Nationwide House Energy Rating Scheme — Multiple Class1-dwelling summary NatHERS Certificate No. 0006933410

Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address 83-85 Canberra St , Oxley Park , NSW , 2760

Lot/DP 271-272/16937

NatHERS climate zone 28

Accredited assessor

John Boutros

Greenworld Architectural Drafting

greenworldarchi@outlook.com

02 9652 0045

Accreditation No. DMN/16/1763

Assessor Accrediting Organisation Design Matters National

Verification

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

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m^2/p.a.)	Cooling load (MJ/m^2/p.a.)	Total load (MJ/m^2/p.a.)	Star rating
0006930325	1	57	55.5	112.4	4.9
0006930333	2	39.1	51.4	90.5	5.9
0006930341	3	51	51.3	102.2	5.4
0006930358	4	39.1	51.4	90.5	5.9
0006930366	5	51	51.3	102.2	5.4

Continued Over

National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated buildings 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.

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

Summary of all dwellings (continued)

Certificate number and link	Unit Number	Heating load (MJ/m^2/p.a.)	Cooling load (MJ/m^2/p.a.)	Total load (MJ/m^2/p.a.)	Star rating
0006930374	6	33.5	49.2	82.7	6.2
0006930382	7	33.8	51	84.8	6.1
0006930390	8	48	48.5	96.4	5.6
0006930408	9	42	45.3	87.3	5.9
0006930416	10	48	48.5	96.4	5.6
0006930424	11	42	45.3	87.3	5.9
0006930432	12	54.2	55.3	109.6	5.1

Explanatory Notes

About this report

This is a summary of 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.

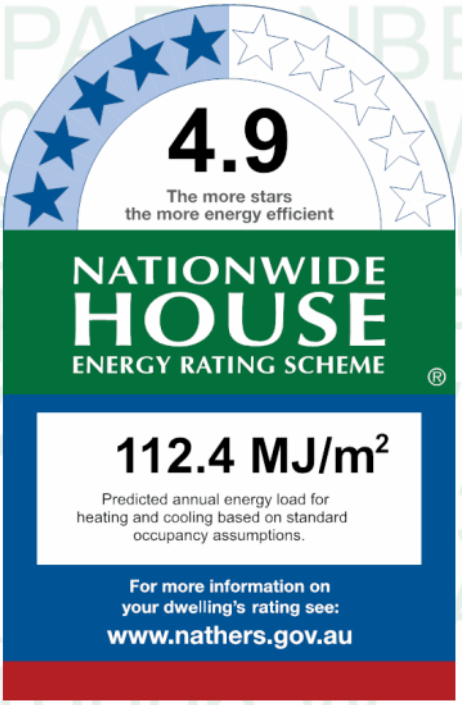
Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

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. 0006930325

Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Unit 1, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	97.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	123.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
57.0 MJ/m^2	**55.5** MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

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.

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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.

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Ceiling penetrations*

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

Windows

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

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-03 A	ALM-002-03 A Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-03 A	n/a	2400	2170	n/a	45	SE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-03 A	n/a	1200	1210	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	2400	1090	n/a	00	SW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	2410	n/a	30	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	30	SW	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2400	920	90	SW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2.5	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	0	YES
Garage	EW-1	2700	3195	SE	3500	YES
Kitchen/Living	EW-1	2700	5000	SE	1900	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	3295	SW	1200	NO
Kitchen/Living	EW-1	2700	5000	NW	0	NO
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Hall/Retreat	EW-2	2700	5000	NW	500	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 3	EW-2	2700	3195	NW	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation

* Refer to glossary.

