# Nationwide House Energy Rating Scheme<sup>®</sup> Multiple Class 1 dwellings Summary NatHERS<sup>®</sup> Certificate No. 0009000920

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NatHERS Climate Zone Casino , NSW , 2470 Lot 8-11 DP 31850 9 Amberley

64-70 Stapleton Avenue



# Accredited assessor

NameDean GormanBusiness nameGreenview Consulting Pty LtdEmaildean@greenview.net.auPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters National





## Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=AeLjvPwIE . When using either link, ensure you are visiting hstar.com.au



#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au.</u>

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

# Summary of all dwellings

Certificate number and link	Unit Number	Heating load (load limit) [MJ/m <sup>2</sup> /p.a.]	Cooling load (load limit) [MJ/m <sup>2</sup> /p.a.]	Total load [MJ/m²/p.a.]	Star Rating	Whole of Home Rating
0009000746	1	9.2 (N/A)	11.4 (N/A)	20.6	9.4	0
0009000779-01	2	4.5 (N/A)	4.9 (N/A)	9.3	10	0

Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



#### Summary of all dwellings (continued)

Unit Number	Heating load (load limit) [MJ/m²/p.a.]	Cooling load (load limit) [MJ/m²/p.a.]	Total load [MJ/m²/p.a.]	Star Rating	Whole of Home Rating
3	17.80 (N/A)	5.56 (N/A)	23.36	9.2	0
4	16.20 (N/A)	7.26 (N/A)	23.46	9.2	0
5	4.65 (N/A)	6.44 (N/A)	11.09	10	0
6	9.18 (N/A)	5.53 (N/A)	14.70	9.9	0
7	11.55 (N/A)	6.57 (N/A)	18.12	9.7	0
8	19.21 (N/A)	7.39 (N/A)	26.60	8.9	0
9	10.38 (N/A)	6.60 (N/A)	16.98	9.8	0
10	21.39 (N/A)	8.52 (N/A)	29.90	8.7	0
11	20.00 (N/A)	7.48 (N/A)	27.48	8.9	0
12	19.30 (N/A)	4.15 (N/A)	23.45	9.2	0
13	9.64 (N/A)	26.96 (N/A)	36.60	8.2	0
14	16.36 (N/A)	28.13 (N/A)	44.49	7.6	0
15	10.23 (N/A)	28.34 (N/A)	38.57	8	0
16	7.98 (N/A)	24.14 (N/A)	32.12	8.4	0
17	9.88 (N/A)	23.24 (N/A)	33.12	8.4	0
18	13.39 (N/A)	26.54 (N/A)	39.92	7.9	0
	3       4       5       6       7       8       9       10       11       12       13       14       15       16       17	(load limit) [MJ/m²/p.a.]           3         17.80 (N/A)           4         16.20 (N/A)           5         4.65 (N/A)           6         9.18 (N/A)           7         11.55 (N/A)           8         19.21 (N/A)           9         10.38 (N/A)           10         21.39 (N/A)           11         20.00 (N/A)           12         19.30 (N/A)           13         9.64 (N/A)           14         16.36 (N/A)           15         10.23 (N/A)           16         7.98 (N/A)	(load limit) [MJ/m²/p.a.]         (load limit) [MJ/m²/p.a.]           3         17.80 (N/A)         5.56 (N/A)           4         16.20 (N/A)         7.26 (N/A)           5         4.65 (N/A)         6.44 (N/A)           6         9.18 (N/A)         5.53 (N/A)           7         11.55 (N/A)         6.57 (N/A)           8         19.21 (N/A)         7.39 (N/A)           9         10.38 (N/A)         6.60 (N/A)           10         21.39 (N/A)         8.52 (N/A)           11         20.00 (N/A)         7.48 (N/A)           12         19.30 (N/A)         4.15 (N/A)           13         9.64 (N/A)         28.34 (N/A)           15         10.23 (N/A)         28.34 (N/A)           16         7.98 (N/A)         23.24 (N/A)	(load limit) [MJ/m²/p.a.](load limit) [MJ/m²/p.a.][MJ/m²/p.a.]317.80 (N/A)5.56 (N/A)23.36416.20 (N/A)7.26 (N/A)23.4654.65 (N/A)6.44 (N/A)11.0969.18 (N/A)5.53 (N/A)14.70711.55 (N/A)6.57 (N/A)18.12819.21 (N/A)7.39 (N/A)26.60910.38 (N/A)6.60 (N/A)16.981021.39 (N/A)8.52 (N/A)29.901120.00 (N/A)7.48 (N/A)23.45139.64 (N/A)26.96 (N/A)36.601416.36 (N/A)28.13 (N/A)44.491510.23 (N/A)24.14 (N/A)32.12179.88 (N/A)23.24 (N/A)33.12	(load limit) (MJ/m²/p.a.](load limit) (MJ/m²/p.a.][MJ/m²/p.a.]317.80 (N/A)5.56 (N/A)23.369.2416.20 (N/A)7.26 (N/A)23.469.254.65 (N/A)6.44 (N/A)11.091069.18 (N/A)5.53 (N/A)14.709.9711.55 (N/A)6.57 (N/A)18.129.7819.21 (N/A)7.39 (N/A)26.608.9910.38 (N/A)6.60 (N/A)16.989.81021.39 (N/A)8.52 (N/A)29.908.71120.00 (N/A)7.48 (N/A)27.488.91219.30 (N/A)4.15 (N/A)36.608.21416.36 (N/A)28.34 (N/A)38.578167.98 (N/A)24.14 (N/A)32.128.4179.88 (N/A)23.24 (N/A)33.128.4

#### **Explanatory notes**

#### About this ratings

Individual unit ratings are listed in the 'Summary of all dwellings' section of this Certificate.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the energy loads and societal cost. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy production and storage to estimate the homes societal cost.

For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

#### **Accredited Assessors**

For high quality NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Licensed assessors in the Australian Capital Territory (ACT) can produce assessments for regulatory purposes only, using endorsed software, as listed on the ACT licensing register.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au



The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in certificates is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy use, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor while using the NatHERS accredited software tool are presented in this report and further details or data files may be available from the assessor.

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# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000746

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Unit 1, 64-70 Stapleton Avenue, Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 94.2 Unconditioned\* 0.0 Total 94.2 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

NameDealBusiness nameGreEmaildealPhone854Accreditation No.DMAssessor Accrediting OrganisationDesign Matters National

Declaration of interest

# **NCC Requirements**

NCC provisions Strate/Territory variation Volume One

Yes

Dean Gorman

8544 1683

DMN/13/1645

# National Construction Code (NCC) requirements

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Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

9.4 The more stars the more energy efficient

# NATIONWIDE HOUSE ENERGY RATING SCHEME

# 20.6 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	9.2	11.4
oad limits	N/A	N/A

#### Features determining load limits

Floor Type	N/A
(lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

#### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=UpDHxdcgZ . When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 1, 64-70 Stapleton Avenue, Casino, NSW, 2470



#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

# Heating & Cooling Load Limits

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

CSOG - Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF) NA – Not Applicable

NCC Climate Zone 1 or 2:

Yes

No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions



Cost



#### 9.4 Star Rating as of 12 Oct 2023

Certificate check	Approva	I Stage	Construction Stage		HOUSE	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Consen Surveyo	Builder	Consen Surveyo	Occupa	
Genuine certificate check		л	л			
Does this Certificate match the one available at the web address or QR code verification link on the front page?						
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?						
Thermal performance check						
Windows and glazed doors						
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?						
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?						
External walls						
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?						
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?						
Floor						
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?						
Ceiling penetrations*						
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?						
Ceiling						
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?						
Roof						
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?						
Apartment entrance doors (NCC Class 2 assessments only)						
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.						
Exposure*						
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".						
Heating and cooling load limits*						
Do the load limits settings (shown on page 1) match what is shown						

0009000746 NatHERS Certificate9.4 Star Rating as of 12 Oct 2023					HOUSE
	Approval St			ction	
Certificate check	ecked	hority/ ecked	ked	hority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is i	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



#### Room schedule

Zone Type	Area [m <sup>2</sup> ]
Bedroom	12.55
Daytime	8.3
Kitchen/Living	34.19
Bedroom	9.63
Daytime	5.59
Bedroom	9.6
Daytime	4.9
Daytime	4.77
Daytime	4.69
	Bedroom         Daytime         Kitchen/Living         Bedroom         Daytime         Bedroom         Daytime         Daytime         Daytime         Daytime         Daytime         Daytime         Daytime         Daytime

# Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum		Substitution tolerance ranges		
window iD	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

#### Custom windows\*

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges			
	Description	U-value*	3000	SHGC lower limit	SHGC upper limit		
No Data Availa	able						

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W7	1200	1800	Awning	30	Ν	Yes
Kitchen/Living	ALM-002-01 A	W8	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	W3	850	850	Awning	90	W	Yes
Kitchen/Living	ALM-001-01 A	W2	850	1800	Awning	90	W	Yes
Bedroom 2	ALM-001-01 A	n/a	1200	1800	Awning	30	S	No
Entry	ALM-002-01 A	W6	2400	1000	Awning	90	S	No
Bedroom 3	ALM-001-01 A	W4	1200	1800	Awning	30	S	No



## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Window Maximum		Substitution tolerance ranges			
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit		
No Data Avail	able						
Custom roof w	vindows*						
	Window	Maximum		Substitution tolerance ranges			
Window ID	WIIIGOW	maximani	SHGC*	Substitution to	lerance ranges		

# Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	lable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

# Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02	W	None	No
WC	GEN-04-006a	S3	50	0.02	W	None	No
Ldry	GEN-04-006a	S4	50	0.02	W	None	No

#### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

\* Refer to glossary. Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 1, 64-70 Stapleton Avenue , Casino , NSW , 2470



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3100	Ν	300	No
Bedroom 1	EW-1	2700	1450	Е	400	No
Bedroom 1	EW-1	2700	895	Ν	2650	No
Bedroom 1	EW-1	2700	2350	W	5700	No
Kitchen/Living	EW-1	2700	4045	Ν	2650	No
Kitchen/Living	EW-1	2700	2295	W	900	No
Kitchen/Living	EW-1	2700	250	S	6650	No
Kitchen/Living	EW-1	2700	5200	W	650	No
Bedroom 2	EW-1	2700	450	Е	400	No
Bedroom 2	EW-1	2700	3100	S	700	No
Bedroom 2	EW-1	2700	700	W	5700	No
Entry	EW-1	2700	1690	S	1400	No
Bedroom 3	EW-1	2700	700	E	5300	No
Bedroom 3	EW-1	2700	3000	S	700	No
Bedroom 3	EW-1	2700	3545	W	900	No

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Cavity brick	24.44	No Insulation
IW-002	Single Skin Brick	84.79	No insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	12.55	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	8.30	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	34.19	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	9.63	None	No Insulation	Carpet+Rubber Underlay 18mm

#### 0009000746 NatHERS Certificate

#### 9.4 Star Rating as of 12 Oct 2023



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Entry	Concrete Slab on Ground 150mm	5.59	None	No Insulation	Ceramic Tiles 8mm
Bedroom 3	Concrete Slab on Ground 150mm	9.60	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	4.90	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.77	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 150mm	4.69	None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Entry	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R2.5	
Hall	Plasterboard on Timber	Bulk Insulation R2.5	
WC	Plasterboard on Timber	Bulk Insulation R2.5	
Ldry	Plasterboard on Timber	Bulk Insulation R2.5	

# Ceiling penetrations\*

Quantity	Туре	Diameter [mm]	Sealed/unsealed
5	Downlights - LED	150	Sealed
3	Downlights - LED	150	Sealed
3	Exhaust Fans	150	Sealed
15	Downlights - LED	150	Sealed
15	Exhaust Fans	150	Sealed
4	Downlights - LED	150	Sealed
2	Downlights - LED	150	Sealed
4	Downlights - LED	150	Sealed
1	Downlights - LED	150	Sealed
	5 3 3 15 15 4 2 4	5Downlights - LED3Downlights - LED3Exhaust Fans15Downlights - LED15Exhaust Fans4Downlights - LED2Downlights - LED4Downlights - LED4Downlights - LED2Downlights - LED4Downlights - LED	5         Downlights - LED         150           3         Downlights - LED         150           3         Exhaust Fans         150           15         Downlights - LED         150           15         Downlights - LED         150           15         Exhaust Fans         150           15         Exhaust Fans         150           4         Downlights - LED         150           2         Downlights - LED         150           4         Downlights - LED         150           4         Downlights - LED         150

0009000746 NatHERS	Certificate	9.4 Star Rating as of 12 Oct 2023			NATIONWIDE HOUSE
Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
WC	1	Downlights - LED	150	Sealed	
WC	1	Exhaust Fans	150	Sealed	
Ldry	1	Downlights - LED	150	Sealed	
Ldry	1	Exhaust Fans	150	Sealed	

# **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

# Roof type

Construction	onstruction Added insulation [R-value]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30 Light	_

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

# Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of  $5W/m^2$  is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				
Heating system				
Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				



#### Hot water system

Appliance/ system type	Fuel type	Hot Fuel type Water	Minimum efficiency	Zone 3	Zone 3 Substitution tolerance ranges		Assessed daily load	
	CER Zone /STC	STC	lower limit	upper limit	[litres]			
No Data Available								
Pool/spa equipment								
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac		
No Data Available								

# **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

# Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Innual energy load         the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.           Assessed floor area         the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Celling penetrations         Excludes fixtures attached to the celling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the celling with small holes through the celling for wiring, e.g. celling fans; pendant lights, and heating and cooling ducines.           COP         Coefficient of performance         coefficient of performance is will michade garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods:           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input           Energy value         This is your homes rating without solar or batteries.           Exposure category – open         see exposure categories below.           Exposure category – open         terrain with how obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with how obstructions e.g.	AFRC	Australian Fenestration Rating Council
Assessed floor area         the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Celling penetrations         features that require a penetration to the celling, including downights, vents, exhaust fans, range hoods, chimneys and flues. Excludes thures attached to the celling into simil holes through the celling for winds, e.g. celling fans; pendant flights, and the floor area in the design documents.           Cop         Coefficient of performance         Coefficient of performance           Custom windows         Windows Ellisted in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Erergy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including. but not limited to, costs to the building user, the environment and energy networks (as defined in the ACB House Schard?).           Exposure         see exposure category batteries below.           Exposure ellegory – protect         terrain with no methods in the modelling software and must not be modelled as a door when opening to a minimally texposure category – source         terrain with numerous, closely spaced obstructions pellow 10m (assigns a classification code, NatHERS software and with see signal with were batterious below.           Exposure category – protecta <th< th=""><th></th><th></th></th<>		
Coop         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some dricumstances it will include garagets.           Custom windows         windows listed in NatTERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows listed in NatTERS software that are variable on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           ER         Energy and Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity entition to asociety including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Pfovisions Standard).           Entrance door         ventilated corridor in a Class 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial reas.           Morizontal shading feature         the CC groups buildings and attached C		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to sociely including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure         see exposure category provisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure category category – open         see exposure category closely blow.           Exposure category – open         secatered shead, lightly vegetated obstructions see and with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – open         terrain with numerous, closely spaced obstructions see and sistication code. NatHERS forware models NCC trobes 2, 12 or	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Continuitie         Circumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a VERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions e.g. they alware alwa	COP	Coefficient of performance
Classical windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy use           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered process breads, lightly vegetated bush blocks, elevaled units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush float above 3 floors).           Horizontal shading feature         provisions Standard and units (e.g. above 3 floors).           Recommended capacity         a home that achieves a net zero energy value.           Opening percentage         the Openabiling percentage or operable (moveable) area of doors or	Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Default windows         methods.         terrary Life           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input           Energy use         This is your homes rating without solar or batteries.           Entrance door         The net cost to society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the documentality or spaced documentality.           Recommended capacity         explient of must find wey and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and tached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero ene	Custom windows	
Input         Input         Input         Input         Input           Energy use         This is your homes rating without solar or batteries.         Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (NCC) Class           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         a h	Default windows	
Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilated coridor in a Class 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with works at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with works at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           National Construction Code (NCC) Class         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (NCC) Class           Net zero home         a home that achieves a net zero energy value <sup>8</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Reference in the addition of the openability percentage or operable worked wells.         centeral wilk numerous, close or operable worke the desined comfort condi	EER	
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Exposure category – openterrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).Exposure category – protectedterrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.Horizontal shading featureprovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.National Construction Code (NCC) Classthe NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.Net zero homea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.auRecommended capacitycas be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.Roof windowfor NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attif space, and generally does not have a diffuser.Shading featuresincludes neighbouring buildings, fences, and wing walls, but excludes eaves.Skylight (also known as foil)for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an at		
Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Horizontal shading feature         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1.2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS tis is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attit space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a mouled unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Tor AutHERS this is typically a mouled unit with flexible	Exposure category – exposed	
Exposure category – suburbanHorizontal shading featureterrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.National Construction Code (NCC) Classprovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconiesNational Construction Code (NCC) Classthe NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.Net zero home Opening percentagea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. a nassumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.auRecommended capacitythis is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.Roof windowfor NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.Shading featuresincludes neighbouring buildings, fences, and wing walls, but excludes eaves.Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light		
Horizontal shading feature from upper levels.provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.National Construction Code (NCC) Classthe NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.Net zero homea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.auRecommended capacitycan be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.Roof windowfor NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser. space, and generally does not have a diffuser.Shading featuresincludes neighbouring buildings, fences, and wing walls, but excludes eaves.Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level. the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsce, and generally does in ventilation admitted through a window, both directly transmited as		
National Construction Code (NCC) Classthe NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10 abuildings. Definitions can be found at www.abcb.gov.au.Net zero homea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.auRecommended capacitycapacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.Reflective wrap (also known as foil)can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.Roof windowfor NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attive space, and generally does not have a diffuser.Shading featuresincludes neighbouring buildings, fences, and wing walls, but excludes eaves.Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.Solar heat gain coefficient (SHGC)Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that	Exposure category – suburban	
Net zero homea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.Provisional valuean assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.auRecommended capacitythis is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.Reflective wrap (also known as foil)can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.Roof windowfor NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.Shading featuresincludes neighbouring buildings, fences, and wing walls, but excludes eaves.Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.Solar heat gain coefficient (SHGC)Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)		from upper levels.
Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attice space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.	National Construction Code (NCC) Class	
Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attice space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Shed or fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         Strcs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)	Net zero home	
Provisional value       a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       and can be found at www.nathers.gov.au         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attice.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         StrCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Opening percentage	
Recommended capacity       zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attice space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less sola heat it transmits.         StrCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Provisional value	a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
foil)       insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attice space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Short window         space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)		can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less sola heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
(SHGC)       subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less sola heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	Skylight (also known as roof lights	
		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes	STCs	
Thermal breaks but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips	Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.	U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
<b>Unconditioned</b> a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.	Unconditioned	
Vertical shading features provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000779-01

Unit 2, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 71.8 Unconditioned\* 0.0 Total 71.8 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley



#### Accredited assessor

NameDeaBusiness nameGreeEmaildeaPhone854Accreditation No.DMAssessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDec

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

# **NCC Requirements**

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

#### Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE HOUSE ENERGY RATING SCHEME

# 9.3 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	4.5	4.9
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=hLzCQyDPo . When using either link, ensure you are visiting hstar.com.au



#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### Heating & Cooling Load Limits

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- ICC Climate Zone 1 of
  - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 10 Star Rating as of 31 Oct 2023

Certificate check	Approva	I Stage	Constru Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupa
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



······································					HOUSE	
	Approva	Il Stage	Construction Stage			
Certificate check Continued		Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not incl	uded in t	he NatHE	ERS asse	essment)	1	
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing						
Does the dwelling meet the NCC requirements for Building Sealing?						
Whole of Home performance check (not applicable if a Whole of Hom	ne performa	ance asses	ssment is i	not conduc	cted)	
Appliances						
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum						

Certificate?			
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?			

