

# 171 OLD BEGA HOSPITAL

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## SECTION J REPORT

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### **DESIGN STATEMENT**

Pursuant to BCA A2.2; this report relies on supplied documentation for assessment in regards to adopting measures contributing to deemed-to-satisfy of designed and built deliverables. It is our opinion that the project can be constructed to satisfy the requirements of the Building Code of Australia.

### **Document control**

<b>Rev</b>	<b>Date</b>	<b>Description</b>
A	19 Oct. 18	Prepared from supplied information.

**Deanei Energy Consultants**



**Sustainable Housing**

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## Energy Efficiency

*In response to concerns over global warming, the Australian Government announced in July 2000 that agreement had been reached with industry and State and Territory Governments to adopt a two-pronged approach to reducing greenhouse gas emissions from buildings. The first approach was the introduction of mandatory minimum energy performance requirements through the Building Code of Australia (BCA), and the second approach was the encouragement of best practice voluntary initiatives by industry. Industry was supportive of this two-pronged approach, taking the view that building-related matters should be consolidated in the BCA wherever possible.*

*Given the importance of the energy performance of buildings to overall national greenhouse gas emissions performance, the Australian Building Codes Board (ABCB) and the Australian Greenhouse Office signed a Memorandum of Understanding to jointly develop the BCA Energy Efficiency Provisions.*

*The Energy Efficiency Project was endorsed under the National Framework for Energy Efficiency (NFEE), an agreement between all Australian Governments established to improve energy efficiency. The objective of NFEE is to unlock the significant economic potential associated with increased implementation of energy efficiency technologies and processes to deliver a least cost approach to energy efficiency in Australia.*

*To enable the effective involvement of stakeholders in the development of the BCA Energy Efficiency Provisions, several committees and working groups comprising representatives from a range of government, industry and community organisations were developed.*

*At specific stages of the project, the ABCB sought the views of the wider community. This process was undertaken when the ABCB released the Directions Report on the Energy Efficiency Project (2001), and on the release of Regulation Documents (RDs) and Regulatory Impact Statements (RISs). Any proposed annual changes to the BCA are also made public prior to finalisation.*

*Energy efficiency requirements are now incorporated in the Building Code of Australia. In Volume 1, it is Section J, hence the "Section J Report".*

*This report undertaken under JV1. Deemed to satisfy.*

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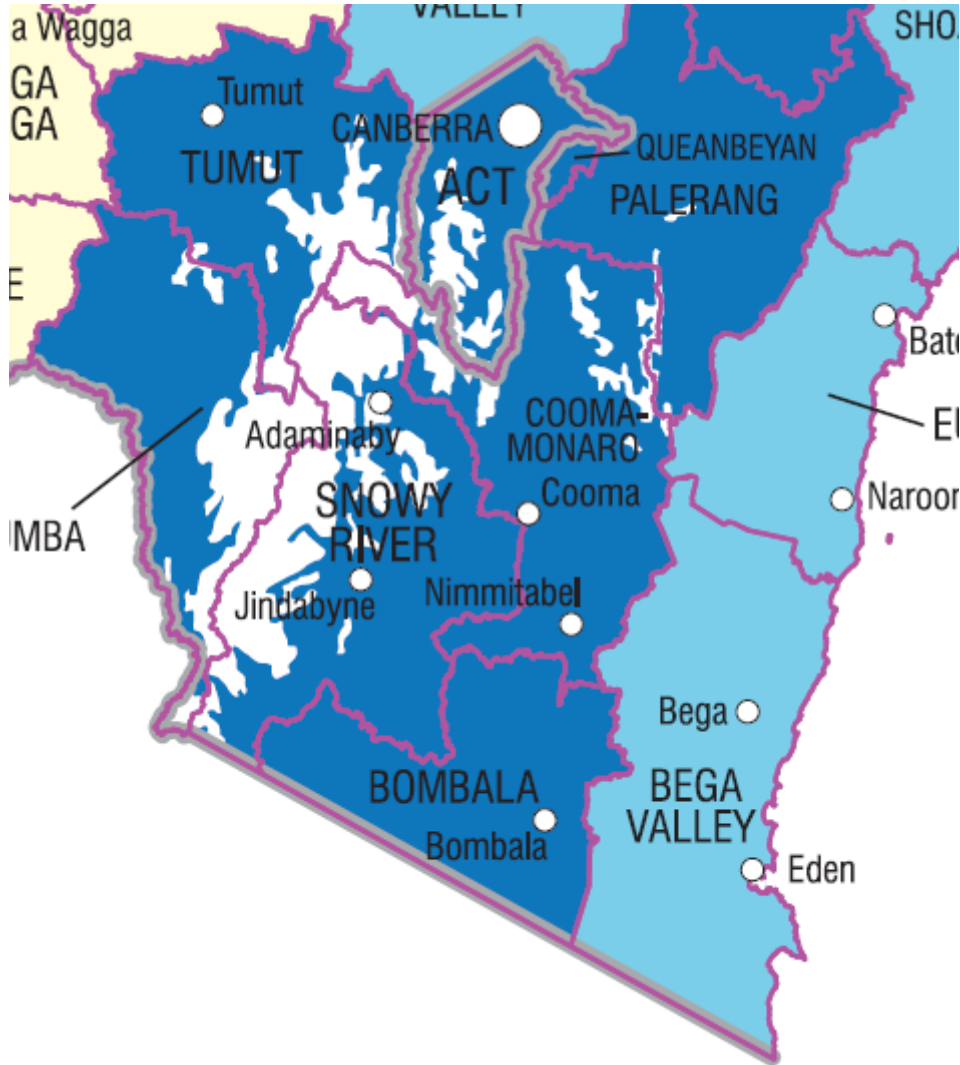
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**Section J review**

