Nationwide House Energy Rating Scheme — Class 2 Summary NatHERS Certificate No. #HR-M5CWU6-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 21 Whistler Street , MANLY, NSW, 2095 Lot/DP

NatHERS climate zone 56 - Mascot AMO

Accredited assessor



Duncan Hope Senica Consultancy Group duncan@senica.com.au +61 280067784 Accreditation No. DMN/14/1658 Assessor Accrediting Organisation DMN





Verification

To verify this certificate, scan the QR code or visit <u>http://www.hero-software.com.au/pdf/HR-M5CWU6-</u>01. When using either link, ensure you are visiting http://www.hero-software.com.au

Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-AIHHAU-01	101	33.9	21.4	55.3	5.7
HR-JPL2UX-01	102	25.8	16.9	42.7	6.7
HR-WQOXWO-01	202	34.6	24.5	59.1	5.4
HR-FJXVPY-01	301	36.4	18.0	54.4	5.8

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



Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m²)	Cooling load (MJ/m²)	Total load (MJ/m²)	Star rating
HR-0756X9-01	302	29.2	14.0	43.2	6.7
HR-DNUND4-01	401	35.4	15.2	50.6	6.0
HR-1KNQRW-01	402	30.7	13.2	43.9	6.6
Average	7x (Total)	32.3	17.6	49.9	6.1

Explanatory Notes

About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

Accredited Assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

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

Disclaimer

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

Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-AIHHAU-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 101, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area	Exposure Type	
Conditioned*	72.6	Suburban
Unconditioned*	5.1	NatHERS climate zone
Total	77.7	56 - Mascot AMO
Garage	0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



your dwelling's rating see:

Thermal PerformanceHeatingCooling33.921.4

00.0	A 11-T
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.

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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?

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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
	•	U-value*		lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges	
		U-value*		lower limit	upper limit

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bathroom	ALM-001-01 A	W110	1400	335	Awning	90	S	None
Bedroom 01	ALM-002-01 A	W108	2700	2560	Sliding	60	E	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 02	ALM-001-01 A	W109	2400	1100	Casement	90	W	OP-40%
Ensuite	ALM-001-01 A	W107	2700	1025	Awning	24	E	None
Kitchen/Living	ALM-002-01 A	W105	2700	305	Fixed	0	N	None
Kitchen/Living	ALM-001-01 A	W105	1800	3426	Awning	19	E	None
Kitchen/Living	ALM-001-01 A	W106	2700	2030	Bi-fold	90	S	None

Roof window type and performance value

Default* roof w	vindows					
Window ID	Window Description	Maximum	IM * SHGC*	SHGC substitution tolerance ranges		
	······	U-value*		lower limit	upper limit	
None						

Custom* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges		
				lower limit upper limit		
None						

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skylight ID			Skylight de	scriptio	n			
None								
Skylight	t schedu	le						
Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance
None								
External	l door <i>sc</i>	hedule						
Location			Height	(mm)	Width (mm) (Opening %	Orientation



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	872	W		Yes
Bathroom	AFS162GW751	2740	784	S		Yes
Bedroom 01	FC-NOCAV	2740	3017	Е	2396	Yes
Bedroom 01	AFS162GW751	2740	4058	S		Yes
Bedroom 02	AFS162GW751	2740	3681	S		Yes
Bedroom 02	AFS162GW751	2740	3054	W		Yes
Ensuite	FC-NOCAV	2740	1291	E	2411	Yes
Kitchen/Living	FC-NOCAV	2740	356	E		Yes
Kitchen/Living	FC-NOCAV	2740	454	Ν		Yes
Kitchen/Living	FC-NOCAV	2740	3426	E		Yes
Kitchen/Living	AFS162GW751	2740	270	S	4704	Yes
Kitchen/Living	AFS162GW751	2740	214	E		Yes
Kitchen/Living	FC-NOCAV	2740	2128	S	4656	Yes
Kitchen/Living	AFS162GW751	2740	100	S		Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	42.8	1.50
INT-PB	Internal Plasterboard Stud Wall	60.7	0.00



