

# Nationwide House Energy Rating Scheme® NatHERS® Certificate No. #HR-9DD4XZ-01

Thermal performance  
star rating

Generated on 17 Jun 2024 using Hero 4.0 (Chenath v3.23)

## Property

**Address** 9 Blakelys Close, Sutton, NSW, 2620  
**Lot/DP** 15 / 271494  
**NCC Class\*** 1a  
**Floor/all Floors** 1 of 1 floors  
**Type** New

## Plans

**Main Plan** DA01  
**Prepared by** adhami pender architecture

## Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>	<b>Exposure Type</b>
<b>Conditioned*</b> 335.3	Suburban
<b>Unconditioned*</b> 27.0	<b>NATHERS climate zone</b>
<b>Total</b> 429.3	24 - Canberra Airport
<b>Garage</b> 67.1	



## Accredited assessor

**Name** Paul Gradwell  
**Business name** House Energy Certified  
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**Accreditation No.** DMN/18/4423  
**Assessor Accrediting Organisation** DMN  
**Declaration of interest** No Conflict of Interest

## NCC Requirements

**BCA provisions** Volume 2  
**State/Territory variation** Yes

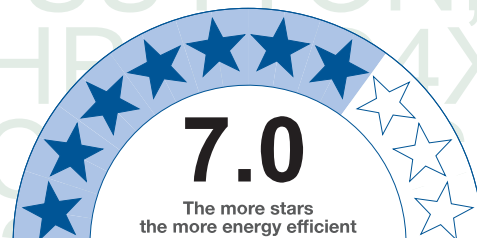
### National Construction Code (NCC) requirements

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 J2D2(2)(a) and (3) 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](http://www.abcb.gov.au).

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



**NATIONWIDE  
HOUSE**  
ENERGY RATING SCHEME®

**121.4 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](http://www.nathers.gov.au)

## Thermal performance (MJ/m<sup>2</sup>)

Limits taken from ABCB Standard 2022

	Heating	Cooling
<b>Modelled</b>	112.2	9.2
<b>Load limits</b>	117	30

### Features determining load limits

Floor type	
(lowest conditioned area)	CSOG
NCC climate zone 1 or 2	N
Outdoor living area	N
Outdoor living area ceiling fan N	

## 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

<http://www.hero-software.com.au/pdf/HR-9DD4XZ-01>.

When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.



## 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 and 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: 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

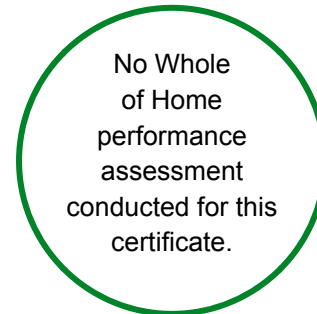
Outdoor living area ceiling fan:

- Yes
- No
- NA - Not Applicable

## Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar.

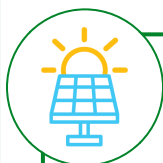
### Energy use:



### Greenhouse gas emissions:



### Cost:



## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

\* Refer to glossary.



## Certificate check

The checklist covers important items impacting the dwelling's ratings.

It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.

It is not mandatory to complete this checklist.

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

### Genuine certificate check

Does this Certificate match the one available at the web address or QR code verification link on the front page?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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#### 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.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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#### 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".	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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#### Heating and cooling load limits\*

Do the load limits settings (shown on page 1) match what is shown on the NatHERS-stamped plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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\* Refer to glossary.



## Certificate check

Continued

Approval stage		Construction stage		
Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

### Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

#### 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 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 as 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?

#### 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.

\* Refer to glossary.

## Room schedule

Room	Zone Type	Area (m <sup>2</sup> )
GARAGE	Garage	67.09
ENTRY	Day Time	25.86
PANTRY	Day Time	5.80
MASTER BED	Bedroom	22.68
WIR MASTER	Night Time	15.94
ENS MASTER	Night Time	10.97
BED 4	Bedroom	17.67
STUDY	Bedroom	11.90
BATH 1	Unconditioned	4.61
LDRY	Unconditioned	12.05
KITCHEN/LIVING	Kitchen/Living	93.16
THEATRE	Living	24.81
BED 3	Bedroom	12.89
BED 2	Bedroom	12.99
PWDR	Day Time	2.82
BATH 2	Unconditioned	10.33
BED 1	Bedroom	12.87
GAMES ROOM	Living	48.08
CORRIDOR	Day Time	16.83

## Window and glazed door type and performance

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73

\* Refer to glossary.



