

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. 0005134796

Generated on 21 Aug 2020 using AccuRate Sustainability V2.4.3.21

### Property

**Address** 44 Kooloora Avenue , Freshwater , NSW ,  
2096

**Lot/DP** Lot 1 DP 171852

**NCC Class\*** 1a

**Type** New Home

### Plans

**Main Plan** 21910/070520

**Prepared by** BREWSTER HJORTH ARCHITECTS

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
Conditioned* 263.3	Suburban
Unconditioned* 93.1	<b>NatHERS climate zone</b>
Total 356.3	56
Garage 60.3	



### Accredited assessor

**Name** Matthew Graham

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**Accreditation No.** DMN/15/1680

**Assessor Accrediting Organisation**  
Design Matters National

**Declaration of interest** Declaration completed: no conflicts

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated houses are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](http://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.

**5.3**  
The more stars  
the more energy efficient

**NATIONWIDE  
HOUSE**  
ENERGY RATING SCHEME

**61.8 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

Heating	Cooling
<b>35.9</b> MJ/m <sup>2</sup>	<b>25.9</b> MJ/m <sup>2</sup>

### About the rating

NatHERS software models the expected thermal energy loads using information about the design and construction, climate and common patterns of household use. The software does not take into account appliances, apart from the airflow impacts from ceiling fans.

### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=uJOcFGcFu](http://hstar.com.au/QR/Generate?p=uJOcFGcFu). When using either link, ensure you are visiting [hstar.com.au](http://hstar.com.au)



## Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

### Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

### Ceiling penetrations\*

Does the 'number' and 'type' of ceiling penetrations (e.g. downlights, exhaust fans, etc) shown on the stamped plans or installed, match what is shown in this Certificate?

### Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate?

### Apartment entrance doors

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 level (terrain) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".

### Provisional\* values

Have provisional values been used in the assessment and, if so, noted in "additional notes" below?

## Additional notes

## Window and glazed door *type and performance*

### Default\* windows

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

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
AWS-074-05 A	CURTAIN WALL SERIES 168 TB TPS Spacer DG 6mmSupBI-16Ar- 6mmPerformaTechClr	1.8	0.24	0.24	0.24

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
G ENTRY	AWS-074-05 A	W1.18b	735	4394	Other	00	NW	None
G ENTRY	AWS-074-05 A	W1.1c	2200	1080	Casement	90	SW	None
G ENTRY	AWS-074-05 A	W1.1b	2720	700	Other	00	SW	None
G ENTRY	AWS-074-05 A	W1.1a	520	1080	Other	00	SW	None
G STAIR/HALL	AWS-074-05 A	W1.08	2800	4500	Other	60	SE	None
G STAIR/HALL	AWS-074-05 A	W1.07	2800	1218	Other	00	SE	None
G STAIR/HALL	AWS-074-05 A	W1.15a	2800	1089	Other	00	NW	None
G STAIR/HALL	AWS-074-05 A	W1.16	2800	1610	Other	00	NE	None
G STAIR/HALL	AWS-074-05 A	W1.15b	2800	3352	Sliding	60	NW	None
G STAIR/HALL	AWS-074-05 A	W1.17	2800	1300	Other	00	NW	None
G STAIR/HALL	AWS-074-05 A	W1.18a	735	1801	Other	00	NW	None
G LIVING	AWS-074-05 A	W1.2b	2700	3505	Other	59	SW	None
G LIVING	AWS-074-05 A	W1.3	344	2480	Other	00	SE	None
G LIVING	AWS-074-05 A	W1.5	344	2480	Other	00	SE	None
G LIVING	AWS-074-05 A	W1.4a	1400	2100	Other	00	SE	None
G LIVING	AWS-074-05 A	W1.4c	700	2100	Other	00	SE	None
G LIVING	AWS-074-05 A	W1.4b	700	2100	Awning	90	SE	None
G LIVING	AWS-074-05 A	W1.6a	2100	647	Other	00	NE	None
G LIVING	AWS-074-05 A	W1.6c	700	3547	Other	00	NE	None
G LIVING	AWS-074-05 A	W1.6b	2100	2900	Casement	90	NE	None
G GUEST ROOM	AWS-074-05 A	W1.2a	2700	1475	Other	00	SW	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.09	2694	2465	Other	28	SW	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.11	344	2480	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.13	344	2480	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.10a	1400	2100	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.10c	700	2100	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.10b	700	2100	Awning	90	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.12a	1400	2100	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.12c	700	2100	Other	00	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.12b	700	2100	Awning	90	SE	None
G KITCHEN/LIVING/DINING	AWS-074-05 A	W1.14	2800	4475	Other	28	NE	None
1 VOID ENTRY	AWS-074-05 A	W2.1	2700	1680	Other	00	SW	None
1 STAIR/HALL	AWS-074-05 A	W2.8	2800	4500	Other	00	SE	None
1 STAIR/HALL	AWS-074-05 A	W2.09a	2800	1089	Other	00	NW	None
1 STAIR/HALL	AWS-074-05 A	W2.10	2800	1610	Other	00	NE	None
1 STAIR/HALL	AWS-074-05 A	W2.09b	2800	3352	Other	00	NW	None
1 BED NA	AWS-074-05 A	W2.3	2700	3315	Other	40	SW	None

\* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
1 BED NA	AWS-074-05 A	W2.5	344	2480	Other	00	SE	None
1 BED NA	AWS-074-05 A	W2.4b	700	2100	Awning	90	SE	None
1 BED NA	AWS-074-05 A	W2.6b	700	2100	Awning	90	SE	None
1 BED NA	AWS-074-05 A	W2.6c	700	2100	Other	00	SE	None
1 BED NA	AWS-074-05 A	W2.4c	700	2100	Other	00	SE	None
1 BED NA	AWS-074-05 A	W2.4a	1400	2100	Other	00	SE	None
1 BED NA	AWS-074-05 A	W2.6a	1400	2100	Other	00	SE	None
1 BED NA	AWS-074-05 A	W2.7b	2100	2900	Casement	90	NE	None
1 BED NA	AWS-074-05 A	W2.7c	700	3547	Other	00	NE	None
1 BED NA	AWS-074-05 A	W2.7a	2100	647	Other	00	NE	None
1 ENS-BNA	AWS-074-05 A	W2.2a	2700	550	Other	00	SW	None
1 ENS-BNA	AWS-074-05 A	W2.2b	650	865	Other	00	SW	None
1 ENS-BNA	AWS-074-05 A	W2.2d	650	865	Other	00	SW	None
1 ENS-BNA	AWS-074-05 A	W2.2c	1400	865	Awning	90	SW	None
1 BEDROOM 01	AWS-074-05 A	W2.09	2721	2465	Other	28	SW	None
1 BEDROOM 01	AWS-074-05 A	W2.10a	1400	1200	Other	00	SE	None
1 BEDROOM 01	AWS-074-05 A	W2.10b	700	1200	Awning	90	SE	None
1 BEDROOM 01	AWS-074-05 A	W2.10c	700	1200	Other	00	SE	None
1 BEDROOM 01	AWS-074-05 A	W2.11	344	2480	Other	00	SE	None
1 BEDROOM 02	AWS-074-05 A	W2.13a	344	1215	Other	00	SE	None
1 BEDROOM 02	AWS-074-05 A	W2.12b	700	2100	Awning	90	SE	None
1 BEDROOM 02	AWS-074-05 A	W2.12c	700	2100	Other	00	SE	None
1 BEDROOM 02	AWS-074-05 A	W2.12a	1400	2100	Other	00	SE	None
1 BEDROOM 03	AWS-074-05 A	W2.13b	344	1215	Other	00	SE	None
1 BEDROOM 03	AWS-074-05 A	W2.14b	700	2100	Awning	90	SE	None
1 BEDROOM 03	AWS-074-05 A	W2.14c	700	2100	Other	00	SE	None
1 BEDROOM 03	AWS-074-05 A	W2.14a	1400	2100	Other	00	SE	None
1 BEDROOM 04	AWS-074-05 A	W2.15	344	2480	Other	00	SE	None
1 BEDROOM 04	AWS-074-05 A	W2.16c	700	1200	Other	00	SE	None
1 BEDROOM 04	AWS-074-05 A	W2.16a	1400	1200	Other	00	SE	None
1 BEDROOM 04	AWS-074-05 A	W2.16b	700	1200	Awning	90	SE	None
1 BEDROOM 04	AWS-074-05 A	W2.17	2800	2802	Other	40	NE	None
1 LOUNGE	AWS-074-05 A	W2.18	2400	1206	Other	00	NE	None
1 LOUNGE	AWS-074-05 A	W3.1a	550	5244	Other	00	NW	None
1 BATHROOM 01	AWS-074-05 A	W3.1c	550	2646	Other	45	NW	None
1 BATHROOM 02	AWS-074-05 A	W3.1b	550	3000	Other	45	NW	None