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	2.4	N/A	0.00	Tile
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	2.7	N/A	0.92	Tile
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.9	N/A	0.00	Timber
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.5	N/A	0.92	Timber
Bedroom 02	SUSP-CONC-250-LINED: Suspended Concrete Slab Floor (250mm) - Lined Below	10.5	N/A	0.92	Timber
Bedroom 02	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.1	N/A	0.00	Timber
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.9	N/A	0.00	Tile
Ensuite	SUSP-CONC-250-LINED: Suspended Concrete Slab Floor (250mm) - Lined Below	2.5	N/A	0.92	Tile
Entry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	2.5	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	37.6	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-250-LINED: Suspended Concrete Slab Floor (250mm) - Lined Below	1.1	N/A	0.92	Tile
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.0	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed

* Refer to glossary.

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Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	5	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Exhaust Fan	350	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	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

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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)

Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-JPL2UX-01

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Address 102, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

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Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area	Exposure Type	
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Total	77.1	56 - Mascot AMO
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Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



For more information on your dwelling's rating see: www.nathers.gov.au

Thermal PerformanceHeatingCooling25.816.9MJ/m²MJ/m²

About the rating

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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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
	•	U-value*		lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID	Window Description	Maximum	SHGC*	SHGC sub tolerance	stitution ranges
		U-value*		lower limit	upper limit

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bathroom	ALM-001-01 A	W111	1400	335	Awning	90	Ν	None
Bedroom 01	ALM-002-01 A	W101	2700	2560	Sliding	60	E	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 02	ALM-001-01 A	W112	2400	1100	Casement	90	W	None
Ensuite	ALM-001-01 A	W102	2700	1025	Awning	24	E	None
Kitchen/Living	ALM-002-01 A	W104	1900	305	Fixed	0	S	None
Kitchen/Living	ALM-001-01 A	W104	1900	2752	Awning	19	E	None
Kitchen/Living	ALM-001-01 A	W103	2700	2030	Bi-fold	90	Ν	None

Roof window type and performance value

Default* roof w	indows				
Window ID	Window Description	Maximum	s IGC* ^{te}	HGC sub	stitution ranges
		U-value*	lo	wer limit	upper limit
None					

Custom* roof windows

Window ID	Window Description Maximum S U-value*	Maximum U-value*	Maximum		SHGC subs	stitution anges
				lower limit	upper limit	
None						

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skulight ID	i type and		Chuliabt da	oorintio	_			
Skylight ID			Skylight de	scriptio	1			
None								
Skylight	t schedu	le						
Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance
None								
Externa	l door <i>sc</i>	hedule						
Location			Height	(mm)	Width (mm) (Opening %	Orientation
None								



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	1948	W	1634	Yes
Bathroom	AFS162GW751	2740	784	Ν		Yes
Bedroom 01	FC-NOCAV	2740	3090	E	2396	Yes
Bedroom 01	AFS162GW751	2740	4050	Ν		Yes
Bedroom 02	AFS162GW751	2740	3655	Ν		Yes
Bedroom 02	AFS162GW751	2740	2902	W		Yes
Ensuite	FC-NOCAV	2740	1291	E	2411	Yes
Kitchen/Living	FC-NOCAV	2740	1030	E		Yes
Kitchen/Living	FC-NOCAV	2740	454	S		Yes
Kitchen/Living	FC-NOCAV	2740	2752	E		Yes
Kitchen/Living	AFS162GW751	2740	270	Ν	4704	Yes
Kitchen/Living	AFS162GW751	2740	214	E		Yes
Kitchen/Living	FC-NOCAV	2740	2128	Ν	4656	Yes
Kitchen/Living	AFS162GW751	2740	100	Ν		Yes
Kitchen/Living	AFS162GW751	2740	990	W	1622	Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	37.2	1.50
INT-PB	Internal Plasterboard Stud Wall	60.6	0.00



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	5.1	N/A	0.00	Tile
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.6	N/A	0.00	Timber
Bedroom 02	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	10.1	N/A	0.00	Timber
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.4	N/A	0.00	Tile
Entry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	2.5	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	38.4	N/A	0.00	Tile
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.0	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	6	Downlight	100	Sealed



Ceiling *penetrations**

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Exhaust Fan	350	Sealed
Ceiling <i>fans</i>				
Location		Quantity	Diameter	(mm)
None				

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium



Explanatory Notes

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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).

Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-WQOXWO-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 202, 21 Whistler Street, MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main Plan Project No. 21806 Prepared by Wolski Coppin Architecture

Construction and environment

Assessed floor area (m ²)*		Exposure Type
Conditioned*	152.3	Suburban
Unconditioned*	1.9	NatHERS climate zone
Total	154.3	56 - Mascot AMO
Garage	0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



your dwelling's rating see: www.nathers.gov.au

Thermal Performance

Heating	Cooling
34.6	24.5
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 http://www.hero-software. com.au/pdf/HR-WQOXWO-01. When



using either link, ensure you are visiting http://www.hero-software. 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?

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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
	•	U-value*		lower limit u	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID	Nindow ID Window Description Ma	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*	onee	lower limit upper li	upper limit	

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Access	ALM-001-01 A	W210	600	240	Awning	90	S	None
Bedroom 01	ALM-002-01 A	W212	2700	720	Fixed	0	W	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 01	ALM-001-01 A	W202	2700	1025	Awning	24	Е	None
Bedroom 01	ALM-002-01 A	W201	2700	2560	Sliding	60	Е	None
Bedroom 02	ALM-002-01 A	W208	2700	2560	Sliding	60	E	None
Bedroom 02	ALM-001-01 A	W207	2700	1025	Awning	24	E	None
Bedroom 03	ALM-002-01 A	W209	2700	720	Fixed	0	W	None
Ensuite	ALM-001-01 A	W211	600	1120	Awning	90	W	None
Kitchen/Dining	ALM-001-01 A	W203	2700	2030	Bi-fold	90	Ν	None
Kitchen/Dining	ALM-001-01 A	W204	1900	2746	Awning	19	Е	None
Kitchen/Dining	ALM-002-01 A	W204	1900	305	Fixed	0	S	None
Living	ALM-002-01 A	W205	1900	305	Fixed	0	Ν	None
Living	ALM-001-01 A	W205	1900	3436	Awning	19	E	None
Living	ALM-001-01 A	W206	2700	1131	Bi-fold	90	S	None

Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum SHG0	SHGC substitution tolerance ranges
		U-value*	lower limit upper limit
None			
Custom* roof w	vindows		

Window ID	Window Description	Maximum SHGC	SHGC substitution * tolerance ranges
	······	U-value*	lower limit upper limit
None			

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

5.4 Star Rating as of 07 Oct 2022



Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance
None								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Access	AFS162GW751	2740	100	E		Yes
Access	AFS162GW751	2740	1263	S	1171	Yes
Access	AFS162GW751	2740	1029	W		Yes
Access	AFS162GW751	2740	134	S		Yes
Bedroom 01	FC-NOCAV	2740	1154	W	1099	Yes
Bedroom 01	AFS162GW751	2740	4459	Ν		Yes
Bedroom 01	FC-NOCAV	2740	4195	E	3324	Yes
Bedroom 02	FC-NOCAV	2740	4404	E	1406	Yes
Bedroom 02	AFS162GW751	2740	4050	S		Yes
Bedroom 03	AFS162GW751	2740	4681	S		Yes
Bedroom 03	AFS162GW751	2740	1627	W		Yes
Bedroom 03	AFS162GW751	2740	600	Ν		Yes
Bedroom 03	FC-NOCAV	2740	1516	W	1161	Yes
Ensuite	AFS162GW751	2740	1236	W		Yes
Ensuite	AFS162GW751	2740	360	Ν		Yes
Ensuite	AFS162GW751	2740	101	W		Yes

* Refer to glossary.