#### Additional NCC Requirements for Services (not included in the NatHERS assessment)

#### **Other NCC requirements**

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### **Additional notes**



#### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	droom 1 Bedroom	
Bath	Daytime	7.45
Bedroom 2	Bedroom	10.2
Hall	Daytime	5.52
Kitchen/Living	Kitchen/Living	35.44
Glazed Common A	Glazed Common Area	19.49

# Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	SHOC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

#### Custom windows\*

Window ID	Window	Window Maximum Description U-value*		Substitution tolerance ranges		
	Description			SHGC lower limit	SHGC upper limit	
No Data Available						

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1200	1800	Awning	30	Ν	Yes
Bedroom 2	ALM-001-01 A	W8	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-002-01 A	W3	2400	2050	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	W4	2400	450	Awning	90	Ν	No
Kitchen/Living	ALM-001-01 A	W9	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-001-01 A	W2	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W5	2400	1050	Awning	00	Ν	No
Glazed Common A	ALM-002-01 A	W6	2400	1000	Awning	90	Ν	No
Glazed Common A	ALM-002-01 A	W10	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W7	2400	1050	Awning	00	S	No

# HOUSE

## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Avai	able					
Custom roof v	vindows*					
	Window	Maximum	SHCC*	Substitution tolerance ranges		
Window ID		LL value*	SHGC* -	SHGC lower limit	SHGC upper limit	
Window ID	Description	U-value*		SIIGC IOWEI IIIIII		

# Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

# Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

# Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
No Data Avail	able					

### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



# External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3600	Ν	250	Yes
Bedroom 1	EW-1	2700	1600	Е	7100	No
Bedroom 2	EW-1	2700	3545	S	300	No
Kitchen/Living	EW-1	2700	3840	Ν	2750	Yes
Kitchen/Living	EW-1	2700	3600	Е	150	No
Kitchen/Living	EW-1	2700	3895	S	300	No
Glazed Common A	EW-1	2700	3000	Ν	1400	Yes
Glazed Common A	EW-1	2700	1000	Е	150	No
Glazed Common A	EW-1	2700	2945	S	1300	Yes
Glazed Common A	EW-1	2700	1350	W	7750	No

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Single Skin Brick	65.07	No insulation
IW-002	Cavity brick	36.86	No Insulation

# Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	13.23	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.45	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.20	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	5.52	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	35.44	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab on Ground 150mm	19.49	None	No Insulation	Ceramic Tiles 8mm



# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Hall	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed
Bath	3	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	2	Downlights - LED	150	Sealed
Kitchen/Living	15	Downlights - LED	150	Sealed
Kitchen/Living	15	Exhaust Fans	150	Sealed

# **Ceiling** fans

Location	Quantity Diameter [mm]	
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

# Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



#### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity	
No Data Available			

# **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



#### **Explanatory notes**

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

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#### Glossary

4500	
AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000803-01

Unit 3, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 96.8 Unconditioned\* 0.0 Total 96.8 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley



#### Accredited assessor

NameDean GormanBusiness nameGreenview CoEmaildean@greenview CoPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration co

Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

# **NCC Requirements**

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE HOUSE ENERGY RATING SCHEME

# 23.4 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling	
Nodelled	17.8	5.6	
oad limits	N/A	N/A	

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=mWmAWAVUX . When using either link, ensure you are visiting hstar.com.au



#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- ICC Climate Zone 1 of 2
  - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 9.2 Star Rating as of 31 Oct 2023

					HOUSE
Certificate check	Approva	l Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					





<b>0009000803-01 NatHERS Certificate</b> 9.2 Star Rating as of 31 Oct 2023					HOUSE
	Approva	al Stage	Construction Stage		
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	hecked	Consent Authority Surveyor checked	cy/Other
	Assessor	Consent Surveyor	Builder checked	Consent , Surveyor	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e perform	ance asse	ssment is ı	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



#### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Glazed Common A	Glazed Common Area	18.79
Bedroom 1	Bedroom	10.94
Bath	Daytime	7.67
WC/Ldry	Daytime	4.76
Kitchen/Living	Kitchen/Living	36.14
Hall 1	Daytime	6.2
WC	Daytime	4.87
Bedroom 2	Bedroom	10.65
Bedroom 3	Bedroom	10.76
Hall 2	Daytime	4.81

# Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
WINDOW ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

#### Custom windows\*

Window ID	Window	Maximum	SHGC* -	Substitution to	lerance ranges
willdow iD	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Availa	able				

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Glazed Common A	ALM-002-01 A	W3	2400	1050	Awning	00	NE	No
Glazed Common A	ALM-002-01 A	W9	2400	1000	Awning	90	NE	No
Glazed Common A	ALM-002-01 A	W11	2400	1000	Awning	90	SW	No
Glazed Common A	ALM-002-01 A	W12	2400	1050	Awning	00	SW	No
Bedroom 1	ALM-001-01 A	W4	1200	860	Awning	90	NE	Yes
Bedroom 1	ALM-001-01 A	W5	1200	860	Awning	90	NE	Yes

0009000803-01 NatHERS Certificate

9.2 Star Rating as of 31 Oct 2023



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bath	ALM-001-01 A	W2	860	860	Awning	90	SE	Yes
Kitchen/Living	ALM-002-01 A	W6	2400	2400	Awning	45	NE	No
Kitchen/Living	ALM-001-01 A	W2	860	1800	Awning	90	SE	Yes
WC	ALM-001-01 A	W7	1200	600	Awning	90	SW	No
Bedroom 2	ALM-001-01 A	n/a	1200	1800	Awning	90	SW	No
Bedroom 3	ALM-001-01 A	n/a	1200	1800	Awning	90	SW	No

# Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Maximum	SHGC* -	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
No Data Availa	able				

#### Custom roof windows\*

Window ID	Window	Maximum	SUCC*	Substitution to	lerance ranges
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Availa	able				

### Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
No Data Available						



# External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common A	EW-1	2700	2900	NE	1400	Yes
Glazed Common A	EW-1	2700	1200	SE	9000	No
Glazed Common A	EW-1	2700	2845	SW	1300	Yes
Glazed Common A	EW-1	2700	1200	NW	200	No
Bedroom 1	EW-1	2700	4000	NE	300	No
Bedroom 1	EW-1	2700	2945	SE	100	No
Bedroom 1	EW-1	2700	1845	NW	8000	No
Bath	EW-1	2700	3090	SE	100	No
Kitchen/Living	EW-1	2700	3990	NE	3500	Yes
Kitchen/Living	EW-1	2700	2390	SE	100	No
Kitchen/Living	EW-1	2700	445	NW	3100	No
Hall 1	EW-1	2700	745	NE	3500	No
WC	EW-1	2700	1590	SW	200	No
Bedroom 2	EW-1	2700	3845	SW	1300	No
Bedroom 2	EW-1	2700	3045	NW	200	No
Bedroom 3	EW-1	2700	3645	SE	100	No
Bedroom 3	EW-1	2700	3300	SW	1300	No
Bedroom 3	EW-1	2700	600	NW	200	No

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	TimberStud Frame, Brick Veneer	0.00	No insulation

#### 0009000803-01 NatH

1 NatHERS Certificate	9.2 Star Rating as of 31 Oct 2023			HOUSE
Wall type		Area [m <sup>2</sup> ]	Bulk insulation	
Cavity brick		0.00	No Insulation	
Single Skin Brick		89.64	No insulation	

# Floor type

Wall ID

IW-002

IW-003

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Glazed Common A	Concrete Slab on Ground 150mm	18.79	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 150mm	10.94	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.67	None	No Insulation	Ceramic Tiles 8mm
WC/Ldry	Concrete Slab on Ground 150mm	4.76	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	36.14	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab on Ground 150mm	6.20	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.87	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.65	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 150mm	10.76	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall 2	Concrete Slab on Ground 150mm	4.81	None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
WC/Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Hall 1	Concrete, Plasterboard with Timber Frame	No insulation	
WC	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 3	Concrete, Plasterboard with Timber Frame	No insulation	
Hall 2	Concrete, Plasterboard with Timber Frame	No insulation	

0009000803-01 NatHERS Certificate		9.2 Star Rating as of 31 Oct 2023		HOUSE
Location	Construction		Bulk insulation R-value	Reflective
	material/type		(may include edge batt values)	wrap* [yes/no]

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	4	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed
Bath	3	Exhaust Fans	150	Sealed
WC/Ldry	1	Downlights - LED	150	Sealed
WC/Ldry	1	Exhaust Fans	150	Sealed
Kitchen/Living	16	Downlights - LED	150	Sealed
Kitchen/Living	16	Exhaust Fans	150	Sealed
Hall 1	1	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed
Hall 2	1	Downlights - LED	150	Sealed

# **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

# Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

ALL DO



#### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>Ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

# **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

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Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Annual energy load     the p       Assessed floor area     the f       Ceiling penetrations     Fast       COP     Coel	tralian Fenestration Rating Council predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the rarea in the design documents. Ures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts.
Assessed floor area the f floor Ceiling penetrations Excl heat COP Coel	floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the area in the design documents. ures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts.
COP Coet	ing and cooling ducts.
	fficient of performance
Conditioned a zo circu	ne within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some imstances it will include garages.
	lows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating eme) rating.
Default windows wind meth	lows that are representative of a specific type of window product and whose properties have been derived by statistical nods.
EER Ener	rgy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity t
	is your homes rating without solar or batteries.
defir	net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as ned in the ABCB Housing Provisions Standard).
vention vention	e signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ilated corridor in a Class 2 building.
	exposure categories below.
	in with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
scatt	ain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with tered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
	ain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
	in with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
from from	ides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies upper levels.
	NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC s 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
	me that achieves a net zero energy value*.
	openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value a pro and	issumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, ovisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note can be found at www.nathers.gov.au
Recommended capacity this is zone pers	is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the e or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified on.
Reflective wrap (also known as can foil) call calls a can	be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides lative properties.
Roof window for N space	NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic ce, and generally does not have a diffuser.
	ides neighbouring buildings, fences, and wing walls, but excludes eaves.
	latHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
(SUCC) subs	fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and sequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar it transmits.
boug	all-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be ght and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks but is	materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, s not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such olystyrene insulation sheeting or plastic strips
U-value the r	rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned a zo	ne within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features prov privation	ides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes acy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	ce fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading ures* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000845-01

Unit 4, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 96.2 Unconditioned\* 0.0 Total 96.2 Garage 0.0 Exposure type Suburban

NatHERS climate zone 9 Amberley



#### Accredited assessor

NameDean GormanBusiness nameGreenview CoEmaildean@greenviewPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration co

Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

## NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

#### Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE HOUSE ENERGY RATING SCHEME

# 23.5 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Nodelled	16.2	7.3
oad limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=egefWLJPb . When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
  - Yes
    - No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



### 9.2 Star Rating as of 31 Oct 2023

					HOUSE
Certificate check	Approva	l Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					





<b>9.2 Star Rating as of</b> 31 Oct 2023						
	Approva	al Stage	Constru Stage	ction		
Certificate check	ecked	hority/ ecked	ked	hority ecked	Other	
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	essment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing						
Does the dwelling meet the NCC requirements for Building Sealing?						
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asse	ssment is	not conduc	ted)	
Appliances						
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?						
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?						
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)			
Does the lighting meet the artificial lighting requirements specified in the NCC?						
Does the hot water system meet the additional requirements specified in the NCC?						
Provisional values* check						
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?						
Other NCC requirements						

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

### Additional notes



### Room schedule

Room Zone Type		Area [m <sup>2</sup> ]
Glazed Common A	Glazed Common Area	16.29
Bedroom 1	Bedroom	10.77
Bath	Daytime	7.69
Ldry	Daytime	4.77
Kitchen/Living	Kitchen/Living	35.81
Hall 1	Daytime	6.4
WC	Daytime	4.87
Bedroom 2	Bedroom	10.65
Bedroom 3	Bedroom	10.46
Hall 2	Daytime	4.81

# Window and glazed door type and performance

### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3600	SHGC lower limit	SHGC upper limit
No Data Available					

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Glazed Common A	ALM-002-01 A	W8	2400	1050	Awning	00	Ν	No
Glazed Common A	ALM-002-01 A	W7	2400	1000	Awning	90	Ν	No
Glazed Common A	ALM-002-01 A	W5	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W6	2400	1050	Awning	00	S	No
Bedroom 1	ALM-001-01 A	W9	1200	860	Awning	90	Ν	No
Bedroom 1	ALM-001-01 A	W10	1200	860	Awning	90	Ν	No

0009000845-01 NatHERS Certificate

9.2 Star Rating as of 31 Oct 2023



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bath	ALM-001-01 A	W1	1200	860	Awning	90	W	Yes
Kitchen/Living	ALM-002-01 A	W2	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1800	Awning	90	W	No
WC	ALM-001-01 A	W3	1200	600	Awning	90	S	No
Bedroom 2	ALM-002-01 A	n/a	2400	1800	Awning	45	S	No
Bedroom 3	ALM-002-01 A	W11	2400	1800	Awning	45	S	No

# Roof window\* type and performance value

### Default roof windows\*

Window ID	Window	Maximum	SHCC*	Substitution to	lerance ranges
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

### Custom roof windows\*

Window ID	Window	Maximum	SHCC*	Substitution to	lerance ranges
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Available					

### Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

### Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
No Data Avai	lable					



## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

### External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common A	EW-1	2700	2900	Ν	1400	Yes
Glazed Common A	EW-1	2700	300	Е	100	No
Glazed Common A	EW-1	2700	2845	S	1300	Yes
Glazed Common A	EW-1	2700	600	W	9100	No
Bedroom 1	EW-1	2700	4000	Ν	400	No
Bedroom 1	EW-1	2700	1745	E	7800	No
Bedroom 1	EW-1	2700	2945	W	300	No
Bath	EW-1	2700	3090	W	300	No
Kitchen/Living	EW-1	2700	3890	Ν	3300	Yes
Kitchen/Living	EW-1	2700	945	E	3000	No
Kitchen/Living	EW-1	2700	2390	W	300	No
Hall 1	EW-1	2700	745	Ν	3300	No
WC	EW-1	2700	1590	S	200	No
Bedroom 2	EW-1	2700	3045	E	300	No
Bedroom 2	EW-1	2700	3845	S	1300	No
Bedroom 3	EW-1	2700	600	Е	200	No
Bedroom 3	EW-1	2700	3200	S	1300	No
Bedroom 3	EW-1	2700	3645	W	300	No

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Cavity brick	0.00	No Insulation

```
0009000845-01 NatHERS Certificate
```

9.2 Star Rating as of 31 Oct 2023

0003000043	<b>5.2 Stal Rating as 01</b> 51 Oct 2025			HOUSE
Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation	
IW-002	TimberStud Frame, Brick Veneer	0.00	No insulation	
IW-003	Single Skin Brick	96.12	No insulation	

# Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Glazed Common A	Concrete Slab on Ground 150mm	16.29	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 150mm	10.77	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.69	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 150mm	4.77	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	35.81	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab on Ground 150mm	6.40	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.87	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.65	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 150mm	10.46	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall 2	Concrete Slab on Ground 150mm	4.81	None	No Insulation	Ceramic Tiles 8mm

# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Hall 1	Concrete, Plasterboard with Timber Frame	No insulation	
WC	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 3	Concrete, Plasterboard with Timber Frame	No insulation	
Hall 2	Concrete, Plasterboard with Timber Frame	No insulation	

0009000845-01 NatHERS Certificate		9.2 Star Rating as of 31 Oct 2023		HOUSE
Location	Construction		Bulk insulation R-value	Reflective
	material/type		(may include edge batt values)	wrap* [yes/no]

# Ceiling penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bedroom 1	4	Downlights - LED	150	Sealed	
Bath	3	Downlights - LED	150	Sealed	
Bath	3	Exhaust Fans	150	Sealed	
Ldry	1	Downlights - LED	150	Sealed	
Ldry	1	Exhaust Fans	150	Sealed	
Kitchen/Living	16	Downlights - LED	150	Sealed	
Kitchen/Living	16	Exhaust Fans	150	Sealed	
Hall 1	2	Downlights - LED	150	Sealed	
WC	1	Downlights - LED	150	Sealed	
WC	1	Exhaust Fans	150	Sealed	
Bedroom 2	4	Downlights - LED	150	Sealed	
Bedroom 3	4	Downlights - LED	150	Sealed	
Hall 2	1	Downlights - LED	150	Sealed	

# **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

# Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

ALL DO



### Appliance schedule

### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

### Cooling system

Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
leating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>bstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

### **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	b) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000878-01

Unit 5, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

### Assessed floor area [m2]\*

Conditioned\* 66.1 Unconditioned\* 0.0 66.1 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberlev



### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. Assessor Accrediting Organisation Design Matters National **Declaration of interest** 

DMN/13/1645

Declaration completed: no conflicts

# NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

# 11.1 MJ/m<sup>2</sup>

The more stars

the more energy efficient

NATIONWIDE

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	4.7	6.4
Load limits	N/A	N/A

### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=IJLehvxGA When using either link, ensure you are visiting hstar.com.au



### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

### Heating & Cooling Load Limits

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
  - ICC Climate Zone 1 of
    - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



### 10 Star Rating as of 31 Oct 2023

Certificate check	Approva	I Stage	Constru Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupa
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approval Stage		Construction Stage			
Certificate check Continued		Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not inclu	ided in ti	he NatHE	RS asse	essment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing						
Does the dwelling meet the NCC requirements for Building Sealing?						

Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this				
Certificate?				
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?				
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?				
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?				
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?				
Additional NCC Requirements for Services (not included in the NatHER	S assess	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?				
Does the hot water system meet the additional requirements specified in the NCC?				
Provisional values* check	1	<u></u>	0	

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?			

### **Other NCC requirements**

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### **Additional notes**



### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	12.22
Bath	Daytime	6.53
Bedroom 2	Bedroom	10.18
Hall	Daytime	5.14
Kitchen/Living	Kitchen/Living	32.04
Glazed Common A	Glazed Common Area	16.31

# Window and glazed door type and performance

### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance range	
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
Window ID	Description U-value*		3660	SHGC lower limit	SHGC upper limit
No Data Availa	able				

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1200	1800	Awning	30	Ν	Yes
Bedroom 2	ALM-001-01 A	W4	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-001-01 A	W2	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-001-01 A	W3	2400	1000	Awning	90	S	No
Kitchen/Living	ALM-002-01 A	W7	2400	2400	Awning	45	Ν	No
Glazed Common A	ALM-002-01 A	W9	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W6	2400	1050	Awning	00	S	No
Glazed Common A	ALM-002-01 A	W8	2400	1050	Awning	00	Ν	No
Glazed Common A	ALM-002-01 A	W7	2400	1000	Awning	90	Ν	No

### Roof window\* type and performance value

Default roof windows\*

window ID	ndow ID Window Maximum Description U-value* SHGC*	CUCC*	Substitution tolerance ranges		
		SHGC	SHGC lower limit	SHGC upper limit	
No Data Availab	le				
Custom roof win	dows*				
Window ID	Window	Maximum	81100*	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Availab	ble				

### Root window" schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	ilable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

### Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
No Data Available						

### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1500	Е	200	No
Bedroom 1	EW-1	2700	2300	W	7100	No
Bedroom 1	EW-1	2700	3400	Ν	300	No
Bedroom 2	EW-1	2700	3545	S	300	No
Kitchen/Living	EW-1	2700	3845	S	300	No
Kitchen/Living	EW-1	2700	2500	W	3000	No
Kitchen/Living	EW-1	2700	3990	Ν	3500	No
Glazed Common A	EW-1	2700	400	E	7700	No
Glazed Common A	EW-1	2700	2845	S	1400	Yes
Glazed Common A	EW-1	2700	600	W	100	No
Glazed Common A	EW-1	2700	2900	Ν	1800	Yes

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation	
IW-001	Cavity brick	34.29	No Insulation	
IW-002	Single Skin Brick	58.59	No insulation	

# Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	12.22	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	6.53	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.18	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	5.14	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	32.04	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab on Ground 150mm	16.31	None	No Insulation	Ceramic Tiles 8mm



# Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Hall	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	1	Downlights - LED	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed

# **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

# Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



### Appliance schedule

### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

### Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	efficiency/		nmended bacity	
No Data Available								
Heating system								
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity	
No Data Available								
Hot water system								
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>Ibstitution</b> e ranges upper limit	Assessec daily loac [litres]	
No Data Available								
Pool/spa equipment								
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac		

### **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



### **Explanatory notes**

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

4500	
AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
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Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
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Net zero home	a home that achieves a net zero energy value*.
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Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000894-01

Unit 6, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

### Assessed floor area [m2]\*

Conditioned\* 69.7 Unconditioned\* 0.0 69.7 Total Garage 0.0

Exposure type Suburban NatHERS climate zone 9 Amberley

### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National **Declaration of interest** 

Declaration completed: no conflicts

# NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

14.7 MJ/m<sup>2</sup>

The more stars

the more energy efficient

NATIONWIDE

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	9.2	5.5
Load limits	N/A	N/A

### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=fRdHdAmhT When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable

NCC Climate Zone 1 or 2:

Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



### 9.9 Star Rating as of 31 Oct 2023

Certificate check	Approva	I Stage	Constru	ction	KALIOUWUR HEREITEITEITEITEITEITEITEITEITEITEITEITEITE
			Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupa
Genuine certificate check		r	0		
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

				HOUSE
Approval Stage		Constru Stage	ction	
lecked	thority/ ecked	cked	thority ecked	Other
Assessor ch	Consent Aut Surveyor ch	Builder chec	Consent Aut Surveyor ch	Occupancy/Other
uded in t	he NatHE	ERS asse	essment)	
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)				
NatHERS	S assessi	ment)		
	e perform:	e performance asses Couseur anthority Couseur attraction Couseur attraction Couseu	Approval Stage     Stage       pay     j       pay     j	Stage   Stage </td