**Application**

**Boarding house SOU**      Section J affected

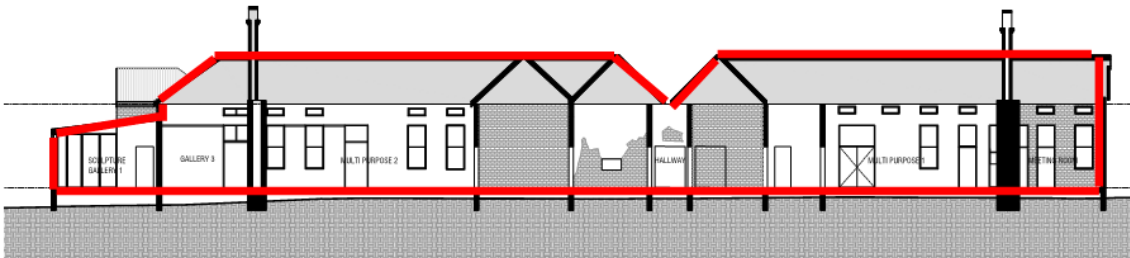
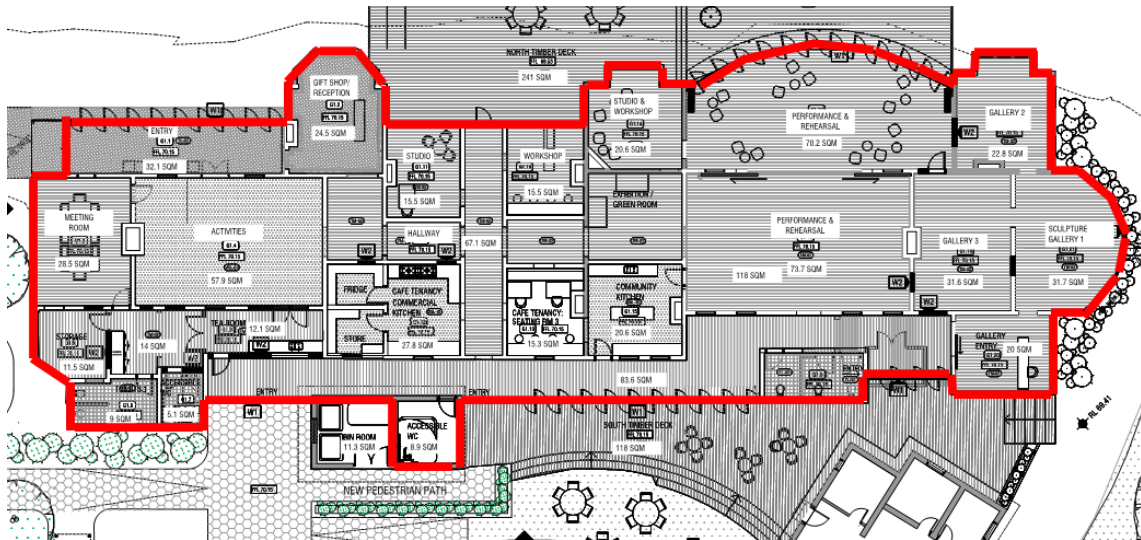
Climate Zone check