Wall ID	Wall type	Area (m)	Bulk insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall/Retreat	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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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

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930333

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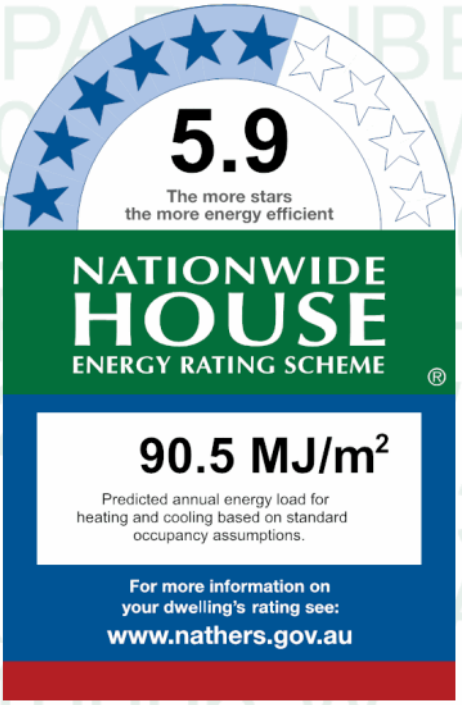

Property

Address	Unit 2, 83-85 Canberra St , Oxley Park , NSW , 2760
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NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

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Total	122.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
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MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
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Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1090	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	SE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	3500	YES
Garage	EW-1	2700	3195	NW	0	YES
Kitchen/Living	EW-1	2700	1600	SW	5500	YES
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	5000	NW	1000	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	5000	SE	1900	NO
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Hall	EW-2	2700	1095	NW	500	NO
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 4	EW-2	2700	3195	NW	500	YES
Bedroom 3	EW-2	2700	3895	NW	500	NO
Bedroom 3	EW-2	2700	2895	NE	500	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 4	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

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

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

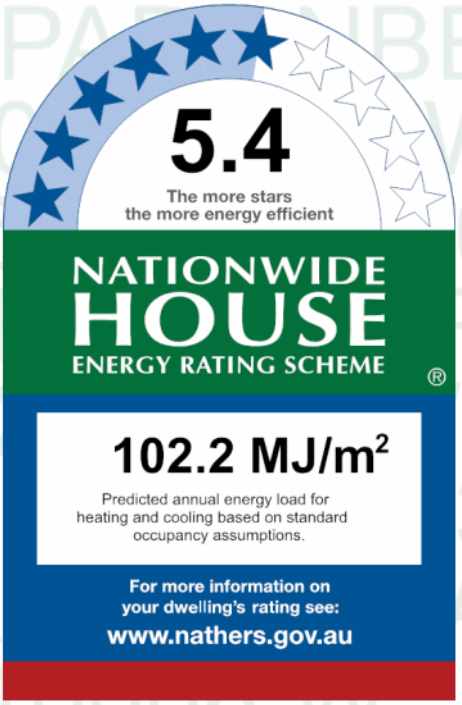
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930341

Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Unit 3, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	97.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	123.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
51.0 MJ/m^2	**51.3** MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

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

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.

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

* 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?

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	SW	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1190	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2040	820	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	0	YES
Garage	EW-1	2700	3195	SE	3500	YES
Kitchen/Living	EW-1	2700	5000	SE	1900	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	5000	NW	1000	NO
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Hall/Retreat	EW-2	2700	5000	NW	500	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 3	EW-2	2700	3195	NW	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall/Retreat	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

* 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.

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Ceiling penetrations	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.
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930358

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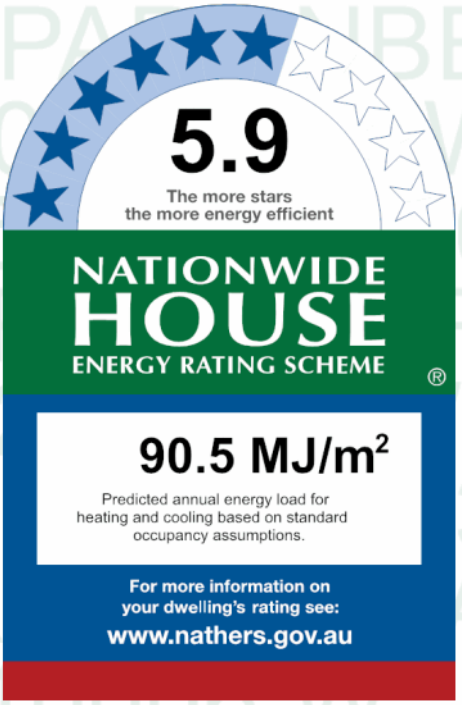

Property

Address	Unit 4, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	96.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	122.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
39.1	**51.4**
MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

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.