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

### Additional notes



### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	13.24
Bath	Daytime	7.45
Bedroom 2	Bedroom	10.45
Hall	Daytime	5.38
Kitchen/Living	Kitchen/Living	33.22
Glazed Common A	Glazed Common Area	20.81

# Window and glazed door type and performance

### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	SHOC	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

### Custom windows\*

Window ID	Window	Window Maximum		Substitution tolerance ranges		
	Description U-value*		SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W2	1200	1800	Awning	30	Ν	Yes
Bedroom 2	ALM-001-01 A	W1	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1800	Awning	30	S	No
Kitchen/Living	ALM-001-01 A	n/a	2400	1000	Awning	90	S	No
Kitchen/Living	ALM-002-01 A	W7	2400	2050	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	n/a	2400	450	Awning	45	Ν	No
Glazed Common A	ALM-002-01 A	W7	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W8	2400	1050	Awning	00	S	No
Glazed Common A	ALM-002-01 A	W6	2400	1050	Awning	00	Ν	No
Glazed Common A	ALM-002-01 A	W5	2400	1000	Awning	90	Ν	No

# HOUSE

### Roof window\* type and performance value

### Default roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Avai	able					
Custom roof v	vindows*					
	Window	Maximum	SHGC*	Substitution tolerance ranges		
Window ID	Description	11 . 1 . 4	SHGC	SHGC lower limit	SHCC upper limit	
Window ID	Description	U-value*		Shee lower limit	SHGC upper limit	

# Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

# Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser	
No Data Available							

### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

# External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1700	E	6800	No
Bedroom 1	EW-1	2700	3600	Ν	200	Yes
Bedroom 2	EW-1	2700	3645	S	100	No
Bedroom 2	EW-1	2700	1900	W	100	No
Kitchen/Living	EW-1	2700	3600	E	100	No
Kitchen/Living	EW-1	2700	3645	S	100	No
Kitchen/Living	EW-1	2700	3690	Ν	3600	Yes
Glazed Common A	EW-1	2700	2845	S	1400	Yes
Glazed Common A	EW-1	2700	2300	W	7500	No
Glazed Common A	EW-1	2700	2900	Ν	1500	Yes

# Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Single Skin Brick	64.80	No insulation
IW-002	Cavity brick	36.45	No Insulation

### Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	13.24	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.45	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.45	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	5.38	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	33.22	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab on Ground 150mm	20.81	None	No Insulation	Ceramic Tiles 8mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Hall	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	

# **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed
Bath	3	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	2	Downlights - LED	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

# Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

# Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



### Appliance schedule

### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

### Cooling system

Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		ubstitution e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	:y/	Recomm capac	

### **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

Annual energy load         The predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.           Assessed floor area         The floor area in the design documents.           Ceiling penetrations         Features high require a penetration to the ceiling with small holes through the ceiling for winning, e.g. ceiling flans, pendart lights, and Cooling, based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling window that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy walue         The is your homes rating without solar or batteries.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy walue         The is your homes rating without solar or batteries.           Energy walue         The is your homes rating without solar or batteries.           Energy efficiency R	AFRC	Australian Fenestration Rating Council
Assessed floor area         The floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Ceiling penetrations         Earlures that require a penetration to the ceiling, including downlights, wens, exhaust fans, range hoods, chimneys and flues.           Conditional         Constraint the design documents.         Earlures that require a penetration to the ceiling with shall holes through the ceiling for wring, e.g. ceiling fans, benchmark (bits, and ceiling with a sequence).         Constraint (bits, and ceiling with a sequence).           Conditional         a zone within a welling with a lis expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garges.           Custom windows         Windows listen in welling with shall are representative of a specific type of window product and whose properties have been derived by statistical methods.           Default windows         This is your homes rating without solar or batteries.           Energy value         The net cost to societly including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – open         terrain with no obstructions e.g. flig razing allow costs to the building user, the environment and energy networks (as therain system) and the obstructions e.g. glig razing allows with flow well sates of obstructions below 100 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions below 100 m, cates all		
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Default windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency ratio a cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency ratio a cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing source category = solution.           Exposure category - protected         terrain with ne obstructions below.		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         windows field in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) tating.           Default windows         windows field in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) tating.           ERR         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy use         The is your homes rating without solar or batteries.           Energy value         The net cost oos citely including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - exposed         terrain with no obstructions e at a similar height e.g. grasslands with few well scattered obstructions below 10m, familand with scattered obstructions below 10m, and and the operability regelated obstructions below 10m, familand with scattered bastructions below 10m, familand with few well scattered obstructions below 10m, familand with scattered bastructions below 10m, familand with scattered bastructions below 10m, familand with few well scattered obstructions below 10m, familand with few well scattered obstructions below 10m, familand with moreous, dosely spaced obstr	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Culture         Current ances it will include garages.         Include the second secon	COP	
Custom Windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy 2 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         the net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e a similar height e grasshafs with few well scattered obstructions below 10m (grasshafs with few well) scattered show 10m form all scattered obstructions below 10m, farmland with scryposure category – protected           Exposure category – suburban         terrain with numerous; closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush holds, efevated units (e.g. alwore, strandard, areas.           Provisional shading feature         the WCC Groups buildings thy their function and use, and assigns a classification code. NatHERS software models NCCC           Not zero of the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calcula	Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Data in whore         methods.           EER         Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE House), but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE House's building.           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Cast's building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed do obstructions below 10m, familand with texposure category – open           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed to obstructions below 10m, familand with texposure category – upotecket           Horizontal shading feature         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Horizontal shading feature         the word base not zero energy value?.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           an a symmet value that doer sort percentage and actice of cases value.         an asset word walue that doer sort percentage and does not represent an actual value. For example, if the wall colour is unspecified in the doccumentation, a provisional value or medium must be mo	Custom windows	
LER         input <sup>T</sup> Energy value         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Frovisions Standard).           Entrance door         these signify vertilation benefits in the modelling software and must not be modelled as a door when opening to a minimally vertilated corridor in a Class 2 building.           Exposure category – exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           Nticonal Construction Code (NCC) Class 1.2 or 4 buildings and attached Class 10a buildings. Definitions can be found at tww. abcb.gova.           Provisional value         a home that achieves a net zero energy value*.           Opening percentage         the openability percentent that is cocompanied by NatHERS Schware models NCC Class 1.2 or 4 buildings to the modelled. Acceptable provisional value or anistow abute on sizing should be confinred by a suitably qualified person. <th>Default windows</th> <th></th>	Default windows	
Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposure categories below.         Exposure category – exposure categories below.           Exposure category – open         terrain with no obstructions as a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – suburban towith numerous, closely spaced obstructions over 10 m e.g. divaling scattered obstructions over 10 m e.g. divaling scattered obstructions. If construction Code (CCC) class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abc.go.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the copanability percentage or operselle (moveabie) area of doors or windows that is used in ventilation calculations.           Recommended capacity         the samedation admiter size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the Zone or zones serviced. This is a recommendation and the faselecton sizing should be contimed by a suitably qualified person to a size of equipment that is recomm	EER	
Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure         see exposure category – exposed         terrain with no obstructions et a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, effevated units (e.g. above 3 floors).           Exposure category – open         terrain with no unstructions e.g. float grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandains, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         the CC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1. 2 or 4 buildings and attached Class 10a building. Definitions can be found at www.abc.gov.au.           Net zero home         a home that achieves a net zero energy value".           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         or zones service. This is a recommendation and the final selection sizing should be confirmed by a suitified and will and an attached Class 1.2 or size of equipment that is recommended by NatHERS to achieve t	Energy use	
Enhance dool         ventilated condor         ventilated condor           Exposure         see exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – suburbat         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Morizontal shading feature         provides shading to the buildings in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value or or zize of equipment that is recommended by value's building in the value's and can be found at www.abalve.           Reforetive wrap (also known as roof light) for NatHERS this is typically an operable (moveable) area of doors or window that is used i	Energy value	
Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Morizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         (NCC) Class         12 or 4 buildings and attached Class 10 ab uildings. Definitions can be found at www.abcb.gova.u.           Opening percentage         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC           Opening percentage         the ome that achieves a net zero energy value <sup>*</sup> .           Provisional value         a nome that achieves a net zero energy value <sup>*</sup> .           Recommended capacity         rsize o tome         a count set operable (moveable) area of doors or windows that is used in ventilation calculations.           Reflective wrap (also known as foiling)         can be dound at www.nathers.gov.au         this is the capacity or size of equipment that is recommended by	Entrance door	ventilated corridor in a Class 2 building.
Exposure category - open         terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with           Exposure category - protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush blocks, elevated units (e.g. above 3 floors).           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a pusicional value and the documentation, and use of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified splate soft of nearble with an appropriate airgap and emissivity value, it provides institute to perfets.           Reflective wrap (also known as roof lights) for NatHERS this is typically a noperable window (i.e. can be opened), will have a plaster or similar light well if there is an attic splate and sold as part of the small-scale Energy Scheme operated by the Clean Energy Regulator (CER)           Stoar he		
Exposure category – protected       scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).         Exposure category – suburban       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.         National Construction Code (NCC) Class       terrain with numerous, closely spaced obstructions over 10 m e.g. elty and industrial areas.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcl.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.         Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and a be ground at www.nathers.gov.au.         Recommended capacity       con a be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (BHGC)       Star easthawing adming doming buildings, fences, and wing walls, b	Exposure category – exposed	
Exposure category - suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provises shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium "must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.hathers.gov.au.           Recommended capacity         zero estruced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the person.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Stading features         includes neighourung buildings, fences, and wing wallow, both direcity transmitte		scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a diffuser at ceiling level.           Store         Small-scale Technology Certificates, certificates created by the Great avend window is shot directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower		
National Construction Code (NCC) Class       from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC class 1, 2 or 4 buildings and attached Class 1 do buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foll)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light we	Exposure category – suburban	
Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates. certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           StrCs         Small-scale Technology Certificates. certificates created by the REC registry for renewable energy technologies that may be bought and sold as par		from upper levels.
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Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended on the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           Thermal breaks         wit and na R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or e		· · ·
Provisional value       a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, bot directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         ureaties with a Nevalue g	Opening percentage	
Recommended capacity       zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of hea	Provisional value	a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note
foil)       insulativé properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         u-value       are materials with a R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical sh	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Rtock window       space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         Thermal breaks       Small-scale Technology Certificates, certificates created by the Clean Energy Regulator (CER)         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-conditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), ences, other building, vegetation (protected or listed heritage trees).         window shading device       device fixed to windows that pro		
Skylight (also known as roof lights) for NatHERŠ this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Vertical shading features       provides shading in the building (wing walls), forces, other building, weight on (protected or listed heritage trees).         Window shading dovice       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucronditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. provides shading to the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		
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Show         bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) <sup>1</sup> Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
Inermal breaks         but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).           Window shading dovice         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	STCs	bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window chading device         Optimized fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

# Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000902-01

Unit 7, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

# Construction and environment

### Assessed floor area [m2]\*

Conditioned\* 91.8 Unconditioned\* 0.0 Total 91.8 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley



### Accredited assessor

NameDean GormanBusiness nameGreenview CoEmaildean@greenview CoPhone8544 1683Accreditation No.DMN/13/1645Assessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDeclaration co

Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

# NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

### Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE HOUSE ENERGY RATING SCHEME

# 18.1 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling	
Nodelled	11.6	6.6	
oad limits	N/A	N/A	

### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=GvOrtFgph . When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
  - Yes
    - No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



### 9.7 Star Rating as of 31 Oct 2023

······································					HOUSE
Certificate check	Approva	al Stage	Construe Stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Asse	Conse Surve	Builde	Conse Surve	Occul
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



<b>3.7 Star Rating as 01</b> 51 Oct 2025					HOUSE
	Approva	al Stage	Constru Stage		
Certificate check	ecked	hority/ ecked	ked	hority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e perform	ance asse	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements	h	ň	ň	ň	

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

### Additional notes



### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Glazed Common A	Glazed Common Area	20.79
Bedroom 1	Bedroom	11.88
Bath	Daytime	7.72
Ldry	Daytime	4.67
Kitchen/Living	Kitchen/Living	33.9
Hall 1	Daytime	8.43
WC	Daytime	4.77
Bedroom 2	Bedroom	10.29
Bedroom 3	Bedroom	10.14

# Window and glazed door type and performance

### Default windows\*

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges			
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74		

### Custom windows\*

Window ID	Window	Maximum	SHGC* Substitution tolerand		lerance ranges
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Availa	able				

# Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Glazed Common A	ALM-002-01 A	W7	2400	1050	Awning	00	Ν	No
Glazed Common A	ALM-002-01 A	W6	2400	1000	Awning	90	Ν	No
Glazed Common A	ALM-002-01 A	W1	2400	1000	Awning	90	S	No
Glazed Common A	ALM-002-01 A	W12	2400	1050	Awning	00	S	No
Bedroom 1	ALM-001-01 A	W11	1200	860	Awning	90	Ν	Yes
Bedroom 1	ALM-001-01 A	W12	1200	860	Awning	90	Ν	Yes
Kitchen/Living	ALM-002-01 A	W10	2400	2400	Awning	90	Ν	No

0009000902-01 NatHERS Certificate 9.7 Star Rating as of 31 Oct 2023 Window Height Width Window Window Window Opening Orientation Location shading ID [mm] [mm] type % no. device\* Е Kitchen/Living ALM-001-01 A W1 860 1800 Awning 90 Yes Е Kitchen/Living ALM-001-01 A W2 860 1570 Awning 90 Yes S WC ALM-001-01 A W5 1200 600 Awning 90 No S Bedroom 2 ALM-002-01 A W4 2400 1800 Awning 45 No Bedroom 3 ALM-002-01 A W3 2400 1800 Awning 45 S No

## Roof window\* type and performance value

### Default roof windows\*

Window ID	Window Maximum		SHGC*	Substitution tolerance ranges					
WINdow ID	Description	U-value*	3660	SHGC lower limit	SHGC upper limit				
No Data Available									
Custom roof windows*									
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges				

### Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

# Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

# Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Drientation	Outdoor shade	Diffuser	
No Data Available								
External	l door sche	edule						
Location		Height [mm]	Width Imm	.1	Opening %	Oriontat	ion	

 Location
 Height [mm]
 Width [mm]
 Opening %
 Orientation

 No Data Available
 Video Data Available
 VideoD

\* Refer to glossary.



## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common A	EW-1	2700	2845	Ν	1400	Yes
Glazed Common A	EW-1	2700	2845	S	1400	Yes
Glazed Common A	EW-1	2700	2100	W	200	No
Bedroom 1	EW-1	2700	4100	Ν	200	No
Bedroom 1	EW-1	2700	2900	E	4600	No
Bedroom 1	EW-1	2700	800	W	3100	No
Ldry	EW-1	2700	645	W	3100	No
Kitchen/Living	EW-1	2700	4345	Ν	3600	No
Kitchen/Living	EW-1	2700	4100	E	200	No
Kitchen/Living	EW-1	2700	300	S	200	No
Kitchen/Living	EW-1	2700	2045	E	100	No
WC	EW-1	2700	1190	S	100	No
Bedroom 2	EW-1	2700	3745	Е	100	No
Bedroom 2	EW-1	2700	3145	S	1300	No
Bedroom 3	EW-1	2700	3645	S	1300	No
Bedroom 3	EW-1	2700	3045	W	300	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	TimberStud Frame, Brick Veneer	16.47	No insulation
IW-002	Cavity brick	0.00	No Insulation
IW-003	Single Skin Brick	96.93	No insulation

## HOUSE

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Glazed Common A	Concrete Slab on Ground 150mm	20.79	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab on Ground 150mm	11.88	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.72	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab on Ground 150mm	4.67	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	33.90	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab on Ground 150mm	8.43	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.77	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	10.29	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 150mm	10.14	None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Glazed Common A	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 1	Concrete, Plasterboard with Timber Frame	No insulation	
Bath	Concrete, Plasterboard with Timber Frame	No insulation	
Ldry	Concrete, Plasterboard with Timber Frame	No insulation	
Kitchen/Living	Concrete, Plasterboard with Timber Frame	No insulation	
Hall 1	Concrete, Plasterboard with Timber Frame	No insulation	
WC	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 2	Concrete, Plasterboard with Timber Frame	No insulation	
Bedroom 3	Concrete, Plasterboard with Timber Frame	No insulation	

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	2	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed

0009000902-01 NatHERS Certificate

9.7 Star Rating as of 31 Oct 2023



Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bath	2	Exhaust Fans	150	Sealed
Ldry	1	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	150	Sealed
Kitchen/Living	15	Downlights - LED	150	Sealed
Kitchen/Living	15	Exhaust Fans	150	Sealed
Hall 1	3	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
None Present			

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### 0009000902-01 NatHERS Certificate 9.7 Star Rating as of 31 Oct 2023

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
leating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
lot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>Ibstitution</b> e ranges upper limit	Assessec daily loac [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimur efficienc performar	;y/	Recomm capad	
No Data Available							

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	b) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000738

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class Floor/all Floors Type

Unit 8, 64-70 Stapleton Avenue, Casino, NSW, 2470 Lot 8-11 DP 31850 1a G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 58.7 Unconditioned\* 6.7 Total 65.3 Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National** 

**Declaration of interest** 

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

Dean Gorman

8544 1683

DMN/13/1645

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

# 26.6 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Coolin
Modelled	19.2	7.4
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=oXByuQzYD When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 8, 64-70 Stapleton Avenue , Casino , NSW , 2470

#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable

NCC Climate Zone 1 or 2:

Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8.9 Star Rating as of 12 Oct 2023

······································			1		HOUSE
Certificate check	Approva	I Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupa
Genuine certificate check		Т	Т		
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check		Т	Т		
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

0009000738 NatHERS Certificate8.9 Star Rating as of 12 Oct 2023					HOUSE
	Approva	al Stage	Constru Stage	ction	
Certificate check	ecked	hority/ ecked	ked	hority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	ñ
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e perform	ance asse	ssment is i	not conduc	cted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



#### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	11.97
Bath	Unconditioned	6.67
Kitchen/Living	Kitchen/Living	29.83
Bedroom 2	Bedroom	12.14
Hall	Daytime	4.74

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
No Data Avail	able				

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W5	1200	1800	Awning	90	Ν	No
Bath	ALM-001-01 A	W6	1200	860	Awning	90	W	Yes
Kitchen/Living	ALM-002-01 A	W4	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-002-01 A	W2	2400	1000	Awning	90	S	No
Kitchen/Living	ALM-001-01 A	W1	1200	1800	Awning	30	S	No
Bedroom 2	ALM-001-01 A	W3	1200	1800	Awning	30	S	Yes

## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
No Data Avail	able				

0009000738 NatHERS Certificate



Default roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit
	·				
Custom roof w	vindows*				
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser	
No Data Available							

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3500	Ν	800	Yes

0009000738 NatHERS Certificate

8.9 Star Rating as of 12 Oct 2023



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1800	Е	4200	No
Bedroom 1	EW-1	2700	3845	W	700	No
Bath	EW-1	2700	2890	W	700	No
Kitchen/Living	EW-1	2700	3945	Ν	2600	Yes
Kitchen/Living	EW-1	2700	1500	S	1500	No
Kitchen/Living	EW-1	2700	600	Е	1700	No
Kitchen/Living	EW-1	2700	2445	S	900	No
Bedroom 2	EW-1	2700	3445	S	900	No
Bedroom 2	EW-1	2700	3445	W	700	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Single Skin Brick	44.55	No insulation
IW-002	Cavity brick	0.00	No Insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	11.97	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	6.67	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	29.83	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	12.14	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	4.74	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	

0009000738 NatHEF	RS Certificate 8.9	ar Rating as of 12 Oct 2023	MOUSE
Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 2	Plasterboard on Time	Bulk Insulation R2.5	
Hall	Plasterboard on Timb	Bulk Insulation R2.5	

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Kitchen/Living	13	Downlights - LED	150	Sealed
Kitchen/Living	13	Exhaust Fans	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
Hall	1	Downlights - LED	150	Sealed

## Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900

## Roof type

Construction Added insulation [R-value]		Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

0009000738 NatHERS Certificate	8.9 Sta	r Rating as of	12 Oct 2023				HOUSE
Cooling system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available				•			
Heating system							
Appliance/ system type	Lo	cation	Fuel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	ntation		Syst	em Size O	r Generation	Capacity	

## Battery Schedule

No Data Available

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	b) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000761

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class Floor/all Floors Type

Unit 9, 64-70 Stapleton Avenue, Casino, NSW, 2470 Lot 8-11 DP 31850 1a G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 66.0 Unconditioned\* 0.0 66.0 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National Declaration of interest** 

NCC Requirements

NCC provisions Strate/Territory variation

Dean Gorman

8544 1683

DMN/13/1645

Volume Two

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

# 17.0 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Coolin
Modelled	10.4	6.6
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

#### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=yDSqEISDA. When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 9, 64-70 Stapleton Avenue , Casino , NSW , 2470

