

Boarding home

1 Station Lane

PENRITH

SECTION J REPORT

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.

Services design (electrical, lighting, mechanical) have not been sighted.



Roy Mock B. Arch NSW

BDAV, AWERS, Association of Accredited Certifiers

Document control

Rev	Date	Description
0	13 Apr. 21	Prepared from supplied information.

Prepared by



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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".

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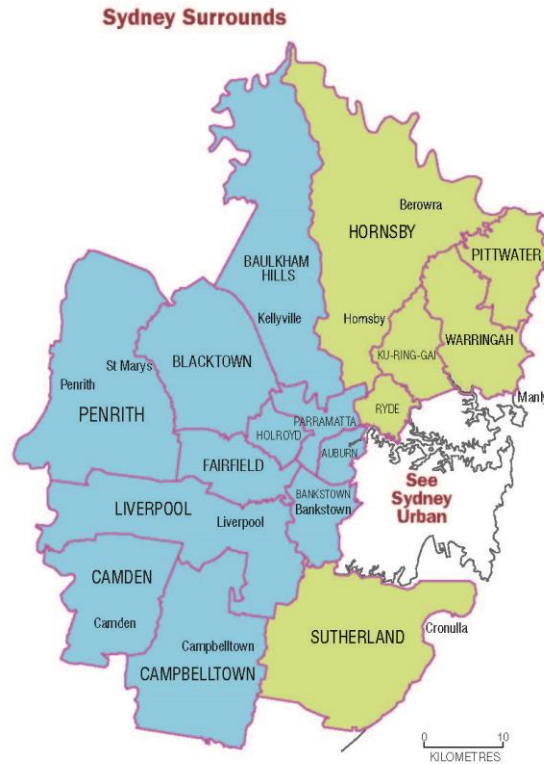
Section J review

Application

Boarding house
Class 3

Section J affected
Section J requirements override BASIX requirements.

Climate Zone check



		Remarks
Climate zone: PENRITH	6	Light blue

Verification by Applicant to PCA

Show me, not tell me

Satisfy as directed by PCA forms of verifications as evidence that as-built complies with this assessment

Forms of verification to enable PCA to form an opinion to certify

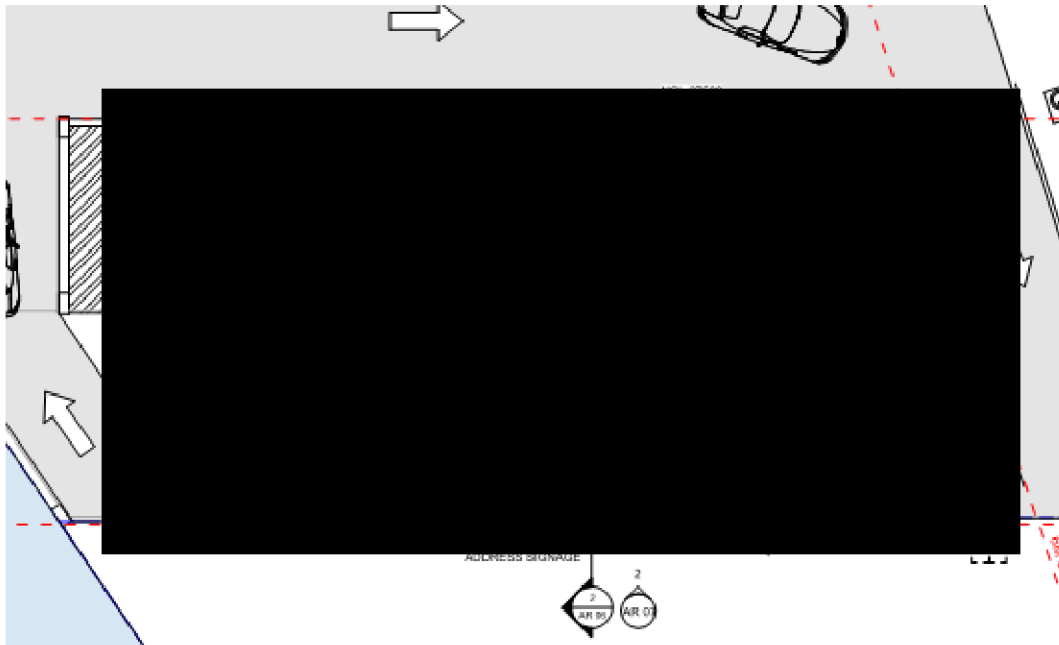
Electronic evidence must be file date stamped.

Forms as approved by PCA may take the forms of

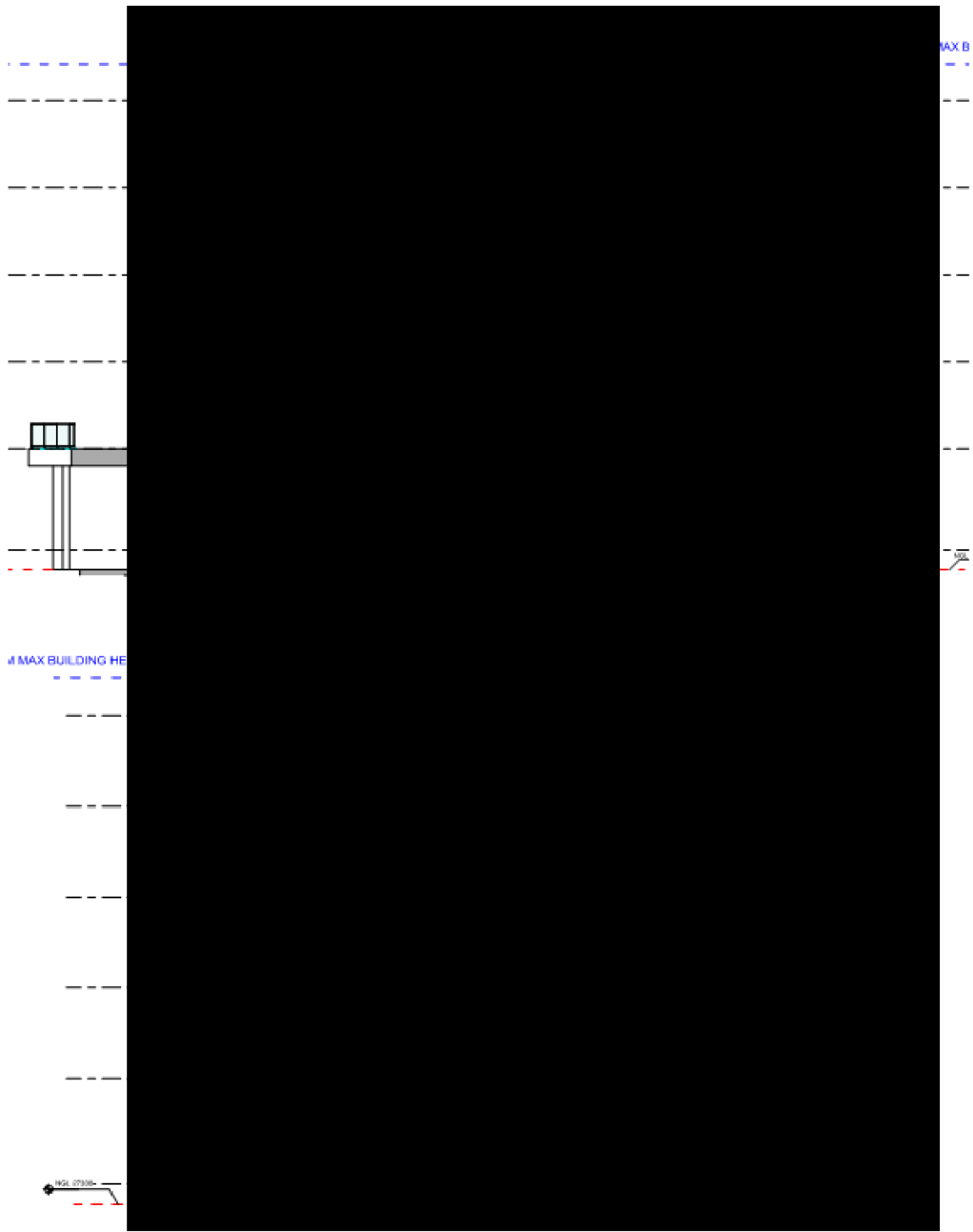
- Site progress photographs
- Emails
- Completed window calculator showing green tick with U and SHGC values of installed manufacturer's windows
- Completed lighting calculator showing green tick.
- Detailed invoices [not purchase orders]
- Site inspections with PCA esp prior to cover up.
- Door blower test if requested by PCA
- And other evidence as requested by PCA

