

# Nationwide House Energy Rating Scheme®

## NatHERS® Certificate No. 0009449091

Generated on 14 May 2024 using BERS Pro v5.1.7 (3.22)

### Property

**Address** 3 Hill Street,  
Fairlight , NSW , 2094

**Lot/DP** Lot 1 DP -

**NCC class\*** 1a

**Floor/all Floors** G of 2 floors

**Type** New Home

### Plans

**Main plan** Drawing: 22095-8

**Prepared by** Accurate Design & Drafting

### Construction and environment

<b>Assessed floor area [m2]*</b>	<b>Exposure type</b>
Conditioned* 156.3	Suburban
Unconditioned* 10.1	<b>NatHERS climate zone</b>
Total 166.3	56 Mascot (Sydney Airport)
Garage 0.0	



### Accredited assessor

**Name** Thomas Ruck

**Business name** Building & Energy Consultants Australia

**Email** thomas@beca.net.au

**Phone** 9533 2588

**Accreditation No.** DMN/20/1999

**Assessor Accrediting Organisation**

Design Matters National

**Declaration of interest** Declaration not completed

### NCC Requirements

**NCC provisions** Volume Two

**State/Territory variation** Yes

#### National Construction Code (NCC) requirements

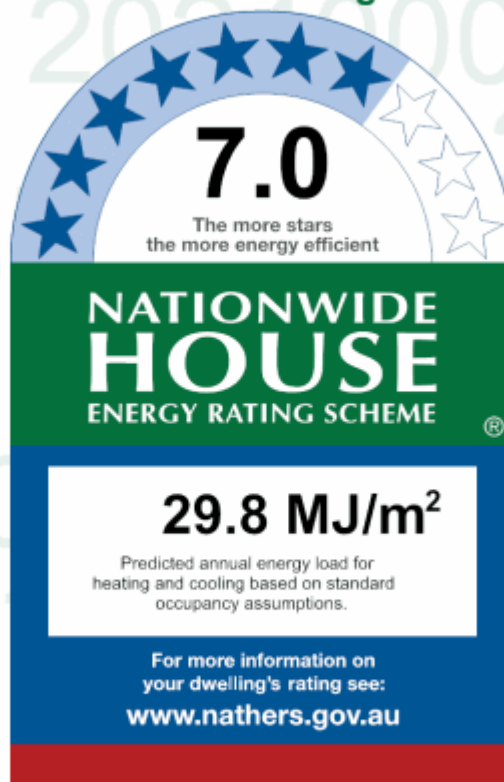
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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

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

The NCC, and associated ABCB Standards and support material, can be accessed at [www.abcb.gov.au](http://www.abcb.gov.au).

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

### Thermal performance Star rating



### Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	17.4	12.5
Load limits	N/A	N/A

#### Features determining load limits

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

### Whole of Home performance rating

No Whole of Home  
performance rating  
generated for this  
certificate.

### Verification

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



## About the ratings

### Thermal performance rating

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

### Whole of Home performance rating

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

## Heating & Cooling Load Limits

### Additional information

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

### Setting Options:

Floor Type:

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

NCC Climate Zone 1 or 2:

Yes  
No  
NA – Not Applicable

Outdoor Living Area:

Yes  
No  
NA – Not Applicable

Outdoor Living Area Ceiling Fan:

Yes  
No  
NA – Not Applicable



## Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

## Predicted Whole of Home annual impact by appliance

### Energy use

No Whole of Home performance assessment conducted for this certificate

### Greenhouse gas emissions

No Whole of Home performance assessment conducted for this certificate

### Cost

No Whole of Home performance assessment conducted for this certificate



## Certificate check

The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and by whom each item should be checked. It is not mandatory to complete this checklist.

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



Certificate check

Continued

	Approval Stage		Construction Stage		
	Assessor checked	Consent Authority/ Surveyor checked	Builder checked	Consent Authority Surveyor checked	

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

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Appliances

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

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

Does the lighting meet the artificial lighting requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Does the hot water system meet the additional requirements specified in the NCC?		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Provisional values\* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	<input type="checkbox"/>	<input type="checkbox"/>			
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Other NCC requirements

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

Additional notes

Ceiling edge insulation has been modelled as R3.0 in order to allow for compression of ceiling insulation in accordance with the thermal comfort protocol

