Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442512

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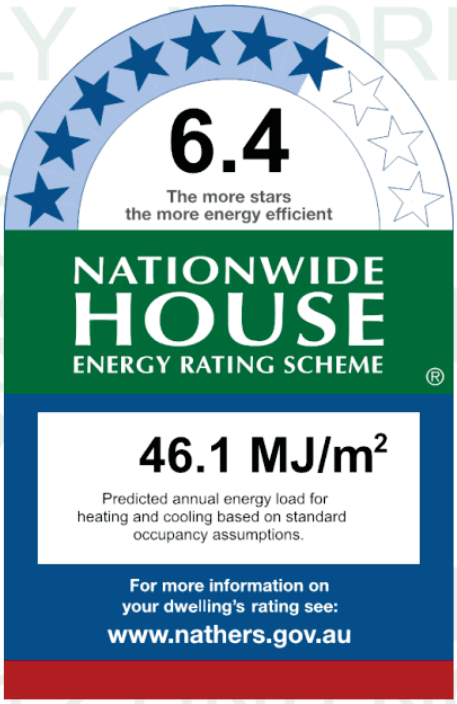

Property

Address	Unit 1, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	71.8	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	71.8	56
Garage		

Thermal performance

Heating	**Cooling**
21.7 MJ/m^2	**24.3** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

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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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74
ALM-002-04 A	Aluminium B SG Low Solar Gain Low-E	5.6	0.41	0.39	0.43

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-002-04 A	01	2700	3200	Sliding	67	NW	None
Storage Room	ALM-002-01 A	02	1000	2000	Sliding	10	SW	None
Void	ALM-002-04 A	03	2700	3200	Other	00	NW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-002	Brick wall/Plasterboard	85	Dark	Glass fibre batt: R2.0	No
EW-012	Concrete wall/Plasterboard	1	Light	Polystyrene expanded (k = 0.039): R0.5/Glass fibre batt: R1.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-002	2700	3500	NW		Yes
Living / Dining / Kitchen	EW-002	2700	10500	SW		No
Living / Dining / Kitchen	EW-012	2700	3000	SE		No
Entry / Powder Rm	EW-012	2700	600	SE		No
Bedroom 1	EW-002	2700	4300	SW		No
Storage Room	EW-002	2700	2000	SW		No
Storage Room	EW-012	2700	3000	SE		No
Landing / Bathroom	EW-002	2700	2600	SW		No
Void	EW-002	2700	3500	NW		No
Void	EW-002	2700	1450	SW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	33.75	
IW-002	Plasterboard/AAC block	75.47	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 200mm	35.00			Carpet 10 + rubber underlay 8
Living / Dining / Kitchen/Neighbour	tiles - concrete 200mm	4.00			Ceramic tile
Entry / Powder Rm/Neighbour	carpet - concrete 200mm	2.80			Carpet 10 + rubber underlay 8
Entry / Powder Rm/Neighbour	tiles - concrete 200mm	2.50			Ceramic tile
Bedroom 1/Living / Dining / Kitchen	carpet - concrete 200mm	13.30			Carpet 10 + rubber underlay 8
Storage Room/Living / Dining / Kitchen	carpet - concrete 200mm	7.00			Carpet 10 + rubber underlay 8
Landing / Bathroom/Living / Dining / Kitchen	carpet - concrete 200mm	6.50			Carpet 10 + rubber underlay 8
Landing / Bathroom/Living / Dining / Kitchen	tiles - concrete 200mm	3.60			Ceramic tile
Void/Living / Dining / Kitchen	carpet - concrete 200mm	5.20			Carpet 10 + rubber underlay 8

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1/Living / Dining / Kitchen	carpet - concrete 200mm		No
Landing / Bathroom/Living / Dining / Kitchen	carpet - concrete 200mm		No
Landing / Bathroom/Living / Dining / Kitchen	tiles - concrete 200mm		No
Storage Room/Living / Dining / Kitchen	carpet - concrete 200mm		No
Void/Living / Dining / Kitchen	carpet - concrete 200mm		No
Neighbour/Living / Dining / Kitchen	carpet - concrete 200mm		No
Neighbour/Entry / Powder Rm	carpet - concrete 200mm		No
Neighbour/Bedroom 1	carpet - concrete 200mm		No
Neighbour/Storage Room	carpet - concrete 200mm		No
Neighbour/Landing / Bathroom	carpet - concrete 200mm		No
Neighbour/Void	carpet - concrete 200mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	11	Downlight		Sealed
Living / Dining / Kitchen	1	Ceiling exhaust fan	160	Sealed
Entry / Powder Rm	2	Downlight		Sealed
Entry / Powder Rm	1	Ceiling exhaust fan	160	Sealed
Bedroom 1	4	Downlight		Sealed
Storage Room	2	Downlight		Sealed
Landing / Bathroom	4	Downlight		Sealed
Landing / Bathroom	1	Ceiling exhaust fan	160	Sealed
Void	2	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R1.0 - Concrete slab 200mm	R1.0	50	Medium