Conditioned spaces (likely to be heated or cooled)

Space	Conditioned	Non-conditioned
Boarding house Class 3	X	-







② Section 2
1:100

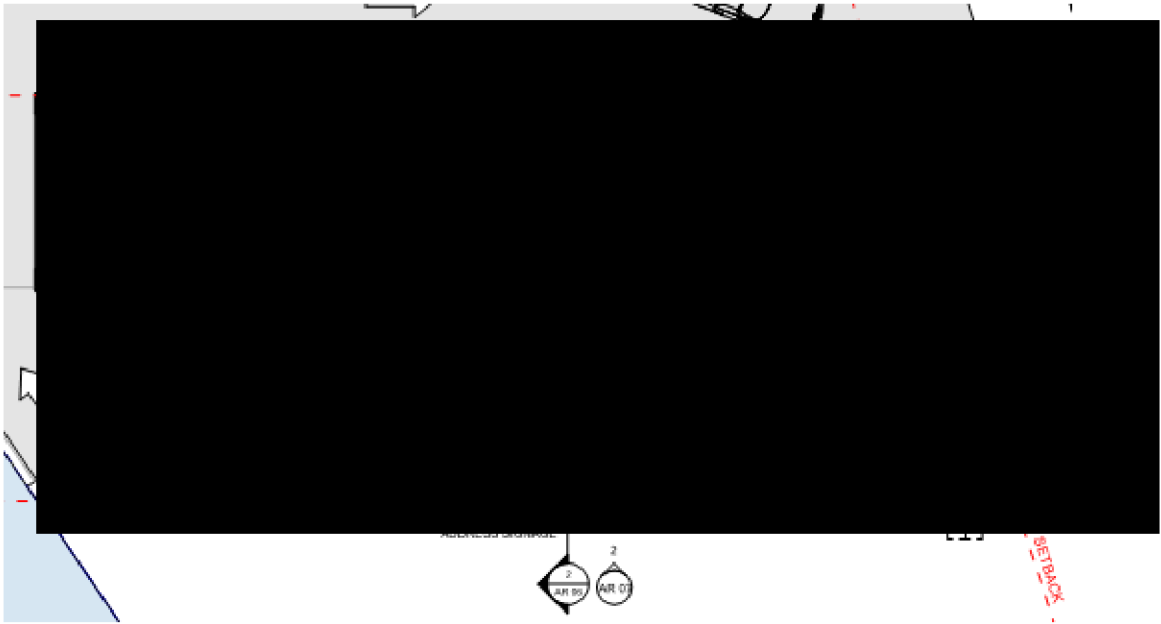
0. PART J0 ENERGY EFFICIENCY

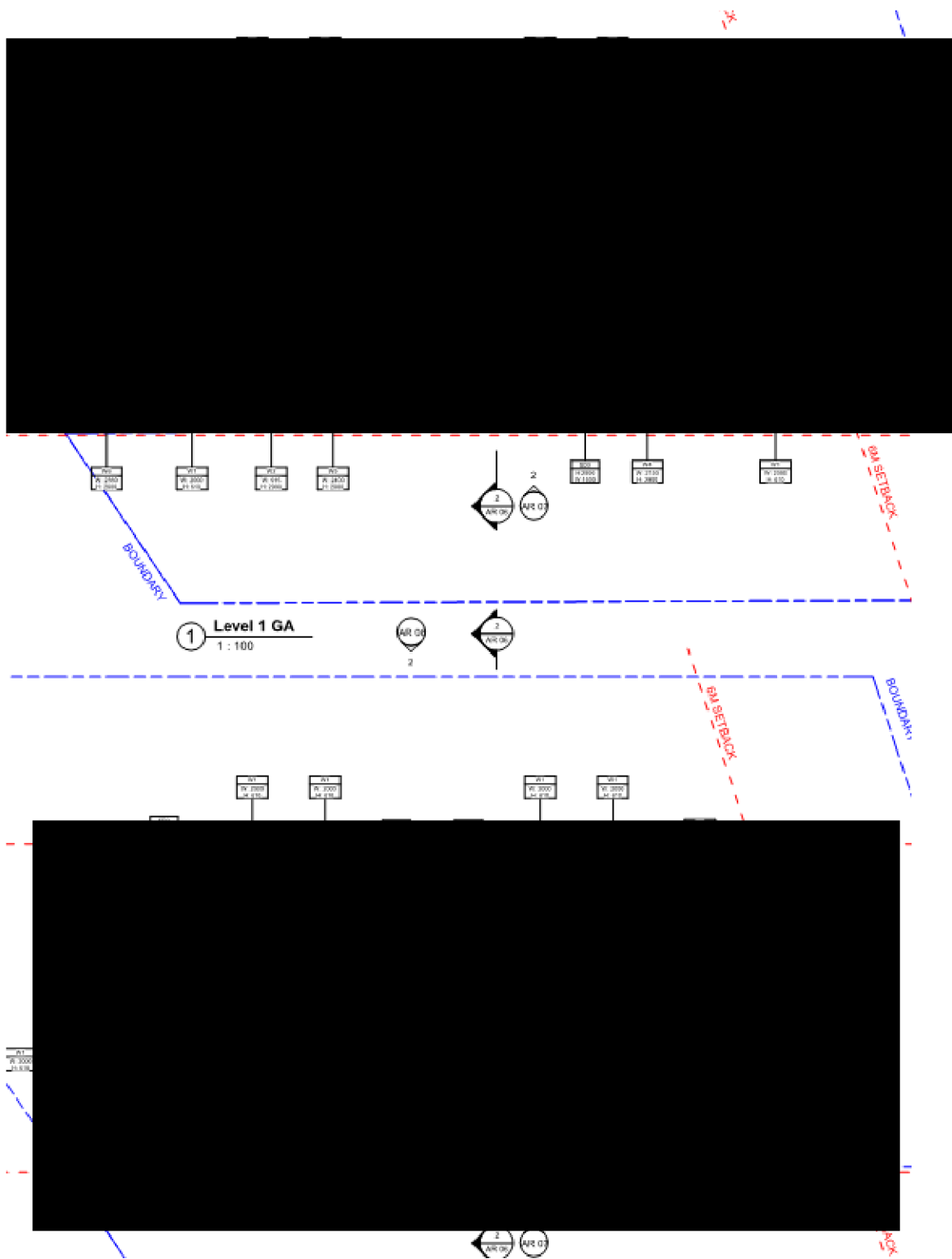
	Requirements	Provide evidence to PCA	Certifier action
J0.1	Application of Section J	Applies	PCA must satisfy himself that the installation is compliant.
J0.2	Heating and cooling loads Class 2 or Class 4	Not applicable	Note
J0.3	Ceiling fans	Applies IF INSTALLED. Provide <ul style="list-style-type: none"> • permanent installation [hard wired] • speed controller • serve whole room <ul style="list-style-type: none"> ○ 900 mm dia per 15 m2 room ○ 1200 mm dia per 25 m2 room 	PCA must satisfy himself that the installation is compliant.
J0.4	Roof thermal breaks	Applies WHERE METAL FRAMED R 0.2 minimum between metal framing and roofing. [Commercial thermal break tapes available in the marketplace.]	PCA must satisfy himself that the installation is compliant.
J0.5	Wall thermal breaks	Applies WHERE METAL FRAMED R 0.2 minimum between metal framing and cladding [Commercial thermal break tapes available in the marketplace.]	PCA must satisfy himself that the installation is compliant.

