Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0008474306

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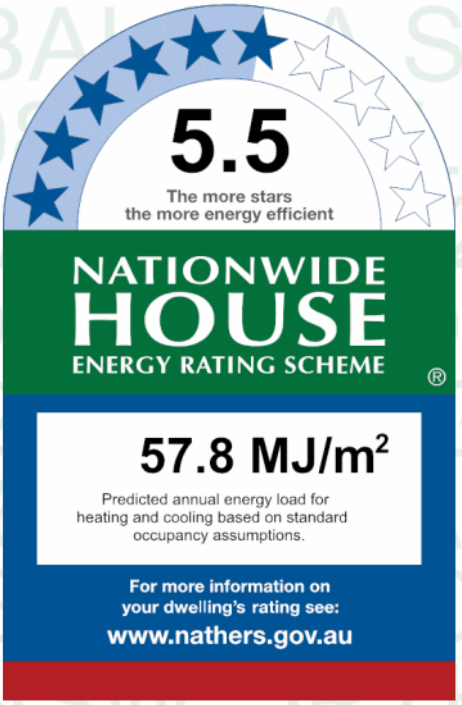

Property

Address	67 Woolgoolga Street , North Balgowlah , NSW , 2093
Lot/DP	29/23447
NCC Class*	1A
Type	New Dwelling

Plans

Main Plan	Job For Shepherd, Revision 01, Dated 1/3/2023, Sheets 1-10
Prepared by	Rama Architect

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	403.0	Suburban
Unconditioned*	36.0	**NatHERS climate zone**
Total	439.0	56
Garage	28.0	

Thermal performance

Heating	Cooling
39.7 MJ/m^2	18.1 MJ/m^2

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.

Accredited assessor

Name	Scott Douglass
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Accreditation No.	13/1547
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	None

Verification

To verify this certificate, scan the QR code or visit hstar.com.au/QR/Generate?p=FzzohGmON.
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? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

I have modeled the shading in accordance with NatHERS principles

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-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.7	0.57	0.54	0.60
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*
Rumpus	ALM-001-01 A	n/a	2400	4300	n/a	45	W	Yes

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Garage 1	ALM-001-01 A	n/a	1200	1600	n/a	90	S	No
Pantry/laundry/	ALM-001-01 A	n/a	2400	820	n/a	90	S	No
Pantry/laundry/	ALM-001-01 A	n/a	1200	1600	n/a	90	S	No
Pantry/laundry/	ALM-001-01 A	n/a	1200	1600	n/a	90	S	No
Kitchen/Living	ALM-002-01 A	n/a	2400	1600	n/a	00	N	No
Kitchen/Living	ALM-002-01 A	n/a	2400	1600	n/a	00	N	No
Kitchen/Living	ALM-002-01 A	n/a	3000	3600	n/a	90	N	Yes
Kitchen/Living	ALM-002-01 A	n/a	2400	800	n/a	00	S	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1600	n/a	90	W	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1600	n/a	90	W	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1600	n/a	90	W	No
Kitchen/Living	ALM-001-01 A	n/a	1200	1600	n/a	90	W	No
Entry	ALM-001-01 A	n/a	2400	1090	n/a	90	E	No
Snug	ALM-001-01 A	n/a	2400	1640	n/a	90	N	Yes
Study	ALM-001-01 A	n/a	2400	1640	n/a	90	N	Yes
Study	ALM-001-01 A	n/a	2400	1640	n/a	90	E	No
Master	ALM-001-01 A	n/a	1200	2400	n/a	60	N	No
Master	ALM-001-01 A	n/a	1200	2400	n/a	60	E	No
Ens	ALM-001-01 A	n/a	1200	2400	n/a	60	E	No
Wir	ALM-002-01 A	n/a	1200	1000	n/a	00	S	No
Wir	ALM-002-01 A	n/a	1200	1000	n/a	00	S	No
Study nook	ALM-002-01 A	n/a	1200	1200	n/a	45	S	No
Study nook	ALM-002-01 A	n/a	1200	1200	n/a	45	S	No
Bed 3	ALM-001-01 A	n/a	1200	2400	n/a	60	S	No
Bed 3	ALM-001-01 A	n/a	1200	2400	n/a	60	W	No
Bed 1	ALM-001-01 A	n/a	1200	2400	n/a	60	W	No
Bed 1	ALM-001-01 A	n/a	1200	2400	n/a	60	N	No
Bed 2	ALM-001-01 A	n/a	1200	2400	n/a	60	N	No
Bath 3	ALM-001-01 A	n/a	1200	1200	n/a	90	N	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-04-008a	Double-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
Upper stairs	GEN-04-008a	n/a	400	3.20	S	None	No	0.50

