

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 1424538M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Wednesday, 27 September 2023

To be valid, this certificate must be lodged within 3 months of the date of issue.






Planning,  
Industry &  
Environment

Project summary		
Project name	14 Bangalow Street, ETTALONG BEACH	
Street address	14 Bangalow Street Ettalong Beach 2257	
Local Government Area	Central Coast Council	
Plan type and plan number	deposited 12967	
Lot no.	23	
Section no.	-	
No. of residential flat buildings	0	
No. of units in residential flat buildings	0	
No. of multi-dwelling houses	2	
No. of single dwelling houses	0	
Project score		
Water	✔ 54	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 51	Target 50

Certificate Prepared by
Name / Company Name: Ecocert
ABN (if applicable): 35601193257

# Description of project

Project address	
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Local Government Area	Central Coast Council
Plan type and plan number	deposited 12967
Lot no.	23
Section no.	-
Project type	
No. of residential flat buildings	0
No. of units in residential flat buildings	0
No. of multi-dwelling houses	2
No. of single dwelling houses	0
Site details	
Site area (m <sup>2</sup> )	512.80
Roof area (m <sup>2</sup> )	223.40
Non-residential floor area (m <sup>2</sup> )	0.0
Residential car spaces	2
Non-residential car spaces	0

Common area landscape		
Common area lawn (m <sup>2</sup> )	0.0	
Common area garden (m <sup>2</sup> )	0.0	
Area of indigenous or low water use species (m <sup>2</sup> )	0.0	
Assessor details		
Assessor number	DMN/21/2060	
Certificate number	HR-9WN1OW-01	
Climate zone	15	
Ceiling fan in at least one bedroom	No	
Ceiling fan in at least one living room or other conditioned area	No	
Project score		
Water	 54	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 51	Target 50

## Description of project

The tables below describe the dwellings and common areas within the project

### Multi-dwelling houses

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1	3	136.6	6.9	50.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
2	3	136.6	6.9	50.0	0.0

**No common areas specified.**

# Schedule of BASIX commitments

## 1. Commitments for multi-dwelling houses

### (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

## 2. Commitments for single dwelling houses

## 3. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for multi-dwelling houses

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> <li>(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and</li> <li>(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.</li> </ul>		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	4 star	no	-	-	-	-	-	-	-	-	-

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	individual water tank (no. 1)	Tank size (min) 5000.0 litres	To collect run-off from at least: 100.0 square metres of roof area;	yes	yes	yes	no	no
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓

<b>(ii) Energy</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must:  (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and  (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓  ✓	
(h) The applicant must install in the dwelling:  (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;  (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and  (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓  ✓  ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	✓	✓	✓

	<b>Hot water</b>	<b>Bathroom ventilation system</b>		<b>Kitchen ventilation system</b>		<b>Laundry ventilation system</b>	
<b>Dwelling no.</b>	<b>Hot water system</b>	<b>Each bathroom</b>	<b>Operation control</b>	<b>Each kitchen</b>	<b>Operation control</b>	<b>Each laundry</b>	<b>Operation control</b>
All dwellings	gas instantaneous 6 star	individual fan, ducted to façade or roof	interlocked to light	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off



Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning 5 Star (old label) (zoned)	1-phase airconditioning 5 Star (old label) (zoned)	1-phase airconditioning 5 Star (old label) (zoned)	1-phase airconditioning 5 Star (old label) (zoned)	4 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	2	yes

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	yes	-	-	-	no	yes

Alternative energy	
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)
All dwellings	-

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			

<b>(iii) Thermal Comfort</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✔		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✔	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✔	✔
(g) Where there is an in-slab heating or cooling system, the applicant must:  (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

Thermal loads		
Dwelling no.	Area adjusted heating load (in mJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in mJ/m <sup>2</sup> /yr)
1	43.1	33.1
All other dwellings	52.6	30.3

