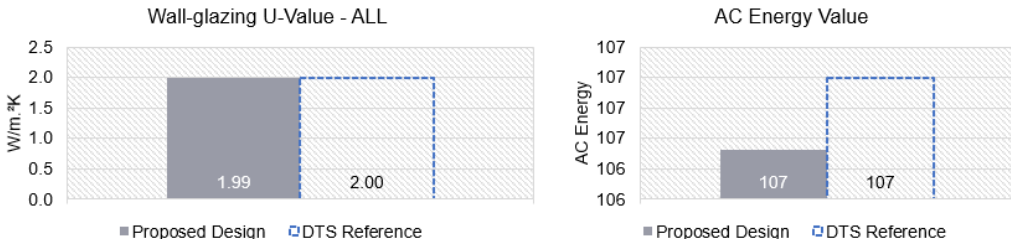
**Method 1**



Wall-glazing U-Value

Solar Admittance

**Method 2**



Wall-glazing U-Value - ALL

AC Energy Value

Project Details				
	North	East	South	West
Glazing Area (m <sup>2</sup> )	38.41	165.3	163.41	0
Glazing to Façade Ratio	37%	87%	63%	0%
Glazing References	Window 1 Window 2	Window 1 Window 2	Window 1 Window 2	
Glazing System Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	
Glass Types	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m <sup>2</sup> .K)	3.20	3.20	3.20	
Average Glazing SHGC	0.24	0.24	0.24	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m <sup>2</sup> )	65.2	25.08	95.99	138.4
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS
Wall Thickness	200 150 250	200 150 250	200 150 250	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.80	1.60	1.66	1.51
Solar Absorptance	0.5	0.5	0.5	0.5

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level GR - Retail

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 6 - display glazing

**Storeys Above Ground**  
1

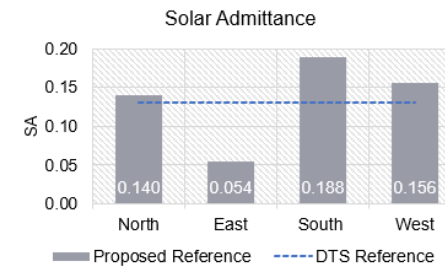
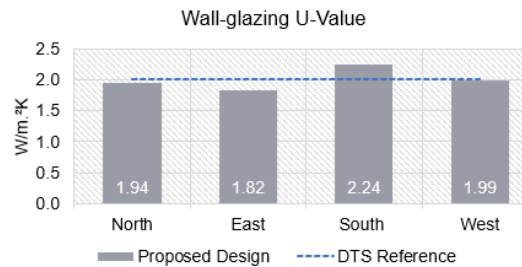
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

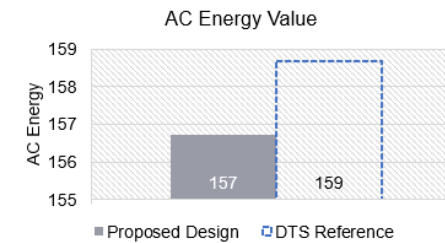
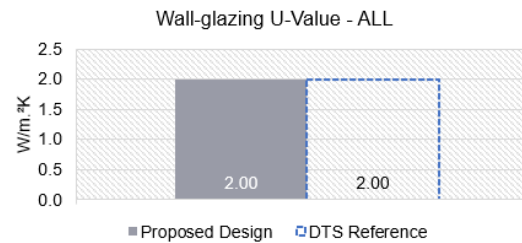
Compliant Solution =    
Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m².K)</b>	1.94	1.82	2.24	1.99	2.00
<b>Solar Admittance</b>	0.14	0.05	0.19	0.16	
<b>AC Energy Value</b>					157