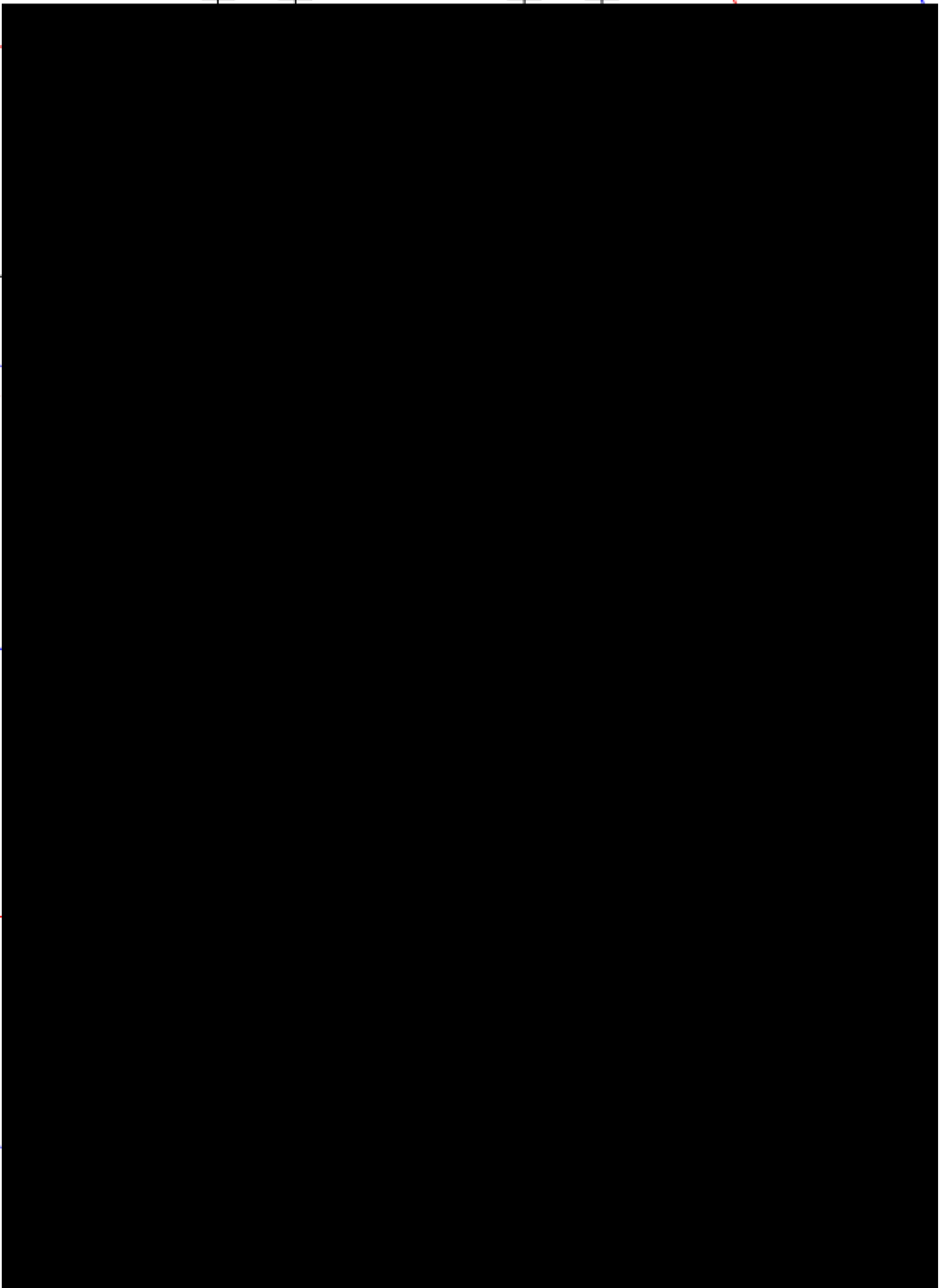
1. PART J1 BUILDING FABRIC

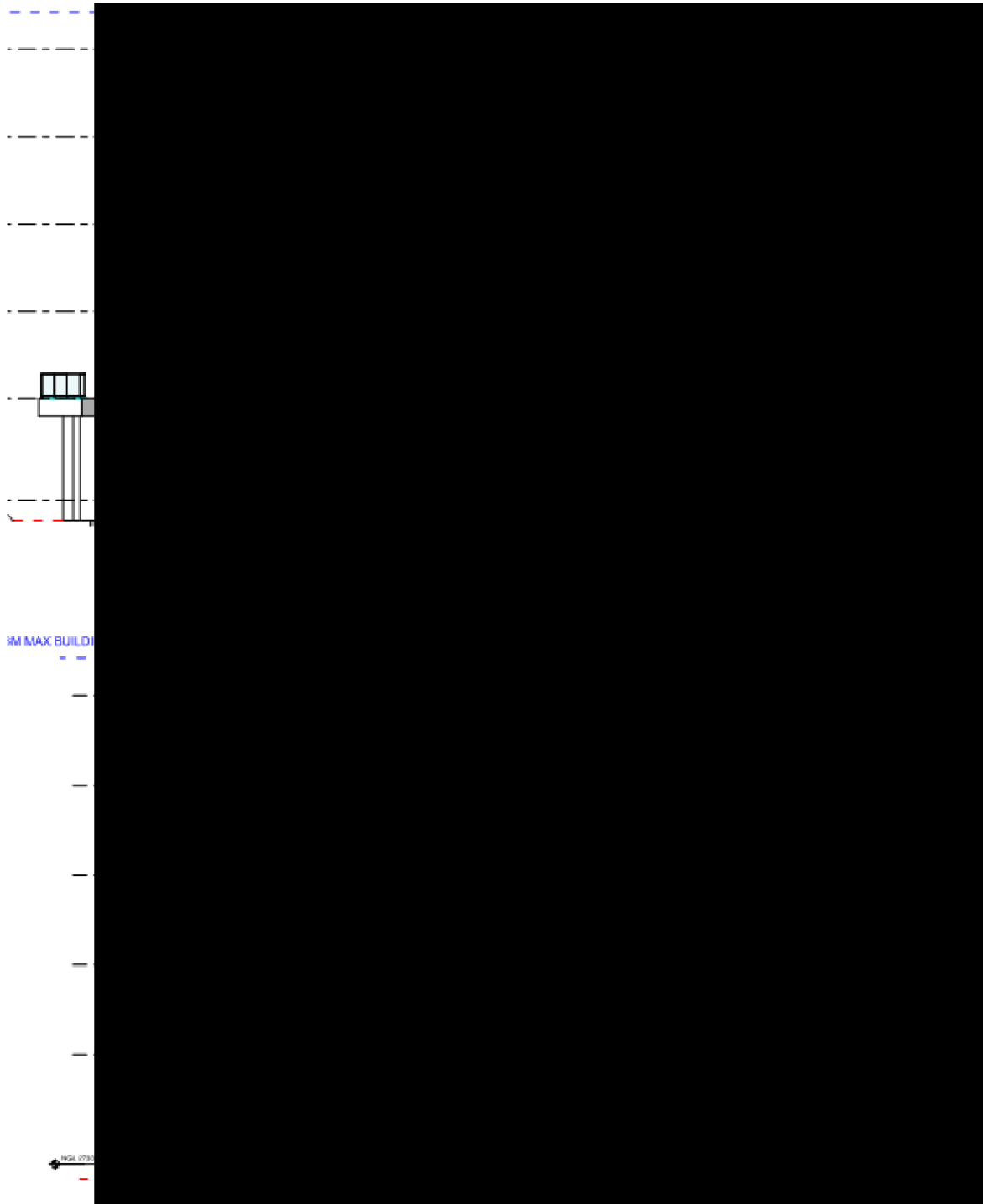
	Requirements	Provide evidence to PCA	Certifier action
J1.1 NSW J(A)1.1	BUILDING FABRIC Including Building Classes 2 and 4 Note: Section J complements BASIX	Applies	Note
J1.2	THERMAL CONSTRUCTION – GENERAL	Applies	
(a)	Compliance with AS/NZS 4859.1 Including that product branded with thermal performance	Applies	PCA must satisfy himself that the installation is compliant.
	abut or overlap 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	Applies	PCA must satisfy himself that the installation is compliant.
	Form a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier	Applies	PCA must satisfy himself that the installation is compliant.
	Installation does not affect the safe or effective operation of a service or fitting	Applies	PCA must satisfy himself that the installation is compliant.
(b)	Air space next to reflective surface	Applies	PCA must satisfy himself that the installation is compliant.
reflective insulation	Fit closely against any door or window opening Overlaps not less than 50 mm Tape all joins for air tightness	Applies	PCA must satisfy himself that the installation is compliant.
(c) Bulk insulation	Install to maintain position and thickness other than where it is compressed between cladding and	Applies	PCA must satisfy himself that the installation is compliant.