Ensuite	AFS162GW751	2740	1020	Ν	1211	Yes
Kitchen/Dining	FC-NOCAV	2740	293	E	3324	Yes
Kitchen/Dining	FC-NOCAV	2740	3053	Ν	4714	Yes
Kitchen/Dining	AFS162GW751	2740	214	Е		Yes
Kitchen/Dining	FC-NOCAV	2740	270	Ν		Yes
Kitchen/Dining	FC-NOCAV	2740	2746	Е		Yes
Kitchen/Dining	FC-NOCAV	2740	448	S		Yes
Kitchen/Dining	FC-NOCAV	2740	1146	Е		Yes
Living	AFS162GW751	2740	43	W		Yes
Living	AFS162GW751	2740	100	S		Yes
Living	FC-NOCAV	2740	350	Е		Yes
Living	FC-NOCAV	2740	448	Ν		Yes
Living	FC-NOCAV	2740	3436	Е		Yes
Living	AFS162GW751	2740	270	S	4636	Yes
Living	AFS162GW751	2740	211	Е		Yes
Living	FC-NOCAV	2740	1131	S	4590	Yes
Storage	AFS162GW751	2740	459	W		Yes
WIR 01	AFS162GW751	2740	2351	Ν		Yes
WIR 01	AFS162GW751	2740	610	S		Yes
WIR 01	AFS162GW751	2740	1505	W		Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	21.5	1.50
INT-PB	Internal Plasterboard Stud Wall	136.8	0.00



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Access	TIMB-001: Suspended Timber Floor	4.8	N/A	0.00	Tile
Bedroom 01	TIMB-001: Suspended Timber Floor	19.6	N/A	0.00	Carpet
Bedroom 02	TIMB-001: Suspended Timber Floor	9.7	N/A	0.00	Carpet
Bedroom 02	TIMB-001: Suspended Timber Floor	4.0	N/A	0.92	Carpet
Bedroom 03	TIMB-001: Suspended Timber Floor	13.7	N/A	0.00	Carpet
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.5	N/A	0.00	Tile
Ensuite	TIMB-001: Suspended Timber Floor	4.2	N/A	0.00	Tile
Ensuite (Bed 02)	TIMB-001: Suspended Timber Floor	2.9	N/A	0.00	Tile
Ensuite (Bed 03)	TIMB-001: Suspended Timber Floor	3.1	N/A	0.00	Tile
Entry	TIMB-001: Suspended Timber Floor	6.8	N/A	0.00	Tile
Entry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.1	N/A	0.00	Tile
Guest WC	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.9	N/A	0.00	Tile
Guest WC	TIMB-001: Suspended Timber Floor	1.0	N/A	0.00	Tile
Hallway Bed 03	TIMB-001: Suspended Timber Floor	2.2	N/A	0.00	Carpet
Kitchen/Dining	TIMB-001: Suspended Timber Floor	38.3	N/A	0.00	Tile
Laundry	TIMB-001: Suspended Timber Floor	2.6	N/A	0.00	Tile
Living	TIMB-001: Suspended Timber Floor	27.4	N/A	0.00	Tile
Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.1	N/A	0.00	Tile
Pantry	TIMB-001: Suspended Timber Floor	3.4	N/A	0.00	Tile
Storage	TIMB-001: Suspended Timber Floor	4.0	N/A	0.00	Tile
WIR 01	TIMB-001: Suspended Timber Floor	3.9	N/A	0.00	Carpet

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Access	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bedroom 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite (Bed 03)	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Guest WC	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Hallway Bed 03	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Dining	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Pantry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Storage	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
WIR 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Access	1	Downlight	100	Sealed
Bedroom 01	3	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Bedroom 03	2	Downlight	100	Sealed
Ensuite	1	Downlight	100	Sealed
Entry	1	Downlight	100	Sealed
Kitchen/Dining	5	Downlight	100	Sealed
Kitchen/Dining	1	Exhaust Fan	350	Sealed
Living	4	Downlight	100	Sealed
Storage	1	Downlight	100	Sealed
WIR 01	1	Downlight	100	Sealed





Ceiling fans

Location	Quantity	Diameter (mm)			
None					

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium



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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)

Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-FJXVPY-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 301, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area (m²)*		Exposure Type
Conditioned*	73.4	Open
Unconditioned*	3.3	NatHERS climate zone
Total	76.7	56 - Mascot AMO
Garage	0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



your dwelling's rating see:

Thermal PerformanceHeatingCooling36.418.0MJ/m²MJ/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 http://www.hero-software. com.au/pdf/HR-FJXVPY-01. When using either link, ensure you are visiting http://www.herosoftware.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?