**Method 1**



**Method 2**



Project Details								
	North		East		South		West	
Glazing Area (m <sup>2</sup> )	106.4		134.4		178.08		155.865	
Glazing to Façade Ratio	74%		67%		91%		77%	
Glazing References	Window 1	Window 2	Window 1	Window 2	Window 1	Window 2	Window 1	Window 2
Glazing System Types	DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		DEFAULTS (GENERIC)	
Glass Types	Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating	
Frame Types	Aluminium		Aluminium		Aluminium		Aluminium	
Average Glazing U-Value (W/m <sup>2</sup> .K)	2.40		2.40		2.40		2.40	
Average Glazing SHGC	0.23		0.23		0.23		0.23	
Shading Systems	Horizontal	Device	Horizontal	Device	Horizontal	Device	Horizontal	Device
Wall Area (m <sup>2</sup> )	37.88		65.12		17.78		45.695	
Wall Types	Wall		Wall		Wall		Wall	
Methodology	Wall							
Wall Construction	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	
Wall Thickness	200	150	250	200	150	250	200	
Average Wall R-value (m <sup>2</sup> .K/W)	1.51		1.56		1.52		1.69	
Solar Absorptance	0.5		0.5		0.5		0.5	

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level L1 - Retail

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 6 - display glazing

**Storeys Above Ground**  
2

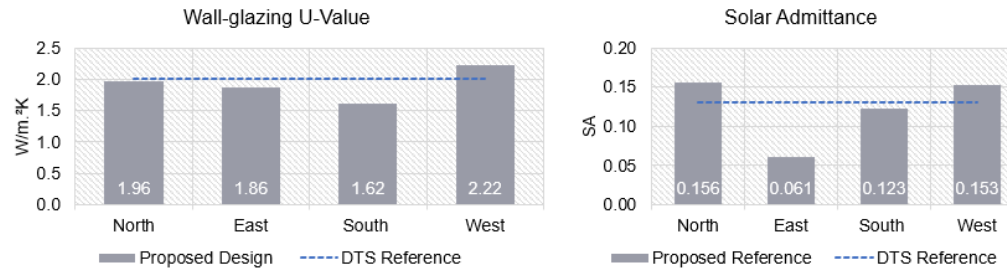
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

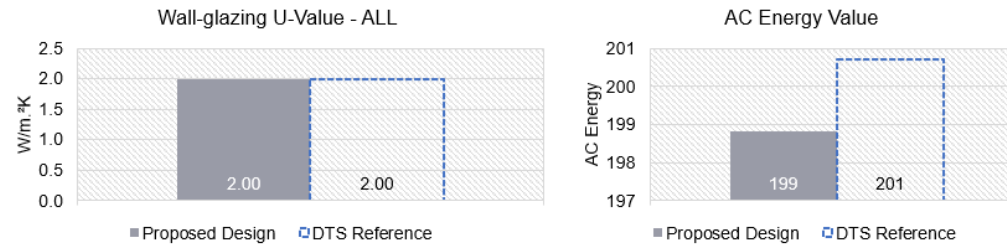
Compliant Solution =    
Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m².K)</b>	1.96	1.86	1.62	2.22	2.00
<b>Solar Admittance</b>	0.16	0.06	0.12	0.15	
<b>AC Energy Value</b>					199


**Method 1**




**Method 2**




Project Details				
	North	East	South	West
Glazing Area (m <sup>2</sup> )	134.4	146.61	57.4	300.72
Glazing to Façade Ratio	71%	65%	52%	85%
Glazing References	Window 1	Window 1	Window 1	Window 1
Glazing System Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Glass Types	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m <sup>2</sup> .K)	2.50	2.50	2.50	2.50
Average Glazing SHGC	0.27	0.27	0.27	0.27
Shading Systems	Horizontal Device	Horizontal Device	Horizontal Device	Horizontal Device
Wall Area (m <sup>2</sup> )	55.24	77.53	53.05	51.05
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS
Wall Thickness	200 150 250	200 150 250	200 150 250	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.53	1.54	1.52	1.71
Solar Absorptance	0.5	0.5	0.5	0.5



# Façade



Report



Calculator

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level 1 - Office

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 5 - office building

**Storeys Above Ground**  
2

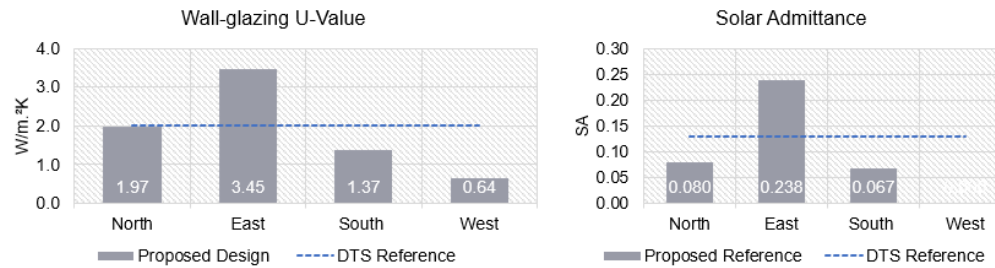
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