	Requirements	Provide evidence to PCA	Certifier action
	<p>supporting members, water pipes, electrical cabling or the like</p> <p>In a ceiling, where there is no bulk insulation or reflective <i>insulation</i> in the wall beneath, it overlaps the wall by not less than 50 mm</p>		
(d)	Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2	Applies	PCA must satisfy himself that the installation is compliant.
(e)	<p>The <i>required Total R-Value</i> and <i>Total System U-Value</i>, including allowance for thermal bridging, must be calculated in accordance with AS/NZS 4859.2 for a roof or floor; or</p> <p>determined in accordance with Specification J1.5a for <i>wall-glazing construction</i>, or</p> <p>determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.</p>	Applies	PCA must satisfy himself that the installation is compliant.









② Section 2
1 : 100

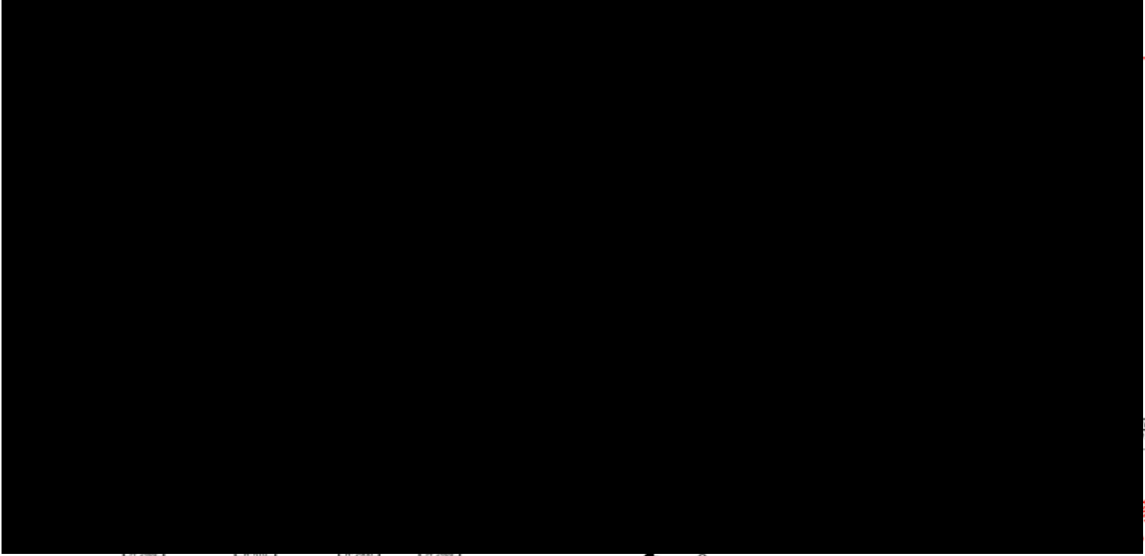
	Requirements	Provide evidence to PCA	Certifier action
J1.3	ROOF AND CEILING CONSTRUCTION	Not applicable	Note
(a) Climate zone 5:	achieve a Total R-Value greater than or equal to R 3.7 downward heat flow	Provide R 3.0 between roofing and ceiling	PCA must satisfy himself that the installation is compliant.
Climate zone 6:	achieve a Total R-Value greater than or equal to R 3.2 downward heat flow Tiled and metal roofing R 0.56	Provide R 3.5 between roofing and ceiling	PCA must satisfy himself that the installation is compliant.
(b) Climate zone 6	Solar absorptance of the upper surface of a roof must be not more than 0.45.	Note	PCA must satisfy himself that the installation is compliant.