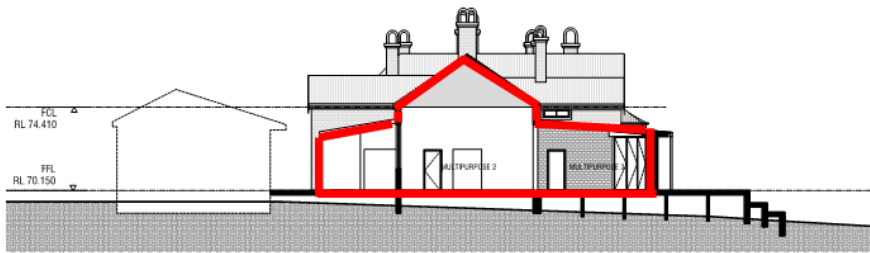
		Remarks
Climate zone:	7	LIGHT BLUE

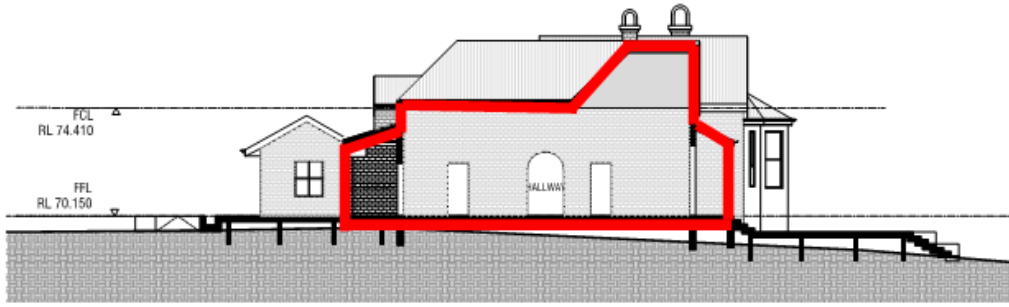
Conditioned spaces (likely to be heated or cooled)

Space	Conditioned	Non-conditioned
OBH	X	-

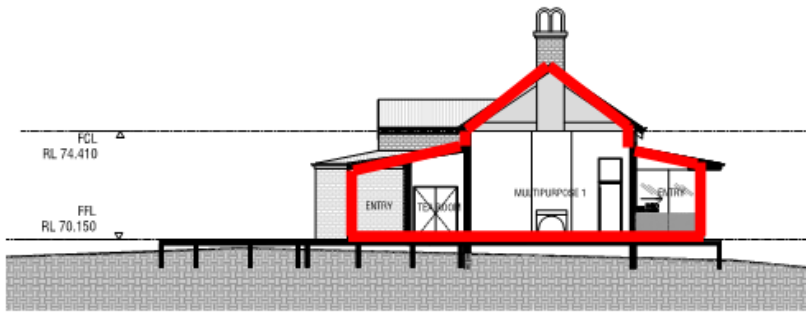


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## 1. PART J1 BUILDING FABRIC