## Room schedule

Room	Zone Type	Area [m <sup>2</sup> ]
Living	Living	13.85
Laundry	Unconditioned	3.34
Pwd	Daytime	3.71
WIL	Daytime	1.92
Entry/corridor	Daytime	14.17
Kitchen/Living	Kitchen/Living	51.32
Bedroom 1	Bedroom	21.66
Ens	Nighttime	5.5
Bath	Unconditioned	6.72
Bedroom 2	Bedroom	12.86
Bedroom 3	Bedroom	13.34
Study/hall	Living	21.31

## 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
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74
ALM-003-01 A	Aluminium A DG Air Fill Clear-Clear	4.8	0.51	0.48	0.54
ALM-004-01 A	Aluminium B DG Air Fill Clear-Clear	4.8	0.59	0.56	0.62
ATB-004-03 B	Al Thermally Broken B DG Air Fill High Solar Gain low-E -Clear	3.1	0.49	0.47	0.51
ATB-006-03 B	Al Thermally Broken B DG Argon Fill High Solar Gain low-E - Clear	2.9	0.51	0.48	0.54

### Custom windows\*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
VEL-011-01 W	VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25



Window and glazed door *schedule*

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Living	ATB-006-03 B	Living	1500	1500	Fixed	00	E	No
Living	ALM-004-01 A	Living	1500	750	Louvre	90	E	No
Living	ALM-004-01 A	Living	1500	750	Louvre	90	E	No
Living	ATB-004-03 B	Living	600	2400	Sliding	45	S	No
Entry/corridor	ALM-003-01 A	Front door	2340	1020	Casement	90	E	No
Kitchen/Living	ATB-006-03 B	Sliding	2400	4400	Sliding	66	W	No
Kitchen/Living	ALM-004-01 A	Family	2400	800	Louvre	90	S	No
Kitchen/Living	ALM-004-01 A	Family	2400	800	Louvre	90	S	No
Kitchen/Living	ATB-006-03 B	Kitchen	700	3000	Fixed	00	S	No
Bedroom 1	ATB-006-03 B	Bed 1	2400	3500	Sliding	45	E	No
Bedroom 1	ATB-004-03 B	Bed 1	600	2700	Sliding	10	S	No
Ens	ALM-002-01 A	Ens	1000	1200	Louvre	45	S	No
Bath	ALM-002-01 A	Bath	1000	1200	Louvre	45	S	No
Bedroom 2	ALM-004-01 A	Bed 2	1200	900	Louvre	90	S	No
Bedroom 2	ATB-006-03 B	Bed 2	1200	900	Fixed	00	S	No
Bedroom 3	ALM-004-01 A	Bed 3	1200	900	Louvre	90	W	No
Bedroom 3	ATB-006-03 B	Bed 3	1200	900	Fixed	00	W	No
Bedroom 3	ATB-006-03 B	Bed 3	1200	900	Fixed	00	S	No
Bedroom 3	ALM-004-01 A	Bed 3	1200	900	Louvre	90	S	No
Study/hall	ALM-004-01 A	Corridor	1700	900	Louvre	90	W	No

Roof window\* *type and performance value*

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
VEL-011-01 W	VEL-011-01 W VELUX	2.6	0.24	0.23	0.25
	FS - Fixed Skylight DG				
	3mm LoE 366 / 8.5mm				
	Argon Gap / 5.36mm				
	Clear La				

Roof window\* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
Study/hall	VEL-011-01 W	S1	0	1400	780	S	Yes	Yes

Skylight\* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight\* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Laundry	2340	820	90	S

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Weatherboard Timber Stud Frame Panel Direct Fix	0.5		Bulk Insulation R2.7	No

External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Living	EW-1	2750	600	N	1800	No
Living	EW-1	2750	4000	E	1300	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Living	EW-1	2750	3495	S	600	No
Laundry	EW-1	2750	1990	S	600	No
Entry/corridor	EW-1	2750	1795	E	1900	Yes
Kitchen/Living	EW-1	2750	5800	W	3500	No
Kitchen/Living	EW-1	2750	9995	S	600	No
Bedroom 1	EW-1	2600	5300	E	1600	Yes
Bedroom 1	EW-1	2600	4095	S	500	No
Ens	EW-1	2600	1990	S	500	No
Bath	EW-1	2600	3090	S	500	No
Bedroom 2	EW-1	2600	3090	S	500	No
Bedroom 3	EW-1	2600	4195	W	600	No
Bedroom 3	EW-1	2600	3195	S	500	No
Study/hall	EW-1	2600	1095	W	600	No