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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum	Maximum U-value* SHGC*	tolerance ranges		
	•	U-value*		lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID	Window Description	Maximum	SHGC*	tolerance ranges		
		U-value*		lower limit	upper limit	

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bathroom	ALM-001-01 A	W310	600	600	Awning	90	S	None
Bedroom 01	ALM-002-01 A	W308	2700	2560	Sliding	60	E	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 02	ALM-001-01 A	W309	2400	1100	Casement	90	W	None
Ensuite	ALM-001-01 A	W307	2700	1025	Awning	24	E	None
Kitchen/Living	ALM-002-01 A	W305	1900	305	Fixed	0	N	None
Kitchen/Living	ALM-001-01 A	W305	1900	3426	Awning	19	E	OP-40%
Kitchen/Living	ALM-001-01 A	W306	2700	2030	Bi-fold	90	S	None

Roof window type and performance value

Default* roof w						
Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*		lower limit	upper limit	
None						

Custom* roof windows

Window ID	ndow ID Window Description Maximur U-value*	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*		lower limit	upper limit	
None						

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skylight	t type and	d perfori	mance					
Skylight ID		-	Skylight de	scriptio	n			
None								
Skylight	t schedu	le						
Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance
None								
Externa	l door <i>sc</i>	hedule						
Location			Height	(mm)	Width (mm) O	pening %	Orientation
None								



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	872	W		Yes
Bathroom	AFS162GW751	2740	1385	S	1183	Yes
Bedroom 01	FC-NOCAV	2740	3017	E	2810	Yes
Bedroom 01	AFS162GW751	2740	4058	S		Yes
Bedroom 02	AFS162GW751	2740	3681	S		Yes
Bedroom 02	AFS162GW751	2740	1626	W		Yes
Bedroom 02	AFS162GW751	2740	1427	W	1002	Yes
Bedroom 02	AFS162GW751	2740	605	Ν		Yes
Ensuite	FC-NOCAV	2740	1291	E	2810	Yes
Kitchen/Living	FC-NOCAV	2740	356	E		Yes
Kitchen/Living	FC-NOCAV	2740	454	Ν		Yes
Kitchen/Living	FC-NOCAV	2740	3426	E	410	Yes
Kitchen/Living	AFS162GW751	2740	270	S	4704	Yes
Kitchen/Living	AFS162GW751	2740	214	E		Yes
Kitchen/Living	FC-NOCAV	2740	2128	S	4656	Yes
Kitchen/Living	AFS162GW751	2740	100	S		Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	24.2	2.52
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	14.0	1.50
INT-PB	Internal Plasterboard Stud Wall	8.7	2.00

* Refer to glossary.

Generated on 07 Oct 2022 using Hero 3.0.1 for 301, 21 Whistler Street , MANLY, NSW, 2095



Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	56.4	0.00

Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-001: Suspended Timber Floor	3.2	N/A	0.00	Tile
Bedroom 01	TIMB-001: Suspended Timber Floor	16.5	N/A	0.00	Timber
Bedroom 02	TIMB-001: Suspended Timber Floor	9.7	N/A	0.00	Timber
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.1	N/A	0.00	Tile
Ensuite	TIMB-001: Suspended Timber Floor	3.3	N/A	0.00	Tile
Entry	TIMB-001: Suspended Timber Floor	3.2	N/A	0.00	Tile
Kitchen/Living	TIMB-001: Suspended Timber Floor	39.6	N/A	0.00	Tile
Laundry	TIMB-001: Suspended Timber Floor	1.1	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	6	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed
Laundry	1	Exhaust Fan	350	Sealed



Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	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.
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U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
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Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-0756X9-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 302, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area	Exposure Type	
Conditioned*	73.0	Open
Unconditioned*	3.3	NatHERS climate zone
Total	76.3	56 - Mascot AMO
Garage	0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



your dwelling's rating see: www.nathers.gov.au

Thermal PerformanceHeatingCooling29.214.0MJ/m²MJ/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.

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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.