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Ceiling penetrations*

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

Windows

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

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1090	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	SE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	3500	YES
Garage	EW-1	2700	3195	NW	0	YES
Kitchen/Living	EW-1	2700	1600	SW	5500	YES
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	5000	NW	1000	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	5000	SE	1900	NO
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Hall	EW-2	2700	1095	NW	500	NO
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 4	EW-2	2700	3195	NW	500	YES
Bedroom 3	EW-2	2700	3895	NW	500	NO
Bedroom 3	EW-2	2700	2895	NE	500	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 4	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

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Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
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Nationwide House Energy Rating Scheme
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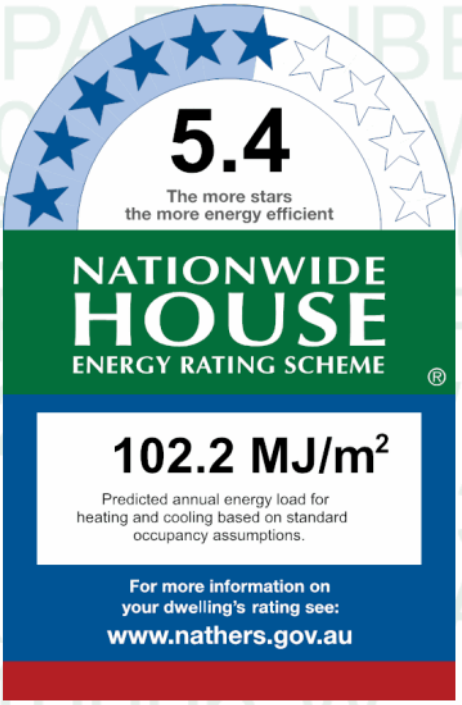
Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



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Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
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Ceiling penetrations*

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

Windows

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

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	SW	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1190	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2040	820	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	0	YES
Garage	EW-1	2700	3195	SE	3500	YES
Kitchen/Living	EW-1	2700	5000	SE	1900	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	5000	NW	1000	NO
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Hall/Retreat	EW-2	2700	5000	NW	500	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 3	EW-2	2700	3195	NW	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall/Retreat	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

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

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

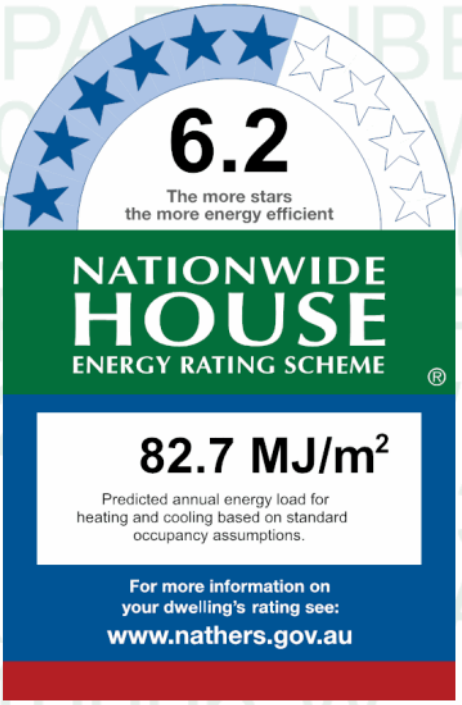
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930374

Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Unit 6, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	111.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	137.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
33.5	**49.2**
MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763
Assessor Accrediting Organisation	Design Matters National
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

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

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.

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

* 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?

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

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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.