Construction of floors and walls					
Dwelling no.	Concrete slab on ground(m <sup>2</sup> )	Suspended floor with open subfloor (m <sup>2</sup> )	Suspended floor with enclosed subfloor (m <sup>2</sup> )	Suspended floor above garage (m <sup>2</sup> )	Primarily rammed earth or mudbrick walls
All dwellings	-	72	-	18	No

### 3. Commitments for common areas and central systems/facilities for the development (non-building specific)

#### (b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

# Nationwide House Energy Rating Scheme — Class 1 Summary

## NatHERS Certificate No. #HR-9WN1OW-01

Generated on 27 Sep 2023 using Hero 3.1.0.6

### Property

**Address** 14 Bangalow Street, ETTALONG BEACH, NSW, 2257

**Lot/DP** 23/DP12967

**NatHERS climate zone** 15 - Williamstown AMO

### Accredited assessor



Sarah Campbell

Ecocert

sarah@ecocert.com.au

+61 300457700

**Accreditation No.** DMN/21/2060

**Assessor Accrediting Organisation** DMN

**5.1**  
Minimum Rating

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

The rating above is the minimum of all dwellings in this summary.

For more information on your dwelling's rating see:  
[www.nathers.gov.au](http://www.nathers.gov.au)



### Verification

To verify this certificate, scan the QR code or visit <http://www.hero-software.com.au/pdf/HR-9WN1OW-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>

### Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m <sup>2</sup> )	Cooling load (MJ/m <sup>2</sup> )	Total load (MJ/m <sup>2</sup> )	Star rating
<a href="#">HR-B20BE1-01</a>	Unit 01	43.1	33.1	76.2	5.4
<a href="#">HR-KBGJLH-01</a>	Unit 02	52.8	30.2	83.0	5.1
Maximum Loads and Minimum Rating		52.8	33.1	83.0	5.1
Average	2x (Total)	48.0	31.6	79.6	5.2

### 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



## Explanatory Notes

### About this report

This summary rating is the ratings of all NCC Class 1 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the 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. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

### 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). 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.

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, input and creation of the NatHERS Certificate is by the assessor. 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.

# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-B20BE1-01

Generated on 27 Sep 2023 using Hero 3.1.0.6

### Property

**Address** Unit 01, 14 Bangalow Street, ETTALONG BEACH, NSW, 2257  
**Lot/DP** 23/DP12967  
**NCC Class\*** 1a  
**Type** New

### Plans

**Main Plan** 23L014BA | Issue 2 dated 15.09.2023  
**Prepared by** Stroud Homes Central Coast

### Construction and environment

Assessed floor area (m <sup>2</sup> )*	Exposure Type
<b>Conditioned*</b> 136.6	Suburban
<b>Unconditioned*</b> 6.9	<b>NatHERS climate zone</b>
<b>Total</b> 162.6	15 - Williamtown AMO
<b>Garage</b> 19.1	



### Accredited assessor

**Name** Sarah Campbell  
**Business name** Ecocert  
**Email** sarah@ecocert.com.au  
**Phone** +61 300457700  
**Accreditation No.** DMN/21/2060  
**Assessor Accrediting Organisation** DMN  
**Declaration of interest** No Conflict of Interest

### 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.

**5.4**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

**76.2 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>43.1</b>	<b>33.1</b>
MJ/m <sup>2</sup>	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 <http://www.hero-software.com.au/pdf/HR-B20BE1-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.



## 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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### 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

Electrical layout and colour schedule provided. Details on modelling in accordance with the Tech Notes (version June 2019) and NCC 2019 and inclusions is noted on the spec booklet which has been placed on the plans.

## 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
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
BRD-001-01 A	ESS Sliding Window (52mm) SG 3Clr	6.43	0.76	0.72	0.80
BRD-033-12 A	ESS Sliding Door (80mm) SG 6SP50	4.23	0.31	0.29	0.33

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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\* Refer to glossary.



## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BATH	BRD-001-01 A	W12	1200	1500	Sliding	45	WNW	None
BED.2	BRD-001-01 A	W13	1200	1800	Sliding	45	WNW	None
BED.3	BRD-001-01 A	W09	1800	1800	Sliding	45	SSW	None
ENTRY	BRD-033-12 A	W01	1800	600	Double Hung	45	WNW	None
ENTRY	BRD-033-12 A	W02	1800	600	Double Hung	45	WNW	None
ENTRY	BRD-033-12 A	W03	1800	600	Double Hung	45	WNW	None
Ensuite	BRD-001-01 A	W14	600	1200	Sliding	45	WNW	None
LIVING	BRD-033-12 A	W04	2100	1800	Sliding	45	WNW	None
LIVING	BRD-001-01 A	W05	1800	1800	Sliding	33	WNW	None
LIVING	BRD-033-12 A	W06	1800	600	Double Hung	45	WNW	None
LIVING	BRD-033-12 A	W07	1800	600	Double Hung	45	WNW	None
LIVING	BRD-033-12 A	W08	2400	2700	Sliding	45	SSW	None
LOUNGE	BRD-001-01 A	W10	600	2100	Sliding	45	WNW	None
MASTER BEDROOM	BRD-001-01 A	W15	2100	2700	Sliding	33	NNE	None
WC	BRD-001-01 A	W11	900	600	Sliding	45	WNW	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
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
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## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
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	2040	1160	90	NNE
GARAGE	2400	2400	90	NNE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV-A	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	0.00	Yes
BV-REFL-CAV-B	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.50	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATH	BV-REFL-CAV-B	2440	1810	WNW	600	No
BED.2	BV-REFL-CAV-B	2440	3701	WNW	600	No
BED.3	BV-REFL-CAV-B	2440	3701	WNW	600	No
BED.3	BV-REFL-CAV-B	2440	2851	SSW	599	No
Day Time 8	BV-REFL-CAV-B	2440	863	SSW	597	No
ENTRY	BV-REFL-CAV-B	2740	7130	WNW	450	Yes
ENTRY	BV-REFL-CAV-B	2740	1520	NNE	2441	Yes
Ensuite	BV-REFL-CAV-B	2440	2051	WNW	600	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
GARAGE	BV-REFL-CAV-A	3940	2948	NNE	2799	Yes
GARAGE	BV-REFL-CAV-A	3940	1101	WNW		Yes
LIVING	BV-REFL-CAV-B	2740	12270	WNW	450	Yes
LIVING	BV-REFL-CAV-B	2740	4591	SSW	6311	Yes
LOUNGE	BV-REFL-CAV-B	2440	2916	WNW	600	No
MASTER BEDROOM	BV-REFL-CAV-B	2440	3216	WNW	600	No
MASTER BEDROOM	BV-REFL-CAV-B	2440	3841	NNE	2403	No
WC	BV-REFL-CAV-B	2440	1020	WNW	600	No
WIR	BV-REFL-CAV-B	2440	1340	WNW	600	No

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	23.2	2.50
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	25.8	0.00
INT-PARTI WALL	Internal Parti Wall	63.4	2.50
INT-PB	Internal Plasterboard Stud Wall	31.1	2.00
INT-PB	Internal Plasterboard Stud Wall	91.4	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
BATH	TIMB-001: Suspended Timber Floor	5.2	N/A	0.15	Tile
BED.2	TIMB-001: Suspended Timber Floor	10.6	N/A	0.15	Carpet
BED.3	TIMB-001: Suspended Timber Floor	10.6	N/A	0.15	Carpet
Day Time 8	TIMB-001: Suspended Timber Floor	3.2	N/A	0.15	Timber
Day Time 8	CSOG-100: Concrete Slab on Ground (100mm)	0.1	N/A	0.00	Timber
ENTRY	TIMB-001: Suspended Timber Floor	10.8	Very Open	2.50	Timber