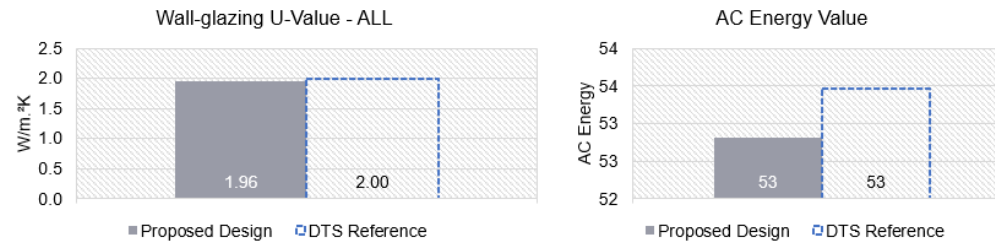
Compliant Solution =    
 Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m<sup>2</sup>.K)</b>	1.97	3.45	1.37	0.64	1.96
<b>Solar Admittance</b>	0.08	0.24	0.07		
<b>AC Energy Value</b>					53

**Method 1**



**Method 2**



Project Details				
	North	East	South	West
Glazing Area (m <sup>2</sup> )	33.21	67.5	23.22	0
Glazing to Façade Ratio	42%	87%	24%	0%
Glazing References	Window 1 Window 2	Window 1 Window 2	Window 1 Window 2	
Glazing System Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	
Glass Types	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m <sup>2</sup> .K)	3.90	3.90	3.90	
Average Glazing SHGC	0.36	0.36	0.36	0.00
Shading Systems	Horizontal Device	Horizontal Device	Horizontal Device	Horizontal Device
Wall Area (m <sup>2</sup> )	46.48	10.53	72.09	46.71
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS
Wall Thickness	200 150 250	200 150 250	200 150 250	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.70	1.73	1.79	1.55
Solar Absorptance	0.5	0.5	0.5	0.5

ABCB **Façade** Report National Construction Code Calculator

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level 02 Childcare

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 9b - early childhood centres

**Storeys Above Ground**  
3

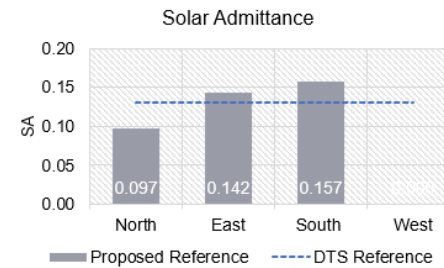
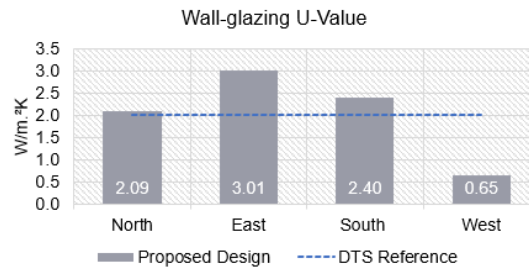
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

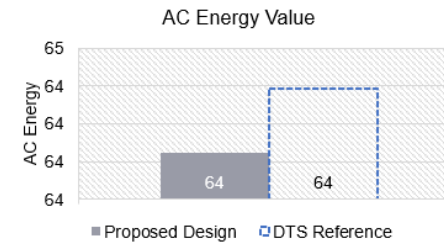
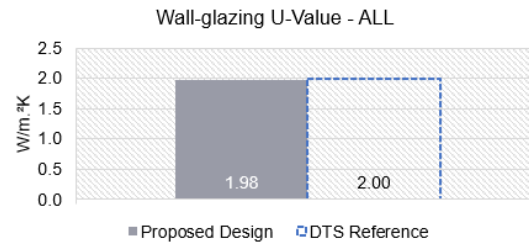
Compliant Solution =    
Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m².K)</b>	2.09	3.01	2.40	0.65	1.98
<b>Solar Admittance</b>	0.10	0.14	0.16		
<b>AC Energy Value</b>					64