#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### Heating & Cooling Load Limits

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF)
- NA Not Applicable
- NCC Climate Zone 1 or 2:
  - Yes
  - No NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions



Cost



#### 9.8 Star Rating as of 12 Oct 2023

Certificate check	Approva	Il Stage	Constru Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser Survey	Builder	Conser Survey	Occupa
Genuine certificate check		1	1	<u>6</u>	
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



				HIDONWIDE
Approva	I Stage	Constru Stage	ction	
ecked	hority/ ecked	ked	hority ecked	Other
Assessor ch	Consent Aut Surveyor ch	Builder chec	Consent Aut Surveyor ch	Occupancy/Other
ıded in tl	he NatHE	ERS asse	ssment)	1
e performa	ance asse	ssment is	not conduc	cted)
VatHERS	assessi	ment)		
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Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



#### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	11.91
Bath	Daytime	6.67
Kitchen/Living	Kitchen/Living	30.96
Bedroom 2	Bedroom	11.69
Hall	Daytime	4.74

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges			
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74		

#### Custom windows\*

Window ID Window Maximum SHGC*		SHCC*	Substitution tolerance ranges		
window iD	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Avail	able				

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W4	1200	1800	Awning	90	Ν	No
Kitchen/Living	ALM-002-01 A	W3	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-002-01 A	W2	2400	1000	Awning	90	S	No
Kitchen/Living	ALM-001-01 A	W1	1200	1800	Awning	30	S	Yes
Bedroom 2	ALM-001-01 A	n/a	1200	1800	Awning	90	S	No

## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window Maximum Description U-value* SHGC*		Substitution to	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Avail	able					

\* Refer to glossary. Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 9, 64-70 Stapleton Avenue , Casino , NSW , 2470



Custom roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges		
Window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit		
No Data Avail	No Data Available						

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02	S	None	No

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

#### External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3400	Ν	625	Yes
Bedroom 1	EW-1	2700	1800	E	4200	No
Bedroom 1	EW-1	2700	2400	W	275	No
Kitchen/Living	EW-1	2700	4045	Ν	2475	Yes

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9.8 Star Rating as of 12 Oct 2023



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]	
Kitchen/Living	EW-1	2700	1600	S	1600	Yes	
Kitchen/Living	EW-1	2700	600	Е	1700	No	
Kitchen/Living	EW-1	2700	2445	S	1000	No	
Bedroom 2	EW-1	2700	3345	S	1000	No	

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Single Skin Brick	44.01	No insulation
IW-002	Cavity brick	39.42	No Insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	11.91	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	6.67	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	30.96	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	11.69	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	4.74	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Hall	Plasterboard on Timber	Bulk Insulation R2.5	

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed

\* Refer to glossary. Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 9, 64-70 Stapleton Avenue , Casino , NSW , 2470

0009000761 NatHERS Certificate		9.8 Star Rating as of 12 Oct 2023			HOUSE
Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	
Bath	2	Downlights - LED	150	Sealed	
Bath	2	Exhaust Fans	150	Sealed	
Kitchen/Living	13	Downlights - LED	150	Sealed	
Kitchen/Living	13	Exhaust Fans	150	Sealed	
Bedroom 2	5	Downlights - LED	150	Sealed	
Hall	1	Downlights - LED	150	Sealed	

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system				
Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

0009000761 NatHERS Certificate	9.8 Sta	r Rating as of 12	2 Oct 2023				HOUS
leating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							
Onsite Renewable E	nergy Sch	edule					
System Type Orie	ntation		Syst	em Size Oı	Generation	Capacity	

## Battery Schedule

No Data Available

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Annual energy load the inerate of animal drama visual visualized for heating and cooling, based on standard occupancy assumptions. Assessed floor area Assessed floor area in the design documents. Colling penetrations Confidence of the design documents. Colling penetrations Confidence of the design documents. Colling penetrations Confidence of the design documents. Confidence of the design document document document document document document documents. Confidence of the design document documen	AFRC	Australian Fenestration Rating Council
Assessed floor area         The floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Geiling penetrations         Earlures that require a penetration to the coiling, including downlights, verts, exhaust fans, range hoods, chimneys and flues.           Conditional         Constraint in the design documents.         Constraint in the design documents.           Conditional         Constraint is expected to require heating and cooling based on standard occupancy assumptions. In some drown indows         Windows listen is expected to require heating and cooling based on standard occupancy assumptions. In some drown indows           Default windows         Windows listen in NatHERS Software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – open         terrain with no costructions e.g. flig razing land, occan-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions sore 10 me.g. cut yand industrial areas.           Provisional value         The refurct as spacing to the functional bading for the noticing, and alcohed Class '04 buildings and alcohed Class '04 buildings.		
Assessed hold area         floor area in the design documents.           Calling penetrations         features that require a penetration to the celling, including downlights, wents, exhaust fans, range hoods, chimneys and flues. Excludes fittures attached to the celling, including downlights, wents, exhaust fans, range hoods, chimneys and flues.           COP         Coefficient of performance         a core within a dwelling that is expected to require healing and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Energy use         The is our homes rating without solar or batteries.           Energy use         The is our homes rating without solar or batteries.           Energy use         The is our homes rating without solar or batteries.           Energy use         The is our homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ACE Housing Provisions Standard).           Exposure category – exposed         Enrain with numerous, closely spaced obstructions over 10 me g, city and inductarial areas.           Exposure category – exposed         Enrain w		
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Default windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency ratio, sour homes rating without solar or batteries.           Energy efficiency value         The rel cost to society including, but not limited to, costs to the building user, the environment and energy networks (as these signity ventilation benefits in the modeling software and must not be modelied as a door when opening to a minimally very exposure category - exposed terrain with no obstructions se g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category - protected         terrain with wo obstructions sele/with e.g. grassiand with few well scattered obstructions below 10m, farmland with actered shead, lightly vegetated bushland areas.           Exposure category - protected         terrain with no obstructions below tore is a swellar height in the noreal durations allow obstructions below 10m, farmland with excettered shead, lightly vegetated obstructions below 10m, farmland with excettered shead, lightly vegetated obstructions below 10m, fa	Assessed floor area	
Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some dricrumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity.           Energy value         The net cost to society including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – exposed         the net ABCB Housias 2 building.           Exposure category – protected         terrain with no obstructions at a similar height e.g. grasslands with fow well scattered obstructions below 10m, farmland with scattered obstructions at a similar height e.g. grasslands with fow obstructions at a similar height e.g. eaves, eaves, carendals, pergolas, carports, or overhangs or balconies from upper levels.           Exposure category – protected         terrain with numerous, closely spaced obstructions end to musing. Heavily vegetated bush holding in the horizontal plane, e.g. eaves, vernadhs, pergolas, carports, or overhangs or balconies from upper levels.           NtCor locas         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software modelis NCC C Class 1, 2 whu	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Culture         Control           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical input.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy use         This is your homes rating without solar or batteries.           Energy use         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - exposed         Errain with no obstructions e.g. Ital grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category - protected         terrain with numerous, closely spaced obstructions below flom e.g. suburban tousing, heavily vegetated bushland areas.           Provisional Construction Code (NCC) Class 1.         the NCC groups building in the horizontal plane, e.g. avasubran tousing, heavily vegetated bushland areas.           Provisional value         the new Code or operable (multimg and the bas 10 buildings or operable (multimg and the bas).           Reposure category - protected         terrain with numerous, closely spaced obstructions below flom e.g. suburban tousing, heavily vegetated bushland areas.           Retrost nucleon Code (NCC) Cl	COP	Coefficient of performance
Custom Windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy 2 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         the net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – ponet         terrain with numerous; closely spaced obstructions below 10m e.g. suburban literain with numerous; closely spaced obstructions over 10 m e.g. above 3 floors), and a material ereas.           Exposure category – ponet         terrain with numerous; closely spaced obstructions over 10 m e.g. above 3 floors), and a standard of the openability preventage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Antioner Bhad and floar at a single and attached Class 10 abuildings. Definitions can be found at www.abcb gov.au.	Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Data in whore         methods.           EER         Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Cast's building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed do bstructions below 10m, familand with texposure category – popen           Exposure category – popen         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.           Net zero home         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           An one that achieves a net zero energy value. <sup>7</sup> openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.	Custom windows	
LER         input <sup>T</sup> Energy value         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify vertilation benefits in the modelling software and must not be modelled as a door when opening to a minimally vertilated corridor in a Class 2 building.           Exposure category – exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m.e.g. city and industrial areas.           Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class 1.2 or 4 buildings their function and use, and assigns a classification code. NatHERS software models NCC Class 1.2 or 4 buildings to the modelled case 10a buildings. Definitions can be found at www.abcb.gov au.           Recommended capacity         a home that achieves a net zero energy value*.           Opening percentage         the openability percenting the modelled. Acceptable provisional value or zones serviced. This is a recommendation and the final sele	Default windows	
Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposure categories below.         Exposure category – exposure category – exposure in vith no obstructions seg. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no work closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushlands areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. clovely and industrial areas.           Horizontal shading feature         terrain with numerous, closely spaced obstructions over 10 m e.g. clovely, and industrial areas.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the ox clove shading to the duildings and attached Class 10 abuildings. Definitions can be found at www.abcl.gov.au.           Recommended capacity         a sumed value that does not represent an actual value. A creapsing value with a appropriate airgap and emissivity value, it provides instanding value that does not represent an actual value. A close space on windows that is used in ventilation calculations.           Recommended capacity         can building features         is a recommendat	EER	
Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions et a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 31 foors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.           Horizontal shading feature         Drovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         CC Groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1.2 or 4 buildings and attached Class 10a building. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         or zones service. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified and the zone or zones service. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified and that achieve the desired comfort conditions in the zone or zones service. This is is trecommended dive.	Energy use	
Entrance door         ventilated condor         ventilated condor           Exposure         see exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – open         terrain with numerous, closely space obstructions over 10 m e.g. city and industrial areas.           Exposure category – suburba         terrain with numerous, closely space obstructions over 10 m e.g. city and industrial areas.           Noticos S         terrain with numerous, closely space obstructions over 10 m e.g. city and industrial areas.           National Construction Code         the NCC groups buildings that tached Class 10 ab buildings. Definitions can be found at tww.abots gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that dees not represent an actual value. For example, if the wall colour is unspecified in the documentation, a grow size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or zones	Energy value	
Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Motizonal Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and tatched Class 10 ab buildings. Definitions can be found at www.abcb.gova.u.           Net zero home         a home that achieves a net zero energy value*.           Openning percentage         the openability percentage or operable (moves) and acue. For example, if the wall colour is unspecified in the documentation, a provisional value           Recommended capacity         rsi a buildings. flores, and wing walls, but exclude by NatHERS to achieve the desired confort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as roof lights) for NatHERS this is typically an operable (moves).         can be oppleid to walls, roofs and ceilings. When combined with an appropriate airgap		ventilated córridor in a Class 2 building.
Exposure category - open         terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with           Exposure category - protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush blocks, elevated units (e.g. above 3 floors).           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveabel) area of doors or windows that is used in ventilation calculations.           an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the outentation, a provisional value at meediam' mest be modelled. Acceptable provisional values are cultimed in the NatHERS Technical Note and can be found at www.nathers.gov.au           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides for warmely does for have a old fuser.           Shading features         includes neerly bluidings, fences, and wing walls, but excludes eaves.           Solar heat gain coefficient (SHGC)         specifical varial walls of the small value of the small value. To reacted with an appropriate airgap and emissivity value, it provides for warthERS this is typically a mouled durin within this bis th	Exposure	
Exposure category – protected       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.         Exposure category – suburban       terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.         Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies         National Construction Code       Class 1, 2 or 4 buildings and tatched Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the NCC groups buildings or there are don's or windows that is used in ventilation calculations.         Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are cullined in the NatHERS technical Note and be found at www.nathers.gov.au.         Recommended capacity       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically a mouded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, bit directly transmitted as well as absorbed and space, and generally does not have a diffuser.         Solar heat gain coefficient (SHGC) </th <th>Exposure category – exposed</th> <th></th>	Exposure category – exposed	
Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial area.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         the NCC proups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10 buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended toin and the final selection szing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foll)         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not arediation admitted through a window, both directly transmitted as well as absorbed and subsequent (SHGC)           Shading features         includes neighbouring buildings, fo	Exposure category - open	scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code (NCC) class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar the fraction of incident solar radiation admitted fruogy scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber bactene speciated by the Clean Energy Regulator (CER		
National Construction Code (NCC) Class       from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foll)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light wel	Exposure category – suburban	
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Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended on the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Stocs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, such as timber battens greater than or equal to 2.0mm thick or continuous thermal		07
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foil)       insulativé properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building (wing walls), fences, other building, wells), forceed or listed heritage trees).         window shat provides shading e.g	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Rtock window         space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)           Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           usconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           vertical shading features         provides shading to the building (wing walls), fences, other building, weight on (protected or listed heritage trees).           window shat provides shading e.g. window stat provides shading e.g. window awinings or screens but excludes horizontal* or vertica		
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String       subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         window shading dovice       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Skylight (also known as roof lights	
Show         bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) <sup>1</sup> Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
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Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
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Window chading device         Optimized fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000795

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class Floor/all Floors Type

Unit 10, 64-70 Stapleton Avenue Casino, NSW, 2470 Lot 8-11 DP 31850 1a G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 66.8 Unconditioned\* 0.0 66.8 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National Declaration of interest** 

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

Dean Gorman

8544 1683

DMN/13/1645

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

# 29.9 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	21.4	8.5
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

#### Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=nqInDlwjZ When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 10, 64-70 Stapleton Avenue , Casino , NSW , 2470

#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF)
- NA Not Applicable
- NCC Climate Zone 1 or 2:
  - Yes
  - No NA – Not Applicable

Outdoor Living Area:

- Yes
- No NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions



Cost



#### 8.7 Star Rating as of 12 Oct 2023

Certificate check	Approva	Il Stage	Constru Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser Survey	Builder	Conser Survey	Occupa
Genuine certificate check		1	1	<u>6</u>	
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

0009000795 NatHERS Certificate8.7 Star Rating as of 12 Oct 2023					HOUSE
	Approva	I Stage	Construe Stage	ction	
Certificate check	ecked	ority/ cked	ked	ority	ther
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not incl	uded in ti	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum					
efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
efficiency/performance requirements shown in the Appliance schedule on this					
efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this					
efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this					
efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the					
efficiency/performance requirements shown in the Appliance schedule on this Certificate? Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate? Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					

#### Provisional values\* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?				
	Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?			

#### **Other NCC requirements**

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



#### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	11.91
Bath	Daytime	6.67
Kitchen/Living	Kitchen/Living	31.72
Bedroom 2	Bedroom	11.74
Hall	Daytime	4.76

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3160	SHGC lower limit	SHGC upper limit
No Data Avail	able				

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W7	1250	1800	Awning	90	Ν	No
Kitchen/Living	ALM-002-01 A	W6	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	W4	600	1800	Awning	90	E	No
Kitchen/Living	ALM-001-01 A	W5	600	1800	Awning	90	E	No
Kitchen/Living	ALM-002-01 A	W2	2400	1000	Awning	90	S	No
Kitchen/Living	ALM-001-01 A	W1	1200	1800	Awning	30	S	No
Bedroom 2	ALM-001-01 A	W3	1200	1800	Awning	30	S	Yes



## Roof window\* type and performance value

Default roof windows\*

Window ID	Window	Maximum	<b>01100</b> *	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Avail	lable				
Custom roof w	via davra*				
Custom Tool V	VINDOWS				
	Windows	Maximum	0110.0*	Substitution to	lerance ranges
Window ID		Maximum U-value*	SHGC*	Substitution to SHGC lower limit	elerance ranges SHGC upper limit

#### Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Ava	ilable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02	S	None	No

#### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3400	Ν	700	Yes
Bedroom 1	EW-1	2700	1800	Е	4700	No
Bedroom 1	EW-1	2700	1700	W	200	No
Kitchen/Living	EW-1	2700	4145	Ν	2500	Yes
Kitchen/Living	EW-1	2700	8100	Е	500	No
Kitchen/Living	EW-1	2700	1700	S	1500	No
Kitchen/Living	EW-1	2700	600	E	2200	No
Kitchen/Living	EW-1	2700	2445	S	900	No
Bedroom 2	EW-1	2700	3345	S	900	No
Bedroom 2	EW-1	2700	500	W	200	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Single Skin Brick	44.01	No insulation
IW-002	Cavity brick	16.20	No Insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	11.91	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	6.67	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	31.72	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	11.74	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab on Ground 150mm	4.76	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction	Bulk insulation R-value	Reflective
	material/type	(may include edge batt values)	wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	

0009000795 NatHERS Certificate 8.7 Star Rating as of 12 Oct 2023 Reflective Construction **Bulk insulation R-value** Location material/type (may include edge batt values) wrap\* [yes/no] Bath Plasterboard on Timber **Bulk Insulation R2.5** Kitchen/Living **Bulk Insulation R2.5** Plasterboard on Timber Bedroom 2 **Bulk Insulation R2.5** Plasterboard on Timber Hall Plasterboard on Timber Bulk Insulation R2.5

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Kitchen/Living	13	Downlights - LED	150	Sealed
Kitchen/Living	13	Exhaust Fans	150	Sealed
Bedroom 2	5	Downlights - LED	150	Sealed
Hall	1	Downlights - LED	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light	

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

0009000795 NatHERS Certifica	ate 8.7 Sta	r Rating as of 1	2 Oct 2023				HOUSE
Cooling system							
Appliance/ system type Location		cation F	uel type	Minimum efficiency/ performance			mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum ciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>Ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimur efficienc performar	y/	Recomm capac	
No Data Available							
Onsite Renewable	Energy Sch	edule					
System Type O	rientation		Syst	em Size Or	Generation	Capacity	