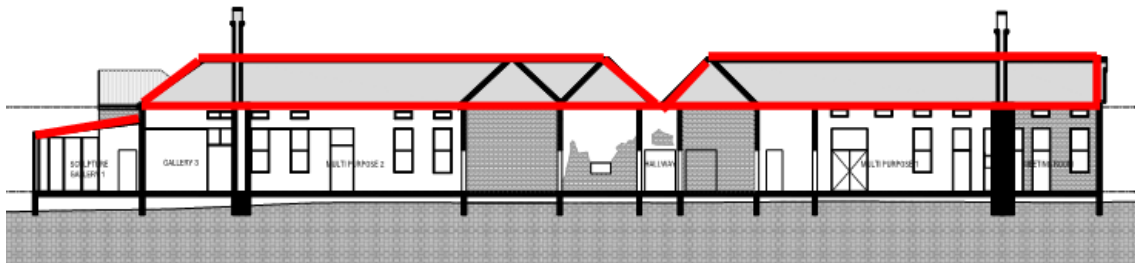
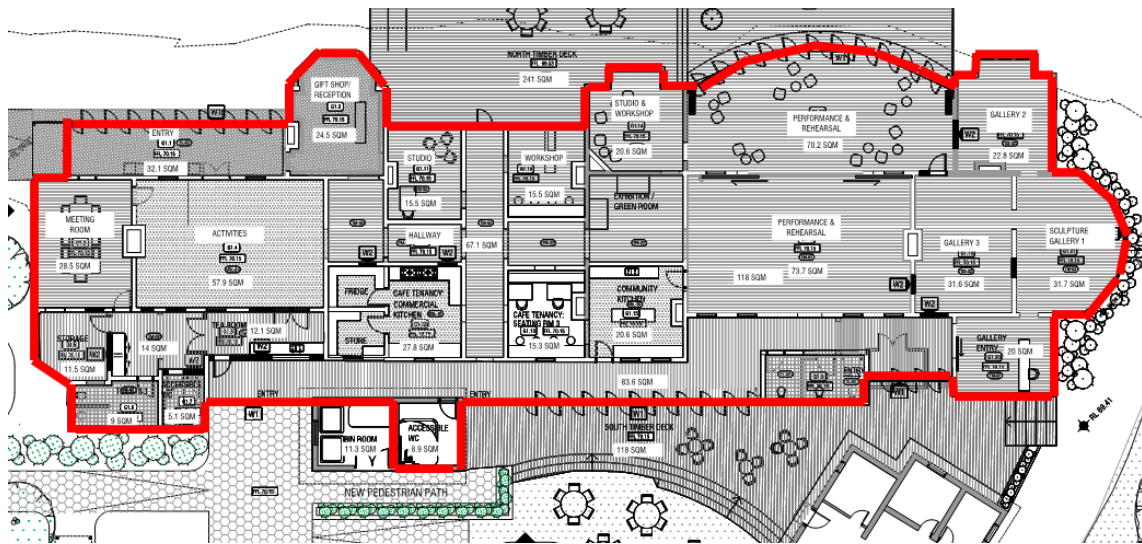
		Action by applicant	Certifier action
J1.1		Applies	Note
J1.2	<b>Insulation to wall or roof <i>if metal framed</i></b> (to simulate insulation equivalence to timber frame)	To AS/NZS 4859.1 Selection / branding / installation  Provide thermal breaks between metal framing and cladding or roofing. DTS are <ul style="list-style-type: none"> <li>• 15mm styrene</li> <li>• 25 timber OR</li> </ul> mass insulation at fixings.	Certify that the installation is deemed to satisfy
	<b>Continuity</b>	Abut or overlap adjoining insulation other than at supporting members to form a continuous barrier with ceilings, walls, bulkheads, floors or the like; and not affect the safe and effective operation of services.	Certify that the installation is deemed to satisfy
	<b>Reflective surfaces</b>	Provide effective air film to reflective surfaces.	Certify that the installation is deemed to satisfy
	<b>Door and window openings</b>	Provide close fitting to any door or window opening; be adequately supported; and adjoining sheet of roll membrane must be overlapped not less than 50 mm or taped together.	Certify that the installation is deemed to satisfy
	<b>Bulk insulation</b>	Install bulk insulation so that it maintains its position	Certify that the installation is deemed to

		Action by applicant	Certifier action
		and thickness other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like.	satisfy

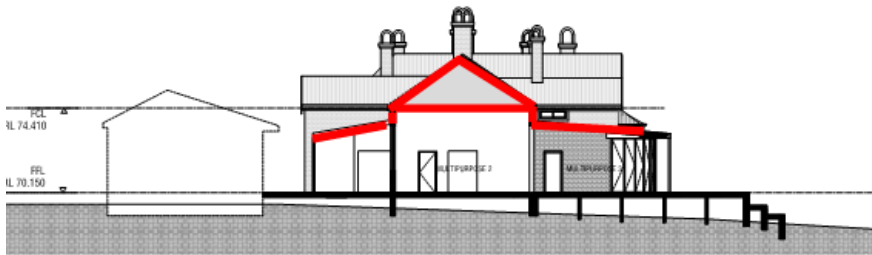


climate zone 5		Action by applicant	Certifier action
<b>J1.3</b>	<b>Roof/ceiling insulation</b>		
<b>Metal roof</b>	Required total R-value.....R 3.70 Metal roof .....R 0.36	Provide R 3.34 insulation between roofing and ceiling.	Certify that the installation is deemed to satisfy