**Method 1**



**Method 2**



Project Details							
	North		East		South	West	
Glazing Area (m <sup>2</sup> )	41.72		126.84		61.88	0	
Glazing to Façade Ratio	56%		93%		68%	0%	
Glazing References	Window 1	Window 2	Window 1	Window 2	Window 1	Window 2	
Glazing System Types	DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		
Glass Types	Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		
Frame Types	Aluminium		Aluminium		Aluminium		Aluminium
Average Glazing U-Value (W/m <sup>2</sup> .K)	3.20		3.20		3.20		
Average Glazing SHGC	0.29		0.29		0.29		0.00
Shading Systems	Horizontal	Device	Horizontal	Device	Horizontal	Device	Horizontal Device
Wall Area (m <sup>2</sup> )	32.76		9.8		28.56		139.44
Wall Types	Wall		Wall		Wall		Wall
Methodology	Wall						
Wall Construction	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS
Wall Thickness	200	150 250	200	150 250	200	150 250	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.47		1.81		1.48		1.55
Solar Absorptance	0.5		0.5		0.5		0.5

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level 3 - Office

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 5 - office building

**Storeys Above Ground**  
4

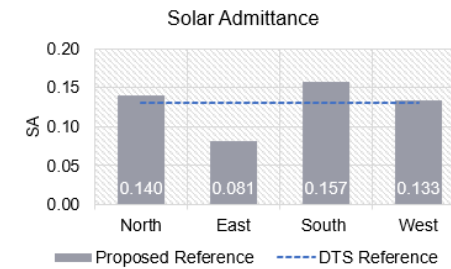
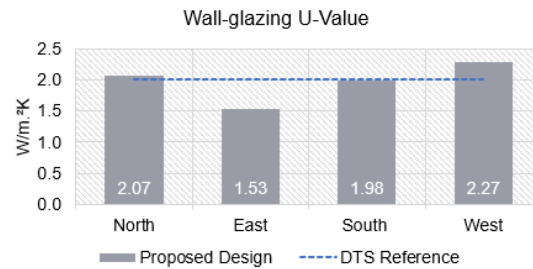
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

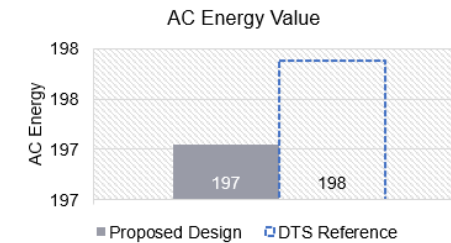
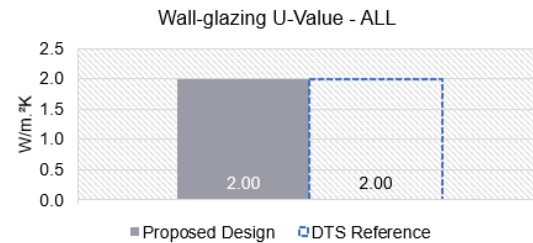
Compliant Solution =    
Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m².K)</b>	2.07	1.53	1.98	2.27	2.00
<b>Solar Admittance</b>	0.14	0.08	0.16	0.13	
<b>AC Energy Value</b>					197

**Method 1**



**Method 2**



Project Details								
	North		East		South		West	
Glazing Area (m <sup>2</sup> )	115.92		47.64		99.12		117.6	
Glazing to Façade Ratio	45%		28%		42%		50%	
Glazing References	Window 1	Window 2	Window 1	Window 2	Window 1	Window 2	Window 1	Window 2
Glazing System Types	DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		DEFAULTS (GENERIC)		DEFAULTS (GENERIC)	
Glass Types	Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating		Double Glazed Unit - single low-E coating	
Frame Types	Aluminium		Aluminium		Aluminium		Aluminium	
Average Glazing U-Value (W/m <sup>2</sup> .K)	3.90		3.90		3.90		3.90	
Average Glazing SHGC	0.43		0.43		0.43		0.43	
Shading Systems	Horizontal	Device	Horizontal	Device	Horizontal	Device	Horizontal	Device
Wall Area (m <sup>2</sup> )	141.26		120.68		137.48		116.48	
Wall Types	Wall		Wall		Wall		Wall	
Methodology	Wall							
Wall Construction	Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS		Conc + R15 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	
Wall Thickness	200	150	250	200	150	250	200	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.78		1.67		1.68		1.58	
Solar Absorptance	0.5		0.5		0.5		0.5	