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1800	850	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	1800	850	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	950	2170	n/a	45	NE	No
Kitchen/Living	ALM-002-01 A	n/a	2400	3130	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	SE	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	SE	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	SE	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	NW	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	NW	None	No	0.50

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	NW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	3500	YES
Garage	EW-1	2700	3195	NW	0	YES
Kitchen/Living	EW-1	2700	1900	NE	4500	YES
Kitchen/Living	EW-1	2700	2000	SE	0	NO
Kitchen/Living	EW-1	2700	3500	SW	5500	YES
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	6500	NW	0	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	4500	SE	1900	YES
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Hall	EW-2	2700	1095	NW	500	NO
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	SE	500	NO
Ens	EW-2	2700	1390	SE	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 2	EW-2	2700	3195	SE	500	NO
Bedroom 4	EW-2	2700	3195	NW	500	YES
Bedroom 3	EW-2	2700	3895	NW	500	NO
Bedroom 3	EW-2	2700	2895	NE	500	NO

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	48.10	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	4.80		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	1.00		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	2.10		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	10.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	3.30		No Insulation	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	8.00		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.50	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Plasterboard	Bulk Insulation R3.5	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 4	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

* 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.

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Ceiling penetrations	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.
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Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
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Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930382

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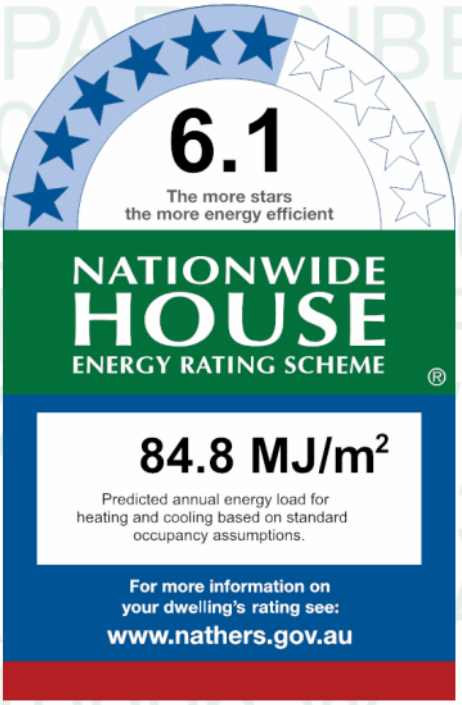

Property

Address	Unit 7, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	108.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	134.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
33.8	**51.0**
MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

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

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.

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

* 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?

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	3130	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	950	2410	n/a	45	NE	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1800	850	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	1800	850	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	SE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	0	YES
Garage	EW-1	2700	3195	NW	3500	YES
Kitchen/Living	EW-1	2700	4100	NW	1900	YES
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	6100	SE	0	NO
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	3500	SW	5500	YES
Kitchen/Living	EW-1	2700	2000	NW	0	NO
Kitchen/Living	EW-1	2700	1900	NE	4100	YES
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	1095	SE	500	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 4	EW-2	2700	3195	SE	500	YES
Bedroom 3	EW-2	2700	2895	NE	500	NO
Bedroom 3	EW-2	2700	3895	SE	500	NO

* Refer to glossary.

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	45.10	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	4.30		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	1.60		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	2.10		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	10.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	3.30		No Insulation	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	8.00		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.50	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Plasterboard	Bulk Insulation R3.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
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WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No

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Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930390

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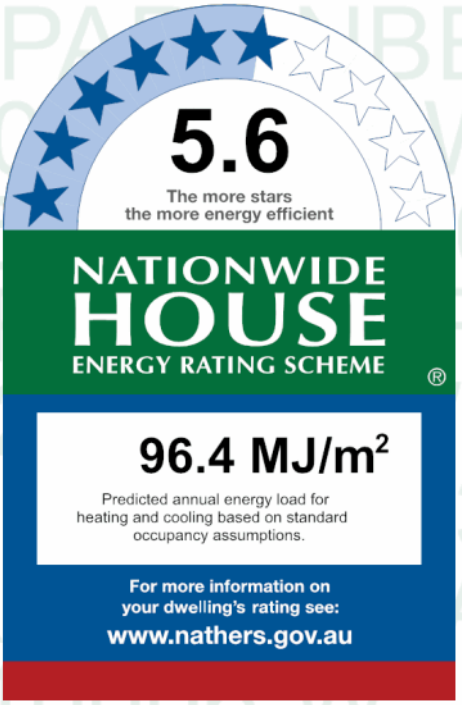

Property

Address	Unit 8, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	97.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	123.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
48.0 MJ/m^2	**48.5** MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

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.