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Annual energy load         The predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.           Assessed floor area         The floor area in the design documents.           Ceiling penetrations         Features hit require a penetration to the ceiling with small holes Innucly the ceiling for wining, e.g. ceiling fans; pendaril lights, and Cooling based on standard occupancy assumptions. In some circumstances till include garages.           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances till include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           ER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input           Energy walue         Thesis your homes rating without solar or batteries.           Entrance door         these signify evolution Standard).           Exposure category – exposed         terrain with numerous, closely spaced obstructions being marking desert, exposed high-rise unit (usualy above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions being marking desert, exposed, norwing, e.g. evolution the working e.g. evolution the working e.g. evolution the working e.g. evolution the working e.g. evolutindustation e.g. e	AFRC	Australian Fenestration Rating Council
Assessed floor area         The floor area in modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Ceiling penetrations         Essures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chinneys and flues, the ceiling of winne, e.g. ceiling fans, pendant lights, and ceiling with a set of the ceiling of winne, e.g. ceiling fans, pendant lights, and ceiling with a set of the ceiling of winne, e.g. ceiling fans, pendant lights, and set of the ceiling with a set of the with the floor area in the ceiling with a set of the ceiling with a set of the with a		
Gelling penetrations         features that require a penetration to the celling, including downliptis, exhaust fans, range hoods, chinneys and flues. Excludes fixtures attached to the celling with small holes through the celling for wining, e.g. celling fans, pendant lights, and heating and cooling dusts.           COP         Conditioned         <		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity           Energy use         This is your homes rating without solar or batteries.           Energy use         The rot cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – exposed         thera ABCB Housing Provisions Standard).           Exposure category – protected         terrain with no obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered obstructions set of using exposure category – protected         terrain with numerous, closely spaced obstructions end to into (e.g. eaves, arendahs, pergolas, carports, or ownhangs or balconies from upper levels.           Ntdicol Cost         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS Software models NCC Class 1.2 a building are stated or class to a building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or ownhangs or balconies	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and
Culture         circumstances it will include garages.           Custom windows         windows lated in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical input.           ERR         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy use         This is your homes rating without solar or batteries.           Energy use         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – exposed         Errain with no obstructions e.g. Ital grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. alvaurban housing, heavily vegatated bushland areas.           Protoxint shanding feature         from uper levelows, closely spaced obstructions over 10m e.g. alvaurban housing, heavily vegatated bushland areas.           Horizontal shanding feature         terrain with numerous, closely spaced obstructions soles 10m bushlad areas.           Provisional value         a home that achieves a net zero energy value".           Opening percentage         the openability percentage or operable (mortal plane, e.g. areass	COP	
Outside Windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EFR         Energy UEficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE) Housing Trovisions Standard).           Entrance door         type in the ABCE Housing Trovisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure categories at a similar height e.g. grassinds with few well scattered observed to the second to th	Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Data in whore         methods.           EER         Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated costs of the society including. But not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, cocan-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, cocan-frontage, desert, exposed botstructions below 10m, familand with texposure category – suburban           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         The MCC groups building by their function and use, and essigns a classification code. NatHERS software models NCC Class '1.2 (or 4 buildings and attached Class '10 buildings. Definitions can be found at www.abcg.ov.au.           Provisional value         a home that cahleves a net zero energy value.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation caloutations. <th>Custom windows</th> <th>windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.</th>	Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
LER         input <sup>T</sup> Energy value         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Frovisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           Net zero home         a home that achieves a net zero energy value".           Opening percentage         the openability percentent that is cocceptable provisional value or zone serviced. This is a recommended lows or vindows that is used in ventilation calculations.           Provisional value         row abutings. When combined with an appropriate airgap and emissivity value, it provides for value aredodors or windows that is used in ventilation calculatines.	Default windows	
Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposure categories below.         Exposure category – exposure category – exposure category – protected         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no works, closely spaced obstructions over 10 m e.g. cuburban housing, heavily vegetated bushland areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. cuburban housing, heavily vegetated bushland areas.           Merizontal shading feature         provides shading to the buildings in dattached Class 10 buildings. Definitions can be found at www.abcl.gov.au.           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC           Opening percentage         a home that achieves a net zero energy value".         Opening percentage or persisted (moveable) area of doors or windows that is used in ventilation, calculations.           Recommended capacity         capacity does not represent an actual value. Cre example, if the wall colour is unspecified in the doccumentation, a provisional value or freadium set or similar telef	EER	
Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure         see exposure category = exposure categories below.           Exposure category - exposed         terrain with no obstructions et a similar height e.g. grassiands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 31 foors).           Exposure category - protected         terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.           Provisoinal Construction Code         CCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCCC (class           National Construction Code         the vesting a datached Class 10a building. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         or zones service. This is a tecommendation and the final section sing should be confirmed by a suitably qualified           Reflective wrap (also known as foll)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides           Shding features         can be applied to walls, roofs and ceilins.         can be applied to walls, roofs and ceilinse	Energy use	
Entrance dool         ventilated corridor in a Class 2 building.           Exposure         see exposure category – exposed           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions else with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Exposure category – suburbat         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Noticonal Construction Code         (NCC) Class         class 1, 2 or 4 buildings and attached Class 10 buildings. Definitions can be found at tww. abcb. gov.au.           Net zero home         a home that achieves a net zero energy value <sup>4</sup> .         Copaning percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an esumed value that des not represent an actual value, acceptable provisional values are outlined in the NatHERS technical Note and a cab be confirmed value that des with e adjuding does on thave a diffuser.           Reformended capacity         zero home an expleid to walls, cofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properites.           Refective wrap (also known as cor lights)	Energy value	
Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed holstructions below 10m, farmland with scattered obstructions below 10m, exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Motizonal Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abc.gov.au.           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS to achieve the desired confort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as roof lights) for NatHERS this is typically an operable (moveable).         c.an be opened), will have a diffuser.      <		ventilated córridor in a Class 2 building.
Exposure category – open         terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushloand areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions below 10m e.g. (by and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10 boriging. Definitions can be found at www.abc.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveabel) area of doors or windows that is used in ventilation calculations.           an assumed value bat back down, and the second regressent modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and coa be found at www.abters.gov.au           this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified spress.           Reflective wrap (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a pla		
Exposure category – protected       terrain with numerous, closely spaced obstructions below 10m e.g. subtrain housing, heavily vegetated bushland areas.         Exposure category – protected       terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.         Horizontal shading feature       provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies         National Construction Code       Class 1, 2 or 4 buildings and tatched Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the OCC groups buildings or poreable (moveable) area of doors or windows that is used in ventilation calculations.         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelied. Acceptable provisional values are outlined in the NatHERS Technical Note and be found at www.nathers.gov.au.         Recommended capacity       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Stading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubin	Exposure category – exposed	
Exposure category - suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (NCC) Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) are of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value or 'medium' must be modeled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         zize of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the person.           Reflective wrap (also known as foil)         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing wa		scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code (NCC) class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar the fraction of incident solar radiation admitted through a window, but directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar the transmits.           STCs         Small-scale Technology Cer		
National Construction Code (NCC) Class       from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au         Recommended capacity       cs of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foll)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Shading features       includes neighbouring buildings, forces, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at celling level. the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a nu	Exposure category – suburban	
Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of "medium" must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)           StrCs         Small-scale Technology Certificates, certificates created by the Clean Energy Regulator (CER)           Must the rate of heat transfit than setting or partials with an A-value greater than or equal to 0.2 that must separate the metal frame f		from upper levels.
Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foll)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean	(NCC) Class	
Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermail breaks such		
Provisional value       a provisional value of "medium" must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         ureati tr	Opening percentage	
Recommended capacity       zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       a zone within a	Provisional value	a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
foil)       insulativé properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Requilator (CER)         urremation of limited to, materials such as timber battens greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         ver	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Vertical shading features       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		insulative properties.
Skylight (also known as roof lights) for NatHERŠ this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Vertical shading features       provides shading to the building (wing walls), heaving walls), ences, other building, wells), ences, other walls in the building (wing walls), ences, other building, weigtation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading <th>Roof window</th> <th>for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.</th>	Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. privides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		
Stres       subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         uconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       priviacy screens, other walls in the building (wing walls), fences, other building, rouge shading e.g. window awnings or screens but excludes horizontal* or vertical shading         window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Skylight (also known as roof lights	
Bits         bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) <sup>1</sup> Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
Thermal breaks         but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	STCs	bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window shading device         grivacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000829

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Unit 11, 64-70 Stapleton Avenue Casino , NSW , 2470 Lot 8-11 DP 31850 1a G of 1 floors New Home

#### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 93.1 Unconditioned\* 0.0 Total 93.1 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

NameDealBusiness nameGreEmaildealPhone854Accreditation No.DMAssessor Accrediting OrganisationDesign Matters National

Declaration of interest

**NCC Requirements** 

NCC provisions Strate/Territory variation Volume Two

Yes

Dean Gorman

8544 1683

DMN/13/1645

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at <u>www.abcb.gov.au</u>.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

**O.9** The more stars the more energy efficient

## NATIONWIDE HOUSE ENERGY RATING SCHEME

# 27.5 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Coolir
Modelled	20.0	7.5
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=bmAOXZZum . When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 11, 64-70 Stapleton Avenue , Casino , NSW , 2470

#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- ICC Climate Zone 1 of
  - Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8.9 Star Rating as of 12 Oct 2023

······································	1				HOUSE
Certificate check	Approva	I Stage	Constru Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder	Consent Surveyo	Occupai
Genuine certificate check		n	n	· · · · · ·	
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check		1	1	<u>6</u>	
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



					HOUSE
	Approva	al Stage	Constru Stage		
Certificate check Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not incl	uded in t	he NatHE	ERS asse	essment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	ne perform	ance asse	ssment is	not conduc	cted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum					

Certificate?			
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?			
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?			

#### Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?			
Does the hot water system meet the additional requirements specified in the NCC?			
Provisional values* check			
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?			
Have provisional values* been used in the assessment and, if so, are they noted in			

#### **Other NCC requirements**

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### **Additional notes**



### Room schedule

Zone Type	Area [m²]
Bedroom	12.97
Daytime	7.9
Daytime	4.78
Kitchen/Living	33.93
Daytime	5.11
Daytime	4.98
Bedroom	9.36
Bedroom	9.37
Daytime	4.68
	Bedroom         Daytime         Daytime         Kitchen/Living         Daytime         Daytime         Bedroom         Bedroom

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
willdow iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

#### Custom windows\*

Window ID	Window	S		Substitution tolerance ranges		
	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1250	1800	Awning	90	Ν	No
Kitchen/Living	ALM-002-01 A	W2	2400	2400	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	W6	600	1800	Awning	90	W	Yes
Kitchen/Living	ALM-001-01 A	W7	1200	1800	Awning	90	W	Yes
Hall 2	ALM-002-01 A	W5	2400	1000	Awning	90	S	No
Bedroom 2	ALM-001-01 A	W4	1200	1800	Awning	30	S	Yes
Bedroom 3	ALM-001-01 A	W3	1200	1800	Awning	30	S	Yes



## Roof window\* type and performance value

#### Default roof windows\*

Window ID Window		Maximum SHGC*		Window Maximum		Substitution tolerance ranges		
	Description	U-value*	-value*	SHGC lower limit	SHGC upper limit			
No Data Avail	able							
Custom roof w	vindows*							
Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges			

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02	S	None	No
WC	GEN-04-006a	S3	50	0.02	S	None	No
Ldry	GEN-04-006a	S2	50	0.02	S	None	No

### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

\* Refer to glossary. Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 11, 64-70 Stapleton Avenue , Casino , NSW , 2470



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	4800	Ν	800	Yes
Bedroom 1	EW-1	2700	2000	W	4900	No
Kitchen/Living	EW-1	2700	4045	Ν	2800	Yes
Kitchen/Living	EW-1	2700	6845	W	800	No
Hall 2	EW-1	2700	1790	S	2100	No
Bedroom 2	EW-1	2700	3500	S	1000	No
Bedroom 2	EW-1	2700	1100	W	6200	No
Bedroom 3	EW-1	2700	1100	Е	5700	No
Bedroom 3	EW-1	2700	3500	S	1000	No
Bedroom 3	EW-1	2700	2945	W	800	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation	
IW-001	Cavity brick	23.76	No Insulation	
IW-002	Single Skin Brick	85.86	No insulation	

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	12.97	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.90	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.78	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	33.93	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab on Ground 150mm	5.11	None	No Insulation	Ceramic Tiles 8mm
Hall 2	Concrete Slab on Ground 150mm	4.98	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	9.36	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 150mm	9.37	None	No Insulation	Carpet+Rubber Underlay 18mm



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Ldry	Concrete Slab on Ground 150mm	4.68	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
WC	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Hall 1	Plasterboard on Timber	Bulk Insulation R2.5	
Hall 2	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R2.5	
Ldry	Plasterboard on Timber	Bulk Insulation R2.5	

## Ceiling penetrations\*

Quantity	Туре	Diameter [mm]	Sealed/unsealed
5	Downlights - LED	150	Sealed
3	Downlights - LED	150	Sealed
3	Exhaust Fans	150	Sealed
1	Downlights - LED	150	Sealed
1	Exhaust Fans	150	Sealed
15	Downlights - LED	150	Sealed
15	Exhaust Fans	150	Sealed
1	Downlights - LED	150	Sealed
1	Downlights - LED	150	Sealed
4	Downlights - LED	150	Sealed
4	Downlights - LED	150	Sealed
1	Downlights - LED	150	Sealed
1	Exhaust Fans	150	Sealed
	5 3 3 1 1 1 5 15 1 5 1 1 4 4 4 1	5Downlights - LED3Downlights - LED3Exhaust Fans1Downlights - LED1Exhaust Fans15Downlights - LED15Exhaust Fans1Downlights - LED15Exhaust Fans1Downlights - LED1Downlights - LED1Downlights - LED4Downlights - LED4Downlights - LED1Downlights - LED1Downlights - LED1Downlights - LED1Downlights - LED	5         Downlights - LED         150           3         Downlights - LED         150           3         Exhaust Fans         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Exhaust Fans         150           15         Downlights - LED         150           15         Exhaust Fans         150           15         Exhaust Fans         150           15         Exhaust Fans         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Downlights - LED         150           4         Downlights - LED         150           1         Downlights - LED         150



## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Heating system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Hot water system Hot Minimum **Zone 3 Substitution** Assessed Zone 3 Appliance/ system type Fuel type daily load Water efficiency tolerance ranges STC **CER Zone** /STC [litres] lower limit upper limit

No Data Available

0009000829 NatHERS Certificate	8.9 Star Rating as of 12 Oct 2023		HOUSE
Pool/spa equipment			
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			
Onsite Renewable Ene	rgy Schedule		

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	b) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000852

Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class Floor/all Floors Type

Unit 12, 64-70 Stapleton Avenue Casino, NSW, 2470 Lot 8-11 DP 31850 1a G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 93.1 Unconditioned\* 0.0 Total 93.1 Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley

Greenview Consulting Pty Ltd

Declaration completed: no conflicts

dean@greenview.net.au



#### Accredited assessor

Name **Business name** Email Phone Accreditation No. Assessor Accrediting Organisation **Design Matters National** 

**Declaration of interest** 

NCC Requirements

NCC provisions Strate/Territory variation Volume Two

Yes

Dean Gorman

8544 1683

DMN/13/1645

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

## 23.5 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	19.3	4.1
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	CSOG
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=hIJsKrUUj When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 12, 64-70 Stapleton Avenue , Casino , NSW , 2470

### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

### Heating & Cooling Load Limits

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF)
- NA Not Applicable
- NCC Climate Zone 1 or 2:
  - Yes
  - No NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions



Cost



#### 9.2 Star Rating as of 12 Oct 2023

Certificate check	Approva	I Stage	Construe Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Consei Survey	Builden	Consei Survey	Occupa
Genuine certificate check		л	л		
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check	1	Т	Т	,r	
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



				HOUSE
Approva	Il Stage	Constru Stage	ction	
r checked	Authority/ r checked	checked	Authority r checked	Occupancy/Other
Assesso	Consent Surveyo	Builder c	Consent Surveyo	Occupan
ided in t	he NatHE	RS asse	ssment)	
e performa	ance asses	ssment is r	not conduc	ted)
NatHERS	S assessi	ment)		
	e performa	Ided in the Nather       Identities       Identities <td>Approval Stage     Stage       Approval Stage     Stage       &lt;</td> <td>Stage         Stage         Stage</td>	Approval Stage     Stage       Approval Stage     Stage       <	Stage         Stage

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



### Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	12.97
Bath	Daytime	7.91
WC	Daytime	4.75
Kitchen/Living	Kitchen/Living	33.94
Hall 1	Daytime	5.1
Hall 2	Daytime	5.04
Bedroom 2	Bedroom	9.35
Bedroom 3	Bedroom	9.36
Ldry	Daytime	4.68

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
WINDOW ID	Description	U-value*	3000	SHGC lower limit SHGC upper lim	
No Data Availa	able				

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1250	1800	Awning	90	Ν	No
Kitchen/Living	ALM-001-01 A	W3	860	1800	Awning	90	E	Yes
Kitchen/Living	ALM-001-01 A	W7	860	1800	Awning	90	E	Yes
Kitchen/Living	ALM-002-01 A	W6	2400	2400	Awning	45	Ν	No
Hall 2	ALM-002-01 A	n/a	2400	1000	Awning	90	S	No
Bedroom 2	ALM-001-01 A	W4	1200	1800	Awning	30	S	Yes
Bedroom 3	ALM-001-01 A	W5	1200	1800	Awning	30	S	Yes



## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges	
window ID	Description U-value*		SHGC lower limit	SHGC upper limit	
No Data Avail	able				
Custom roof w	vindows*				
	Window	Maximum		Substitution to	loranco rangos
Window ID	WIIIGOW	maximani	SHGC*	Substitution to	lerance ranges

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	lable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S3	50	0.02	S	None	No
WC	GEN-04-006a	S2	50	0.02	S	None	No
Ldry	GEN-04-006a	S1	50	0.02	S	None	No

### External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall	Wall	Solar	Wall shade	Bulk insulation	Reflective
ID	type	absorptance	[colour]	[R-value]	wall wrap*
EW-1	Cavity Brick	0		Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	2000	Е	4900	No
Bedroom 1	EW-1	2700	4800	Ν	800	Yes
Kitchen/Living	EW-1	2700	6845	E	800	No
Kitchen/Living	EW-1	2700	4045	Ν	2800	No
Hall 2	EW-1	2700	1790	S	1900	No
Bedroom 2	EW-1	2700	1000	E	6200	No
Bedroom 2	EW-1	2700	3500	S	900	No
Bedroom 3	EW-1	2700	2945	E	800	No
Bedroom 3	EW-1	2700	3500	S	900	No
Bedroom 3	EW-1	2700	1000	W	5600	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation	
IW-001	Single Skin Brick	90.72	No insulation	
IW-002	Cavity brick	23.76	No Insulation	

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab on Ground 150mm	12.97	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab on Ground 150mm	7.91	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab on Ground 150mm	4.75	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab on Ground 150mm	33.94	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab on Ground 150mm	5.10	None	No Insulation	Ceramic Tiles 8mm
Hall 2	Concrete Slab on Ground 150mm	5.04	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab on Ground 150mm	9.35	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab on Ground 150mm	9.36	None	No Insulation	Carpet+Rubber Underlay 18mm



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Ldry	Concrete Slab on Ground 150mm	4.68	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
Plasterboard on Timber	Bulk Insulation R2.5	
	material/typePlasterboard on TimberPlasterboard on Timber	material/type(may include edge batt values)Plasterboard on TimberBulk Insulation R2.5Plasterboard on TimberBulk Insulation R2.5

## Ceiling penetrations\*

Quantity	Туре	Diameter [mm]	Sealed/unsealed
5	Downlights - LED	150	Sealed
3	Downlights - LED	150	Sealed
3	Exhaust Fans	150	Sealed
1	Downlights - LED	150	Sealed
1	Exhaust Fans	150	Sealed
15	Downlights - LED	150	Sealed
15	Exhaust Fans	150	Sealed
1	Downlights - LED	150	Sealed
1	Downlights - LED	150	Sealed
4	Downlights - LED	150	Sealed
4	Downlights - LED	150	Sealed
1	Downlights - LED	150	Sealed
1	Exhaust Fans	150	Sealed
	5 3 3 1 1 1 5 15 1 5 1 1 4 4 4 4 1	5Downlights - LED3Downlights - LED3Exhaust Fans1Downlights - LED1Exhaust Fans1Exhaust Fans15Downlights - LED15Exhaust Fans1Downlights - LED1Downlights - LED1Downlights - LED1Downlights - LED4Downlights - LED4Downlights - LED1Downlights - LED1Downlights - LED1Downlights - LED1Downlights - LED	5         Downlights - LED         150           3         Downlights - LED         150           3         Exhaust Fans         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Exhaust Fans         150           15         Downlights - LED         150           15         Exhaust Fans         150           15         Exhaust Fans         150           15         Exhaust Fans         150           1         Downlights - LED         150           1         Downlights - LED         150           1         Downlights - LED         150           4         Downlights - LED         150           1         Downlights - LED         150



## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction Added insulation [R-value]		Solar absorptanc	e Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

### Appliance schedule

No Data Available

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Heating system Minimum Recommended Appliance/ system type Location Fuel type efficiency/ capacity performance No Data Available Hot water system Hot Minimum **Zone 3 Substitution** Assessed Zone 3 Appliance/ system type Fuel type daily load Water efficiency tolerance ranges STC **CER Zone** /STC [litres] lower limit upper limit

\* Refer to glossary. Generated on 12 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 12, 64-70 Stapleton Avenue , Casino , NSW , 2470

0009000852 NatHERS Certificate	9.2 Star Rating as of 12 Oct 2023		HOUSE
Pool/spa equipment			
Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			
Onsite Renewable Ene	rgy Schedule		

