

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0008386492

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Property

Address 38 Lindley Avenue , Narrabeen , NSW , 2101
Lot/DP 7/7090
NCC Class* 1A
Type New Dwelling

Plans

Main Plan 714763
Prepared by Metricon

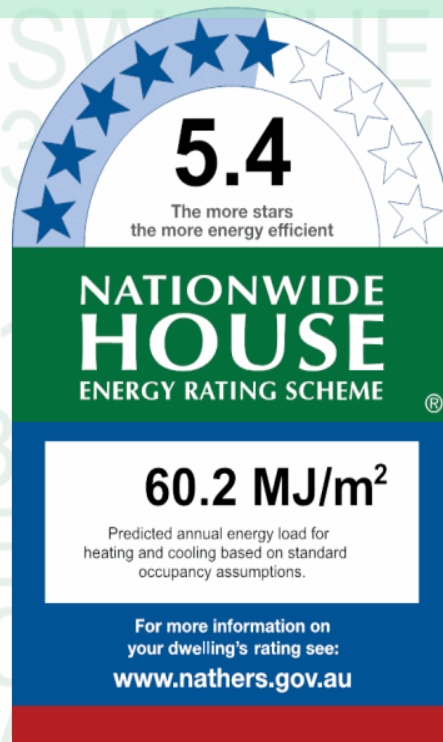
Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 247.0	Suburban
Unconditioned* 67.0	NatHERS climate zone
Total 314.0	56
Garage 42.0	



Accredited assessor

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Accreditation No. 20390
Assessor Accrediting Organisation
ABSA
Declaration of interest Declaration completed: no conflicts



Thermal performance

Heating	Cooling
34.4	25.8
MJ/m²	MJ/m²

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 www.hstar.com.au/QR/Generate?p=UdmUqlzdo. When using either link, ensure you are visiting www.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.

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
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59
TIM-002-01 W	TIM-002-01 W Timber B SG Clear	5.4	0.63	0.60	0.66

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
AL-025-05 A	AL-025-05 A Al Boutique Fixed Lite Window SG 4EA	3.8	0.64	0.61	0.67
AL-013-14 A	AL-013-14 A Al Sliding Door DG 4Sn/10Ar/4	3.0	0.45	0.43	0.47
AL-001-04 A	AL-001-04 A Al Awning SG 4Clr	5.8	0.65	0.62	0.68
AL-003-01 A	AL-003-01 A Al Sliding Window SG 3Clr	6.2	0.78	0.74	0.82
AL-025-01 A	AL-025-01 A Al Boutique Fixed Lite Window SG 3Clr	5.7	0.77	0.73	0.81

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	AL-025-05 A	n/a	2700	900	n/a	90	E	No
Kitchen/Living	AL-025-05 A	n/a	2700	900	n/a	90	E	No
Kitchen/Living	AL-025-05 A	n/a	680	3610	n/a	00	W	No
Kitchen/Living	AL-013-14 A	n/a	3300	6900	n/a	90	N	Yes
Pantry	AL-025-05 A	n/a	680	1450	n/a	00	W	No
Ldry	AL-001-04 A	n/a	950	900	n/a	90	W	No
Ldry	TIM-001-01 W	n/a	2107	865	n/a	90	W	No
Garage 1	AL-003-01 A	n/a	500	3600	n/a	45	W	No
Garage 1	AL-025-01 A	n/a	500	800	n/a	00	N	No
Guest Bedroom	AL-025-05 A	n/a	1800	1800	n/a	45	E	No
PDR	AL-025-05 A	n/a	1400	800	n/a	90	E	No
Study	AL-025-05 A	n/a	2100	2000	n/a	45	S	No
Entry/Hallway	TIM-002-01 W	n/a	2455	300	n/a	00	S	No
Master Bedroom	AL-025-05 A	n/a	2100	3200	n/a	60	E	No
Master Bedroom	AL-025-05 A	n/a	2100	2450	n/a	00	N	Yes
Master Bedroom	AL-025-05 A	n/a	2100	2720	n/a	45	N	Yes
ENS	AL-025-05 A	n/a	1000	300	n/a	00	W	No
ENS	AL-025-05 A	n/a	1000	300	n/a	00	W	No
ENS	AL-025-05 A	n/a	2100	2200	n/a	30	N	Yes
WC (ENS)	AL-025-05 A	n/a	900	600	n/a	90	W	No
Bath	AL-025-05 A	n/a	900	1200	n/a	45	W	No
WC	AL-025-05 A	n/a	900	800	n/a	90	W	No
Office	AL-025-05 A	n/a	1500	1200	n/a	45	E	No
Bedroom 2	AL-025-05 A	n/a	2100	2400	n/a	60	E	No
Bedroom 2	AL-025-05 A	n/a	2100	2000	n/a	30	S	No
Bedroom 3	AL-025-05 A	n/a	2100	1600	n/a	45	S	No
Bedroom 4	AL-025-05 A	n/a	2100	2000	n/a	30	S	No
Bedroom 4	AL-025-05 A	n/a	500	2000	n/a	00	W	No
Leisure/Hall	AL-025-05 A	n/a	1750	3200	n/a	60	E	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
VEL-011-02 W	Glass	2.7	0.24	0.23	0.25
VEL-010-01 W	Glass	2.5	0.21	0.20	0.22