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2400	2700	90	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Concrete block, lined	0.30	Light	Bulk Insulation R2	No
EW-2	Concrete block, lined	0.50	Medium	Bulk Insulation R2	No
EW-3	Cavity Brick	0.30	Light	No insulation	No
EW-4	Fibro Cavity Panel Direct Fix	0.50	Medium	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)
Rumpus	EW-1	800	2000	W	0	NO
Rumpus	EW-1	1700	2000	W	0	NO
Rumpus	EW-1	2501	6200	W	0	NO
Rumpus	EW-1	800	2000	W	0	NO
Rumpus	EW-1	1700	2000	W	0	NO

* Refer to glossary.

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Rumpus	EW-1	2250	6300	N	0	NO
Rumpus	EW-1	250	6300	N	0	NO
Rumpus	EW-2	2500	4600	E	0	YES
Rumpus	EW-2	2500	6600	N	0	YES
Rumpus	EW-2	2500	5600	E	0	NO
Rumpus	EW-1	1600	6200	S	0	NO
Rumpus	EW-1	901	6200	S	0	NO
Rumpus	EW-1	1200	6700	S	0	NO
Rumpus	EW-1	1300	6700	S	0	NO
Garage 1	EW-3	3000	800	W	12900	YES
Garage 1	EW-3	3000	3795	E	1400	NO
Garage 1	EW-3	3000	7400	S	0	NO
Pantry/laundry/	EW-3	3000	1195	S	800	YES
Pantry/laundry/	EW-3	3000	800	E	9850	YES
Pantry/laundry/	EW-3	3000	9695	S	0	NO
Kitchen/Living	EW-3	3000	6300	N	0	NO
Kitchen/Living	EW-3	3700	6595	N	0	NO
Kitchen/Living	EW-3	3000	1995	S	0	NO
Kitchen/Living	EW-3	3000	10200	W	0	NO
Entry	EW-3	3000	2090	E	1400	NO
Snug	EW-3	3000	4190	N	0	NO
Study	EW-3	3000	3195	N	0	NO
Study	EW-3	3000	4295	E	1400	NO
Master	EW-4	2550	4595	N	0	NO
Master	EW-4	2550	566	NE	0	NO
Master	EW-4	2550	4295	E	0	NO
Ens	EW-4	2550	3395	E	0	NO
Ens	EW-4	2550	640	SE	0	NO
Ens	EW-4	2550	2395	S	0	NO
Wir	EW-4	2550	4290	S	0	NO
Study nook	EW-4	2550	6890	S	0	NO
Bed 3	EW-4	2550	3195	S	0	NO
Bed 3	EW-4	2550	781	SW	0	NO
Bed 3	EW-4	2550	3795	W	0	NO
Bed 1	EW-4	2550	3595	W	0	NO
Bed 1	EW-4	2550	849	NW	0	NO
Bed 1	EW-4	2550	4295	N	0	NO
Bed 2	EW-4	2550	5290	N	0	NO
Bath 3	EW-4	2550	2490	N	0	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		31.00	Bulk Insulation, No Air Gap R2
IW-2 - Cavity wall, direct fix plasterboard, single gap		227.00	No insulation