W1
W: 2000
L: 915

W1
W: 2000
L: 915

W1
W: 2000
L: 915

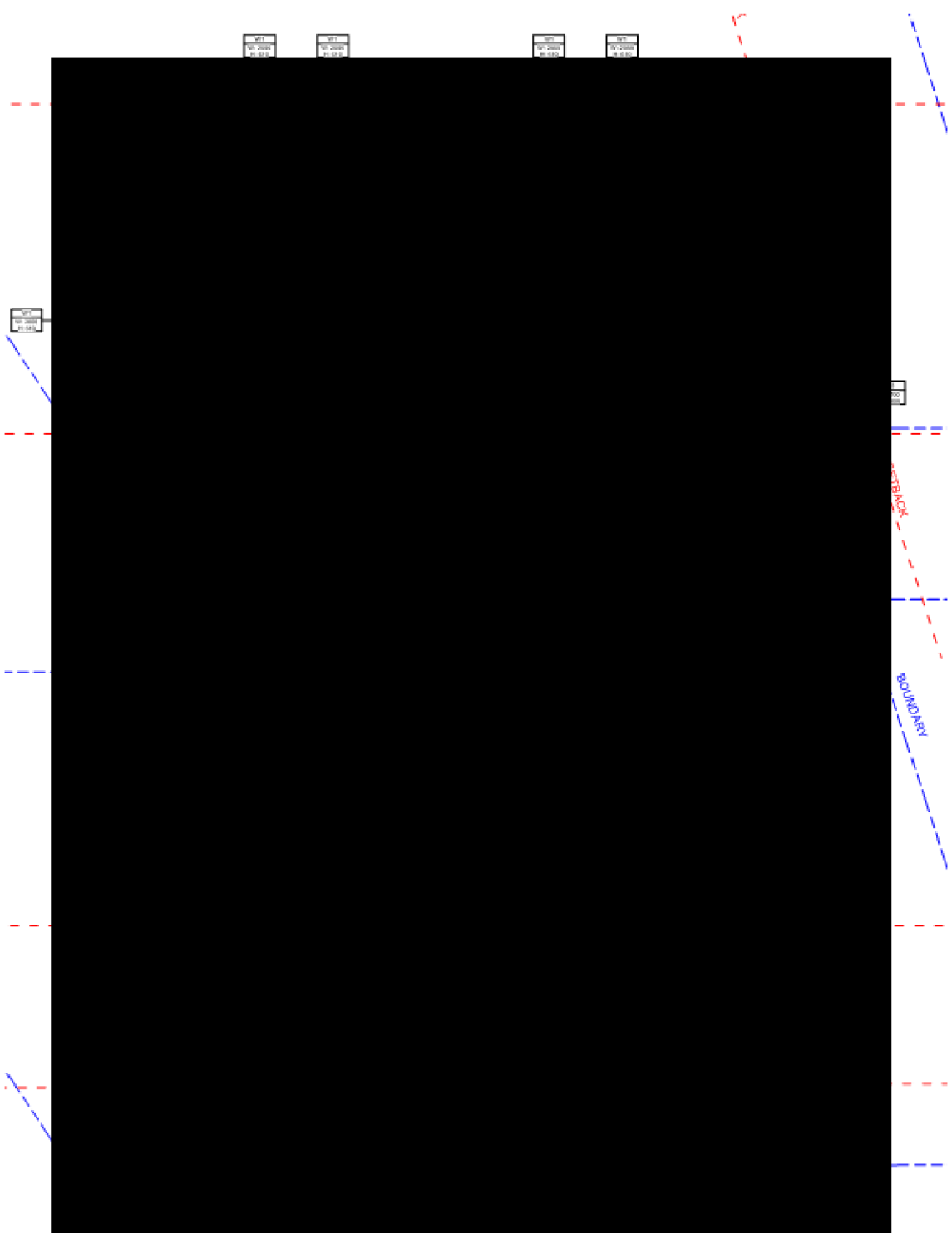
W1
W: 2000
L: 915



W1
W: 2000
L: 915

W1
W: 2000
L: 915

2
AR 06 AR 07



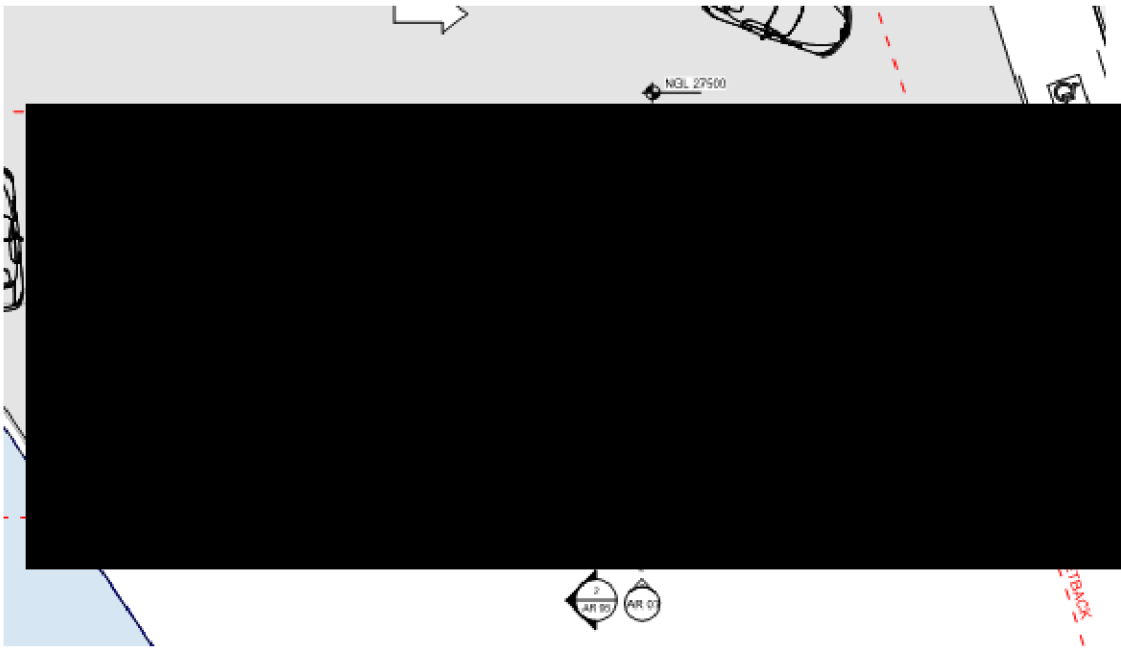


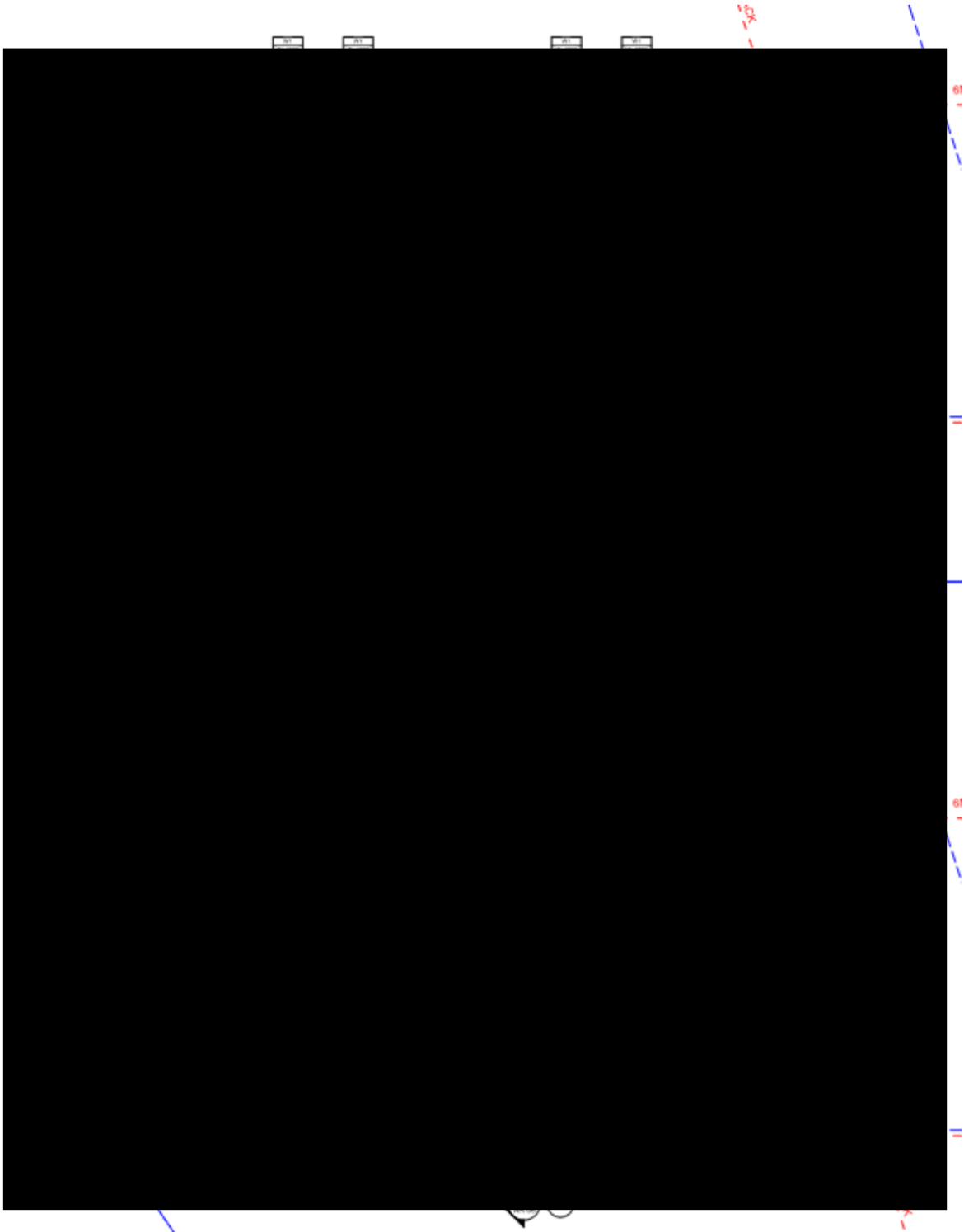
		Provide evidence to PCA	Certifier action
J1.4	ROOF LIGHTS		
(a)	not more than 5% of the floor area of the room or space served	Applicable Adjust size to 5% max of floor area served	PCA must satisfy himself that the installation is compliant.
(b)	3%<5% floor area Light shaft index <1.0:	Not applicable SHGC <0.29 U<3.9 Always select from https://awawers.net/en/skylight	PCA must satisfy himself that the installation is compliant.