ABCB **Façade** Report National Construction Code Calculator

**Project Summary**

**Date**  
19/11/2024

**Name**  
MARTIN PINSON

**Company**  
GreenPerch

**Position**  
ESD CONSULTANT

**Building Name / Address**  
849-859 Pacific Highway, Chatswood NSW 2067  
Level 04 office

**Building State**  
NSW

**Climate Zone**  
Climate Zone 5 - Warm temperate

**Building Classification**  
Class 9b - early childhood centres

**Storeys Above Ground**  
5

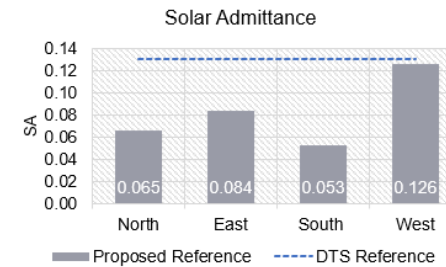
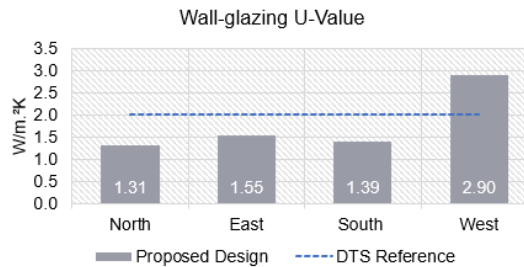
**Tool Version**  
1.1 (April 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

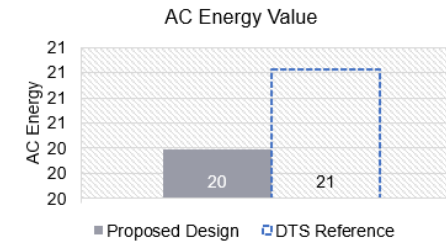
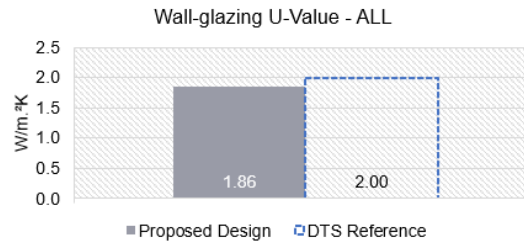
Compliant Solution =    
Non-Compliant Solution =  

	Method 1				Method 2
	North	East	South	West	All
<b>Wall-glazing U-Value (W/m².K)</b>	1.31	1.55	1.39	2.90	1.86
<b>Solar Admittance</b>	0.07	0.08	0.05	0.13	
<b>AC Energy Value</b>					20

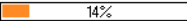

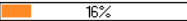

**Method 1**



**Method 2**



## Project Details

	North	East	South	West
Glazing Area (m <sup>2</sup> )	8.4	12.32	13.8	40.6
Glazing to Façade Ratio	 14%	 18%	 16%	 44%
Glazing References	Window 1 Window 2	Window 1 Window 2	Window 1	Window 1
Glazing System Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Glass Types	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating	Double Glazed Unit - single low-E coating
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m <sup>2</sup> .K)	5.80	5.80	5.80	5.80
Average Glazing SHGC	0.49	0.49	0.49	0.49
Shading Systems	Horizontal Device	Horizontal Device	Horizontal Device	Horizontal Device
Wall Area (m <sup>2</sup> )	51.24	56	75.04	51.8
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS	Conc + R1.5 + EPS 15mm Steel + R2.5 + EPS 15mm conc + R2.5 + 15mm EPS
Wall Thickness	200 150 250	200 150 250	200 150 250	200
Average Wall R-value (m <sup>2</sup> .K/W)	1.75	1.63	1.73	1.58
Solar Absorptance	0.5	0.5	0.5	0.5


APPENDIX B – SECTION J CONDITIONED FLOOR AREAS









 Conditioned areas for Section J (new, affected areas only)