## Window and glazed door *type and performance*

### Default\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
ATB-003-03 B	Al Thermally Broken A DG Air Fill High Solar Gain low-E - Clear	3.10	0.39	0.37	0.41
ATB-004-03 B	Al Thermally Broken B DG Air Fill High Solar Gain low-E - Clear	3.10	0.49	0.47	0.51

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BATH 1	ATB-003-03 B	W13	600	2700	Awning	30	ENE	None
BATH 2	ATB-003-03 B	W07A	1900	900	Awning	30	ENE	None
BATH 2	ATB-003-03 B	W07B	1900	900	Awning	30	ENE	None
BED 1	ATB-003-03 B	W08	1200	2400	Casement	30	ENE	None
BED 2	ATB-003-03 B	W06	1200	2400	Casement	30	ENE	None
BED 3	ATB-003-03 B	W05	1200	2400	Casement	30	ENE	None
BED 4	ATB-003-03 B	W15	1200	2700	Awning	30	NNW	None
CORRIDOR	ATB-004-03 B	D01	2200	4800	Sliding Door	45	WSW	OP-90%
ENS MASTER	ATB-003-03 B	W16	2100	1500	Awning	30	NNW	None
ENTRY	ATB-004-03 B	W12	2700	1220	Fixed	0	ENE	None
ENTRY	ATB-004-03 B	D04b	2700	575	Fixed	0	WSW	None
ENTRY	ATB-004-03 B	D04c	500	1820	Fixed	0	WSW	None
GAMES ROOM	ATB-003-03 B	W09A	1750	2100	Casement	30	ENE	None
GAMES ROOM	ATB-003-03 B	W10B	1750	3650	Casement	30	WSW	OP-90%
GAMES ROOM	ATB-003-03 B	W10A	1750	2100	Casement	30	NNW	None
GAMES ROOM	ATB-004-03 B	W11	2200	1800	Sliding Door	45	SSE	None

\* Refer to glossary.



## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Shading device*
GAMES ROOM	ATB-003-03 B	W09B	1750	2100	Casement	30	NNW	None
GARAGE	ALM-002-01 A	W19	600	3200	Fixed	0	WSW	None
GARAGE	ALM-002-01 A	D06	2100	2100	Sliding Door	45	WSW	None
KITCHEN/LIVING	ATB-004-03 B	D02	2700	7200	Sliding Door	90	NNW	None
KITCHEN/LIVING	ATB-003-03 B	W02	850	3600	Awning	90	SSE	None
LDRY	ATB-003-03 B	D05	2100	920	Hinged Door	90	ENE	None
LDRY	ATB-004-03 B	W01	610	2700	Fixed	0	SSE	None
MASTER BED	ATB-003-03 B	W17A	1500	1200	Fixed	0	NNW	OP-90%
MASTER BED	ATB-003-03 B	W17B	1500	4605	Casement	30	WSW	OP-90%
STUDY	ATB-003-03 B	W14	2100	900	Awning	60	NNW	None
STUDY	ATB-003-03 B	D03a	2100	1100	Hinged Door	90	ENE	None
STUDY	ATB-004-03 B	D03b	2100	400	Fixed	0	ENE	None
STUDY	ATB-004-03 B	D03c	600	1500	Fixed	0	ENE	None
THEATRE	ATB-003-03 B	W04	1500	1500	Awning	30	ENE	None
THEATRE	ATB-003-03 B	W03	1500	1500	Awning	30	SSE	None
WIR MASTER	ATB-003-03 B	WIR Window	2100	600	Awning	30	NNW	None

## Roof window *type and performance value*

### Default\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
None					

### Custom\* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
VEL-011-01 W	FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.58	0.24	0.23	0.25

\* Refer to glossary.

## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
ENTRY	VEL-011-01 W	SKYRW 01	0	1180	1140	WSW	OP-90%	None

## Skylight type and performance

Skylight ID	Skylight description
None	

## Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m <sup>2</sup> )	Orientation	Outdoor shade	Diffuser	Shaft Reflectance
None								

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
ENTRY	2700	1245	90	WSW
GARAGE	2200	6100	90	SSE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-NONREFL-CAV-A	Brick Veneer Stud Wall with Non-Reflective Sarking	0.50	Medium	0.00	No
BV-NONREFL-CAV-B	Brick Veneer Stud Wall with Non-Reflective Sarking	0.50	Medium	2.70	No
WB-NONREFL-CAV-A	Weatherboard Battened (Non-Refl Cavity) Stud Wall	0.50	Medium	0.00	No
WB-NONREFL-CAV-B	Weatherboard Battened (Non-Refl Cavity) Stud Wall	0.50	Medium	2.70	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATH 1	WB-NONREFL-CAV-B	3100	2870	ENE	682	Yes
BATH 2	WB-NONREFL-CAV-B	2500	3457	ENE	170	No
BATH 2	WB-NONREFL-CAV-B	2500	579	SSE	13479	Yes
BATH 2	WB-NONREFL-CAV-B	2500	579	NNW	10687	Yes
BED 1	BV-NONREFL-CAV-B	2500	3801	ENE	638	Yes

\* Refer to glossary.