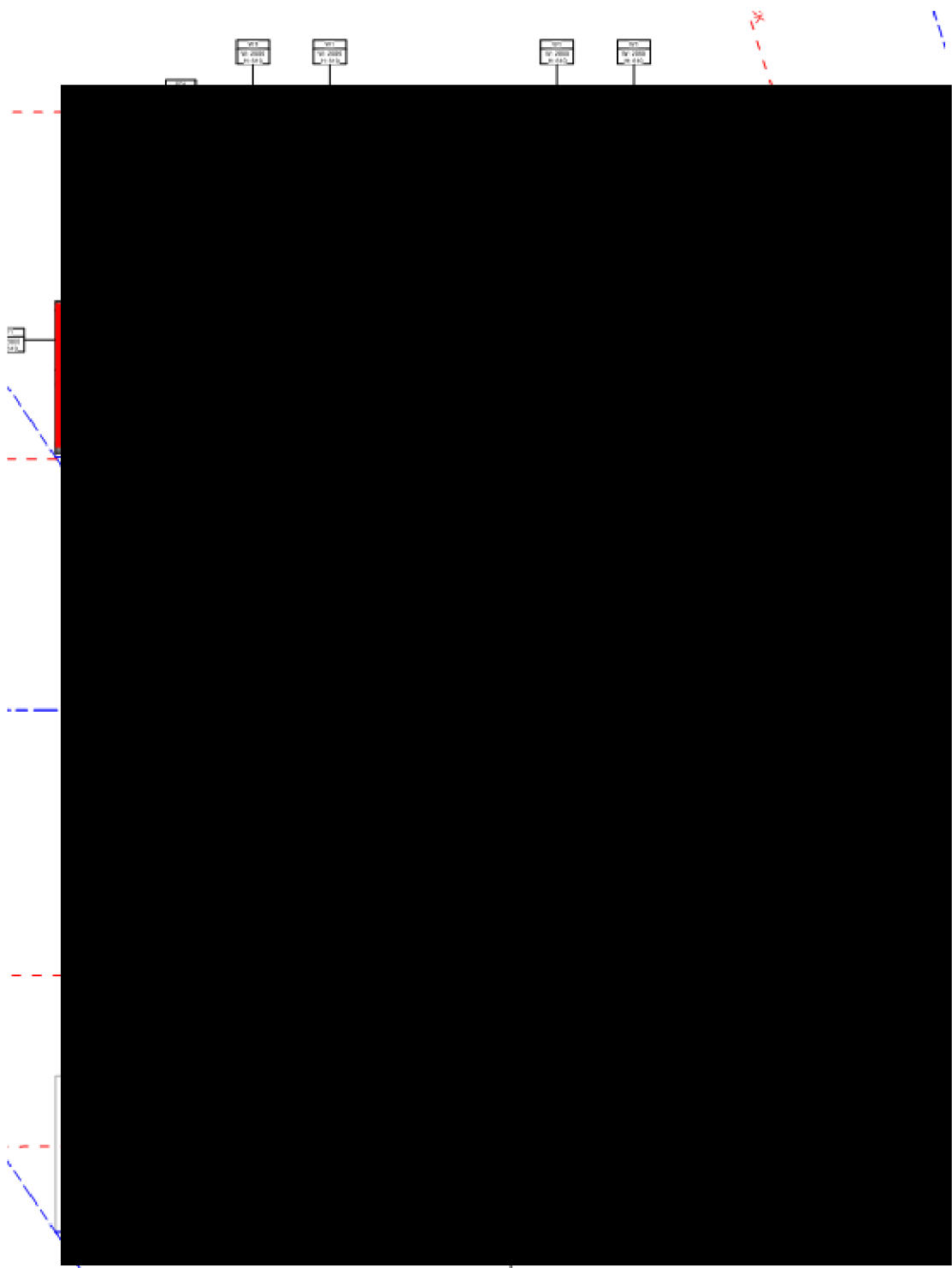
		Provide evidence to PCA	Certifier action
J1.5	WALLS AND GLAZING		
(a)	Total System U-Value of wall-glazing construction		
	Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building <U-2	Not applicable	Note
Climate Zone 5	for a Class 3 or 9c building or a Class 9a ward area U-2.0	Not applicable	Note
Climate Zone 6	for a Class 3 or 9c building or a Class 9a ward area <U-1.1	Refer calculations below	PCA must satisfy himself that the installation is compliant.
(b)	Display glazing <U-5.8 shopfronts	Not applicable	Note
(c)	Total System U-Value of wall-glazing construction must be calculated in	Refer calculations below	PCA must satisfy himself that the installation is compliant.

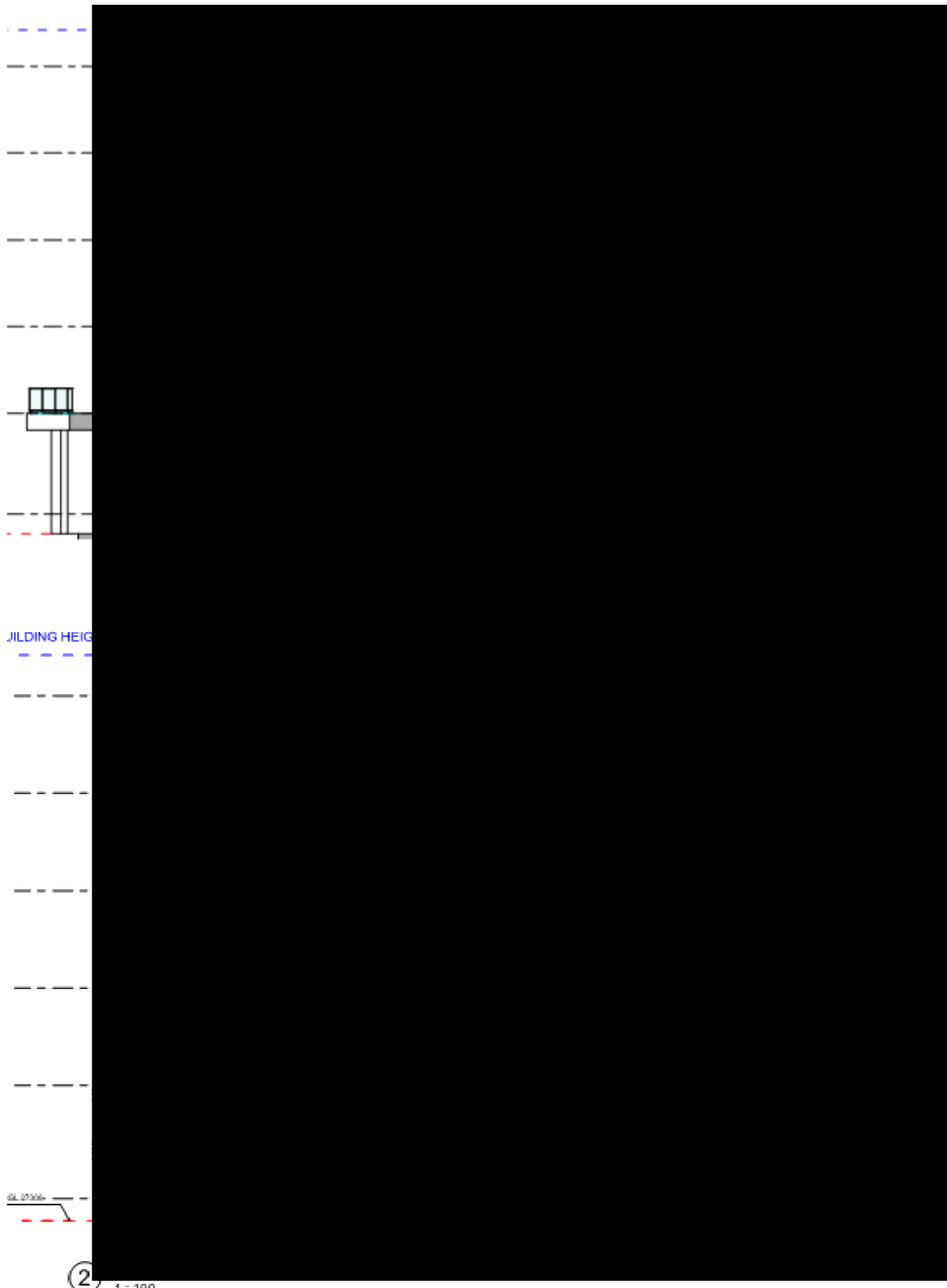
		Provide evidence to PCA	Certifier action
	accordance with Specification J1.5a		
(d) Climate zone 5	Wall area >80% or more of wall-glazing construction area Class 2 common area, Class 5, 6, 7, 8 or 9b building or a Class 9a building wall Total R-Value >R-1.4	Refer calculations below	PCA must satisfy himself that the installation is compliant.
Climate zone 5	Wall area >80% or more of wall-glazing construction area Class 3 or 9c building or Class 9a ward area wall Total R-Value >R-1.4	Not applicable	Note
(d) Climate zone 6	Wall area >80% or more of wall-glazing construction area Class 2 common area, Class 5, 6, 7, 8 or 9b building or a Class 9a building wall Total R-Value >R-1.4	Not applicable	Note
Climate zone 6	Class 3 or 9c building or Class 9a ward area wall Total R-Value >R-2.8	Refer calculations below	PCA must satisfy himself that the installation is compliant.
(e) Climate zones 5 and 6	Wall area <80% or more of wall-glazing construction area Class 2 common area, Class 5, 6, 7, 8	Refer calculations below	PCA must satisfy himself that the installation is compliant.