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Ensuite	TIMB-001: Suspended Timber Floor	5.8	N/A	0.15	Tile
GARAGE	CSOG-100: Concrete Slab on Ground (100mm)	19.1	N/A	0.00	Exposed
Hallway	TIMB-001: Suspended Timber Floor	5.7	N/A	0.15	Timber
Hallway	TIMB-001: Suspended Timber Floor	0.2	N/A	0.00	Timber
LAUNDRY	TIMB-001: Suspended Timber Floor	5.0	Very Open	2.50	Tile
LIVING	TIMB-001: Suspended Timber Floor	54.4	Very Open	2.50	Timber
LOUNGE	TIMB-001: Suspended Timber Floor	13.3	N/A	0.00	Timber
MASTER BEDROOM	TIMB-001: Suspended Timber Floor	14.6	N/A	0.15	Carpet
PWD	TIMB-001: Suspended Timber Floor	1.5	Very Open	2.50	Tile
WC	TIMB-001: Suspended Timber Floor	1.8	N/A	0.15	Tile
WIR	TIMB-001: Suspended Timber Floor	3.8	N/A	0.15	Timber

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BATH	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BED.2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BED.3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Day Time 8	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
ENTRY	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
LIVING	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
LOUNGE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
MASTER BEDROOM	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
WC	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes

\* Refer to glossary.



## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
WIR	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATH	1	Downlight	200	Sealed
BATH	1	Exhaust Fan	350	Sealed
BED.2	1	Downlight	200	Sealed
BED.3	1	Downlight	200	Sealed
ENTRY	2	Downlight	200	Sealed
Ensuite	1	Downlight	200	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
GARAGE	1	Downlight	200	Sealed
Hallway	2	Downlight	200	Sealed
LAUNDRY	1	Downlight	200	Sealed
LAUNDRY	1	Exhaust Fan	350	Sealed
LIVING	3	Downlight	200	Sealed
LIVING	1	Exhaust Fan	350	Sealed
LOUNGE	2	Downlight	200	Sealed
MASTER BEDROOM	2	Downlight	200	Sealed
PWD	1	Downlight	200	Sealed
PWD	1	Exhaust Fan	350	Sealed
WC	1	Downlight	200	Sealed
WIR	1	Downlight	200	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
BED.2	1	1200

\* Refer to glossary.



## Ceiling fans

Location	Quantity	Diameter (mm)
LIVING	1	1200

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.33	Light (Surfmist)



## 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) licenced 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 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>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).

\* Refer to glossary.



# Nationwide House Energy Rating Scheme

## NatHERS Certificate No. #HR-KBGJLH-01

Generated on 27 Sep 2023 using Hero 3.1.0.6

### Property

**Address** Unit 02, 14 Bangalow Street, ETTALONG BEACH, NSW, 2257  
**Lot/DP** 23/DP12967  
**NCC Class\*** 1a  
**Type** New

### Plans

**Main Plan** 23L014BA | Issue 2 dated 15.09.2023

**Prepared by** Stroud Homes Central Coast

### Construction and environment

<b>Assessed floor area (m<sup>2</sup>)*</b>		<b>Exposure Type</b>
<b>Conditioned*</b>	136.6	Suburban
<b>Unconditioned*</b>	6.9	<b>NatHERS climate zone</b>
<b>Total</b>	162.6	15 - Williamtown AMO
<b>Garage</b>	19.1	



### Accredited assessor

**Name** Sarah Campbell  
**Business name** Ecocert  
**Email** sarah@ecocert.com.au  
**Phone** +61 300457700  
**Accreditation No.** DMN/21/2060  
**Assessor Accrediting Organisation** DMN  
**Declaration of interest** No Conflict of Interest

### 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.

**5.1**  
The more stars  
the more energy efficient

**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME

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

### Thermal Performance

<b>Heating</b>	<b>Cooling</b>
<b>52.8</b>	<b>30.2</b>
<b>MJ/m<sup>2</sup></b>	<b>MJ/m<sup>2</sup></b>

### 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 <http://www.hero-software.com.au/pdf/HR-KBGJLH-01>. When using either link, ensure you are visiting <http://www.hero-software.com.au>



\* Refer to glossary.