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Annual energy load         The predicted amount of energy required for healing and cooling, based on standard occupancy assumptions.           Assessed floor area         the floor area in the design documents.         The predicted amount of energy required for healing, including downlights, vents, exhaust fans, range hocks, chimneys and flues. Exhaust fans, range hocks, chimneys and flues. Exhaust fans, tange hocks, chimneys and flues.           Colling penetrations         Eastures that require a penetration to the celling with shall holes through the celling for wiring, e.g. celling fans, pendant fights, and the celling with shall holes through the celling to wiring, e.g. celling fans, pendant fights, and celling inclusion and the activation and the celling with shall holes through the celling to wiring, e.g. celling fans, pendant fights, and the celling with a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances twill include garages.           Custom windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input sour homes rating without solar or batteries.           Entrance door         The relicing the accelly including log tori fining to costs to the building user, the environment and energy networks (as Entrance door withis on celling in the modelled in back and or within opening to a minimally ventilated corridor in a class 2 building.           Exposure category – protected         terrain with numerous, closely papead obstructions below 10m e.g. cult wand industing areas. <th>AFRC</th> <th>Australian Fenestration Rating Council</th>	AFRC	Australian Fenestration Rating Council
Assessed floor area         the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Geiling penetrations         Features that require a penetration to the celling uith shall holes intrough the celling for wring, e.g. celling fars, prange phods, chimneys and flues.           COP         Coefficient of performance         a converting with a welling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         Windows leder in NatHERS Software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         This is your homes rating without solar or batteries.           Energy value         The exocity including, but not limited, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - exposed         The exocity including, but not limited in gortware and must not be modelled as a door when opening to a minimally wireling of wrint and the software building modelling user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - point         Start area in a write provision software and must not be modelled as a door when opening to a minimally wireling of wrint and the modelling user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - popen         Start area in the modelling user deviated uni		N N N N N N N N N N N N N N N N N N N
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some characterizations is with dubble garages.           Custom windows         Scheme) rating.           Default windows         Window Energy Rating           Default windows         Window Scheme) rating.           Default windows         Window Scheme) rating.           ERR         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input for the single kWh of electricity window product and must not be modeled as a door when opening to a minimally window produce the single kWh of electricity input for the single kWh or electricity windice to breach the indice in the modeling software and must not be modeled as a door when opening to a minimally windice to breach the works (as the single y windice to breach the indice in the modeling software and must not be modeled as a door when opening to a minimally windice to breach the volotic toons below.           Exposure category - exposed         terrain with no obstructions e.g. flat grazing land, ccean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category - protected         terrain with works spaced obstructions below.           Exposure category - protected         terrain with numerous, closely spaced obstructions below.           Exposure category - protected         terrain with numerous, closely spaced obstructions below.           Contraction Cond         <		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         Windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         Windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         Windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Windows listed in NatHERS software that software provide the software and must not be concluded as a door when opening to a minimally windiated ordroit on a Class 2 building.           Energy value         These signify vertiliation benefits in the modelling software and must not be modelled as a door when opening to a minimally wentiliated dordroit on a Class 2 building.           Exposure category – exposed terrain with no obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered obstructions at a similar height e.g. grasslands with evel software models NCC Class 1, evel softwar	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Continuined         circumstances is will include garages.           Custom windows         windows listed in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical products.           ER         Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to sociely including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - exposed         these signify ventilation benefits in the modelling software and must not be modelled as a door whon opening to a minimally ventilated corridor in a Class 2 building.           Exposure category - protected         terrain with numerous, closely spaced obstructions below to fine e.g. suburban housing, heavily vegetated bushland areas.           Exposure category - protected         terrain with numerous, closely spaced obstructions bow to fine e.g. suburban housing, heavily vegetated bushland areas.           Horizontal shanding feature         the NCC groups building in the horizontal plane, e.g. eaves, vernadahs, pergolas, catports, or overhangs or balconies           National Construction Code (NCC) Class 1, 2 or 4 buildings or operable (moreable) area of doors or windows that is used in ventilation calculations.           National Construction Code (NCC) (Class 1, 2 or 4 buildings or operable (moreable) area of doors o	COP	Coefficient of performance
Clusterin windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy 2Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ASCB Hoxing Provisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – portected         terrain with numerous. closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushhand areas.           Exposure category – suburban         terrain with numerous. closely spaced obstructions e.g. (cl) and industrial areas.           National Construction Code         the openability percentage or operable (move able) area of doors owindows that is used in ventilation calculations.           Anome that achieves a net zero energy value?         the openability percentage or operable (move able) area of doors vindows that is used in ventilation calculations.           Anome that achieves a	Conditioned	circumstances it will include garages.
Detail windows         methods.           EER         Energy use         This is your homes rating without solar or batteries.           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         these signify ventilation banefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Cast's 2 building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Exposure category – notected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         The openability percentage or operable (move able) area of doors vindows that is used in ventilation calculations.           A home that achieves a net zero energy value?.         The site of course buildings. Definitions can be found at www.abcb.gov.au.           A tome that achieves a net zero energy value?.         To area that achieves a net zero energy value?.           Opening percentage         the openability percentage or operable (moveable) area of doors vindows that is used in ventilation calcula	Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
LLK         input <sup>T</sup> Energy value         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify vertilation benefits in the modelling software and must not be modelled as a door when opening to a minimally vertilated corridor in a Class 2 building.           Exposure category – expose         see exposure categories below.           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with no obstructions e.g. alsubtan housing, heavily vegetated bushand areas.           Provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1. 2 or 4 buildings and attached (class 10a building. Definitions can be found at www.abcb.gov.au.           Recommended capacity         a borne that achieves a net zero energy value*.           Opening percentage         the openability percenting the	Default windows	
Energy value         The net cost is society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         The net cost is society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Exposure category = exposure categories below.         Exposure category - exposed terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category - open         terrain with no work council as a similar height e.g. grassiands with few well scattered obstructions below 10m, farmland with scattered esheds, lightly vegetated bush blocks, elvevated units (e.g. above 3 floors).           Exposure category - protected         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bush lands, elvevated units (e.g. above 3 floors).           National Construction Code         the NCC groups buildings and attached Class 10b buildings. Definitions can be found at www.abc.gov.au.           National Construction Code         the NCC groups buildings and attached Class 10b buildings. Definitions can be found at www.abc.gov.au.           Recommended capacity         the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the gran of above 10m eign. Eviptional value are only the check and the service. The size of the service of the top in the desired or the service of the service as a start or entilavelice fore example, if the wall colour is unspecified in the dAC	EER	
Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure         see exposure category – exposed         terrain with no obstructions of a flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with flew obstructions of a similar height e.g. grasslands with flew well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaveex, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         the XCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1.2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zor home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         or zones serviced. This is a recommendation and the final selection sizing should be confort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zo	Energy use	
Link and cool         ventilated condor           Exposure         see exposure category – exposed           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions set as ininar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheat units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           National Construction Code         (NCC) Class         terrain with auther develops by their function and use, and assigns a classification code. NatHERS software models NCC           NCCC Class         1, 2 or 4 buildings and attached Class 10 buildings. Definitions can be found at www.abcd.gov.au.           Net zero home         a home that achieves a net zero energy value <sup>6</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an ossumed value that does not represent an aclual value. For example, if the wall colour is unspecified in the documentation, an assumed value that does not represent an aclual value. For example, if the wall colour is unspecified in the documentation, a provisional value           <	Energy value	
Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed nigh-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed nigh-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Morizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         (NCC) Class         1.2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.         Openning percentage         nome openable (precentage or operable (moves) that up. For example, if the vall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional value are outlined in the NatHERS to Achieve the desired confort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as incleptobel provisional values are outlined on sizing should be confirmed by a suitably qualified person.         Stading features         includes neighbouring buildings, f	Entrance door	ventilated corridor in a Class 2 building.
Exposure category – open         terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush blocks, efevated units (e.g. above 3 floors).           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10 buildings. Definitions can be found at www.abcd.gov.au.           Net zero home         a home that achieves a net zero energy valle*.           Opening percentage         the openability percentage or operable (moveabel) area of doors or windows that is used in ventilation calculations.           an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provimand value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provimand value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provima value that does not represent an actual value. For example, if the wall colour is unspecified in the force or cones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or sones serviced. This is a recommendation and the final se		
Exposure category - provided       scattered speck, lightly vegetated busin blocks, elevated units (e.g. above 3 hoors).         Exposure category - suburban       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated businand areas.         National Construction Code (NCC) Class       terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (Class 1, 2 or 4 buildings and attached Class 10a building). Definitions can be found at www.abch.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au.         Recommended capacity       this is the capacity or size of equipment that is recommendation sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foll)       the apperties.         Roof window       for NatHERS this is typically an operable (window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes ne	Exposure category – exposed	
Exposure category – suburban       terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.         Horizontal shading feature       provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings and attached Class 10a buildings. Definitions can be found at www.abcb gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.         Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium' must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au.         Recommended capacity       this is the capacity or size of equipment that is recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at cellin		scattered sneds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10b buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Stors         Small-scale Technology Certificates, certificates created by the Cregistry for renewable energy technologies that may be bought and		
National Construction Code (NCC) Class       from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au         Recommended capacity foris is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and cellings. When combined with an appropriate airgap and emissivity value, it provides insulative poperties.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at celling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted	Exposure category – suburban	
Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         This is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the Clean Energy Regulator (C		from upper levels.
Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value or imusits be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foll)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights)         for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stolar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar radiation admited through a win	(NCC) Class	
Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Stors       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, such as timber battens greater than or equal to 2.0 mm thick or continuous thermal breaks such as polystyrene insulation sheet		07
Provisional value       a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         U-value       the rans	Opening percentage	
Recommended capacity       zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks us a polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.	Provisional value	a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note
foil)       insulativé properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building (wing walls), fences, other building, weight on (protected or listed heritage trees).         window weight eat to window	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Risk         space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.           STCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           vertical shading features         provides shading to the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           window shading		
Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Vertical shading features       provides shading to the building (wing walls), for ceres, other walls in the building (wing walls), ences, other building, wegetation (protected or listed heritage trees).         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		
StrCs       Subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Vertical shading features       privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Skylight (also known as roof lights	
Original         bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) <sup>1</sup> Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading davice         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
Inermal breaks         but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).           Window shading dovice         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	STCs	bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window shading device         Window shading device           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000860-01

Unit 13, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

#### Property

Address

Lot/DP NCC class\* Floor/all Floors Type Casino , NSW , 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 68.5 Unconditioned\* 7.8 Total 76.4 Garage 0.0 Exposure type Suburban NatHERS climate zone

9 Amberley



#### Accredited assessor

NameDeaBusiness nameGreeEmaildeaPhone854Accreditation No.DMAssessor Accrediting OrganisationDesign Matters NationalDeclaration of interestDec

Dean Gorman Greenview Consulting Pty Ltd dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

## NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

### Thermal performance Star rating

The more stars the more energy efficient

## NATIONWIDE HOUSE ENERGY RATING SCHEME

## 36.6 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling	
Modelled	9.6	27.0	
Load limits	N/A	N/A	

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=dFueJOzay . When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- NCC Climate Zone 1 of 2
  - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8.2 Star Rating as of 31 Oct 2023

Certificate check	Approval Stage		Constru Stage	ction	HOUSE	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	checked	Consent Authority Surveyor checked	Occupancy/Other	
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder checked	Consent Surveyo	Occupar	
Genuine certificate check		ſı	Т			
Does this Certificate match the one available at the web address or QR code verification link on the front page?						
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?						
Thermal performance check						
Windows and glazed doors						
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?						
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?						
External walls						
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?						
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?						
Floor						
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?						
Ceiling penetrations*						
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?						
Ceiling						
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?						
Roof						
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?						
Apartment entrance doors (NCC Class 2 assessments only)						
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.						
Exposure*						
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".						
Heating and cooling load limits*						
Do the load limits settings (shown on page 1) match what is shown						

0009000860-01 NatHERS Certificate8.2 Star Rating as of 31 Oct 2023					HIONNER HOUSE
	Approva	I Stage	Construe Stage	ction	
Certificate check	lecked	thority/ ecked	cked	thority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



### Room schedule

Room Zone Type		Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	15.62
Bath	Unconditioned	7.85
Bedroom 2	Bedroom	11.65
Hall	Daytime	4.68
Kitchen/Living	Kitchen/Living	36.59
Glazed Common A	Glazed Common Area	20.55

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74	

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	escription U-value*		SHGC lower limit	SHGC upper limit	
No Data Available						

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1200	1800	Awning	10	Ν	No
Bath	ALM-001-01 A	W5	860	860	Awning	10	W	No
Bedroom 2	ALM-001-01 A	W3	1590	1800	Awning	10	S	No
Kitchen/Living	ALM-002-01 A	W2	2400	2400	Awning	45	Ν	Yes
Kitchen/Living	ALM-001-01 A	W4	1200	1800	Awning	10	S	No
Glazed Common A	ALM-001-01 A	W8	2400	1030	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W9	2400	1030	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W7	2400	1030	Awning	45	S	No
Glazed Common A	ALM-001-01 A	W6	2400	1030	Awning	45	S	No

## HOUSE

## Roof window\* type and performance value

#### Default roof windows\*

Window ID		Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availab	ble					
Custom roof wind	ndows*					
Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availab	ble					

#### Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser		
No Data Available								

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall Wall ID type	Solar Wall shade absorptance [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1 Fibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No
EW-2 Cavity Brick	0	Bulk Insulation R0.7	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	3700	Ν	800	Yes
Bedroom 1	EW-2	2700	1600	Е	6800	No
Bedroom 1	EW-1	2700	4295	W	700	No
Bath	EW-1	2700	2490	W	700	Yes
Bedroom 2	EW-1	2700	3695	S	700	Yes
Bedroom 2	EW-1	2700	3195	W	700	No
Hall	EW-1	2700	1290	W	700	No
Kitchen/Living	EW-2	2700	3740	Ν	3800	No
Kitchen/Living	EW-1	2700	3600	E	900	No
Kitchen/Living	EW-1	2700	3795	S	700	Yes
Glazed Common A	EW-1	2700	2900	Ν	400	No
Glazed Common A	EW-1	2700	1000	Е	100	No
Glazed Common A	EW-1	2700	2845	S	300	Yes
Glazed Common A	EW-1	2700	1400	W	8200	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	65.34	No insulation
IW-002	Cavity brick	0.00	No Insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	15.62	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	7.85	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.65	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	4.68	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	36.59	None	No Insulation	Ceramic Tiles 8mm

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8.2 Star Rating as of 31 Oct 2023



Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering	
Glazed Common A	Concrete Slab, Unit Below	20.55	None	No	Ceramic Tiles 8mm	
Glazed Common A	200mm	20.55	None	Insulation	Ceramic Tiles 8mm	

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Hall	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	1	Downlights - LED	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

## Roof type

Construction	Added insulation [R-value]	Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light



## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

#### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	Location Fuel type		Minimum efficiency/ performance		Recommended capacity	
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capad	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		



## **Battery** Schedule

System Type

Size [Battery Storage Capacity]

No Data Available



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	b) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000886-01

Unit 14, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

### Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 82.7 Unconditioned\* 11.0 93.7 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley



#### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email Phone Accreditation No. Assessor Accrediting Organisation Design Matters National **Declaration of interest** 

dean@greenview.net.au 8544 1683 DMN/13/1645

Declaration completed: no conflicts

## NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

#### Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

## 44.5 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

#### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling	
lodelled	16.4	28.1	
oad limits	N/A	N/A	

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=dGHbgrebf When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 14, 64-70 Stapleton Avenue , Casino , NSW , 2470

#### About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
  - ICC Climate Zone 1 of
    - Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

### Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 7.6 Star Rating as of 31 Oct 2023

•					HOUSE
Certificate check	Approva	I Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



<b>0009000886-01 Nathers Certificate 7.6 Star Rating as of</b> 31 Oct 2023					
	Approva	al Stage	Constru Stage	ction	
Certificate check	necked	thority/ lecked	cked	thority lecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e perform	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Glazed Common Area	Glazed Common Area	20.49
Bedroom 1	Bedroom	11.35
Bath	Unconditioned	7.87
Ldry	Daytime	2.74
Kitchen/Living	Kitchen/Living	40.66
Hall 1	Daytime	4.6
WC	Unconditioned	3.13
Bedroom 2	Bedroom	11.6
Bedroom 3	Bedroom	11.73

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum SHGC* —		Substitution to	lerance ranges
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

#### Custom windows\*

Window ID	Window Maximum		SHGC* -	Substitution tolerance ranges		
willdow iD	Description	U-value*	3160	SHGC lower limit SHGC upper lim		
No Data Availa	able					

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Glazed Common Area	ALM-001-01 A	W9	2400	1030	Awning	45	Ν	No
Glazed Common Area	ALM-001-01 A	W10	2400	1030	Awning	45	Ν	No
Glazed Common Area	ALM-001-01 A	W5	2400	1030	Awning	45	S	No
Glazed Common Area	ALM-001-01 A	W6	2400	1030	Awning	45	S	No
Bedroom 1	ALM-001-01 A	W6	1590	850	Awning	10	Ν	No
Bedroom 1	ALM-001-01 A	W7	1590	850	Awning	10	Ν	No
Bath	ALM-001-01 A	W4	1200	850	Awning	10	E	No

0009000886-01 NatHERS Certificate

7.6 Star Rating as of 31 Oct 2023



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	W8	2400	2400	Awning	45	Ν	Yes
Kitchen/Living	ALM-001-01 A	W2	1200	1800	Awning	10	E	No
WC	ALM-001-01 A	W3	1200	600	Awning	10	S	No
Bedroom 2	ALM-001-01 A	W1	1590	1800	Awning	10	S	No
Bedroom 3	ALM-001-01 A	W2	1590	1800	Awning	10	S	No

## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Maximum	CUCC*	Substitution to	lerance ranges
Window ID	Description	U-value*	SHGC*	SHGC lower limit	SHGC upper limit
No Data Avail	able				
Custom roof w	vindows*				
Custom roof w Window ID	vindows* <b>Window</b>	Maximum	SHGC*	Substitution to	lerance ranges

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
No Data Ava	ailable						
External	door sche	edule					
Location		Height [mm]	Width [mm]		Opening %	Orientati	on

No Data Available

\* Refer to glossary. Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 14, 64-70 Stapleton Avenue , Casino , NSW , 2470



## External wall type

Wall ID	Wall type	Solar Wall sl absorptance [colou	nade Bulk insulation r] [R-value]	Reflective wall wrap*
EW-1	Fibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No
EW-2	Cavity Brick	0	Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common Area	EW-1	2700	2900	Ν	400	No
Glazed Common Area	EW-2	2700	1200	E	9700	No
Glazed Common Area	EW-1	2700	2845	S	400	Yes
Glazed Common Area	EW-1	2700	2000	W	200	No
Bedroom 1	EW-1	2700	4000	Ν	900	Yes
Bedroom 1	EW-1	2700	2995	E	800	No
Bedroom 1	EW-2	2700	1795	W	8000	No
Bath	EW-1	2700	3190	E	800	Yes
Kitchen/Living	EW-2	2700	4040	Ν	3600	Yes
Kitchen/Living	EW-1	2700	2490	E	800	Yes
Kitchen/Living	EW-1	2700	495	W	3100	No
Hall 1	EW-2	2700	795	Ν	3600	No
WC	EW-1	2700	1690	S	700	Yes
Bedroom 2	EW-1	2700	3895	S	700	Yes
Bedroom 2	EW-1	2700	3095	W	900	No
Bedroom 3	EW-1	2700	3695	E	800	No
Bedroom 3	EW-1	2700	3300	S	700	Yes
Bedroom 3	EW-1	2700	600	W	6500	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	TimberStud Frame, Brick Veneer	0.00	No insulation
IW-002	Cavity brick	0.00	No Insulation
IW-003	Timber Stud Frame, Direct Fix Plasterboard	85.59	No insulation



## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Glazed Common Area	Concrete Slab, Unit Below 200mm	20.49	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	11.35	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	7.87	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab, Unit Below 200mm	2.74	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	40.66	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab, Unit Below 200mm	4.60	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab, Unit Below 200mm	3.13	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.60	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	11.73	None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Glazed Common Area	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Hall 1	Plasterboard on Timber	Bulk Insulation R2.5	
WC	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R2.5	

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	4	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed

0009000886-01 NatHERS Certificate

7.6 Star Rating as of 31 Oct 2023



Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bath	3	Exhaust Fans	150	Sealed
Ldry	1	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	150	Sealed
Kitchen/Living	17	Downlights - LED	150	Sealed
Kitchen/Living	17	Exhaust Fans	150	Sealed
Hall 1	1	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof sha	ade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30 Light	

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

## Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	

Page 10 of 11



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000753-01

Unit 15, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

### Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

## Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 81.2 Unconditioned\* 10.8 92.0 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley



### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National **Declaration of interest** 

Declaration completed: no conflicts

## NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

## 38.6 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
lodelled	10.2	28.3
oad limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=ebOooJjJY When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 15, 64-70 Stapleton Avenue , Casino , NSW , 2470

## About the ratings

#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

## **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable

NCC Climate Zone 1 or 2:

Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8 Star Rating as of 31 Oct 2023

Certificate check	Approva	I Stage	Construe Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesse	Consen Surveyc	Builder	Consen	Occupa
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					

<b>0009000753-01 NatHERS Certificate</b> 8 Star Rating as of 31 Oct 2023					HOUSE
	Approva	I Stage	Constru Stage	ction	
Certificate check	Assessor checked	Consent Authority/ Surveyor checked	checked	Consent Authority Surveyor checked	Occupancy/Other
	Assesso	Consent Surveyo	Builder checked	Consent Surveyo	Occupan
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	essment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is i	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	assessi	nent)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					

#### Provisional values\* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?			

#### **Other NCC requirements**

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	11.27
Bath	Unconditioned	7.84
WC/Ldry	Daytime	2.52
Kitchen/Living	Kitchen/Living	39.7
Hall 1	Daytime	4.99
WC	Unconditioned	2.99
Bedroom 2	Bedroom	11.36
Bedroom 3	Bedroom	11.35
Glazed Common Area	Glazed Common Area	18.1

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution to	lerance ranges
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74

#### Custom windows\*

Window ID	Window Maximum St		SHGC*	Substitution tolerance ranges		
	Description	U-value*	3160	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W1	1590	850	Awning	10	Ν	No
Bedroom 1	ALM-001-01 A	W2	1590	850	Awning	10	Ν	No
Bath	ALM-001-01 A	W3	1200	850	Awning	10	W	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2100	Awning	45	Ν	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1810	Awning	10	W	No
WC	ALM-001-01 A	W5	1200	600	Awning	10	S	No
Bedroom 2	ALM-001-01 A	n/a	1590	1800	Awning	10	S	No