## Internal wall type

Wall ID	Wall type	Area [m <sup>2</sup> ]	Bulk insulation
IW-001	Timber Stud Frame, Direct Fix Plasterboard	29.68	Bulk Insulation, No Air Gap R2.7
IW-002	Timber Stud Frame, Direct Fix Plasterboard	91.82	No insulation
IW-003	Shaft liner party wall with plaster	62.03	Bulk Insulation both sides of shaft liner R2.5

## Floor type

Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Living	Waffle pod slab 225 mm 100mm	13.85	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
Laundry	Waffle pod slab 225 mm 100mm	3.34	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Pwd	Waffle pod slab 225 mm 100mm	3.71	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WIL	Waffle pod slab 225 mm 100mm	1.92	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Entry/corridor	Waffle pod slab 225 mm 100mm	14.17	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Kitchen/Living	Waffle pod slab 225 mm 100mm	51.32	None	Waffle Pod 225mm	Ceramic Tiles 8mm





Location	Construction	Area [m <sup>2</sup> ]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 1 / Living	Timber Framed Timber Above Plasterboard 19mm	12.11		No Insulation	Carpet 10mm
Bedroom 1 / Laundry	Timber Framed Timber Above Plasterboard 19mm	0.65		No Insulation	Carpet 10mm
Bedroom 1 / Pwd	Timber Framed Timber Above Plasterboard 19mm	1.07		No Insulation	Carpet 10mm
Bedroom 1 / Entry/corridor	Timber Framed Timber Above Plasterboard 19mm	6.53		No Insulation	Carpet 10mm
Bedroom 1	Suspended Floor Timber Frame 19mm	1.01	Totally Open	Bulk Insulation in Contact with Floor R2.5	Carpet+Rubber Underlay 18mm
Ens / Laundry	Timber Framed Timber Above Plasterboard 19mm	1.60		No Insulation	Ceramic Tiles 8mm
Ens / Pwd	Timber Framed Timber Above Plasterboard 19mm	2.15		No Insulation	Ceramic Tiles 8mm
Ens / WIL	Timber Framed Timber Above Plasterboard 19mm	0.68		No Insulation	Ceramic Tiles 8mm
Ens / Kitchen/Living	Timber Framed Timber Above Plasterboard 19mm	0.91		No Insulation	Ceramic Tiles 8mm
Bath / Kitchen/Living	Timber Framed Timber Above Plasterboard 19mm	6.30		No Insulation	Ceramic Tiles 8mm
Bedroom 2 / Kitchen/Living	Timber Framed Timber Above Plasterboard 19mm	12.86		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3 / Kitchen/Living	Timber Framed Timber Above Plasterboard 19mm	13.34		No Insulation	Carpet+Rubber Underlay 18mm
Study/hall / WIL	Timber Framed Timber Above Plasterboard 19mm	0.00		No Insulation	Carpet+Rubber Underlay 18mm
Study/hall / Entry/corridor	Timber Framed Timber Above Plasterboard 19mm	4.09		No Insulation	Carpet+Rubber Underlay 18mm
Study/hall / Kitchen/Living	Timber Framed Timber Above Plasterboard 19mm	8.99		No Insulation	Carpet+Rubber Underlay 18mm

## Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Living	Plasterboard on Timber	Bulk Insulation R6	
Living	Timber Framed Timber Above Plasterboard	No Insulation	
Laundry	Plasterboard on Timber	Bulk Insulation R6	
Laundry	Timber Framed Timber Above Plasterboard	No Insulation	
Pwd	Timber Framed Timber Above Plasterboard	No Insulation	
WIL	Timber Framed Timber Above Plasterboard	No Insulation	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Entry/corridor	Timber Framed Timber Above Plasterboard	No Insulation	
Kitchen/Living	Plasterboard on Timber	Bulk Insulation R6	
Kitchen/Living	Timber Framed Timber Above Plasterboard	No Insulation	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R6	
Bedroom 1	Plasterboard on Timber	Bulk Insulation R3	
Ens	Plasterboard on Timber	Bulk Insulation R6	
Ens	Plasterboard on Timber	Bulk Insulation R3	
Bath	Plasterboard on Timber	Bulk Insulation R6	
Bath	Plasterboard on Timber	Bulk Insulation R3	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R6	
Bedroom 2	Plasterboard on Timber	Bulk Insulation R3	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R6	
Bedroom 3	Plasterboard on Timber	Bulk Insulation R3	
Study/hall	Plasterboard on Timber	Bulk Insulation R6	