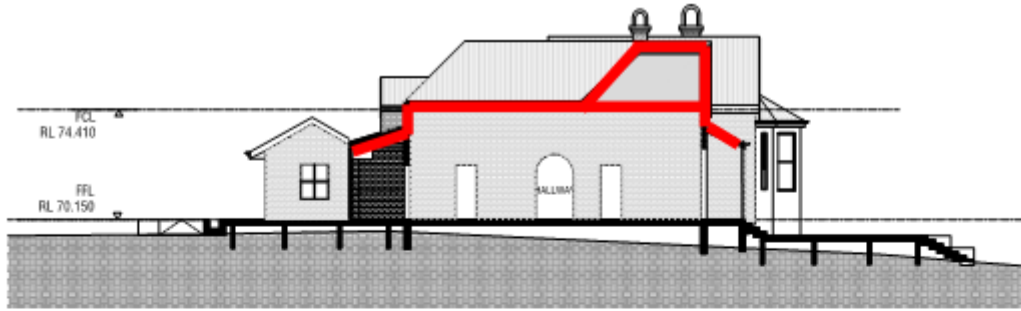
	Item	R-value	Remarks
1	Outdoor air film	0.04	
2	Metal cladding	0.00	
3	Roof insulation	-	See above.
4	Ceiling space	0.15	
5	Ceiling insulation	-	See above.
6	Plasterboard ceiling lining	0.06	
7	Indoor air film	0.11	
	<b>Total without insulation</b>	<b>0.36</b>	



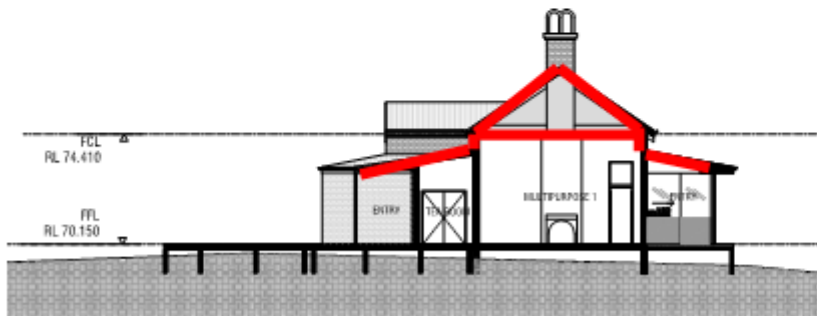
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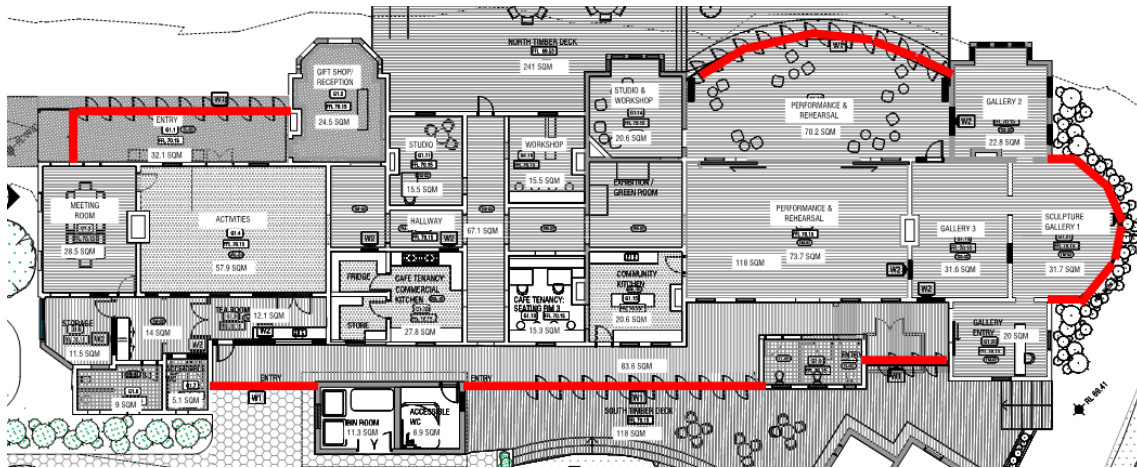
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		Action by applicant	Certifier action
J1.4	Roof lights	Not applicable	Note