Roof window schedule

Location	Window ID	Window no.	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
ENS	VEL-011-02 W	n/a	0	1275	1275	W	No	No
Bath	VEL-011-02 W	n/a	0	970	970	E	No	No
Leisure/Hall	VEL-010-01 W	n/a	90	1400	550	E	No	No
Leisure/Hall	VEL-010-01 W	n/a	90	1400	550	E	No	No
Leisure/Hall	VEL-010-01 W	n/a	90	1400	550	E	No	No

Skylight type and performance

Skylight ID	Skylight description
No Data Available	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Garage 1	2150	5200	90	S
Entry/Hallway	2455	1200	90	S

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Brick Veneer	0.30	Light	Foil Anti-glare one side and Reflective other of the Bulk Insulation R2	Yes
EW-2	Brick Veneer	0.50	Medium	No insulation	No
EW-3	Cavity Brick	0.50	Medium	No insulation	No
EW-4	Weatherboard Cavity Panel Direct Fix	0.30	Light	Foil Anti-glare one side and Reflective other of the Bulk Insulation R2	Yes
EW-5	Weatherboard Cavity Panel Direct Fix	0.50	Medium	Foil Anti-glare one side and Reflective other of the Bulk Insulation R2	Yes

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	3732	1600	E	50	YES
Kitchen/Living	EW-1	3732	600	N	50	YES
Kitchen/Living	EW-1	3732	2050	E	50	NO
Kitchen/Living	EW-1	3732	600	S	50	YES
Kitchen/Living	EW-1	3732	1695	E	50	YES
Kitchen/Living	EW-1	3732	4595	W	50	NO
Kitchen/Living	EW-1	3732	9950	N	6000	NO
Pantry	EW-1	3732	2240	W	50	NO
Ldry	EW-1	3732	2045	W	50	YES
Garage 1	EW-2	2805	600	E	5350	YES
Garage 1	EW-3	2805	6150	S	50	NO
Garage 1	EW-2	2805	7250	W	50	NO
Garage 1	EW-2	2805	1500	N	100	YES
Guest Bedroom	EW-1	2730	4740	E	50	NO
PDR	EW-1	2730	3190	E	50	NO
Study	EW-1	2730	2895	E	50	NO
Study	EW-1	2730	750	S	50	NO
Study	EW-4	2730	2150	S	50	NO
Study	EW-4	2730	600	W	8600	YES
Entry/Hallway	EW-4	2730	2390	S	1250	YES
Master Bedroom	EW-4	2580	4995	E	150	NO
Master Bedroom	EW-4	2580	6945	N	100	NO
ENS	EW-4	2580	4195	W	50	NO
ENS	EW-4	2580	2995	N	100	NO
WC (ENS)	EW-5	2580	940	W	50	NO
Bath	EW-5	2580	4090	W	50	NO
WC	EW-5	2580	600	S	100	YES
WC	EW-5	2580	1195	W	50	NO
Office	EW-1	2580	2040	E	150	NO
Bedroom 2	EW-1	2580	4595	E	150	NO
Bedroom 2	EW-4	2580	2995	S	100	NO
Bedroom 3	EW-4	2580	3040	S	100	NO
Bedroom 4	EW-5	2580	3295	S	100	NO
Bedroom 4	EW-4	2580	5745	W	50	YES
Leisure/Hall	EW-5	2580	4540	E	150	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		282.00	No insulation
IW-2 - Tilt Concrete		11.00	No insulation
IW-3 - Cavity wall, direct fix plasterboard, single gap		23.00	Bulk Insulation, No Air Gap R2