## External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
BED 2	BV-NONREFL-CAV-B	2500	3834	ENE	638	Yes
BED 3	BV-NONREFL-CAV-B	2500	3807	ENE	638	Yes
BED 4	WB-NONREFL-CAV-B	2800	3414	NNW	724	Yes
CORRIDOR	WB-NONREFL-CAV-B	2600	604	NNW	700	Yes
CORRIDOR	WB-NONREFL-CAV-B	2600	12724	WSW	689	Yes
ENS MASTER	BV-NONREFL-CAV-B	2400	2119	NNW	504	Yes
ENTRY	WB-NONREFL-CAV-B	3100	3104	ENE	682	Yes
ENTRY	WB-NONREFL-CAV-B	2700	2524	SSE	797	Yes
ENTRY	WB-NONREFL-CAV-B	3200	3190	WSW	2497	Yes
ENTRY	BV-NONREFL-CAV-B	2700	1086	SSE	711	Yes
GAMES ROOM	BV-NONREFL-CAV-B	2500	5995	ENE	638	Yes
GAMES ROOM	BV-NONREFL-CAV-B	2800	6788	WSW	633	Yes
GAMES ROOM	BV-NONREFL-CAV-B	2500	4799	NNW	592	No
GAMES ROOM	WB-NONREFL-CAV-B	3100	2865	SSE	1586	Yes
GAMES ROOM	BV-NONREFL-CAV-B	2500	2697	NNW		No
GARAGE	BV-NONREFL-CAV-A	2400	7270	SSE	668	No
GARAGE	BV-NONREFL-CAV-A	2400	6238	WSW	668	Yes
GARAGE	WB-NONREFL-CAV-A	2400	6116	NNW	597	Yes
GARAGE	WB-NONREFL-CAV-A	2400	3330	WSW	779	Yes
KITCHEN/LIVING	WB-NONREFL-CAV-B	3100	13963	NNW	2441	Yes
KITCHEN/LIVING	BV-NONREFL-CAV-B	3000	12631	SSE	661	Yes
LDRY	BV-NONREFL-CAV-B	2400	2892	ENE	692	Yes
LDRY	BV-NONREFL-CAV-B	2400	3600	SSE	640	No
MASTER BED	BV-NONREFL-CAV-B	2400	3506	NNW	504	Yes
MASTER BED	BV-NONREFL-CAV-B	2400	3506	SSE	686	Yes

\* Refer to glossary.

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
MASTER BED	BV-NONREFL-CAV-B	2160	6469	WSW	606	No
STUDY	WB-NONREFL-CAV-B	3100	3416	NNW	724	Yes
STUDY	WB-NONREFL-CAV-B	3100	3485	ENE	682	Yes
THEATRE	BV-NONREFL-CAV-B	2500	4739	ENE	638	Yes
THEATRE	BV-NONREFL-CAV-B	2500	5235	SSE	661	Yes
WIR MASTER	BV-NONREFL-CAV-B	2400	2071	NNW	504	Yes
WIR MASTER	BV-NONREFL-CAV-B	2400	4270	SSE	686	Yes

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	23.0	2.70
INT-PB	Internal Plasterboard Stud Wall	201.3	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
BATH 1	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	4.6	N/A	0.59	Tile (8mm)
BATH 2	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	10.3	N/A	0.59	Tile (8mm)
BED 1	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	12.9	N/A	0.59	Carpet
BED 2	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	13.0	N/A	0.59	Carpet
BED 3	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	12.9	N/A	0.59	Carpet
BED 4	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	17.7	N/A	0.59	Timber (19mm)
CORRIDOR	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	16.8	N/A	0.59	Timber (12mm)
ENS MASTER	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	11.0	N/A	0.59	Tile (8mm)
ENTRY	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	25.9	N/A	0.59	Timber (12mm)
GAMES ROOM	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	48.1	N/A	0.59	Timber (12mm)
GARAGE	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	67.1	N/A	0.59	Exposed



## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
KITCHEN/LIVING	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	93.2	N/A	0.59	Timber (12mm)
LDRY	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	12.1	N/A	0.59	Tile (8mm)
MASTER BED	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	22.7	N/A	0.59	Carpet
PANTRY	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	5.8	N/A	0.59	Timber (12mm)
PWDR	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	2.8	N/A	0.59	Tile (8mm)
STUDY	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	11.9	N/A	0.59	Timber (19mm)
THEATRE	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	24.8	N/A	0.59	Carpet
WIR MASTER	WAFFLE-85: Concrete Waffle Pod Slab on Ground (85mm)	15.9	N/A	0.59	Carpet