## 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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

### 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

Electrical layout and colour schedule provided. Details on modelling in accordance with the Tech Notes (version June 2019) and NCC 2019 and inclusions is noted on the spec booklet which has been placed on the plans.

## 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
None					

### Custom\* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges	
				lower limit	upper limit
BRD-001-01 A	ESS Sliding Window (52mm) SG 3Clr	6.43	0.76	0.72	0.80
BRD-033-12 A	ESS Sliding Door (80mm) SG 6SP50	4.23	0.31	0.29	0.33

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
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\* Refer to glossary.

## Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient-ation	Shading device*
BATH	BRD-001-01 A	W12	1200	1500	Sliding	45	ESE	None
BED.2	BRD-001-01 A	W13	1200	1800	Sliding	45	ESE	None
BED.3	BRD-001-01 A	W09	1800	1800	Sliding	45	SSW	None
ENTRY	BRD-033-12 A	W01	1800	600	Double Hung	45	ESE	None
ENTRY	BRD-033-12 A	W02	1800	600	Double Hung	45	ESE	None
ENTRY	BRD-033-12 A	W03	1800	600	Double Hung	45	ESE	None
Ensuite	BRD-001-01 A	W14	600	1200	Sliding	45	ESE	None
Kitchen/Living	BRD-033-12 A	W04	2100	1800	Sliding	45	ESE	None
Kitchen/Living	BRD-001-01 A	W05	1800	1800	Sliding	33	ESE	None
Kitchen/Living	BRD-033-12 A	W06	1800	600	Double Hung	45	ESE	None
Kitchen/Living	BRD-033-12 A	W07	1800	600	Double Hung	45	ESE	None
Kitchen/Living	BRD-033-12 A	W08	2400	2700	Sliding	45	SSW	None
LOUNGE	BRD-001-01 A	W10	600	2100	Sliding	45	ESE	None
MASTER BEDROOM	BRD-001-01 A	W15	2100	2700	Sliding	33	NNE	None
WC	BRD-001-01 A	W11	900	600	Sliding	45	ESE	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
None					

## Roof window *schedule*

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orient-ation	Outdoor shade	Indoor shade
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## Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
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	2040	1160	90	NNE
GARAGE	2400	2400	90	NNE

## External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
BV-REFL-CAV-A	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	0.00	Yes
BV-REFL-CAV-B	Brick Veneer Stud Wall with Reflective Sarking	0.50	Medium	2.50	Yes

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATH	BV-REFL-CAV-B	2440	1810	ESE	600	No
BED.2	BV-REFL-CAV-B	2440	3701	ESE	600	No
BED.3	BV-REFL-CAV-B	2440	3701	ESE	600	No
BED.3	BV-REFL-CAV-B	2440	2851	SSW	599	No
Day Time 8	BV-REFL-CAV-B	2440	863	SSW	597	No
ENTRY	BV-REFL-CAV-B	2740	7130	ESE	450	Yes
ENTRY	BV-REFL-CAV-B	2740	1520	NNE	2441	Yes
Ensuite	BV-REFL-CAV-B	2440	2051	ESE	600	No

## External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* projection (mm)	Vertical shading feature
GARAGE	BV-REFL-CAV-A	3940	2948	NNE	2799	Yes
GARAGE	BV-REFL-CAV-A	3940	1101	ESE		Yes
Kitchen/Living	BV-REFL-CAV-B	2740	12270	ESE	450	Yes
Kitchen/Living	BV-REFL-CAV-B	2740	4591	SSW	6311	Yes
LOUNGE	BV-REFL-CAV-B	2440	2916	ESE	600	No
MASTER BEDROOM	BV-REFL-CAV-B	2440	3216	ESE	600	No
MASTER BEDROOM	BV-REFL-CAV-B	2440	3841	NNE	2403	No
WC	BV-REFL-CAV-B	2440	1020	ESE	600	No
WIR	BV-REFL-CAV-B	2440	1340	ESE	600	No