0009000753-01 NatHERS Certificate

8 Star Rating as of 31 Oct 2023



Location	Window ID	Window no.	Height [mm]	Width Window [mm] type	Opening %	Orientation	Window shading device*
Bedroom 3	ALM-001-01 A	W1	1590	1800 Awning	10	S	No
Glazed Common Area	ALM-001-01 A	W8	2400	1030 Awning	45	Ν	No
Glazed Common Area	ALM-001-01 A	W9	2400	1030 Awning	45	Ν	No
Glazed Common Area	ALM-001-01 A	W11	2400	1030 Awning	45	S	No
Glazed Common Area	ALM-001-01 A	W10	2400	1030 Awning	45	S	No

## Roof window\* type and performance value

#### Default roof windows\*

Window ID	Window	Window Maximum	SHGC*	Substitution tolerance ranges		
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Avail	able					
Custom roof w	vindows*					
Custom roof w	vindows* <b>Window</b>	Maximum	SHGC*	Substitution to	lerance ranges	

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Avai	lable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance	
No Data Available			

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] C	Drientation	Outdoor shade	Diffuser
No Data Ava	ilable						
External	door sche	edule					
Location		Height [mm]	Width [mm]		Opening %	Orientati	on

No Data Available

\* Refer to glossary. Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 15, 64-70 Stapleton Avenue , Casino , NSW , 2470



## External wall type

Wall ID	Wall type	Solar Wall sha absorptance [colour]	ade Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Fibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No
EW-2	Cavity Brick	0	Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	4000	Ν	800	Yes
Bedroom 1	EW-2	2700	1895	Е	8000	No
Bedroom 1	EW-1	2700	2995	W	800	No
Bath	EW-1	2700	3190	W	800	Yes
Kitchen/Living	EW-2	2700	3940	Ν	3500	No
Kitchen/Living	EW-1	2700	995	Е	3200	No
Kitchen/Living	EW-1	2700	2490	W	800	Yes
Hall 1	EW-2	2700	795	Ν	3500	No
WC	EW-1	2700	1690	S	800	Yes
Bedroom 2	EW-1	2700	3095	Е	800	No
Bedroom 2	EW-1	2700	3895	S	800	Yes
Bedroom 3	EW-1	2700	600	Е	6400	No
Bedroom 3	EW-1	2700	3200	S	800	Yes
Bedroom 3	EW-1	2700	3695	W	800	No
Glazed Common Area	EW-1	2700	3000	Ν	600	No
Glazed Common Area	EW-1	2700	300	E	200	No
Glazed Common Area	EW-1	2700	2945	S	600	Yes
Glazed Common Area	EW-1	2700	700	W	9600	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	106.65	No insulation
IW-002	Cavity brick	0.00	No Insulation



## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	11.27	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	7.84	None	No Insulation	Ceramic Tiles 8mm
WC/Ldry	Concrete Slab, Unit Below 200mm	2.52	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	39.70	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab, Unit Below 200mm	4.99	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab, Unit Below 200mm	2.99	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.36	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	11.35	None	No Insulation	Carpet+Rubber Underlay 18mm
Glazed Common Area	Concrete Slab, Unit Below 200mm	18.10	None	No Insulation	Ceramic Tiles 8mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
WC/Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Hall 1	Plasterboard on Timber	Bulk Insulation R2.5	
WC	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common Area	Plasterboard on Timber	Bulk Insulation R2.5	

## Ceiling penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed

0009000753-01 NatHERS Certificate

8 Star Rating as of 31 Oct 2023



Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed	CHARACTER &
Bath	3	Exhaust Fans	150	Sealed	
WC/Ldry	1	Downlights - LED	150	Sealed	
WC/Ldry	1	Exhaust Fans	150	Sealed	
Kitchen/Living	15	Downlights - LED	150	Sealed	
Kitchen/Living	15	Exhaust Fans	150	Sealed	
Hall 1	1	Downlights - LED	150	Sealed	
WC	1	Downlights - LED	150	Sealed	
WC	1	Exhaust Fans	150	Sealed	
Bedroom 2	4	Downlights - LED	150	Sealed	
Bedroom 3	4	Downlights - LED	150	Sealed	

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30 Light		

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

0009000753-01 NatHERS Certificat	te 8 Star R	Rating as of 31 (	Oct 2023				HOUS
Cooling system							
Appliance/ system type	Loc	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Loc	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>Ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available			-				
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							
Onsite Renewable En	ergy Sch	edule					
System Type Orien	itation		Syst	em Size O	r Generation	Capacity	
No Data Available							

## Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	

AND.



#### **Explanatory notes**

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value\*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure	see exposure categories below.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category - open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Net zero home	a home that achieves a net zero energy value*.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
<b>Reflective wrap</b> (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Skylight (also known as roof lights	
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000787-01

Unit 16, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

## Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

## Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 68.4 Unconditioned\* 0.0 68.4 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley



## Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National **Declaration of interest** Declaration completed: no conflicts

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance Star rating

The more stars the more energy efficient

# NATIONWID

## 32.1 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	8.0	24.1
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=UpjfgByGu When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

## **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- NCC Climate Zone 1 of 2
  - Yes No

NA – Not Applicable

Outdoor Living Area:

- Yes No
- NA Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8.4 Star Rating as of 31 Oct 2023

Certificate check	Approva	I Stage	Constru Stage	ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Consen Surveyo	Builder	Consen Surveyo	Occupa
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



<b>0009000787-01 NatHERS Certificate 8.4 Star Rating as of</b> 31 Oct 2023					HOUVE
	Approva	l Stage	Constru Stage	ction	
Certificate check	lecked	hority/ ecked	ked	hority ecked	Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	ided in t	he NatHE	RS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Home	e performa	ance asses	ssment is r	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the l	NatHERS	assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	12.63
Bath	Daytime	6.44
Bedroom 2	Bedroom	10.9
Hall	Daytime	4.77
Kitchen/Living	Kitchen/Living	33.71
Glazed Common Area	Glazed Common Area	17.68

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum SHGC*		Substitution tolerance ranges			
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74		

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges		
	Description	U-value*	3660	SHGC lower limit	SHGC upper limit	
No Data Availa	able					

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W8	1200	1800	Awning	10	NE	No
Bedroom 2	ALM-001-01 A	W1	1590	1800	Awning	10	SW	No
Kitchen/Living	ALM-001-01 A	W2	1200	1800	Awning	10	SW	No
Kitchen/Living	ALM-002-01 A	W7	2400	2400	Awning	45	NE	No
Glazed Common Area	ALM-001-01 A	W3	2400	1030	Awning	45	NE	No
Glazed Common Area	ALM-001-01 A	W4	2400	1030	Awning	45	NE	No
Glazed Common Area	ALM-001-01 A	W5	2400	1030	Awning	45	SW	No
Glazed Common Area	ALM-001-01 A	W6	2400	1030	Awning	45	SW	No

## HOUSE

## Roof window\* type and performance value

Default roof windows\*

Window ID	Window	Maximum	SUCC*	Substitution to	lerance ranges
	Description	SHGC* —		SHGC lower limit	SHGC upper limit
No Data Avail	lable				
Custom roof v	vindows*				
	VIIIdows				
	Windows	Maximum	SUCC*	Substitution to	lerance ranges
Window ID		Maximum U-value*	SHGC*	Substitution to	lerance ranges SHGC upper limit

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Ava	ilable							

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02	NW	None	No

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

Wall Wall ID type	Solar Wall shade absorptance [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1 Fibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No
EW-2 Cavity Brick	0	Bulk Insulation R0.7	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1200	SE	625	No
Bedroom 1	EW-2	2700	2300	NW	4900	No
Bedroom 1	EW-1	2700	3400	NE	1300	Yes
Bedroom 2	EW-1	2700	3595	SW	700	Yes
Kitchen/Living	EW-1	2700	3895	SW	700	Yes
Kitchen/Living	EW-1	2700	2500	NW	700	No
Kitchen/Living	EW-2	2700	4040	NE	3600	No
Glazed Common Area	EW-1	2700	2900	NE	400	No
Glazed Common Area	EW-1	2700	500	SE	8125	No
Glazed Common Area	EW-1	2700	2845	SW	500	Yes
Glazed Common Area	EW-1	2700	600	NW	200	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Cavity brick	35.10	No Insulation
IW-002	Timber Stud Frame, Direct Fix Plasterboard	58.59	No insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	12.63	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	6.44	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	10.90	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	4.77	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	33.71	None	No Insulation	Ceramic Tiles 8mm
Glazed Common Area	Concrete Slab, Unit Below 200mm	17.68	None	No Insulation	Ceramic Tiles 8mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Hall	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common Area	Plasterboard on Timber	Bulk Insulation R2.5	

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	2	Downlights - LED	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

## Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]		
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light	

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



#### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	effi	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	effi	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		<b>Ibstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	;y/	Recomm capac	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

### Glossary

Annual energy load         The predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.           Assessed floor area         The floor area in the design documents.           Ceiling penetrations         Features high require a penetration to the ceiling with small holes through the ceiling for winning, e.g. ceiling flans, pendart lights, and Cooling, based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some cricumstances within a dwelling window that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy walue         The is your homes rating without solar or batteries.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input.           Energy walue         The is your homes rating without solar or batteries.           Energy walue         The is your homes rating without solar or batteries.           Energy efficiency R	AFRC	Australian Fenestration Rating Council
Assessed floor area         The floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.           Ceiling penetrations         Earlures that require a penetration to the ceiling, including downlights, wens, exhaust fans, range hoods, chimneys and flues.           Conditional         Constraint the design documents.         Earlures that require a penetration to the ceiling with shall holes through the ceiling for wring, e.g. ceiling fans, benchmark (bits, and ceiling with a sequence).         Constraint (bits, and ceiling with a sequence).           Conditional         a zone within a welling with a lis expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garges.           Custom windows         Windows listen in welling with shall are representative of a specific type of window product and whose properties have been derived by statistical methods.           Default windows         This is your homes rating without solar or batteries.           Energy value         The net cost to societly including, but not limited to costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category – open         terrain with no obstructions e.g. flig razing allow costs to the building user, the environment and energy networks (as therain system) and the obstructions e.g. glig razing allows with flow well sates of obstructions below 100 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions below 100 m, cates all		
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Default windows         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency ratio a cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy efficiency ratio a cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing sour homes rating without solar or batteries.           Energy end to a cool to accide the solution.         The sing source category = solution.           Exposure category - protected         terrain with ne obstructions below.		the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the
COP         Coefficient of performance           Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.           Custom windows         windows field in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) tating.           Default windows         windows field in NaHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) tating.           ERR         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input.           Energy use         The is your homes rating without solar or batteries.           Energy value         The net cost oos citely including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure category - exposed         terrain with no obstructions e at a similar height e.g. grasslands with few well scattered obstructions below 10m, familand with scattered obstructions below 10m, and and the operability regelated obstructions below 10m, familand with scattered bastructions below 10m, familand with few well scattered obstructions below 10m, familand with scattered bastructions below 10m, familand with scattered bastructions below 10m, familand with few well scattered obstructions below 10m, familand with few well scattered obstructions below 10m, familand with moreous, dosely spaced obstr	Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Culture         Current ances it will include garages.         Include the second secon	COP	
Custom Windows         Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.           EER         Energy 2 Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single KWh of electricity input           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Entrance door         the net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).           Exposure         see exposure categories below.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e a similar height e grasshafs with few well scattered obstructions below 10m (grasshafs with few well) scattered show 10m form all scattered obstructions below 10m, farmland with scryposure category – protected           Exposure category – suburban         terrain with numerous; closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush holds, efevated units (e.g. alwore, strandard, areas.           Provisional shading feature         the WCC Groups buildings thy their function and use, and assigns a classification code. NatHERS software models NCCC           Not zero of the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calcula	Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Data in whore         methods.           EER         Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE House), but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE House's building.           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Cast's building.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed do obstructions below 10m, familand with texposure category – open           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed to obstructions below 10m, familand with texposure category – upotecket           Horizontal shading feature         terrain with numerous, closely spaced obstructions below 10m e.g. city and industrial areas.           Horizontal shading feature         the word base not zero energy value?.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           an a symmet value that doer sort percentage and actice of cases value.         an asset word walue that doer sort percentage and does not represent an actual value. For example, if the wall colour is unspecified in the doccumentation, a provisional value or medium must be mo	Custom windows	
LER         input <sup>T</sup> Energy value         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Frovisions Standard).           Entrance door         these signify vertilation benefits in the modelling software and must not be modelled as a door when opening to a minimally vertilated corridor in a Class 2 building.           Exposure category – exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           Nticonal Construction Code (NCC) Class 1.2 or 4 buildings and attached Class 10a buildings. Definitions can be found at tww. abcb.gova.           Provisional value         a home that achieves a net zero energy value*.           Opening percentage         the openability percentent that is cocompanied by NatHERS Schware models NCC Class 1.2 or 4 buildings to the modelled. Acceptable provisional value or anistow abute on sizing should be confinred by a suitably qualified person. <th>Default windows</th> <th></th>	Default windows	
Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure category – exposure categories below.         Exposure category – exposure categories below.           Exposure category – open         terrain with no obstructions as a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – suburban towith numerous, closely spaced obstructions over 10 m e.g. divaling scattered obstructions over 10 m e.g. divaling scattered obstructions. If construction Code (CCC) class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abc.go.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the copanability percentage or operselle (moveabie) area of doors or windows that is used in ventilation calculations.           Recommended capacity         the samedation admiter size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the Zone or zones serviced. This is a recommendation and the faselecton sizing should be contimed by a suitably qualified person to a size of equipment that is recomm	EER	
Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.           Exposure         see exposure category – exposed         terrain with no obstructions et a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, effevated units (e.g. above 3 floors).           Exposure category – open         terrain with no unstructions e.g. float grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandains, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         the CC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1. 2 or 4 buildings and attached Class 10a building. Definitions can be found at www.abc.gov.au.           Net zero home         a home that achieves a net zero energy value".           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         or zones service. This is a recommendation and the final selection sizing should be confirmed by a suitified and will and an attached Class 1.2 or size of equipment that is recommended by NatHERS to achieve t	Energy use	
Enhance dool         ventilated condor         ventilated condor           Exposure         see exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – suburbat         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Morizontal shading feature         provides shading to the buildings in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           Net zero home         a home that achieves a net zero energy value <sup>*</sup> .           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value or or zize of equipment that is recommended by value's building in the value's and can be found at www.abalve.           Reforetive wrap (also known as roof light) for NatHERS this is typically an operable (moveable) area of doors or window that is used i	Energy value	
Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Morizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code         (NCC) Class         12 or 4 buildings and attached Class 10 ab uildings. Definitions can be found at www.abcb.gova.u.           Opening percentage         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC           Opening percentage         the ome that achieves a net zero energy value <sup>*</sup> .           Provisional value         a nome that achieves a net zero energy value <sup>*</sup> .           Recommended capacity         rsize o tome         a count set operable (moveable) area of doors or windows that is used in ventilation calculations.           Reflective wrap (also known as foiling)         can be dound at www.nathers.gov.au         this is the capacity or size of equipment that is recommended by	Entrance door	ventilated corridor in a Class 2 building.
Exposure category - open         terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with           Exposure category - protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush blocks, elevated units (e.g. above 3 floors).           National Construction Code         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a pusicional value and the documentation, and use of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or ones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified splate soft of nearble with an appropriate airgap and emissivity value, it provides institute to perfets.           Reflective wrap (also known as roof lights) for NatHERS this is typically a noperable window (i.e. can be opened), will have a plaster or similar light well if there is an attic splate and sold as part of the small-scale Energy Scheme operated by the Clean Energy Regulator (CER)           Stoar he		
Exposure category – protected       scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).         Exposure category – suburban       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.         National Construction Code (NCC) Class       terrain with numerous, closely spaced obstructions over 10 m e.g. elty and industrial areas.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcl.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.         Provisional value       an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and a be ground at www.nathers.gov.au.         Recommended capacity       con a be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (BHGC)       Star easthawing adming doming buildings, fences, and wing walls, b	Exposure category – exposed	
Exposure category - suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Horizontal shading feature         provises shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC (Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium "must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.hathers.gov.au.           Recommended capacity         zero estruced. This is a recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended by NatHERS to achieve the desired comfort conditions in the person.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Stading features         includes neighourung buildings, fences, and wing wallow, both direcity transmitte		scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies           National Construction Code (NCC) Class         the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a diffuser at ceiling level.           Store         Small-scale Technology Certificates, certificates created by the Great avend window is shot directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower		
National Construction Code (NCC) Class       from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC class 1, 2 or 4 buildings and attached Class 1 do buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of medium must be modelled. Acceptable provisional values are outlined in the NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foll)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fonces, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light we	Exposure category – suburban	
Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates. certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           StrCs         Small-scale Technology Certificates. certificates created by the REC registry for renewable energy technologies that may be bought and sold as par		from upper levels.
Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS technical Note and can be found at www.nathers.gov.au           Recommended capacity         The capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foll)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights)         for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Solar heat gain coefficient (SHGC)         the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and wheat alight as door or continuous thermal breaks           StrCs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           are materi	(NCC) Class	
Provisional value         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au           Recommended capacity         this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommended on the final selection sizing should be confirmed by a suitably qualified person.           Reflective wrap (also known as foil)         can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.           Roof window         for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.           Shading features         includes neighbouring buildings, fences, and wing walls, but excludes eaves.           Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.           Stocs         Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)           Thermal breaks         wit and na R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or e		· · ·
Provisional value       a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, bot directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         ureaties with a Nevalue g	Opening percentage	
Recommended capacity       zone or zone's serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.         Reflective wrap (also known as foil)       can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of hea	Provisional value	a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note
foil)       insulativé properties.         Roof window       for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights)       for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         u-value       are materials with a R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical sh	Recommended capacity	zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified
Rtock window       space, and generally does not have a diffuser.         Shading features       includes neighbouring buildings, fences, and wing walls, but excludes eaves.         Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy Regulator (CER)         Thermal breaks       Small-scale Technology Certificates, certificates created by the Clean Energy Regulator (CER)         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         u-conditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), ences, other building, vegetation (protected or listed heritage trees).         window shading device       device fixed to windows that pro		
Skylight (also known as roof lights) for NatHERŠ this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.         Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         Unconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         Vertical shading features       provides shading in the building (wing walls), forces, other building, weight on (protected or listed heritage trees).         Window shading dovice       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Solar heat gain coefficient (SHGC)       the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucronditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions. provides shading to the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         Window shading device       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		
String       subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.         STCs       Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)         Thermal breaks       are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips         U-value       the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.         ucconditioned       a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.         vertical shading features       provides shading to the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).         window shading dovice       device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Skylight (also known as roof lights	
Show         bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER) <sup>1</sup> Thermal breaks         are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading		subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar
Inermal breaks         but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such as polystyrene insulation sheeting or plastic strips           U-value         the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.           Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other building, vegetation (protected or listed heritage trees).           Window shading dovice         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	STCs	bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Unconditioned         a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.           Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Thermal breaks	but is not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such
Vertical shading features         provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).           Window shading device         device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Window chading device         Optimized fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading	Unconditioned	
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)	Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	Window shading device	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS<sup>®</sup> Certificate No. 0009000811-01

Unit 17, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

## Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

## Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 73.0 Unconditioned\* 0.0 73.0 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley



### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National **Declaration of interest** 

Declaration completed: no conflicts

## NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

#### National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

## Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

## 33.1 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

### Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	9.9	23.2
Load limits	N/A	N/A

#### Features determining load limits

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=cvVLTawny When using either link, ensure you are visiting hstar.com.au





#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

## **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable

NCC Climate Zone 1 or 2:

Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA – Not Applicable

## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 8.4 Star Rating as of 31 Oct 2023

Certificate check	Approva	roval Stage Constr Stage		ction	HOUSE
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assess	Conser Survey	Builder	Conser Survey	Occupa
Genuine certificate check		1	1	<u>6</u>	
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



0009000811-01 NatHERS Certificate 8.4 Star Rating as of 31 Oct 2023					
	Approva	al Stage	Constru Stage	ction	
Certificate check	checked	uthority/ hecked	ecked	uthority hecked	//Other
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	ERS asse	ssment)	
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?					
Insulation installation method					
Has the insulation been installed according to the NCC requirements?					
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?					
Whole of Home performance check (not applicable if a Whole of Hom	e performa	ance asses	ssment is i	not conduc	ted)
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?					
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?					
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?					
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	ment)		
Does the lighting meet the artificial lighting requirements specified in the NCC?					
Does the hot water system meet the additional requirements specified in the NCC?					
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?					
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### Additional notes



## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Bedroom 1	Bedroom	14.37
Bath	Daytime	7.45
Bedroom 2	Bedroom	11.28
Hall	Daytime	4.7
Kitchen/Living	Kitchen/Living	35.19
Glazed Common A	Glazed Common Area	22.46

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum U-value* SHGC*		Substitution tolerance ranges			
window iD	Description			SHGC lower limit	SHGC upper limit		
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74		

#### Custom windows\*

Window ID	Window	Maximum	SHGC*		itution tolerance ranges		
WIND	Description	U-value*	3660	SHGC lower limit SHGC upper lin			
No Data Availa	able						

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 1	ALM-001-01 A	W5	1200	1800	Awning	10	Ν	No
Bedroom 2	ALM-001-01 A	W8	1590	1800	Awning	10	S	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1800	Awning	10	S	No
Kitchen/Living	ALM-002-01 A	W7	2400	2400	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W3	2400	1030	Awning	45	S	No
Glazed Common A	ALM-001-01 A	W4	2400	1030	Awning	45	S	No
Glazed Common A	ALM-001-01 A	W1	2400	1030	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W2	2400	1030	Awning	45	Ν	No

## HOUSE

## Roof window\* type and performance value

Default roof windows\*

Window ID	Window	Maximum	SHCC*	Substitution tolerance ranges		
window ID	ow ID Description U-value* SHGC*	SHGC	SHGC lower limit	SHGC upper limit		
No Data Availa	able					
Custom roof w	indows*					
	indows* <b>Window</b>	Maximum	8110.0*	Substitution to	lerance ranges	
Custom roof w Window ID		Maximum U-value*	SHGC*	Substitution to	lerance ranges SHGC upper	

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02 E	None	No

## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
No Data Available				

## External wall type

	Vall ype	Solar absorptance	 Bulk insulation [R-value]	Reflective wall wrap*
EW-1 C	Cavity Brick	0	Bulk Insulation R0.7	No
EW-2 Fi	ibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No



## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bedroom 1	EW-1	2700	1700	E	6800	No
Bedroom 1	EW-2	2700	3600	Ν	800	Yes
Bedroom 2	EW-2	2700	3695	S	800	Yes
Bedroom 2	EW-2	2700	1800	W	900	No
Kitchen/Living	EW-2	2700	3500	Е	900	No
Kitchen/Living	EW-2	2700	3695	S	800	Yes
Kitchen/Living	EW-1	2700	3740	Ν	3700	No
Glazed Common A	EW-2	2700	2845	S	400	Yes
Glazed Common A	EW-2	2700	2200	W	7600	No
Glazed Common A	EW-2	2700	2900	Ν	600	Yes

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	65.07	No insulation
IW-002	Cavity brick	36.72	No Insulation

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1	Concrete Slab, Unit Below 200mm	14.37	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	7.45	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	11.28	None	No Insulation	Carpet+Rubber Underlay 18mm
Hall	Concrete Slab, Unit Below 200mm	4.70	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	35.19	None	No Insulation	Ceramic Tiles 8mm
Glazed Common A	Concrete Slab, Unit Below 200mm	22.46	None	No Insulation	Ceramic Tiles 8mm



## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Hall	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	

## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	6	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed
Bath	3	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Hall	2	Downlights - LED	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Bedroom 2	1	900
Kitchen/Living	1	1200

## Roof type

Construction	Added insulation [R-value]	Solar absorptance Roof shade[colour]	
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



#### Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.