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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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
	U-value	U-value*		lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID	Window Description	Maximum	SHGC*	tolerance ranges	
		U-value*		lower limit	upper limit

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 01	ALM-002-01 A	W301	2700	2560	Sliding	60	E	None
Bedroom 02	ALM-001-01 A	W312	2400	1100	Casement	90	W	OP-40%



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Ensuite	ALM-001-01 A	W302	2700	1025	Awning	24	E	None
Kitchen/Living	ALM-002-01 A	W304	1900	305	Fixed	0	S	None
Kitchen/Living	ALM-001-01 A	W304	1900	2752	Awning	19	E	OP-40%
Kitchen/Living	ALM-001-01 A	W303	2700	2030	Bi-fold	90	Ν	None

Roof window type and performance value

Default* roo	of windows								
Window ID	Wind	low Description				Maximum	I SHGC*	SHGC sul tolerance	ostitution ranges
	Wind	low Description				U-value*	01100	lower limit	upper limit
None									
Custom* roo	of windows								
Window ID	Wind	low Description				Maximum	I SHGC*	SHGC sul tolerance	ostitution ranges
	· · · · ·		•			U-value*	onoo	lower limit	upper limit
None									
Roof wi	ndow <i>sc</i>	hedule							
Location	Win ID	dow	Window no.	Openir %	ng Heigl (mm)	ht Width) (mm)	Orient- ation	Outdoor shade	Indoor shade
None									
Skylight	type an	d perform	nance						
Skylight ID			Skylight de	scription	ì				
None									
Skylight	schedu	le							
Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Refle	ctance
None									
External	l door so	chedule							
Location			Height	: (mm)	Width ((mm) O	pening %	Orie	ntation
None									



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	1021	W	1638	Yes
Bathroom	AFS162GW751	2740	1408	Ν	1237	Yes
Bedroom 01	FC-NOCAV	2740	3090	E	2828	Yes
Bedroom 01	AFS162GW751	2740	3944	Ν		Yes
Bedroom 02	AFS162GW751	2740	3760	Ν		Yes
Bedroom 02	AFS162GW751	2740	1411	W	890	Yes
Bedroom 02	AFS162GW751	2740	570	S		Yes
Bedroom 02	AFS162GW751	2740	1491	W		Yes
Ensuite	FC-NOCAV	2740	1291	E	2831	Yes
Kitchen/Living	FC-NOCAV	2740	1030	E	830	Yes
Kitchen/Living	FC-NOCAV	2740	454	S		Yes
Kitchen/Living	FC-NOCAV	2740	2752	E	431	Yes
Kitchen/Living	AFS162GW751	2740	270	Ν	4704	Yes
Kitchen/Living	AFS162GW751	2740	214	E		Yes
Kitchen/Living	FC-NOCAV	2740	2128	Ν	4656	Yes
Kitchen/Living	AFS162GW751	2740	100	Ν		Yes
Kitchen/Living	AFS162GW751	2740	1556	W	1641	Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	24.2	2.52
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	1.5	1.50



Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
INT-PB	Internal Plasterboard Stud Wall	74.2	0.00

Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-001: Suspended Timber Floor	3.3	N/A	0.00	Tile
Bedroom 01	TIMB-001: Suspended Timber Floor	15.6	N/A	0.00	Timber
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	0.1	N/A	0.00	Timber
Bedroom 02	TIMB-001: Suspended Timber Floor	10.2	N/A	0.00	Timber
Ensuite	TIMB-001: Suspended Timber Floor	3.5	N/A	0.00	Tile
Entry	TIMB-001: Suspended Timber Floor	3.3	N/A	0.00	Tile
Kitchen/Living	TIMB-001: Suspended Timber Floor	37.6	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.5	N/A	0.00	Tile
Laundry	TIMB-001: Suspended Timber Floor	1.0	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Laundry	1	Exhaust Fan	350	Sealed



Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium

NATIONWIDE HOUSE MELLANNE ALM

Explanatory Notes

About this report

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Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
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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. #HR-DNUND4-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 401, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area	(m²)*	Exposure Type			
Conditioned*	72.8	Open			
Unconditioned*	3.3	NatHERS climate zone			
Total	76.0	56 - Mascot AMO			
Garage	0.0				



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



For more information on your dwelling's rating see: www.nathers.gov.au

Thermal PerformanceHeatingCooling35.415.2MJ/m²MJ/m²

About the rating

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Verification

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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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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?