		Provide evidence to PCA	Certifier action
	or 9b building or a Class 9a building wall Total R-Value >R-0.13		
(e) Climate zone 5	Wall area <80% or more of wall-glazing construction area Class 3 or 9b building or Class 9a ward area wall Total R-Value R-0.10	Not applicable	Note
(e) Climate zone 6	Wall area <80% or more of wall-glazing construction area Class 3 or 9b building or Class 9a ward area wall Total R-Value R-0.07	Refer calculations below	PCA must satisfy himself that the installation is compliant.









2 1:100

WINDOW SELECTION

DEEMED TO SATISFY WITH

U - value	U-2.2 maximum figure	External shading device where indicated
SHGC- value	SHGC- 0.22 maximum figure	External shading device where indicated

WINDOW SELECTION TO SATISFY PCA

Always select from

<https://awawers.net/res>

or <https://awawers.net/en/commercial>

OR use their search engine

<https://awawers.net/research/search/nsw>

or <https://awawers.net/comsearch/search/nsw>

+/- 10% RULE TO WINDOW SELECTIONS

Does not apply to Section J

BRICK VENEER WALL + R 2.5 insulation [BV]

Extend to underside floor soffit or roofing.

Variation requires separate calculation for approval.

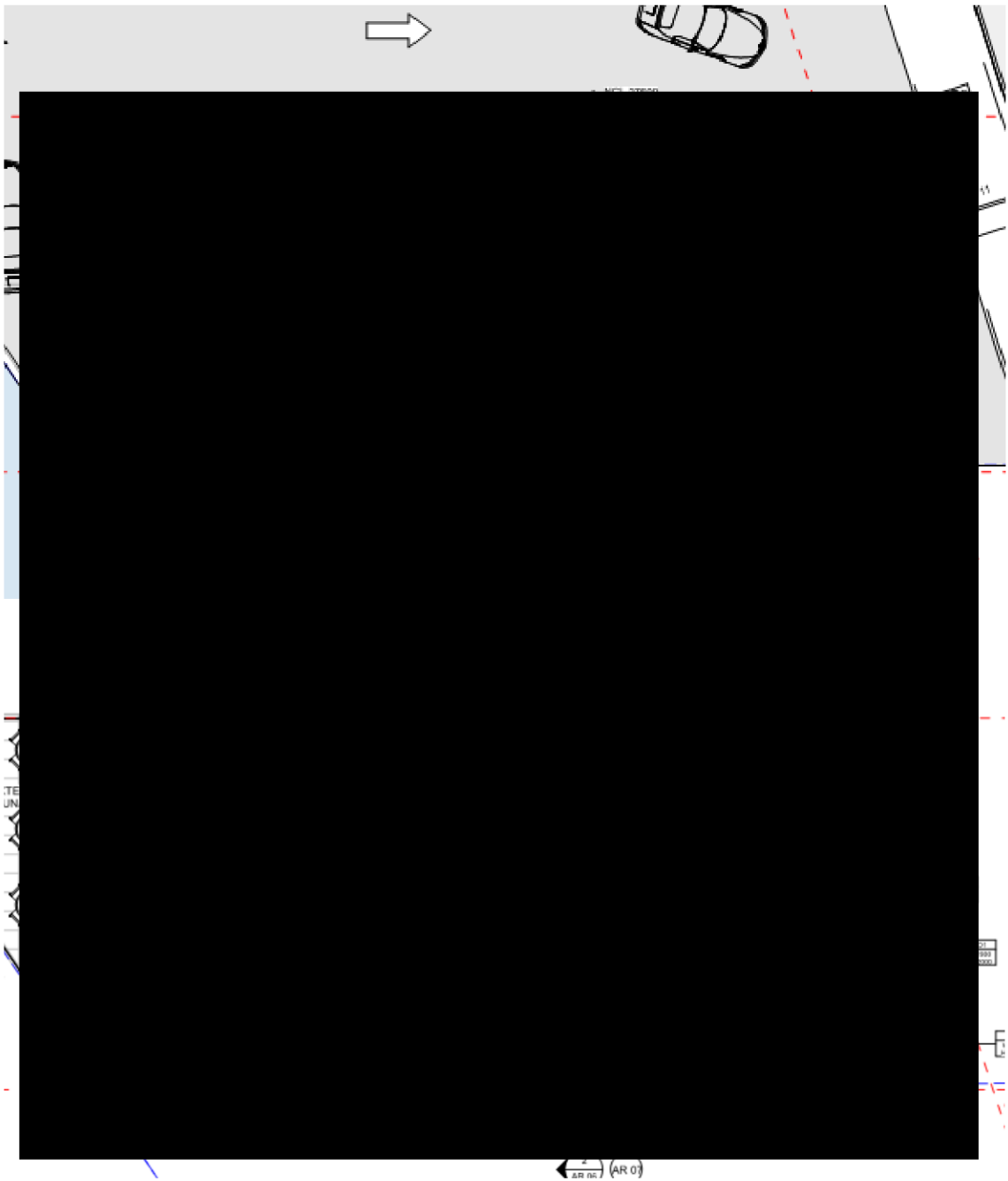
Allow for any required egress width if affected.

		R	
1	outside air	0.04	
2	110 brick	0.09	
3	Cavity air	0.17	
4	Building wrap	0.00	To manage condensation
5	Insulation in 90 mm frame	2.50	
6	plasterboard	0.06	
7	Inside air	0.12	
	TOTAL	2.98	

NCC 2019 Facade calculator								V1.7-20200408				
Project Name	deemed to satisfy with U-2.20 figure, and SHGC-0.22 max figure							Wall R-value				
Building Class	3	Class 2,3,5,6,7,8,9a, 9c, ward						total A total A x Rt R_avg				
Climate Zone	6	Storey all						N 113.4 337.932 2.98				
Wall+glazing U-value max limit	1.1							E 217.6 648.448 2.98				
	N	E	S	W								
Solar Admittance max limit	0.07	0.07	0.07	0.07								
Proposed wall R-value	2.98	2.98	2.98	2.98								
	Method 1				Method 2							
	N	E	S	W	Combined							
Wall+glazing area	173.0	342.0	101.0	342.0	958.1							
Glazing area	59.6	124.4	92.3	101.0	377.4							
percentage	34%	36%	91%	30%	39%							
Proposed Wall U-value	0.34	0.34	0.34	0.34	0.34							
Proposed Wall+Glazing U-value	0.98	1.01	2.04	0.89		1.07						
Proposed Wall+Glazing Solar Admit	0.062	0.073	0.187	0.045								
	Reference combined SHGC Energy Value					87.97						
	Proposed combined SHGC Energy Value					87.83						
Element	Facing	Height	Width	Area	U-value	SHGC	P (device or	H	INPUT Wall components only - Area and R- value for each wall type on each façade			
W03 x 3	N	2.90	2.10	6.1	2.20	0.22			Wall elements	Face	A	Rt
SD01 x 2	N	2.90	4.00	11.6	2.20	0.22	1	2.9	BV + R 2.5	N	113.40	2.98
W02 x 3	N	2.90	2.70	7.8	2.20	0.22			BV + R 2.5	E	217.60	2.98
SD02	N	2.90	2.50	7.3	2.20	0.22	1	2.9	BV + R 2.5	S	8.70	2.98
W03	N	2.90	0.70	2.0	2.20	0.22			BV + R 2.5	W	241.00	2.98
SD02 x 2	N	2.90	5.00	14.5	2.20	0.22	1	2.9				
W04	N	2.90	2.15	6.2	2.20	0.22						
W07	N	2.90	1.40	4.1	2.20	0.22						