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Certificate check

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Ceiling penetrations*

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

Windows

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

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1190	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	SW	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	NW	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2040	820	90	SE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	3500	YES
Garage	EW-1	2700	3195	SE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	5000	SE	1000	NO
Kitchen/Living	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	5000	NW	1900	NO
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Hall/Retreat	EW-2	2700	5000	SE	500	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 3	EW-2	2700	3195	SE	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall/Retreat	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

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

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930408

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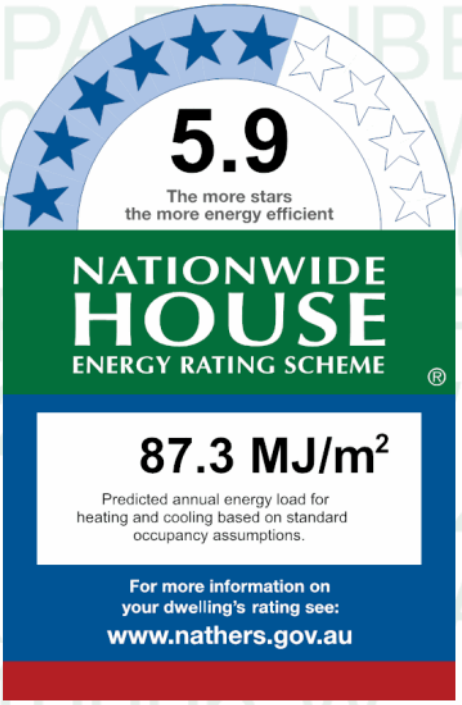

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42.0 MJ/m^2	**45.3** MJ/m^2

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Provisional* values

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Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1090	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	SE

External wall *type*

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EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	0	YES
Garage	EW-1	2700	3195	NW	3500	YES
Kitchen/Living	EW-1	2700	5000	NW	1900	NO
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	5000	SE	1000	NO
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	1600	SW	5500	YES
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	1095	SE	500	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 4	EW-2	2700	3195	SE	500	YES
Bedroom 3	EW-2	2700	2895	NE	500	NO
Bedroom 3	EW-2	2700	3895	SE	500	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 4	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

* Refer to glossary.

Explanatory notes

About this report

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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.

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Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
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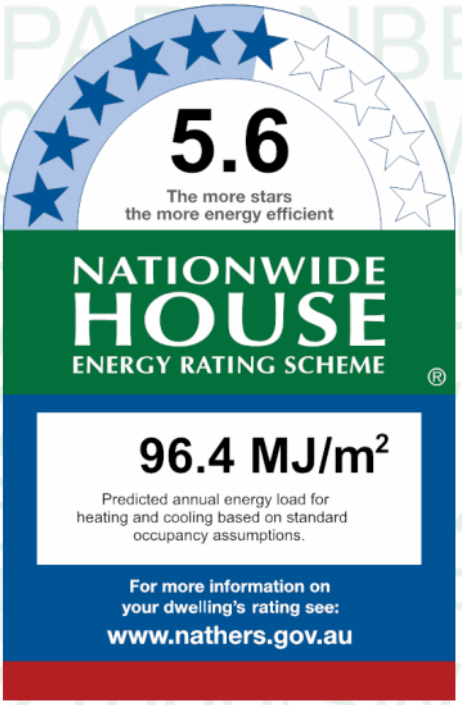
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930416

Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



Property

Address	Unit 10, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	97.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	123.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
48.0	**48.5**
MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

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

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.