## Internal wall type

Wall ID	Wall Type	Area (m <sup>2</sup> )	Bulk insulation
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	23.2	2.50
BV-REFL-CAV	Brick Veneer Stud Wall with Reflective Sarking	25.8	0.00
INT-PARTI WALL	Internal Parti Wall	63.4	2.50
INT-PB	Internal Plasterboard Stud Wall	31.1	2.00
INT-PB	Internal Plasterboard Stud Wall	91.3	0.00

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
BATH	TIMB-001: Suspended Timber Floor	5.2	N/A	0.15	Tile
BED.2	TIMB-001: Suspended Timber Floor	10.5	N/A	0.15	Carpet
BED.3	TIMB-001: Suspended Timber Floor	10.6	N/A	0.15	Carpet
Day Time 8	TIMB-001: Suspended Timber Floor	3.2	N/A	0.15	Timber
Day Time 8	CSOG-100: Concrete Slab on Ground (100mm)	0.1	N/A	0.00	Timber
ENTRY	TIMB-001: Suspended Timber Floor	10.8	Very Open	2.50	Timber

## Floor type

Location	Construction	Area (m <sup>2</sup> )	Sub-floor ventilation	Added insulation (R-value)	Covering
Ensuite	TIMB-001: Suspended Timber Floor	5.8	N/A	0.15	Tile
GARAGE	CSOG-100: Concrete Slab on Ground (100mm)	19.1	N/A	0.00	Exposed
Hallway	TIMB-001: Suspended Timber Floor	5.7	N/A	0.15	Timber
Hallway	TIMB-001: Suspended Timber Floor	0.2	N/A	0.00	Timber
Kitchen/Living	TIMB-001: Suspended Timber Floor	54.4	Very Open	2.50	Timber
LAUNDRY	TIMB-001: Suspended Timber Floor	5.0	Very Open	2.50	Tile
LOUNGE	TIMB-001: Suspended Timber Floor	13.3	N/A	0.00	Timber
MASTER BEDROOM	TIMB-001: Suspended Timber Floor	14.6	N/A	0.15	Carpet
PWD	TIMB-001: Suspended Timber Floor	1.5	Very Open	2.50	Tile
WC	TIMB-001: Suspended Timber Floor	1.8	N/A	0.15	Tile
WIR	TIMB-001: Suspended Timber Floor	3.8	N/A	0.15	Timber

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BATH	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BED.2	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
BED.3	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Day Time 8	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
ENTRY	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Ensuite	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Hallway	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
Kitchen/Living	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
LOUNGE	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
MASTER BEDROOM	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes
WC	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes

\* Refer to glossary.

## Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
WIR	ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	3.00	Yes

## Ceiling penetrations\*

Location	Quantity	Type	Diameter (mm)	Sealed /unsealed
BATH	1	Downlight	200	Sealed
BATH	1	Exhaust Fan	350	Sealed
BED.2	1	Downlight	200	Sealed
BED.3	1	Downlight	200	Sealed
ENTRY	2	Downlight	200	Sealed
Ensuite	1	Downlight	200	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
GARAGE	1	Downlight	200	Sealed
Hallway	2	Downlight	200	Sealed
Kitchen/Living	3	Downlight	200	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
LAUNDRY	1	Downlight	200	Sealed
LAUNDRY	1	Exhaust Fan	350	Sealed
LOUNGE	2	Downlight	200	Sealed
MASTER BEDROOM	2	Downlight	200	Sealed
PWD	1	Downlight	200	Sealed
PWD	1	Exhaust Fan	350	Sealed
WC	1	Downlight	200	Sealed
WIR	1	Downlight	200	Sealed

## Ceiling fans

Location	Quantity	Diameter (mm)
BED.2	1	1200



## Ceiling fans

Location	Quantity	Diameter (mm)
Kitchen/Living	1	1200

## Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
ATTIC-METAL-01: Pitched / Attic Metal Roof (Roofspace) & Flat PB Ceiling	1.30	0.33	Light (Surfmist)

\* Refer to glossary.

## 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) licenced 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

## 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 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>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).

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.