entry	E	3.70	6.00	22.2	2.20	0.22		
W06 x 2	E	2.90	5.00	14.5	2.20	0.22		
W01 x 7	E	0.61	14.00	8.5	2.20	0.22		
W02 x 5	E	2.90	4.50	13.1	2.20	0.22		
W05	E	2.90	2.40	7.0	2.20	0.22		
SD03 x 3	E	2.90	4.50	13.1	2.20	0.22	1	2.9
W04 x 3	E	2.90	6.70	19.4	2.20	0.22		
SD02 x 2	E	2.90	5.00	14.5	2.20	0.22	1	2.9
SD02	E	2.90	2.50	7.3	2.20	0.22	1	2.9
W08	E	0.65	0.92	0.6	2.20	0.22		
W03 x 2	E	2.90	1.50	4.4	2.20	0.22		
common	S	2.90	9.00	26.1	2.20	0.22	1	2.9
W02 x 8	S	2.90	20.00	58.0	2.20	0.22		
W01 x 2	S	0.61	4.00	2.4	2.20	0.22		
SD01	S	2.90	2.00	5.8	2.20	0.22	1	2.9
W02 x 3	W	2.90	2.70	7.8	2.20	0.22		
W01 x 12	W	0.61	24.00	14.6	2.20	0.22		
SD01 x 8	W	2.90	16.00	46.4	2.20	0.22	1	2.9
common with ext shading	W	2.90	4.87	14.1	2.20	0.22	device	
SD02	W	2.90	2.50	7.3	2.20	0.22	1	2.9
W01	W	0.61	2.00	1.2	2.20	0.22	1	2.9
W05 with ext shading	W	2.90	2.40	7.0	2.20	0.22	device	
W03	W	2.90	0.70	2.0	2.20	0.22		
W08	W	0.65	0.92	0.6	2.20	0.22		

		Provide evidence to PCA	Certifier action
J1.6 (a) Climate zones 5 and 6	Floor insulation. Total floor R 2.0 required RC floor R 0.3	Refer calculations below	PCA must satisfy himself that the installation is compliant.



2. PART J2 – not used

3. PART J3 BUILDING SEALING

		Provide evidence to PCA	Certifier action
J3.1	Note: includes Building Class 2	Applies	Note.
J3.2	CHIMNEYS AND FLUES		Note
	chimney or flue of an open solid-fuel burning appliance provide a damper or flap that can be closed to seal the chimney or flue.	Not applicable	Note
J3.3 (a)	ROOF LIGHTS sealed, or capable of being sealed	Applies	Certify that the installation is deemed to satisfy
(b) Climates zones 5 and 6	Constructed with— an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level; or a weatherproof seal; or a shutter system readily operated either manually, mechanically or electronically by the occupant.	Applies	Certify that the installation is deemed to satisfy
J3.4	WINDOWS AND DOORS	Applies	Certify that the installation is deemed to

		Provide evidence to PCA	Certifier action
(a) And (b)	Climate zones 5 and 6 must be sealed except windows and doors to AS 2017 fire door smoke door roller shutter door – out of hours shutter grille – out of hours other security door or device – out of hours		satisfy
(c)	seal to restrict air infiltration bottom edge of a door, must have a draft protection device;	Applies	Certify that the installation is deemed to satisfy
(d)	Provide self-closing doors to entrances	Applies	Certify that the installation is deemed to satisfy
J3.5	Windows and doors Exhaust fans Fit with a sealing device such as a self-closing damper	Applies	Certify that the installation is deemed to satisfy
J3.6	Construction of ceilings, walls and floors Ceilings, walls, floors and any opening such as a <i>window</i> frame, <i>door</i> frame, <i>roof light</i> frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of— (i)the <i>envelope</i> ; or (ii)in <i>climate zones</i> 4, 5, 6, 7 or 8.	Show construction details and as installed evidences	Certify that the installation is deemed to satisfy

		Provide evidence to PCA	Certifier action
	<p>Construction <i>required</i> by must be— (i)enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or (ii)sealed at junctions and penetrations with— (A)close fitting architrave, skirting or cornice; or (B)expanding foam, rubber compressible strip, caulking or the like.</p>		
J3.7 NSW J(A)2	Evaporative coolers	Not applicable	Certify that the installation is deemed to satisfy

4. PART J4 – not used

		Provide evidence to PCA	Certifier action
J4.0		None	Note

5. PART J5 AIR CONDITIONING

		Action by a/c designer at CC and thereafter	Certifier action
J5.1		Applies	Note
J5.2	<p>When not occupied</p> <ul style="list-style-type: none"> • Capable of being deactivated. • Dampers close when a/c deactivated. • Ductwork sealed and insulated. • Capable of controlling temperature during sleeping periods. • Fan power to Table J5.2. 	Applies	<p>Refer separate report by a/c designer</p> <p>Certify that the installation is deemed to satisfy</p>
J5.3	Time Switch	Applies	<p>Refer separate report by a/c designer</p> <p>Certify that the installation is deemed to satisfy</p>
5.4	Applies if Heating And Cooling System installed	Applies	<p>Refer separate report by a/c designer</p> <p>Certify that the installation is deemed to satisfy</p>
5.5	Applies if Miscellaneous Exhaust Systems installed	Applies	<p>Refer separate report by a/c designer</p> <p>Certify that the installation is deemed to satisfy</p>

6. PART J6 ARTIFICIAL LIGHTING AND POWER

		Provide evidence to PCA	Certifier action
6		Applies	<p>Certify that the installation is deemed to satisfy</p> <p>Refer also lighting designer certifications for compliance with Illumination code Part F4.</p>
6.2	<p>Submit to BCA, completed calculations from the following spreadsheet http://www.abcb.gov.au/Resources/Tools-Calculators/Lighting-Calculator</p>	Applies	<p>Refer separate report by lighting designer</p> <p>Certify that the installation is deemed to satisfy</p>
6.3	<p>Room or space Provide individually operated switch or other device control unless SOU for people with disability or aged. Locate</p>	Applies	<p>Refer separate report by lighting designer</p> <p>Certify that the installation is deemed to satisfy</p>
	<p>Switch controls location In visible position in room serviced or adjacent room.</p>	Applies	
	<p>Time switch To Specification J6</p>	Applies	<p>Refer separate report by lighting designer</p> <p>Certify that the installation is deemed to satisfy</p>
6.4	Interior Decorative & Display Lighting	Applies	<p>Refer separate report by lighting designer</p> <p>Certify that the installation is deemed to</p>

		Provide evidence to PCA	Certifier action
			satisfy
6.5	Perimeter lighting Control by a <ul style="list-style-type: none"> • daylight sensor or a • programmable time switch. 	Applies	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	Applies	Refer separate report by lighting designer Certify that the installation is deemed to satisfy
	Decorative lighting	Applies	Refer separate report by lighting designer Certify that the installation is deemed to satisfy
6.6	Boiling Water and chilled water storage units	Applies	Refer separate report by lighting designer Certify that the installation is deemed to satisfy

7. PART J7 HEATED WATER SUPPLY AND SWIMMING POOL AND SPA POOL PLANT

		Provide evidence to PCA	Certifier action
7.2	Design and install in accordance with Part B2 of NCC Volume Three — Plumbing Code of Australia.	Applies	Refer separate report by Hydraulic and Electrical consultants

8. PART J8 ACCESS FOR MAINTENANCE

		Provide evidence to PCA	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.

END OF REPORT
END OF DOCUMENT
END OF FILE