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges		
	•			lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID Windo	Window Description	Maximum	SHGC*	tolerance ranges		
		U-value*		lower limit	upper limit	

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bathroom	ALM-001-01 A	W412	600	540	Awning	90	S	None
Bedroom 01	ALM-002-01 A	W410	2400	2345	Sliding	60	E	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 01	ALM-002-01 A	W410	2700	515	Fixed	0	E	None
Bedroom 02	ALM-001-01 A	W411	2400	1100	Casement	90	W	OP-40%
Ensuite	ALM-002-01 A	W409	2400	895	Fixed	0	E	None
Kitchen/Living	ALM-002-01 A	W407	2400	485	Fixed	0	E	None
Kitchen/Living	ALM-002-01 A	W408	2400	1335	Sliding	45	S	None
Kitchen/Living	ALM-001-01 A	W406	1400	3205	Awning	20	E	OP-40%

Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*		lower limit	upper limit	
None						

Custom* roof windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*	•	lower limit upper limit		
None						

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance	
None									

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	872	W		Yes
Bathroom	AFS162GW751	2740	1384	S		Yes
Bedroom 01	AFS162GW751	2740	4058	S		Yes
Bedroom 01	FC-NOCAV	2740	2391	Е	2375	Yes
Bedroom 01	FC-NOCAV	2740	626	Е	2375	Yes
Bedroom 02	AFS162GW751	2740	3681	S		Yes
Bedroom 02	AFS162GW751	2740	1626	W		Yes
Bedroom 02	AFS162GW751	2740	1427	W	1003	Yes
Bedroom 02	AFS162GW751	2740	605	Ν		Yes
Ensuite	FC-NOCAV	2740	895	E	2347	Yes
Kitchen/Living	FC-NOCAV	2740	346	E	429	Yes
Kitchen/Living	FC-NOCAV	2740	705	E		Yes
Kitchen/Living	FC-NOCAV	2740	1852	S	4162	Yes
Kitchen/Living	FC-NOCAV	2740	3436	E	429	Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	43.1	1.50
INT-PB	Internal Plasterboard Stud Wall	61.6	0.00



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	TIMB-001: Suspended Timber Floor	3.3	N/A	0.00	Tile
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	16.5	N/A	0.00	Timber
Bedroom 02	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	9.7	N/A	0.00	Timber
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.4	N/A	0.00	Tile
Entry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.2	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-250-LINED: Suspended Concrete Slab Floor (250mm) - Lined Below	39.0	N/A	0.00	Tile
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.0	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
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Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Kitchen/Living	6	Downlight	100	Sealed
Kitchen/Living	1	Exhaust Fan	350	Sealed

* Refer to glossary.



. _....

Laundry	1	Exhaust Fan	350	Sealed	
Ceiling <i>fans</i>					
Location		Quantity	Diame	eter (mm)	
Location				• •	
None					

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	0.50	Medium



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Nationwide House Energy Rating Scheme NatHERS Certificate No. #HR-1KNQRW-01

Generated on 07 Oct 2022 using Hero 3.0.1

Property

Address 402, 21 Whistler Street , MANLY, NSW, 2095 Lot/DP NCC Class* 2 Type New

Plans

Main PlanProject No. 21806Prepared byWolski Coppin Architecture

Construction and environment

Assessed floor area	Exposure Type	
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Unconditioned*	3.3	NatHERS climate zone
Total	75.7	56 - Mascot AMO
Garage	0.0	



Accredited assessor

Name	Duncan Hope
Business name	Senica Consultancy Group
Email	duncan@senica.com.au
Phone	+61 280067784
Accreditation No.	DMN/14/1658
Assessor Accrediting Organisation	DMN
Declaration of interest	No Conflict of Interest



your dwelling's rating see: www.nathers.gov.au

Thermal PerformanceHeatingCooling30.713.2MJ/m²MJ/m²

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

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	SHGC substitution tolerance ranges		
				lower limit	upper limit	
ALM-001-01 A	Aluminium A SG Clear	6.70	0.57	0.54	0.60	
ALM-002-01 A	Aluminium B SG Clear	6.70	0.70	0.66	0.73	

Custom* windows

Window ID Window	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges	
		U-value*		lower limit	upper limit