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Rumpus	Waffle pod slab 175 mm 100mm	101.20	None	Waffle Pod 175mm	Carpet+Rubber Underlay 18mm
Garage 1	Waffle pod slab 175 mm 100mm	27.70	None	Waffle Pod 175mm	Bare
Pantry/laundry//Rumpus	Rendered Concrete 100mm	30.20		No Insulation	Carpet+Rubber Underlay 18mm
Kitchen/Living /Rumpus	Rendered Concrete 100mm	68.60		No Insulation	40/60 Carpet 10mm/Ceramic
Kitchen/Living	Waffle pod slab 175 mm 100mm	30.10	None	Waffle Pod 175mm	Ceramic Tiles 8mm
Entry	Waffle pod slab 175 mm 100mm	14.80	None	Waffle Pod 175mm	Carpet+Rubber Underlay 18mm
Snug	Waffle pod slab 175 mm 100mm	17.50	None	Waffle Pod 175mm	Carpet+Rubber Underlay 18mm
Study	Waffle pod slab 175 mm 100mm	13.40	None	Waffle Pod 175mm	Carpet+Rubber Underlay 18mm
Master/Entry	Timber Above Plasterboard 100mm	7.00		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Master/Snug	Timber Above Plasterboard 100mm	6.20		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Master/Study	Timber Above Plasterboard 100mm	10.90		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Ens/Garage 1	Timber Above Plasterboard 100mm	8.10		Bulk Insulation R2	Ceramic Tiles 8mm
Ens/Entry	Timber Above Plasterboard 100mm	2.40		Bulk Insulation R2	Ceramic Tiles 8mm
Wir/Garage 1	Timber Above Plasterboard 100mm	12.50		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Wir/Entry	Timber Above Plasterboard 100mm	3.70		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Study nook/Garage 1	Timber Above Plasterboard 100mm	0.70		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Study nook/Pantry/laundry/	Timber Above Plasterboard 100mm	14.70		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Upper stairs/Kitchen/Living	Timber Above Plasterboard 100mm	17.60		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Upper stairs/Entry	Timber Above Plasterboard 100mm	1.90		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bed 3/Pantry/laundry/	Timber Above Plasterboard 100mm	6.70		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bed 3/Kitchen/Living	Timber Above Plasterboard 100mm	9.10		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bed 1/Kitchen/Living	Timber Above Plasterboard 100mm	19.10		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bed 2/Kitchen/Living	Timber Above Plasterboard 100mm	18.00		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bath 3/Snug	Timber Above Plasterboard 100mm	8.00		Bulk Insulation R2	Ceramic Tiles 8mm

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Rumpus	Plasterboard	Bulk Insulation R5	No
Rumpus	Rendered Concrete	No Insulation	No
Garage 1	Plasterboard	No insulation	No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Garage 1	Timber Above Plasterboard	Bulk Insulation R2	No
Pantry/laundry/	Plasterboard	Bulk Insulation R5	No
Pantry/laundry/	Timber Above Plasterboard	Bulk Insulation R2	No
Kitchen/Living	Plasterboard	Bulk Insulation R5	No
Kitchen/Living	Timber Above Plasterboard	Bulk Insulation R2	No
Entry	Timber Above Plasterboard	Bulk Insulation R2	No
Snug	Plasterboard	Bulk Insulation R5	No
Snug	Timber Above Plasterboard	Bulk Insulation R2	No
Study	Plasterboard	Bulk Insulation R5	No
Study	Timber Above Plasterboard	Bulk Insulation R2	No
Master	Plasterboard	Bulk Insulation R5	No
Ens	Plasterboard	Bulk Insulation R5	No
Wir	Plasterboard	Bulk Insulation R5	No
Study nook	Plasterboard	Bulk Insulation R5	No
Upper stairs	Plasterboard	Bulk Insulation R5	No
Bed 3	Plasterboard	Bulk Insulation R5	No
Bed 1	Plasterboard	Bulk Insulation R5	No
Bed 2	Plasterboard	Bulk Insulation R5	No
Bath 3	Plasterboard	Bulk Insulation R5	No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Rumpus	37	Downlights - LED	0	Sealed
Pantry/laundry/	12	Downlights - LED	0	Sealed
Pantry/laundry/	1	Exhaust Fans	200	Sealed
Kitchen/Living	40	Downlights - LED	0	Sealed
Kitchen/Living	1	Exhaust Fans	160	Sealed
Kitchen/Living	1	Chimneys	200	Sealed
Entry	6	Downlights - LED	0	Sealed
Snug	7	Downlights - LED	0	Sealed
Study	6	Downlights - LED	0	Sealed
Master	10	Downlights - LED	0	Sealed
Ens	4	Downlights - LED	0	Sealed
Ens	1	Exhaust Fans	300	Sealed
Wir	7	Downlights - LED	0	Sealed
Study nook	6	Downlights - LED	0	Sealed
Upper stairs	8	Downlights - LED	0	Sealed
Bed 3	6	Downlights - LED	0	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bed 1	8	Downlights - LED	0	Sealed
Bed 2	8	Downlights - LED	0	Sealed
Bath 3	4	Downlights - LED	0	Sealed
Bath 3	1	Exhaust Fans	300	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Concrete	No Added Insulation, No air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.50	Medium

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.