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

* 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?

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1190	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	SW	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	NW	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2040	820	90	SE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	3500	YES
Garage	EW-1	2700	3195	SE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	5000	SE	1000	NO
Kitchen/Living	EW-1	2700	3295	SW	0	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	5000	NW	1900	NO
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Hall/Retreat	EW-2	2700	5000	SE	500	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 3	EW-2	2700	3195	SE	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
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Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
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Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
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Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed

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Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	24	Downlights - LED	150	Sealed
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WC	2	Downlights - LED	150	Sealed
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Master Bedroom	10	Downlights - LED	150	Sealed
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Bedroom 2	6	Downlights - LED	150	Sealed
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Ceiling *fans*

Location	Quantity	Diameter (mm)
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Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
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Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0006930424

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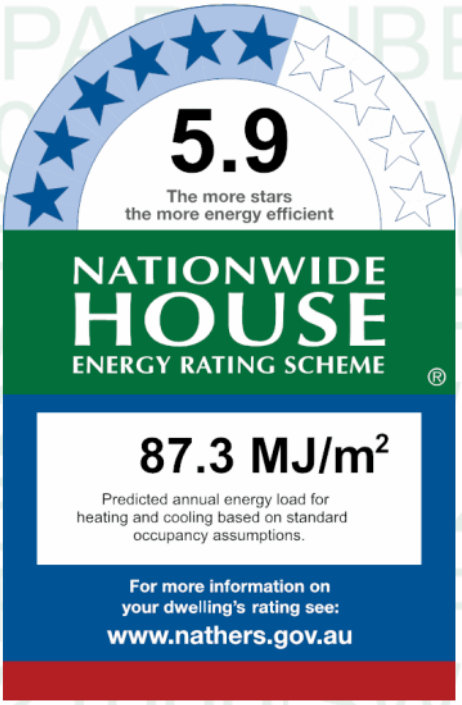

Property

Address	Unit 11, 83-85 Canberra St , Oxley Park , NSW , 2760
Lot/DP	271-272/16937
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Revision 01
Prepared by	FEMME BUILD

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	96.0	Suburban
Unconditioned*	26.0	**NatHERS climate zone**
Total	122.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
42.0 MJ/m^2	**45.3** MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

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.

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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.

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Ceiling penetrations*

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

Windows

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

Apartment entrance doors

Does the 'External Door Schedule' show apartment entrance doors? Please note that an "external door" between the modelled dwelling and a shared space, such as an enclosed corridor or foyer, should not be included in the assessment (because it overstates the possible ventilation) and would invalidate the Certificate.

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	NW	No
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	NE	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2100	1090	n/a	45	SE	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	NE	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	NE	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 4	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No
Bedroom 3	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation

* Refer to glossary.

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	SE
Garage	2400	2700	90	NW
Kitchen/Living	2400	920	90	SE

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	SE	0	YES
Garage	EW-1	2700	3195	NW	3500	YES
Kitchen/Living	EW-1	2700	5000	NW	1900	NO
Kitchen/Living	EW-1	2700	2595	NE	0	NO
Kitchen/Living	EW-1	2700	3295	NE	0	NO
Kitchen/Living	EW-1	2700	5000	SE	1000	NO
Kitchen/Living	EW-1	2700	300	SW	0	YES
Kitchen/Living	EW-1	2700	1600	SW	5500	YES
WC	EW-1	2700	1490	NE	0	NO
FF Hall	EW-2	2700	1095	SE	500	NO
FF Hall	EW-2	2700	300	SW	5600	YES
FF Bath	EW-2	2700	2190	NE	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 2	EW-2	2700	4195	NE	500	NO
Bedroom 4	EW-2	2700	3195	SE	500	YES
Bedroom 3	EW-2	2700	2895	NE	500	NO
Bedroom 3	EW-2	2700	3895	SE	500	NO

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2
IW-2 - Cavity brick, plasterboard		39.00	No Insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		102.00	No insulation

* Refer to glossary.