### Ceiling penetrations\*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Living	2	Downlights - LED	100	Sealed
Laundry	1	Downlights - LED	100	Sealed
Pwd	2	Downlights - LED	100	Sealed
Pwd	1	Exhaust Fans	300	Sealed
WIL	1	Downlights - LED	100	Sealed
Entry/corridor	2	Downlights - LED	100	Sealed
Kitchen/Living	16	Downlights - LED	100	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	100	Sealed
Ens	2	Downlights - LED	100	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bath	2	Downlights - LED	100	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	100	Sealed
Bedroom 3	4	Downlights - LED	100	Sealed



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Study/hall	4	Downlights - LED	100	Sealed

## Ceiling fans

Location	Quantity	Diameter [mm]
Bedroom 1	1	1200
Bedroom 2	1	1200
Bedroom 3	1	1200

## Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade[colour]
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.5	Medium

## Thermal bridging schedule for steel frame elements

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

## Appliance schedule

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

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

### Cooling system

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

### Heating system

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

### Hot water system

Appliance/ system type	Fuel type	Hot Water	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
		CER Zone			lower limit	upper limit	
No Data Available							



Pool/spa equipment

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

Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



## Explanatory notes

### About this report

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

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

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

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

### Accredited assessors

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

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

are not quality assured.

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

### Disclaimer

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

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

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

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

## Glossary

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

\* Refer to glossary.



## NatHERS - THERMAL COMFORT SUMMARY



<b>Address: Lot 1, 3 Hill Street Fairfield 2094</b>		<b>Date: 14/05/2024</b>
<b>Software: BERS Pro v5</b>	<b>Certificate No.: 0009449091</b>	<b>Star rating: 7.0</b>
<b>Building Elements</b>	<b>Material</b>	<b>Detail</b>
<b>External walls</b>	Light Weight Cladding – medium colour	R2.7 bulk insulation
<b>Internal walls</b>	Plasterboard on studs	R2.7 bulk insulation to walls adjacent to laundry & bath
<b>Common walls between dwellings</b>	Shaftliner or the like	R2.5 bulk insulation
<b>Ceiling</b>	Plasterboard	R6.0 bulk insulation to ceilings with roof above
<b>Floors</b>	Concrete – ground floor	Waffle Pod
	Timber – first floor	R2.5 bulk insulation suspended floor to outside air
<b>Roof</b>	Metal Roof – Medium Colour	Builders Blanket – Foil + R1.3 to underside of metal roof
<b>Skylights</b>	Velux - Fixed	U value 2.60 or less and SHGC 0.24
<b>Doors/Windows - except as stated below</b>	<b><u>Sliding windows (ATB-004-03):</u></b> Aluminium frame thermally broken, double glazed or similar	U value 3.10 or less and SHGC 0.49 +/- 10%
	<b><u>Sliding doors &amp; fixed windows (ATB-006-03):</u></b> Aluminium frame thermally broken, double glazed or similar	U value 2.90 or less and SHGC 0.51 +/- 10%
	<b><u>Louvre windows (ALM-004-01):</u></b> Aluminium frame, double glazed or similar	U value 4.80 or less and SHGC 0.59 +/- 10%
	<b><u>Hinged entry door (ALM-003-01):</u></b> Aluminium frame, double glazed or similar	U value 4.80 or less and SHGC 0.51 +/- 10%
<b>Bath &amp; ensuite windows</b>	<b><u>Fixed &amp; louvre windows (ALM-002-01):</u></b> Aluminium frame, single glazed clear	U value 6.70 or less and SHGC 0.70 +/- 10%
<i>U and SHGC values are according to NFRC. Alternate products may be used if the U value is the same or lower and the SHGC is within 10% of the above figures. This also applies to changes to the type and thickness of glass required to meet Bushfire and acoustic regulations.</i>		
<b>Ceiling fans:</b> 1200mm ceiling fans to Bed 1, Bed 2, Bed 3		
<b>Lighting:</b> This dwelling has been rated with non-ventilated LED downlights as per NatHERS Certificate.		
<b>Note:</b> Insulation specified must be installed in accordance with the BCA Volume Two.		
<b>Note:</b> In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.		
<b>Note:</b> Self-closing dampers to pwd, bath and ensuite exhaust fans.		
<b>Note:</b> Additional insulation may be required to meet acoustic requirements		
<b>Note:</b> If metal frames are used, a revised assessment is required		