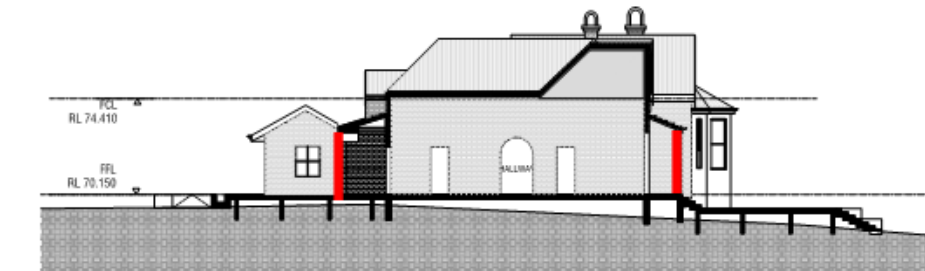
		Action by applicant	Certifier action
J1.5	<b>External walls – insulation</b> Total R-value required R 2.8	Note	Certify that the installation is deemed to satisfy
<b>Typical options</b>	BV walls .....R 0.48 Cavity brick .....R 0.51 Conc block .....R 0.54 Framed walls .....R 0.42 200 Hebel .....R 2.39 80mm PIR .....R 4.15 RC or AFS/Dincell .....R 0.48	Provide R 2.3 insulation Provide R 2.3 insulation Provide R 2.3 insulation Provide R 2.4 insulation Provide R 0.4 insulation None Provide R 1.8 insulation.	Certify that the installation is deemed to satisfy



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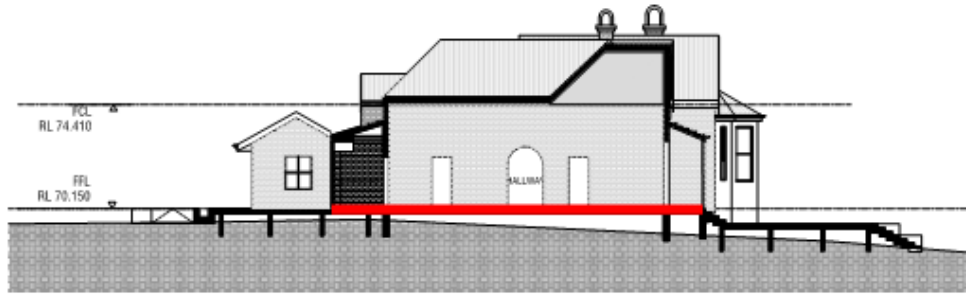


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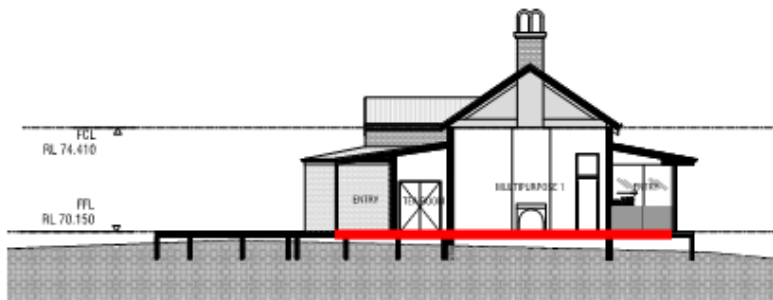
		Action by applicant	Certifier action
<b>J1.6</b>	<b>Floor insulation.</b> <b>Where &gt; 1.5 ACH</b> Total floor R 2.0 required		Typically enclosed rooms without mechanical ventilation.  Note: As separation of Building Class, acoustic insulation may be required pursuant to Part F5.
	Floor R 0.35	Provide R 1.65 insulation.	Certify that the installation is deemed to satisfy

	Item	R-value	Remarks
1	Indoor air film	0.16	
2	Floor	0.15	
3	Insulation	-	See above.
4	Outdoor air film	0.04	
	Total without insulation	0.35	





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## 2. PART J2 EXTERNAL GLAZING

		Action by applicant	Certifier action
	Total window performance i.e. glass AND frame.	Note: Solve for North orientation U-2.08 SHGC-0.24	Check and certify manufacturer's certificates if complies.  Manufacturer's window data <b><i>MUST MATCH</i></b> U and SHGC values in the following calculator.  <b>VALIDATION</b>  Provide data of selected windows to Assessor for validation (see bottom of cover page).