None

Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bathroom	ALM-001-01 A	W413	600	1021	Awning	90	W	OP-40%
Bedroom 01	ALM-002-01 A	W01	2400	600	Fixed	0	E	OP-40%



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
Bedroom 01	ALM-002-01 A	W401	2400	2310	Sliding	60	E	None
Bedroom 02	ALM-001-01 A	W414	2400	1100	Casement	90	W	OP-40%
Ensuite	ALM-002-01 A	W402	2400	1009	Fixed	0	E	None
Kitchen/Living	ALM-002-01 A	W404	2400	485	Fixed	0	E	OP-40%
Kitchen/Living	ALM-001-01 A	W405	1400	2705	Awning	20	E	OP-40%
Kitchen/Living	ALM-002-01 A	W403	2400	1335	Sliding	45	Ν	None

Roof window type and performance value

Default* roof windows

Window ID	Window Description Maxim U-valu	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*		lower limit	upper limit	
None						

Custom* roof windows

Window ID Window Description	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
		U-value*		lower limit upper limit		
None						

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
	ID	no.	%	(mm)	(mm)	ation	shade	shade
None								

Skylight type and performance

Skylight ID	Skylight description
None	

Skylight schedule

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m²)	Orient- ation	Outdoor shade	Diffuser	Shaft Reflectance	
None									

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
None				



External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
AFS162GW751	162mm AFS Logicwall with R/2.5 insulation	0.50	Medium	2.52	No
FC-NOCAV	Fibre-Cement Clad Direct-Fix (No Cavity) Stud Wall	0.50	Medium	2.00	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
Bathroom	AFS162GW751	2740	1021	W	1638	Yes
Bathroom	AFS162GW751	2740	1408	Ν	1237	Yes
Bedroom 01	AFS162GW751	2740	3944	Ν		Yes
Bedroom 01	FC-NOCAV	2740	746	E	2393	Yes
Bedroom 01	FC-NOCAV	2740	2344	E	2393	Yes
Bedroom 02	AFS162GW751	2740	3760	Ν		Yes
Bedroom 02	AFS162GW751	2740	1411	W	890	Yes
Bedroom 02	AFS162GW751	2740	570	S		Yes
Bedroom 02	AFS162GW751	2740	1491	W		Yes
Ensuite	FC-NOCAV	2740	1009	E	2364	Yes
Kitchen/Living	FC-NOCAV	2740	45	E		Yes
Kitchen/Living	FC-NOCAV	2740	3349	E	438	Yes
Kitchen/Living	AFS162GW751	2740	100	Ν		Yes
Kitchen/Living	AFS162GW751	2740	1556	W	1641	Yes
Kitchen/Living	FC-NOCAV	2740	1859	Ν	4273	Yes
Kitchen/Living	FC-NOCAV	2740	985	E	448	Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
Concrete Panel w Internal Stud	Concrete Panel w Internal Stud	36.8	1.50
INT-PB	Internal Plasterboard Stud Wall	63.9	0.00



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Bathroom	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.3	N/A	0.00	Tile
Bedroom 01	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	15.7	N/A	0.00	Timber
Bedroom 02	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	10.3	N/A	0.00	Timber
Ensuite	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.6	N/A	0.00	Tile
Entry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	3.2	N/A	0.00	Tile
Kitchen/Living	SUSP-CONC-250-LINED: Suspended Concrete Slab Floor (250mm) - Lined Below	38.6	N/A	0.00	Tile
Laundry	SUSP-CONC-200: Suspended Concrete Slab Floor (200mm)	1.1	N/A	0.00	Tile

Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
Bathroom	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 01	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Bedroom 02	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Ensuite	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Entry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Kitchen/Living	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No
Laundry	SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	0.00	No

Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
Bathroom	1	Downlight	100	Sealed
Bathroom	1	Exhaust Fan	350	Sealed
Bedroom 01	2	Downlight	100	Sealed
Bedroom 02	2	Downlight	100	Sealed
Ensuite	1	Exhaust Fan	350	Sealed
Laundry	1	Exhaust Fan	350	Sealed



Ceiling fans

Location	Quantity	Diameter (mm)
None		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
SLAB-250-CEIL-01: Concrete Slab (250mm) with Suspended PB Ceiling	2.68	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).