#### Cooling system

Appliance/ system type	Lo	cation F	uel type	Minimum efficiency/ Recomm performance capa			
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC		<b>bstitution</b> e ranges upper limit	Assessed daily load [litres]
No Data Available							
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimu efficienc performa	cy/	Recomm capac	
No Data Available							

## **Onsite Renewable Energy** Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]	
No Data Available		



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

AFRC         Australian Fenestration Rating Council           Annual energy load         the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.           Assessed floor area         the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with floor area in the design documents.           Ceiling penetrations         features that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flexible futures attached to the ceiling with small holes through the ceiling for wirring, e.g. ceiling fans; pendant lights, a heating and cooling ducts.           COP         Coefficient of performance           Caustom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Ra Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistic methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electrici input           Interace door         The net cost to asciety cluding, but not limited to costs to the building user, the environment and energy networks (as the field in the ABCE Housing Privisions Stindard).           Exposure category – exposed         terrain with no obstructions a.g. (ali grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – popen         terrain wit	
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Conditioned         a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In so circumstances it will include garages.           Custom windows         windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Ra Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistic methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electrici input           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Exposure         see exposure category – exposed           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors) terrain with no obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Korizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overh	les. d
Custom windows         circumstances it will include garages.           Custom windows         windows itsed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Ra Scheme) rating.           Default windows         windows that are representative of a specific type of window product and whose properties have been derived by statistic methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electrici input           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minim- ventilated corridor in a Class 2 building.           Exposure         see exposure category – exposed terrain with no obstructions e.g. flat grazing land, ccean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – suburban         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas exposure category – suburban           Horizontal shading feature         provides shading to the	
Custom windowsScheme) rating.Default windowswindows that are representative of a specific type of window product and whose properties have been derived by statistic inputEEREnergy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electrici inputEnergy useThis is your homes rating without solar or batteries.Energy valueThe net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCE Housing Provisions Standard).Entrance doorthese signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minim ventilated corridor in a Class 2 building.Exposuresee exposure category – exposed terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).Exposure category – openterrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).Exposure category – protectedterrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas.Horizontal shading featureprovides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balc (Net 2) classNet zero homea home that achieves a net zero energy value*.Opening percentagethe openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations. a nasumed value that does not represent an actual value. For example, if the wall colour is unspecified in the document a provisional value<	ne
Default windows         methods.           EER         Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electrici input           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minim. ventilated corridor in a Class 2 building.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors) cattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.           Horizontal shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balcc (NCC) Class           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.           an assumed value that does not represent an actual value. For example	ng
Energy use         Input         Input           Energy use         This is your homes rating without solar or batteries.           Energy value         The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).           Entrance door         these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minim. ventilated corridor in a Class 2 building.           Exposure         see exposure categories below.           Exposure category – exposed         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – open         terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).           Exposure category – protected         terrain with numerous, closely spaced obstructions below 10m e.g. aburban housing, heavily vegetated bushland areas           Exposure category – suburban         terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.           Provisonal Shading feature         provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balcor from upper levels.           Net zero home         a home that achieves a net zero energy value*.           Opening percentage         the openability percentage or operable (moveable) area of doors or windows that is used i	al
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Exposure       ventilated corridor in a Class 2 building.         Exposure       see exposure categories below.         Exposure category – exposed       terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors)         Exposure category – open       terrain with new obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).         Exposure category – protected       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas         Exposure category – suburban       terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.         Horizontal shading feature       provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balcor from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the document and can be found at www.nathe	
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Exposure category – protected       scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).         Exposure category – protected       terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas         Exposure category – suburban       terrain with numerous, closely spaced obstructions over 10 m e.g. suburban housing, heavily vegetated bushland areas         Horizontal shading feature       provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balco from upper levels.         National Construction Code (NCC) Class       the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.         Net zero home       a home that achieves a net zero energy value*.         Opening percentage       the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.         an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the document and can be found at www.nathers.gov.au         rovisional value       this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the is one or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualifity	
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Provisional value       a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical I and can be found at www.nathers.gov.au         Recommended capacity       this is the capacity or size of equipment that is recommendation and the final selection sizing should be confirmed by a suitably qualification.	
<b>Recommended capacity</b> zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified of the serviced serviced.	tion, ote
	e d
<b>Reflective wrap</b> (also known as foil) can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.	
Roof window for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an space, and generally does not have a diffuser.	attic
Shading features includes neighbouring buildings, fences, and wing walls, but excludes eaves.	
Skylight (also known as roof lights) for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.	
Solar heat gain coefficient (SHGC) the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less heat it transmits.	solar
STCs Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)	
Thermal breaks are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This include the but is not limited to, materials such as timber battenes greater than or equal to 20mm thick or continuous thermal breaks as polystyrene insulation sheeting or plastic strips	des, ich
U-value the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.	
<b>Unconditioned</b> a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.	
Vertical shading features provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Incl privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage to	des es).
Window shading device device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shadin features* (eg eaves and balconies)	]

## Nationwide House Energy Rating Scheme<sup>®</sup> NatHERS® Certificate No. 0009000837-01

Unit 18, 64-70 Stapleton Avenue,

Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22)

## Property

Address

Lot/DP NCC class\* Floor/all Floors Type

Casino, NSW, 2470 Lot 8-11 DP 31850 2 G of 1 floors New Home

## Plans

Main plan Prepared by BGZDY Brewster Murray

## Construction and environment

#### Assessed floor area [m2]\*

Conditioned\* 88.8 Unconditioned\* 2.2 91.1 Total Garage 0.0

Exposure type Suburban NatHERS climate zone

9 Amberley



#### Accredited assessor

Dean Gorman Name **Business name** Greenview Consulting Pty Ltd Email dean@greenview.net.au Phone 8544 1683 Accreditation No. DMN/13/1645 Assessor Accrediting Organisation Design Matters National Declaration completed: no conflicts

**Declaration of interest** 

NCC Requirements

NCC provisions Strate/Territory variation Volume One

Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.a

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

## Thermal performance Star rating

The more stars the more energy efficient

# NATIONWIDE

## 39.9 MJ/m<sup>2</sup>

Predicted annual energy load for heating and cooling based on standard occupancy assumptions.

> For more information on your dwelling's rating see: www.nathers.gov.au

## Thermal performance [MJ/m<sup>2</sup>]

Limits taken from ABCB Standard 2022

	Heating	Cooling
lodelled	13.4	26.5
oad limits	N/A	N/A

#### Features determining load limits

цà

Floor Type (lowest conditioned area)	N/A
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

## Whole of Home performance rating

No Whole of Home performance rating generated for this certificate.

#### Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate? p=MeoXCQFLn. When using either link, ensure you are visiting hstar.com.au



\* Refer to glossary Generated on 31 Oct 2023 using BERS Pro v5.1.5 (3.22) for Unit 18, 64-70 Stapleton Avenue , Casino , NSW , 2470



#### Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

#### Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value\* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

#### **Heating & Cooling Load Limits**

#### Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the *ABCB Standard 2022: NatHERS heating and cooling load limits* for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

#### Setting Options:

Floor Type:

- CSOG Concrete Slab on Ground
- SF Suspended Floor (or a mixture of CSOG and SF) NA Not Applicable
- NCC Climate Zone 1 or 2:
- NCC Climate Zone 1 of 2
  - Yes No

NA – Not Applicable

Outdoor Living Area:

Yes No

NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes No

NA - Not Applicable

# Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

# Predicted Whole of Home annual impact by appliance

#### Energy use



Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

Cost



#### 7.9 Star Rating as of 31 Oct 2023

•					HOUSE
Certificate check	Approva	I Stage	Construe Stage	ction	
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other
Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.	Assesso	Consent Surveyo	Builder o	Consent Surveyo	Occupar
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?					
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?					
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?					
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?					
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?					
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?					
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?					
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?					
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?					
Apartment entrance doors (NCC Class 2 assessments only)					
Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.					
Exposure*					
Has the appropriate exposure type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".					
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match what is shown					



	Approva	al Stage	Construe Stage	HOUSE		
Certificate check	hecked	thority/ iecked	cked	thority iecked	Other	
Continued	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	Occupancy/Other	
Additional NCC requirements for thermal performance (not inclu	uded in t	he NatHE	RS asse	ssment)		
Thermal bridging						
Does the dwelling meet the NCC requirement for thermal bridging?						
Insulation installation method						
Has the insulation been installed according to the NCC requirements?						
Building sealing						
Does the dwelling meet the NCC requirements for Building Sealing?						
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)						
Appliances						
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?						
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the hot water system type and efficiency/performance shown on the NatHERS- stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?						
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?						
Additional NCC Requirements for Services (not included in the	NatHERS	S assessi	nent)			
Does the lighting meet the artificial lighting requirements specified in the NCC?						
Does the hot water system meet the additional requirements specified in the NCC?						
Provisional values* check						
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?						
Other NCC requirements						

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

#### **Additional notes**



## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Glazed Common A	Glazed Common Area	21.09
Bedroom 1	Bedroom	12.96
Bath	Daytime	6.73
Ldry	Daytime	2.71
Kitchen/Living	Kitchen/Living	36.49
Hall 1	Daytime	8.21
WC	Unconditioned	2.25
Bedroom 2	Bedroom	10.16
Bedroom 3	Bedroom	11.57

## Window and glazed door type and performance

#### Default windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
window iD	Description	U-value*	3660	SHGC lower limit	SHGC upper limit		
ALM-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.60		
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74		

#### Custom windows\*

Window ID	Window	Maximum	SHGC*	Substitution tolerance ranges			
WINGOW ID	Description	U-value*	3160	SHGC lower limit SHGC upper limi			
No Data Availa	able						

## Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Glazed Common A	ALM-001-01 A	W8	2400	1030	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W9	2400	1030	Awning	45	Ν	No
Glazed Common A	ALM-001-01 A	W8	2400	1030	Awning	45	S	No
Glazed Common A	ALM-001-01 A	W12	2400	1030	Awning	45	S	No
Bedroom 1	ALM-001-01 A	W10	1590	850	Awning	10	Ν	No
Bedroom 1	ALM-001-01 A	W11	1590	850	Awning	10	Ν	No
Kitchen/Living	ALM-002-01 A	W12	2400	2400	Awning	90	Ν	No

0009000837-01 NatHERS Certificate7.9 Star Rating as of 31 Oct 2023								HOUSE
Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-001-01 A	W1	1200	1800	Awning	10	E	No
Kitchen/Living	ALM-001-01 A	W2	1200	1600	Awning	10	E	No
WC	ALM-001-01 A	W5	1200	600	Awning	10	S	No
Bedroom 2	ALM-001-01 A	W3	1590	1800	Awning	10	S	No
Bedroom 3	ALM-001-01 A	W4	1590	1800	Awning	10	S	No

## Roof window\* type and performance value

#### Default roof windows\*

Window ID		Maximum SHGC*		Substitution tolerance ranges		
window ID	Description	U-value*	SHGC	SHGC lower limit	SHGC upper limit	
No Data Availa	able					
Custom roof w	<i>v</i> indows*					
Custom roof w	vindows* <b>Window</b>	Maximum	SHGC*	Substitution to	lerance ranges	

## Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

## Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
GEN-04-006a	Single-glazed clear, Timber and Aluminium Frame	0.5

## Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m <sup>2</sup> ] Orientation	Outdoor shade	Diffuser
Bath	GEN-04-006a	S1	50	0.02 E	None	No
Ldry	GEN-04-006a	S2	50	0.02 E	None	No



## External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation	
No Data Available					

## External wall type

Wall Wall ID type	Solar Wall shade absorptance [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1 Fibro Timber Stud Frame Panel Direct Fix	0	Bulk Insulation R2.5	No
EW-2 Cavity Brick	0	Bulk Insulation R0.7	No

## External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Glazed Common A	EW-1	2700	2745	Ν	600	No
Glazed Common A	EW-1	2700	2745	S	400	Yes
Glazed Common A	EW-2	2700	2100	W	225	No
Bedroom 1	EW-1	2700	4200	Ν	800	Yes
Bedroom 1	EW-2	2700	2900	Е	5000	No
Bedroom 1	EW-2	2700	900	W	3000	No
Ldry	EW-1	2700	695	W	3075	No
Kitchen/Living	EW-2	2700	4295	Ν	3700	No
Kitchen/Living	EW-1	2700	4100	Е	700	Yes
Kitchen/Living	EW-1	2700	300	S	6600	No
Kitchen/Living	EW-1	2700	2195	Е	1000	Yes
WC	EW-1	2700	1190	S	700	Yes
Bedroom 2	EW-1	2700	3695	Е	1000	No
Bedroom 2	EW-1	2700	3095	S	700	Yes
Bedroom 3	EW-1	2700	3895	S	700	Yes
Bedroom 3	EW-1	2700	3095	W	800	No

## Internal wall type

Wa	II ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW	-001	TimberStud Frame, Brick Veneer	16.20	No insulation
IW	-002	Cavity brick	0.00	No Insulation

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation	HOUSE
IW-003	Timber Stud Frame, Direct Fix Plasterboard	96.93	No insulation	

## Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Glazed Common A	Concrete Slab, Unit Below 200mm	21.09	None	No Insulation	Ceramic Tiles 8mm
Bedroom 1	Concrete Slab, Unit Below 200mm	12.96	None	No Insulation	Carpet+Rubber Underlay 18mm
Bath	Concrete Slab, Unit Below 200mm	6.73	None	No Insulation	Ceramic Tiles 8mm
Ldry	Concrete Slab, Unit Below 200mm	2.71	None	No Insulation	Ceramic Tiles 8mm
Kitchen/Living	Concrete Slab, Unit Below 200mm	36.49	None	No Insulation	Ceramic Tiles 8mm
Hall 1	Concrete Slab, Unit Below 200mm	8.21	None	No Insulation	Ceramic Tiles 8mm
WC	Concrete Slab, Unit Below 200mm	2.25	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2	Concrete Slab, Unit Below 200mm	10.16	None	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3	Concrete Slab, Unit Below 200mm	11.57	None	No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Glazed Common A	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R2.5	
Bath	Plasterboard on Timber	Bulk Insulation R2.5	
Ldry	Plasterboard on Timber	Bulk Insulation R2.5	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R2.5	
Hall 1	Plasterboard on Timber	Bulk Insulation R2.5	
WC	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R2.5	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R2.5	



## **Ceiling** penetrations\*

Location	Quantity	Туре	Diameter [mm]	Sealed/unsealed
Bedroom 1	5	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	2	Exhaust Fans	150	Sealed
Ldry	1	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	150	Sealed
Kitchen/Living	14	Downlights - LED	150	Sealed
Kitchen/Living	14	Exhaust Fans	150	Sealed
Hall 1	3	Downlights - LED	150	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	150	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed

## **Ceiling** fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	900
Kitchen/Living	1	1200
Bedroom 2	1	900
Bedroom 3	1	900

## Roof type

Construction	Added insulation [R-value]	Solar absorptan	ce Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Anti-glare Up R1.3	30	Light

## Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

## Appliance schedule

#### (not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m<sup>2</sup> is used for lighting, therefore lighting is not included in the appliance schedule.



#### Cooling system

Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Heating system							
Appliance/ system type	Lo	cation F	uel type	eff	nimum iciency/ ormance		mended acity
No Data Available							
Hot water system							
Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC -		ubstitution e ranges upper limit	Assessec daily loac [litres]
No Data Available			-				
Pool/spa equipment							
Appliance/ system type		Fuel type		Minimur efficienc performa	;y/	Recomm capad	
No Data Available							

#### 

## **Battery** Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



#### Explanatory notes

#### About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value\* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value<sup>\*</sup>.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary.

Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

#### Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and

#### are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

#### Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings are likely to perform when used in a similar way.

Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, behaviour, appliance performance, indoor air temperature and local climate.

Not all assumptions made by the assessor using the NatHERS accredited software tool are presented in this report and further details or data files may be obtained from the assessor.

#### Glossary

Annual energy load     the p       Assessed floor area     the f       Ceiling penetrations     Fast       COP     Coel	tralian Fenestration Rating Council predicted amount of energy required for heating and cooling, based on standard occupancy assumptions. floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the rarea in the design documents. Ures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. Udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts.
Assessed floor area the f floor Ceiling penetrations Excl heat COP Coel	floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the area in the design documents. ures that require a penetration to the ceiling, including downlights, vents, exhaust fans, range hoods, chimneys and flues. udes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and ing and cooling ducts.
COP Coet	ing and cooling ducts.
	fficient of performance
Conditioned a zo circu	ne within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some imstances it will include garages.
	lows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating eme) rating.
Default windows wind meth	lows that are representative of a specific type of window product and whose properties have been derived by statistical nods.
EER Ener	rgy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity t
	is your homes rating without solar or batteries.
defir	net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as ned in the ABCB Housing Provisions Standard).
vention vention	e signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ilated corridor in a Class 2 building.
	exposure categories below.
	in with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
scatt	ain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with tered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
	ain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
	in with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
from from	ides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies upper levels.
	NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC s 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
	me that achieves a net zero energy value*.
	openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value a pro and	issumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, ovisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note can be found at www.nathers.gov.au
Recommended capacity this is zone pers	is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the e or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified on.
Reflective wrap (also known as can foil) call calls a can	be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides lative properties.
Roof window for N space	NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic ce, and generally does not have a diffuser.
	Ides neighbouring buildings, fences, and wing walls, but excludes eaves.
	latHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
(SUCC) subs	fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and sequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar it transmits.
boug	all-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be ght and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulator (CER)
Thermal breaks but is	materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, s not limited to, materials such as timber battens greater than or equal to 20mm thick or continuous thermal breaks such olystyrene insulation sheeting or plastic strips
U-value the r	rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned a zo	ne within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features prov privation	ides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes acy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).
	ce fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading ures* (eg eaves and balconies)