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Waffle pod slab 300 mm 100mm	52.70	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Pantry	Waffle pod slab 300 mm 100mm	7.00	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Ldry	Waffle pod slab 300 mm 100mm	6.00	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Garage 1	Waffle pod slab 225 mm 100mm	42.20	None	Waffle Pod 225mm	Bare
Guest Bedroom	Waffle pod slab 300 mm 100mm	13.20	None	Waffle Pod 300mm	Carpet 10mm
PDR	Waffle pod slab 300 mm 100mm	5.80	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Study	Waffle pod slab 300 mm 100mm	8.20	None	Waffle Pod 300mm	Carpet 10mm
WIL	Waffle pod slab 300 mm 100mm	1.80	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Entry/Hallway	Waffle pod slab 300 mm 100mm	30.60	None	Waffle Pod 300mm	Ceramic Tiles 8mm
Master Bedroom/Kitchen/Living	Timber Above Plasterboard 19mm	25.40		No Insulation	Carpet 10mm
WIR/Kitchen/Living	Timber Above Plasterboard 19mm	9.20		No Insulation	Carpet 10mm
ENS/Kitchen/Living	Timber Above Plasterboard 19mm	13.60		No Insulation	Ceramic Tiles 8mm
ENS/Pantry	Timber Above Plasterboard 19mm	1.60		No Insulation	Ceramic Tiles 8mm
WC (ENS)/Kitchen/Living	Timber Above Plasterboard 19mm	0.60		No Insulation	Ceramic Tiles 8mm
WC (ENS)/Pantry	Timber Above Plasterboard 19mm	0.80		No Insulation	Ceramic Tiles 8mm
Bath/Pantry	Timber Above Plasterboard 19mm	3.40		No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Timber Above Plasterboard 19mm	6.10		No Insulation	Ceramic Tiles 8mm
Bath/Garage 1	Timber Above Plasterboard 19mm	0.90		No Insulation	Ceramic Tiles 8mm
WC/Garage 1	Timber Above Plasterboard 19mm	2.30		No Insulation	Ceramic Tiles 8mm
Office/Guest Bedroom	Timber Above Plasterboard 19mm	1.00		No Insulation	Carpet 10mm
Office/PDR	Timber Above Plasterboard 19mm	2.70		No Insulation	Carpet 10mm
Bedroom 2/PDR	Timber Above Plasterboard 19mm	3.20		No Insulation	Carpet 10mm
Bedroom 2/Study	Timber Above Plasterboard 19mm	8.20		No Insulation	Carpet 10mm
Bedroom 2/WIL	Timber Above Plasterboard 19mm	1.70		No Insulation	Carpet 10mm
Bedroom 3/Garage 1	Timber Above Plasterboard 19mm	3.30		No Insulation	Carpet 10mm
Bedroom 3/Entry/Hallway	Timber Above Plasterboard 19mm	8.80		No Insulation	Carpet 10mm
Bedroom 3	Suspended Timber Floor 19mm	1.30	Totally Open	No Insulation	Carpet 10mm
Bedroom 4/Garage 1	Timber Above Plasterboard 19mm	17.40		No Insulation	Carpet 10mm
WIC/Garage 1	Timber Above Plasterboard 19mm	0.80		No Insulation	Carpet 10mm
WIC/Entry/Hallway	Timber Above Plasterboard 19mm	1.20		No Insulation	Carpet 10mm

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Leisure/Hall/Kitchen/Living	Timber Above Plasterboard 19mm	1.40		No Insulation	Carpet 10mm
Leisure/Hall/Pantry	Timber Above Plasterboard 19mm	1.30		No Insulation	Carpet 10mm
Leisure/Hall/Garage 1	Timber Above Plasterboard 19mm	2.80		No Insulation	Carpet 10mm
Leisure/Hall/Guest Bedroom	Timber Above Plasterboard 19mm	12.20		No Insulation	Carpet 10mm
Leisure/Hall/Entry/Hallway	Timber Above Plasterboard 19mm	19.80		No Insulation	Carpet 10mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R4.1	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Pantry	Timber Above Plasterboard	No Insulation	No
Ldry	Timber Above Plasterboard	No Insulation	No
Garage 1	Plasterboard	No insulation	No
Garage 1	Timber Above Plasterboard	No Insulation	No
Guest Bedroom	Timber Above Plasterboard	No Insulation	No
PDR	Timber Above Plasterboard	No Insulation	No
Study	Timber Above Plasterboard	No Insulation	No
WIL	Timber Above Plasterboard	No Insulation	No
Entry/Hallway	Timber Above Plasterboard	No Insulation	No
Master Bedroom	Plasterboard	Bulk Insulation R4.1	No
WIR	Plasterboard	Bulk Insulation R4.1	No
ENS	Plasterboard	Bulk Insulation R4.1	No
WC (ENS)	Plasterboard	Bulk Insulation R4.1	No
Bath	Plasterboard	Bulk Insulation R4.1	No
WC	Plasterboard	Bulk Insulation R4.1	No
Office	Plasterboard	Bulk Insulation R4.1	No
Bedroom 2	Plasterboard	Bulk Insulation R4.1	No
Bedroom 3	Plasterboard	Bulk Insulation R4.1	No
Bedroom 4	Plasterboard	Bulk Insulation R4.1	No
WIC	Plasterboard	Bulk Insulation R4.1	No
Leisure/Hall	Plasterboard	Bulk Insulation R4.1	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm ²)	Sealed/unsealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
WC (ENS)	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
Bedroom 2	1	1200
Bedroom 3	1	1200
Bedroom 4	1	1200

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up 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 10m 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).