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Garage	Timber Above Plasterboard 19mm	1.60		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Kitchen/Living	Timber Above Plasterboard 19mm	8.70		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 4/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	11.00		No Insulation	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 4	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 4	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

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

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
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Nationwide House Energy Rating Scheme
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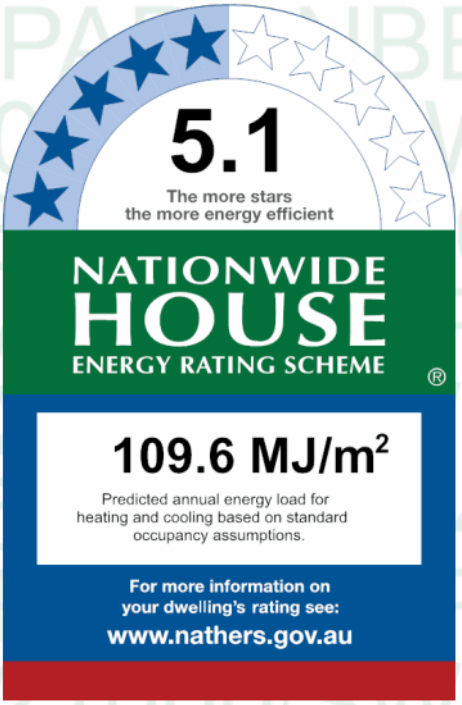
Generated on 15 Dec 2021 using BERS Pro v4.4.0.6 (3.21)



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Prepared by	FEMME BUILD

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Total	123.0	28
Garage	17.0	

Thermal performance

Heating	Cooling
54.2	**55.3**
MJ/m^2	MJ/m^2

Accredited assessor

Name	John Boutros
Business name	Greenworld Architectural Drafting
Email	greenworldarchi@outlook.com
Phone	02 9652 0045
Accreditation No.	DMN/16/1763

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Provisional* values

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Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70	0.66	0.73

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	600	2170	n/a	45	SE	No
Kitchen/Living	ALM-002-01 A	n/a	2400	1090	n/a	00	SW	No
Kitchen/Living	ALM-002-01 A	n/a	2400	2170	n/a	45	NW	No

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	1200	1210	n/a	45	NW	No
WC	ALM-002-01 A	n/a	730	850	n/a	45	SW	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	1570	n/a	30	SE	No
FF Hall/Retreat	ALM-002-01 A	n/a	950	2410	n/a	30	SW	No
FF Bath	ALM-002-01 A	n/a	950	1570	n/a	30	SW	No
Master Bedroom	ALM-002-01 A	n/a	950	2410	n/a	30	NW	No
Ens	ALM-002-01 A	n/a	1200	850	n/a	30	NW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	30	SW	No
Bedroom 2	ALM-002-01 A	n/a	950	2410	n/a	45	NW	No
Bedroom 3	ALM-002-01 A	n/a	950	1810	n/a	30	SE	No

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

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

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
FF Hall/Retreat	GEN-04-006a	n/a	650	1.10	SE	None	No	0.50

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage	2400	2700	90	NW
Garage	2400	2700	90	SE
Kitchen/Living	2400	920	90	SW

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2.5	No
EW-2	Fibro Cavity Panel Direct Fix	0.50	Medium	Foil, Anti-glare one side + Bulk Insulation R2.5	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Garage	EW-1	2700	3195	NW	3500	YES
Garage	EW-1	2700	3195	SE	0	YES
Kitchen/Living	EW-1	2700	1600	NE	5500	YES
Kitchen/Living	EW-1	2700	300	NE	0	YES
Kitchen/Living	EW-1	2700	5000	SE	0	NO
Kitchen/Living	EW-1	2700	3295	SW	1200	NO
Kitchen/Living	EW-1	2700	2595	SW	0	NO
Kitchen/Living	EW-1	2700	5000	NW	1900	NO
WC	EW-1	2700	1490	SW	0	NO
FF Hall/Retreat	EW-2	2700	300	NE	5600	YES
FF Hall/Retreat	EW-2	2700	5000	SE	500	NO
FF Hall/Retreat	EW-2	2700	2895	SW	500	NO
FF Bath	EW-2	2700	2190	SW	500	NO
Master Bedroom	EW-2	2700	3595	NW	500	NO
Ens	EW-2	2700	1390	NW	500	NO
Bedroom 2	EW-2	2700	4195	SW	500	NO
Bedroom 2	EW-2	2700	3195	NW	500	NO
Bedroom 3	EW-2	2700	3195	SE	500	YES