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BATH 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
BATH 2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
BED 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
BED 2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
BED 3	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
BED 4	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
CORRIDOR	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
ENS MASTER	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
ENTRY	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
ENTRY	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
GAMES ROOM	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
GAMES ROOM	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
GARAGE	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	Yes
KITCHEN/LIVING	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
KITCHEN/LIVING	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
LDRY	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
MASTER BED	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes
PANTRY	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
PWDR	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
STUDY	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
THEATRE	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	5.00	Yes
WIR MASTER	FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	5.00	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATH 1	1	Exhaust Fan	250	Sealed
BATH 1	1	Downlight	150	Sealed
BATH 2	1	Exhaust Fan	250	Sealed
BATH 2	4	Downlight	150	Sealed
BED 1	5	Downlight	150	Sealed
BED 2	5	Downlight	150	Sealed
BED 3	5	Downlight	150	Sealed
BED 4	7	Downlight	150	Sealed
CORRIDOR	6	Downlight	150	Sealed
ENS MASTER	1	Exhaust Fan	250	Sealed
ENS MASTER	4	Downlight	150	Sealed
ENTRY	12	Downlight	150	Sealed
GAMES ROOM	19	Downlight	150	Sealed
GARAGE	27	Downlight	150	Sealed
KITCHEN/LIVING	1	Exhaust Fan	250	Sealed

\* Refer to glossary.

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
KITCHEN/LIVING	37	Downlight	150	Sealed
LDRY	1	Exhaust Fan	250	Sealed
LDRY	5	Downlight	150	Sealed
MASTER BED	9	Downlight	150	Sealed
PANTRY	2	Downlight	150	Sealed
PWDR	1	Exhaust Fan	250	Sealed
PWDR	1	Downlight	150	Sealed
STUDY	5	Downlight	150	Sealed
THEATRE	10	Downlight	150	Sealed
WIR MASTER	6	Downlight	150	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
BED 1	1	1200
BED 2	1	1200
BED 3	1	1200
BED 4	1	1200
GAMES ROOM	1	1500
KITCHEN/LIVING	1	1500
MASTER BED	1	1200
STUDY	1	1200
THEATRE	1	1500

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	0.30	Light
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	1.30	0.30	Light

\* Refer to glossary.



## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
FLAT-02: Flat Framed / Skillion Metal Roof & Cathedral PB Ceiling (11°-33°)	1.30	0.30	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)
None				

## Appliance *schedule*

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

### Cooling system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

### Heating system

Type	Location	Fuel Type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data				

### Hot water system

Type	Fuel type	Hot Water CER Zone	Minimum efficiency / STC	Assessed daily load [litres]
No Whole of Home Data				

### Pool / spa equipment

Type	Fuel type	Minimum efficiency / performance	Recommended capacity
No Whole of Home Data			

## Onsite Renewable Energy *schedule*

Type	Orientatation	Generation Capacity [kW]
No Whole of Home Data		

## Battery *schedule*

Type	Storage Capacity [kWh]
No Whole of Home Data	

\* Refer to glossary.

## 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 home's 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

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<b>AFRC</b>	Australian Fenestration Rating Council
<b>Assessed floor area</b>	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.
<b>Ceiling penetrations</b>	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.
<b>Conditioned</b>	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.
<b>COP</b>	Coefficient of performance
<b>Custom windows</b>	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
<b>Default windows</b>	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
<b>EER</b>	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
<b>Energy use</b>	This is your home's rating without solar or batteries.
<b>Energy value</b>	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).
<b>Entrance door</b>	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.
<b>Exposure</b>	see exposure categories below
<b>Exposure category - exposed</b>	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
<b>Exposure category - open</b>	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).
<b>Exposure category - suburban</b>	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
<b>Exposure category - protected</b>	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
<b>Horizontal shading feature</b>	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
<b>National Construction Code (NCC) Class</b>	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 <a href="http://www.abcb.gov.au">www.abcb.gov.au</a> .
<b>Net zero home</b>	a home that achieves a net zero energy value*.
<b>Opening percentage</b>	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
<b>Provisional value</b>	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 <a href="http://www.nathers.gov.au">www.nathers.gov.au</a>
<b>Recommended capacity</b>	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 (also known as foil)</b>	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
<b>Roof window</b>	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.
<b>Shading features</b>	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
<b>Solar heat gain coefficient (SHGC)</b>	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.
<b>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.
<b>STCs</b>	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 Regulatory
<b>Thermal breaks</b>	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, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
<b>U-value</b>	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
<b>Vertical shading features</b>	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).
<b>Window shading device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

\* Refer to glossary.