Product Name	Nominal Thickness	Glass Only		Aluminium Frame		Al Frame + Break		Timber Frame		Vinyl Frame	
		U Value	SHGC	U Value	SHGC	U Value	SHGC	U Value	SHGC	U Value	SHGC
<b>Viridian EnviroShield™ Performance</b>											
ITO Clear 74	8.76+12+6	1.8	0.45	3.45	0.45	2.61	0.42	2.07	0.38	1.95	0.38
ITO Green 67	8.76+12+6	1.8	0.37	3.45	0.38	2.61	0.34	2.07	0.31	1.95	0.31
ITO Neutral 54	8.76+12+6	1.8	0.35	3.47	0.37	2.63	0.33	2.08	0.30	1.97	0.29
ITO Grey 33	8.76+12+6	1.8	0.27	3.47	0.30	2.63	0.27	2.08	0.24	1.97	0.23
ITO SuperGreen™ 45	8.76+12+6	1.8	0.26	3.47	0.29	2.63	0.25	2.08	0.23	1.97	0.22
ITO SuperBlue™ 40	8.76+12+6	1.8	0.26	3.47	0.29	2.63	0.26	2.08	0.23	1.97	0.22

# NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014)

HELP

Building name/description

timber framed double glazed Viridian Enviroshield Performance Grey 33

Application

other

Climate zone

7

Storey

G

Facade areas

	N	NE	E	SE	S	SW	W	NW	internal
Option A	227m <sup>2</sup>		82m <sup>2</sup>		227m <sup>2</sup>		82m <sup>2</sup>		
Option B									n/a
Glazing area (A)	83m <sup>2</sup>		21.9m <sup>2</sup>		72.5m <sup>2</sup>		15.5m <sup>2</sup>		

Number of rows preferred in table below

27 (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS								SHADING		CALCULATED OUTCOMES OK (if inputs are valid)						
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m <sup>2</sup> )	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S <sub>H</sub> )	Cooling (S <sub>C</sub> )	Area used (m <sup>2</sup> )	Element share of % of allowance used
1		N		2.40	1.50		2.1	0.24				0.00	1.00	1.00	3.60	4% of 97%
2		N		1.80	3.00		2.1	0.24				0.00	1.00	1.00	5.40	7% of 97%
3		N		2.70	13.00		2.1	0.24				0.00	1.00	1.00	35.10	42% of 97%
4		N		2.00	1.00		2.1	0.24				0.00	1.00	1.00	2.00	2% of 97%
5		N		2.00	1.00		2.1	0.24				0.00	1.00	1.00	2.00	2% of 97%
6		N		2.10	1.20		2.1	0.24				0.00	1.00	1.00	2.52	3% of 97%
7		N		2.70	12.00		2.1	0.24				0.00	1.00	1.00	32.40	39% of 97%
8		W		2.70	2.70		2.1	0.24				0.00	1.00	1.00	7.29	47% of 47%
9		W		2.30	1.00		2.1	0.24				0.00	1.00	1.00	2.30	15% of 47%
10		W		2.30	1.00		2.1	0.24				0.00	1.00	1.00	2.30	15% of 47%
11		W		1.80	2.00		2.1	0.24				0.00	1.00	1.00	3.60	23% of 47%

12	S		1.20	0.60		2.1	0.24			0.00	1.00	1.00	0.72	1% of 83%
13	S		1.50	0.60		2.1	0.24			0.00	1.00	1.00	0.90	1% of 83%
14	S		1.50	0.60		2.1	0.24			0.00	1.00	1.00	0.90	1% of 83%
15	S		2.70	4.20		2.1	0.24			0.00	1.00	1.00	11.34	16% of 83%
16	S		2.70	14.20		2.1	0.24			0.00	1.00	1.00	38.34	53% of 83%
17	S		1.50	0.60		2.1	0.24			0.00	1.00	1.00	0.90	1% of 83%
18	S		1.50	0.60		2.1	0.24			0.00	1.00	1.00	0.90	1% of 83%
19	S		2.70	5.20		2.1	0.24			0.00	1.00	1.00	14.04	19% of 83%
20	S		1.50	0.60		2.1	0.24			0.00	1.00	1.00	0.90	1% of 83%
21	S		2.40	1.50		2.1	0.24			0.00	1.00	1.00	3.60	5% of 83%
22	E		2.30	1.00		2.1	0.24			0.00	1.00	1.00	2.30	11% of 71%
23	E		2.40	5.00		2.1	0.24			0.00	1.00	1.00	12.00	55% of 71%
24	E		1.50	1.00		2.1	0.24			0.00	1.00	1.00	1.50	7% of 71%
25	E		2.30	1.00		2.1	0.24			0.00	1.00	1.00	2.30	11% of 71%
26	E		1.80	0.60		2.1	0.24			0.00	1.00	1.00	1.08	5% of 71%
27	E		2.70	1.00		2.1	0.24			0.00	1.00	1.00	2.70	12% of 71%