## Roof window type and performance

### Default\* roof windows

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

### Custom\* roof windows

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

## Skylight schedule

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

## External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
B GARAGE/STORE	2400	3000	100	SW
G LAUNDRY	2100	820	100	NW

## External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	Retaining Bituminous roof membrane/Concrete block/Plasterboard	1	Medium		No
EW-002	Concrete block/Plasterboard	30	Light		No
EW-003	Brick wall/Plasterboard	30	Light		No
EW-004	Plasterboard	30	Light		No
EW-005	Timber/Brick wall/Plasterboard	30	Light	Glass fibre batt (k = 0.044 density = 12 kg/m3): R2.7	Yes

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-006	Brick wall/Plasterboard	30	Light	Glass fibre batt (k = 0.044 density = 12 kg/m <sup>3</sup> ): R2.7	Yes
EW-007	Aluminium	30	Light		No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
B SUBFLOOR	EW-001	1300	1129	SW		No
B SUBFLOOR	EW-001	1300	14900	SE		No
B SUBFLOOR	EW-001	1300	6408	NE		No
B SUBFLOOR	EW-001	1300	14900	NW		No
B GARAGE/STORE	EW-001	2600	2200	SE		No
B GARAGE/STORE	EW-001	2600	2389	NE		No
B GARAGE/STORE	EW-001	2600	2000	SE		No
B GARAGE/STORE	EW-002	600	4044	NW		No
B GARAGE/STORE	EW-001	2000	4044	NW		No
B GARAGE/STORE	EW-003	2400	4010	SW		No
B GARAGE/STORE	EW-004	2600	1510	SE		No
B GARAGE/STORE	EW-002	1100	6781	SE		No
B GARAGE/STORE	EW-001	1500	6781	SE		No
B GARAGE/STORE	EW-001	2600	210	SW		No
B PLANT	EW-002	600	1500	NW		No
B PLANT	EW-001	2000	1500	NW		No
B PLANT	EW-003	2400	2558	SW		No
B CELLAR	EW-002	600	4309	NW		No
B CELLAR	EW-001	2000	4309	NW		No
B STAIR	EW-002	600	3419	NW		No
B STAIR	EW-001	2000	3419	NW		No
G ENTRY	EW-005	2800	4394	NW		No
G ENTRY	EW-006	2800	1780	SW		No
G STAIR/HALL	EW-006	2800	6001	SE	3820	Yes
G STAIR/HALL	EW-006	2800	1089	NW		No
G STAIR/HALL	EW-006	2800	1680	NE		No
G STAIR/HALL	EW-006	2800	3352	NW		No
G STAIR/HALL	EW-005	2800	3351	NW		No
G LIVING	EW-006	2800	3555	SW	1400	Yes
G LIVING	EW-005	2800	7290	SE		No
G LIVING	EW-006	2800	3695	NE	1500	Yes
G GUEST ROOM	EW-006	2800	1853	SW	1400	Yes

\* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
G GUEST ROOM	EW-006	2800	855	NW		No
G KITCHEN/LIVING/DINING	EW-005	2800	4660	NW		No
G KITCHEN/LIVING/DINING	EW-006	2800	2795	SW		No
G KITCHEN/LIVING/DINING	EW-005	2800	11050	SE		No
G KITCHEN/LIVING/DINING	EW-006	2800	4658	NE	3850	Yes
G PANTRY 01	EW-005	2800	1450	NW		No
G PANTRY 02	EW-006	2800	1800	NE	3850	Yes
G PANTRY 02	EW-005	2800	1240	NW		No
G LAUNDRY	EW-005	2800	3400	NW		No
G LAUNDRY	EW-006	2800	1700	SW		No
1 VOID ENTRY	EW-005	2800	7645	NW		No
1 VOID ENTRY	EW-006	2800	1680	SW		No
1 STAIR/HALL	EW-006	2800	4501	SE		No
1 STAIR/HALL	EW-006	2800	1089	NW		No
1 STAIR/HALL	EW-006	2800	1680	NE		No
1 STAIR/HALL	EW-006	2800	3352	NW		No
1 BED NA	EW-006	2800	1250	SE		No
1 BED NA	EW-006	2800	3415	SW	1400	Yes
1 BED NA	EW-005	2800	7290	SE		No
1 BED NA	EW-006	2800	3555	NE		No
1 ENS-BNA	EW-006	2800	1953	SW	1400	Yes
1 ENS-BNA	EW-006	2800	855	NW		No
1 HALL 02	EW-006	2800	400	SW		No
1 BEDROOM 01	EW-006	2800	2795	SW		No
1 BEDROOM 01	EW-005	2800	3700	SE		No
1 BEDROOM 02	EW-005	2800	3525	SE		No
1 BEDROOM 03	EW-005	2800	3525	SE		No
1 BEDROOM 04	EW-005	2800	3700	SE		No
1 BEDROOM 04	EW-006	2800	3202	NE		No
1 LOUNGE	EW-006	2800	3306	NE		No
1 LOUNGE	EW-005	2800	6990	NW		No
1 LOUNGE	EW-006	550	5244	NW		No
1 LOUNGE	EW-006	275	1350	NE		No
1 BATHROOM 01	EW-005	2800	3000	NW		No
1 BATHROOM 01	EW-006	550	2646	NW		No
1 BATHROOM 01	EW-006	270	1350	SW		No
1 BATHROOM 02	EW-005	2800	3000	NW		No
1 BATHROOM 02	EW-006	550	3000	NW		No
1 WIL	EW-005	2800	1550	NW		No

\* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
1 WIL	EW-006	2800	1180	SW		No

## Internal wall type

Wall ID	Wall type	Area (m <sup>2</sup> )	Bulk insulation
IW-001	Concrete block	5.97	
IW-002	Plasterboard/Brick wall	259.43	
IW-003	Plasterboard	52.24	
IW-004	Retaining Bituminous roof membrane/Concrete block/Plasterboard	5.97	

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
B SUBFLOOR/Ground	CON120	95.48	Enclosed		
B GARAGE/STORE/Ground	CON120	60.33			
B PLANT/Ground	CON120	3.84			
B CELLAR/Ground	CON120	13.46			
B STAIR/Ground	CON200   R23	9.09		R2.4	
G ENTRY/B CELLAR	CPT   CON200   R25   PBD	6.35		R2.5	Carpet 10 + felt underlay 10
G ENTRY/B STAIR	CPT   CON200   R25   PBD	0.15		R2.5	Carpet 10 + felt underlay 10
G STAIR/HALL/B GARAGE/STORE	CPT   CON200   R25   PBD	16.14		R2.5	Carpet 10 + felt underlay 10
G STAIR/HALL/B STAIR	CPT   CON200   R25   PBD	8.42		R2.5	Carpet 10 + felt underlay 10
G LIVING/B GARAGE/STORE	CPT   CON200   R25   PBD	22.23		R2.5	Carpet 10 + felt underlay 10
G POWDER ROOM/B GARAGE/STORE	CTL   PLS   CON200   R25   PBD	0.32		R2.5	Ceramic tile
G POWDER ROOM/B CELLAR	CTL   PLS   CON200   R25   PBD	3.40		R2.5	Ceramic tile
G POWDER ROOM/B STAIR	CTL   PLS   CON200   R25   PBD	0.09		R2.5	Ceramic tile
G GUEST ROOM/B GARAGE/STORE	CPT   CON200   R25   PBD	1.45		R2.5	Carpet 10 + felt underlay 10
G GUEST ROOM/B PLANT	CPT   CON200   R25   PBD	0.44		R2.5	Carpet 10 + felt underlay 10
G GUEST ROOM/B CELLAR	CPT   CON200   R25   PBD	2.29		R2.5	Carpet 10 + felt underlay 10
G KITCHEN/LIVING/DINING/B SUBFLOOR	CPT   R23   CON200	51.47		R2.4	Carpet 10 + felt underlay 10
G KITCHEN/LIVING/DINING/B SUBFLOOR	CTL   PLS   R23   CON200	8.16		R2.4	Ceramic tile
G PANTRY 01/B SUBFLOOR	CPT   R23   CON200	2.25		R2.4	Carpet 10 + felt underlay 10
G PANTRY 02/B SUBFLOOR	CPT   R23   CON200	1.92		R2.4	Carpet 10 + felt underlay 10
G LAUNDRY/B SUBFLOOR	CTL   PLS   R23   CON200	5.27		R2.4	Ceramic tile



Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
1 VOID ENTRY/G ENTRY	CPT   CON200   482   PBD	7.38			Carpet 10 + felt underlay 10
1 VOID ENTRY/G STAIR/HALL	CPT   CON200   482   PBD	5.21			Carpet 10 + felt underlay 10
1 STAIR/HALL/G STAIR/HALL	CPT   CON200   482   PBD	15.03			Carpet 10 + felt underlay 10
1 BED NA/G STAIR/HALL	CPT   CON200   482   PBD	4.47			Carpet 10 + felt underlay 10
1 BED NA/G LIVING	CPT   CON200   482   PBD	25.04			Carpet 10 + felt underlay 10
1 DRESS BNA/G POWDER ROOM	CPT   CON200   482   PBD	3.66			Carpet 10 + felt underlay 10
1 ENS-BNA/G GUEST ROOM	CTL   PLS   CON200   482   PBD	5.00			Ceramic tile
1 WC BNA/G STAIR/HALL	CTL   PLS   CON200   482   PBD	1.15			Ceramic tile
1 WC BNA/G POWDER ROOM	CTL   PLS   CON200   482   PBD	0.72			Ceramic tile
1 HALL 02/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD	8.09			Carpet 10 + felt underlay 10
1 HALL 02/G LAUNDRY	CPT   CON200   482   PBD	0.32			Carpet 10 + felt underlay 10
1 BEDROOM 01/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD	13.35			Carpet 10 + felt underlay 10
1 BEDROOM 02/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD	12.72			Carpet 10 + felt underlay 10
1 BEDROOM 03/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD	12.72			Carpet 10 + felt underlay 10
1 BEDROOM 04/Outdoor Air	CPT   CON200   R25   FCS	12.32		R2.5	Carpet 10 + felt underlay 10
1 LOUNGE/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD	5.54			Carpet 10 + felt underlay 10
1 LOUNGE/G PANTRY 02	CPT   CON200   482   PBD	2.23			Carpet 10 + felt underlay 10
1 LOUNGE/Outdoor Air	CPT   CON200   R25   FCS	10.56		R2.5	Carpet 10 + felt underlay 10
1 BATHROOM 01/G PANTRY 01	CTL   PLS   CON200   482   PBD	2.05			Ceramic tile
1 BATHROOM 01/G LAUNDRY	CTL   PLS   CON200   482   PBD	3.03			Ceramic tile
1 BATHROOM 02/G KITCHEN/LIVING/DINING	CTL   PLS   CON200   482   PBD	4.80			Ceramic tile
1 BATHROOM 02/G PANTRY 01	CTL   PLS   CON200   482   PBD	0.28			Ceramic tile
1 WIL/G LAUNDRY	CPT   CON200   482   PBD	2.28			Carpet 10 + felt underlay 10

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
G KITCHEN/LIVING/DINING/B SUBFLOOR	CPT   R23   CON200	R2.4	No
G KITCHEN/LIVING/DINING/B SUBFLOOR	CTL   PLS   R23   CON200	R2.4	No
G PANTRY 01/B SUBFLOOR	CPT   R23   CON200	R2.4	No
G PANTRY 02/B SUBFLOOR	CPT   R23   CON200	R2.4	No
G LAUNDRY/B SUBFLOOR	CTL   PLS   R23   CON200	R2.4	No
G STAIR/HALL/B GARAGE/STORE	CPT   CON200   R25   PBD	R2.5	No

\* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
G LIVING/B GARAGE/STORE	CPT   CON200   R25   PBD	R2.5	No
G POWDER ROOM/B GARAGE/STORE	CTL   PLS   CON200   R25   PBD	R2.5	No
G GUEST ROOM/B GARAGE/STORE	CPT   CON200   R25   PBD	R2.5	No
G GUEST ROOM/B PLANT	CPT   CON200   R25   PBD	R2.5	No
G ENTRY/B CELLAR	CPT   CON200   R25   PBD	R2.5	No
G POWDER ROOM/B CELLAR	CTL   PLS   CON200   R25   PBD	R2.5	No
G GUEST ROOM/B CELLAR	CPT   CON200   R25   PBD	R2.5	No
G ENTRY/B STAIR	CPT   CON200   R25   PBD	R2.5	No
G STAIR/HALL/B STAIR	CPT   CON200   R25   PBD	R2.5	No
G POWDER ROOM/B STAIR	CTL   PLS   CON200   R25   PBD	R2.5	No
1 VOID ENTRY/G ENTRY	CPT   CON200   482   PBD		No
1 VOID ENTRY/G STAIR/HALL	CPT   CON200   482   PBD		No
1 STAIR/HALL/G STAIR/HALL	CPT   CON200   482   PBD		No
1 BED NA/G STAIR/HALL	CPT   CON200   482   PBD		No
1 WC BNA/G STAIR/HALL	CTL   PLS   CON200   482   PBD		No
1 BED NA/G LIVING	CPT   CON200   482   PBD		No
1 DRESS BNA/G POWDER ROOM	CPT   CON200   482   PBD		No
1 WC BNA/G POWDER ROOM	CTL   PLS   CON200   482   PBD		No
1 ENS-BNA/G GUEST ROOM	CTL   PLS   CON200   482   PBD		No
1 HALL 02/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD		No
1 BEDROOM 01/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD		No
1 BEDROOM 02/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD		No
1 BEDROOM 03/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD		No
1 LOUNGE/G KITCHEN/LIVING/DINING	CPT   CON200   482   PBD		No
1 BATHROOM 02/G KITCHEN/LIVING/DINING	CTL   PLS   CON200   482   PBD		No
1 BATHROOM 01/G PANTRY 01	CTL   PLS   CON200   482   PBD		No
1 BATHROOM 02/G PANTRY 01	CTL   PLS   CON200   482   PBD		No
1 LOUNGE/G PANTRY 02	CPT   CON200   482   PBD		No
1 HALL 02/G LAUNDRY	CPT   CON200   482   PBD		No
1 BATHROOM 01/G LAUNDRY	CTL   PLS   CON200   482   PBD		No
1 WIL/G LAUNDRY	CPT   CON200   482   PBD		No

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm <sup>2</sup> )	Sealed/unsealed
B GARAGE/STORE	24	Downlight		Sealed
B PLANT	1	Downlight		Sealed
B CELLAR	5	Downlight		Sealed
B STAIR	2	Downlight		Sealed

\* Refer to glossary.

Location	Quantity	Type	Diameter (mm )	Sealed/unsealed
G STAIR/HALL	8	Downlight		Sealed
G LIVING	10	Downlight		Sealed
G POWDER ROOM	1	Downlight		Sealed
G POWDER ROOM	1	Ceiling exhaust fan	200	Sealed
G GUEST ROOM	2	Downlight		Sealed
G KITCHEN/LIVING/DINING	24	Downlight		Sealed
G KITCHEN/LIVING/DINING	1	Ceiling exhaust fan	200	Sealed
G PANTRY 01	1	Downlight		Sealed
G PANTRY 02	1	Downlight		Sealed
G LAUNDRY	2	Downlight		Sealed
G LAUNDRY	1	Ceiling exhaust fan	200	Sealed
1 VOID ENTRY	5	Downlight		Sealed
1 STAIR/HALL	6	Downlight		Sealed
1 BED NA	11	Downlight		Sealed
1 DRESS BNA	1	Downlight		Sealed
1 ENS-BNA	1	Downlight		Sealed
1 ENS-BNA	1	Ceiling exhaust fan	200	Sealed
1 WC BNA	1	Downlight		Sealed
1 WC BNA	1	Ceiling exhaust fan	200	Sealed
1 HALL 02	2	Downlight		Sealed
1 BEDROOM 01	5	Downlight		Sealed
1 BEDROOM 02	5	Downlight		Sealed
1 BEDROOM 03	5	Downlight		Sealed
1 BEDROOM 04	5	Downlight		Sealed
1 LOUNGE	7	Downlight		Sealed
1 BATHROOM 01	2	Downlight		Sealed
1 BATHROOM 01	1	Ceiling exhaust fan	200	Sealed
1 BATHROOM 02	2	Downlight		Sealed
1 BATHROOM 02	1	Ceiling exhaust fan	200	Sealed
1 WIL	1	Downlight		Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
SOI   BRM   CON200		30	Light
CTL   CON200   R27   482   PBD	R2.5	30	Light
CTL   PLS   BRM   CON200		30	Light
STL   282   R13   905   R40   PBD	R5.3	30	Light

## Explanatory notes

### About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

### Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

Australian Capital Territory (ACT) licensed assessors may only produce assessments for regulatory purposes using software for which they have a licence endorsement. Licence endorsements can be confirmed on the ACT licensing register

AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country. Non-accredited assessors do not have this level of quality assurance or any ongoing training requirements.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content of each individual certificate is entered and created by the assessor to create a NatHERS Certificate. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings 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, indoor air temperature and local climate.

Not all assumptions that may have been 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.

## Glossary

<b>Annual energy load</b>	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
<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, rangehoods, 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>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>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 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 10m 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>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>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 device</b>	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
<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>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).