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-1 - Cavity brick, plasterboard		39.00	No Insulation
IW-2 - Cavity wall, direct fix plasterboard, single gap		15.00	Foil, Anti-glare one side + Bulk Insulation R2

* Refer to glossary.

Wall ID	Wall type	Area (m)	Bulk insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		91.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Garage	Waffle pod slab 225 mm 100mm	17.40	None	Waffle Pod 225mm	Bare
Kitchen/Living	Waffle pod slab 225 mm 100mm	33.20	None	Waffle Pod 225mm	Ceramic Tiles 8mm
WC	Waffle pod slab 225 mm 100mm	3.00	None	Waffle Pod 225mm	Ceramic Tiles 8mm
FF Hall/Retreat/Garage	Timber Above Plasterboard 19mm	1.70		Bulk Insulation R2.5	Carpet 10mm
FF Hall/Retreat/Kitchen/Living	Timber Above Plasterboard 19mm	20.00		No Insulation	Carpet 10mm
FF Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.70		No Insulation	Ceramic Tiles 8mm
FF Bath/WC	Timber Above Plasterboard 19mm	3.10		No Insulation	Ceramic Tiles 8mm
Master Bedroom/Garage	Timber Above Plasterboard 19mm	3.60		Bulk Insulation R2.5	Carpet 10mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Master Bedroom	Suspended Timber Floor 19mm	11.60	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Ens/Kitchen/Living	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
Ens	Suspended Timber Floor 19mm	2.40	Open	Bulk Insulation in Contact with Floor R2.5	Ceramic Tiles 8mm
Bedroom 2/Kitchen/Living	Timber Above Plasterboard 19mm	7.60		No Insulation	Carpet 10mm
Bedroom 2	Suspended Timber Floor 19mm	5.90	Open	Bulk Insulation in Contact with Floor R2.5	Carpet 10mm
Bedroom 3/Garage	Timber Above Plasterboard 19mm	11.80		Bulk Insulation R2.5	Carpet 10mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage	Timber Above Plasterboard	Bulk Insulation R2.5	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
WC	Timber Above Plasterboard	No Insulation	No
FF Hall/Retreat	Plasterboard	Bulk Insulation R3.5	No
FF Bath	Plasterboard	Bulk Insulation R3.5	No
Master Bedroom	Plasterboard	Bulk Insulation R3.5	No
Ens	Plasterboard	Bulk Insulation R3.5	No
Bedroom 2	Plasterboard	Bulk Insulation R3.5	No
Bedroom 3	Plasterboard	Bulk Insulation R3.5	No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Garage	8	Downlights - LED	150	Sealed
Kitchen/Living	24	Downlights - LED	150	Sealed
Kitchen/Living	2	Exhaust Fans	300	Sealed
WC	2	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
FF Hall/Retreat	12	Downlights - LED	150	Sealed
FF Bath	6	Downlights - LED	150	Sealed
FF Bath	1	Exhaust Fans	300	Sealed
Master Bedroom	10	Downlights - LED	150	Sealed
Ens	2	Downlights - LED	150	Sealed
Ens	1	Exhaust Fans	300	Sealed
Bedroom 2	6	Downlights - LED	150	Sealed
Bedroom 3	6	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
Kitchen/Living	1	1400

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R1.7	0.85	Dark

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way.

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

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 2 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 10 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 10m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 10 m e.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horizontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au.
Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.