**IMPORTANT NOTICE AND DISCLAIMER IN RESPECT OF THE GLAZING CALCULATOR**

The Glazing Calculator has been developed by the ABCB to assist in developing a better understanding of glazing energy efficiency parameters.

While the ABCB believes that the Glazing Calculator, if used correctly, will produce accurate results, it is provided "as is" and without any representation or warranty of any kind, including that it is fit for any purpose or of merchantable quality, or functions as intended or at all.

Your use of the Glazing Calculator is entirely at your own risk and the ABCB accepts no liability of any kind.

*if inputs are valid*



### 3. PART J3 BUILDING SEALING

		Action by applicant	Certifier action
J3.1	Evaporative cooler.		Note.
J3.2	Otherwise seal building if provided in the building	Seal with sealant to <ul style="list-style-type: none"> <li>all penetrations</li> <li>junctions like architraves, skirtings, and cornices</li> </ul>	Note

### 4. PART J4 AIR MOVEMENT – not used

		Action by applicant	Certifier action
J4.0		None	Note

### 5. PART J5 AIR CONDITIONING

		Action by a/c designer at CC and thereafter	Certifier action
J5.1			
J5.2	When not occupied	<ul style="list-style-type: none"> <li>Capable of being deactivated.</li> <li>Dampers close when a/c deactivated.</li> <li>Ductwork sealed and insulated.</li> <li>Capable of controlling temperature during sleeping periods.</li> <li>Fan power to Table J5.2.</li> </ul>	Refer separate report by a/c designer  Certify that the installation is deemed to satisfy
J5.3	Time Switch		Refer separate report by a/c designer  Certify that the installation is deemed to

		Action by a/c designer at CC and thereafter	Certifier action
			satisfy
5.4	Applies if Heating And Cooling System installed		Refer separate report by a/c designer  Certify that the installation is deemed to satisfy
5.5	Applies if Miscellaneous Exhaust Systems installed		Refer separate report by a/c designer  Certify that the installation is deemed to satisfy

## 6. PART J6 ARTIFICIAL LIGHTING AND POWER

		Action by applicant	Certifier action
6			Certify that the installation is deemed to satisfy  Refer also lighting designer certifications for compliance with Illumination code Part F4.
6.2		Submit to BCA, completed calculations from the following spreadsheet <a href="http://www.abcb.gov.au/Resources/Tools-Calculators/Lighting-Calculator">http://www.abcb.gov.au/Resources/Tools-Calculators/Lighting-Calculator</a>	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
6.3	Room or space	Provide individually operated switch or other device control unless SOU for people with disability or aged. Locate within 2 m of entry point.	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
	Switch controls location	In visible position in room serviced or adjacent room.	

		Action by applicant	Certifier action
	Time switch	To Specification J6	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
6.4	Interior Decorative & Display Lighting	Not applicable	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
6.5	Perimeter lighting	Control by a <ul style="list-style-type: none"> <li>• daylight sensor or a</li> <li>• programmable time switch.</li> </ul>	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
	When the perimeter lighting load exceeds 100W	the light source efficacy must not be less than 60 Lumens/W or Controlled by a motion detector in accordance with Specification J6	Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
	Decorative lighting		Refer separate report by lighting designer  Certify that the installation is deemed to satisfy
6.6	Boiling Water and chilled water storage units		Refer separate report by lighting designer  Certify that the installation is deemed to satisfy

**7. PART J7 SWIMMING POOL & SPA – not applicable**

		Action by applicant	Certifier action
7.2		None	Note

**8. PART J8 ACCESS FOR MAINTENANCE**

		Action by applicant	Certifier action
8.2	Provide access to any operable controls.	Inclusions Times switches Thermostats Air dampers Light fittings Heat transfer equipment	Certify that respective controls are in place.

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