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Explanatory notes

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Glossary

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

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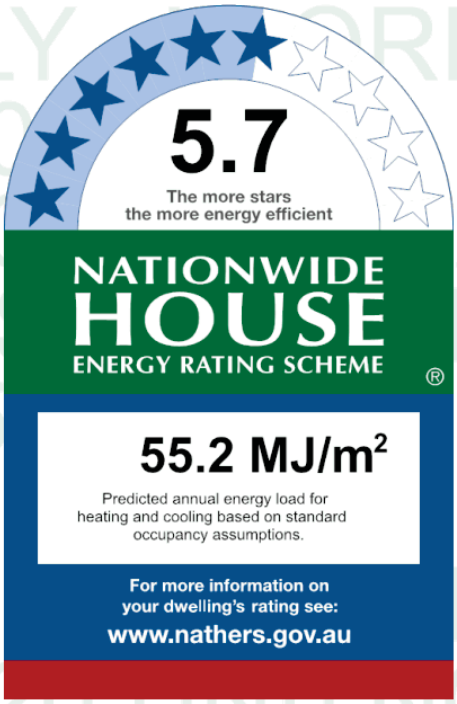

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Assessed floor area (m^2)*		**Exposure Type**
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Total	63.2	56
Garage		

Thermal performance

Heating	Cooling
6.8 MJ/m^2	48.4 MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-04 A	Aluminium B SG Low Solar Gain Low-E	5.6	0.41	0.39	0.43

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-002-04 A	01	2700	3500	Sliding	67	NW	None

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Void	ALM-002-04 A	02	2700	3500	Other	00	NW	None

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
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Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-002	Brick wall/Plasterboard	85	Dark	Glass fibre batt: R2.0	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-002	2700	3600	NW		Yes
Void	EW-002	2700	3600	NW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	29.70	
IW-002	Plasterboard/AAC block	143.24	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 200mm	27.90			Carpet 10 + rubber underlay 8
Living / Dining / Kitchen/Neighbour	tiles - concrete 200mm	4.00			Ceramic tile
Entry / Powder Rm/Neighbour	carpet - concrete 200mm	2.90			Carpet 10 + rubber underlay 8
Entry / Powder Rm/Neighbour	tiles - concrete 200mm	1.90			Ceramic tile
Bedroom 1/Living / Dining / Kitchen	carpet - concrete 200mm	12.60			Carpet 10 + rubber underlay 8
Landing / Bathroom/Living / Dining / Kitchen	carpet - concrete 200mm	7.50			Carpet 10 + rubber underlay 8
Landing / Bathroom/Living / Dining / Kitchen	tiles - concrete 200mm	4.00			Ceramic tile
Landing / Bathroom/Neighbour	carpet - concrete 200mm	2.60			Carpet 10 + rubber underlay 8
Landing / Bathroom/Entry / Powder Rm	carpet - concrete 200mm	2.70			Carpet 10 + rubber underlay 8
Void/Living / Dining / Kitchen	carpet - concrete 200mm	5.20			Carpet 10 + rubber underlay 8

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 1/Living / Dining / Kitchen	carpet - concrete 200mm		No
Landing / Bathroom/Living / Dining / Kitchen	carpet - concrete 200mm		No
Landing / Bathroom/Living / Dining / Kitchen	tiles - concrete 200mm		No
Void/Living / Dining / Kitchen	carpet - concrete 200mm		No
Neighbour/Living / Dining / Kitchen	carpet - concrete 200mm		No
Neighbour/Entry / Powder Rm	carpet - concrete 200mm		No
Landing / Bathroom/Entry / Powder Rm	carpet - concrete 200mm		No
Neighbour/Bedroom 1	carpet - concrete 200mm		No
Neighbour/Landing / Bathroom	carpet - concrete 200mm		No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	8	Downlight		Sealed
Living / Dining / Kitchen	1	Ceiling exhaust fan	160	Sealed
Entry / Powder Rm	3	Downlight		Sealed
Entry / Powder Rm	1	Ceiling exhaust fan	160	Sealed
Bedroom 1	4	Downlight		Sealed
Landing / Bathroom	5	Downlight		Sealed
Landing / Bathroom	1	Ceiling exhaust fan	160	Sealed
Void	2	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R1.0 - Concrete slab 200mm	R1.0	50	Medium

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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).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442538

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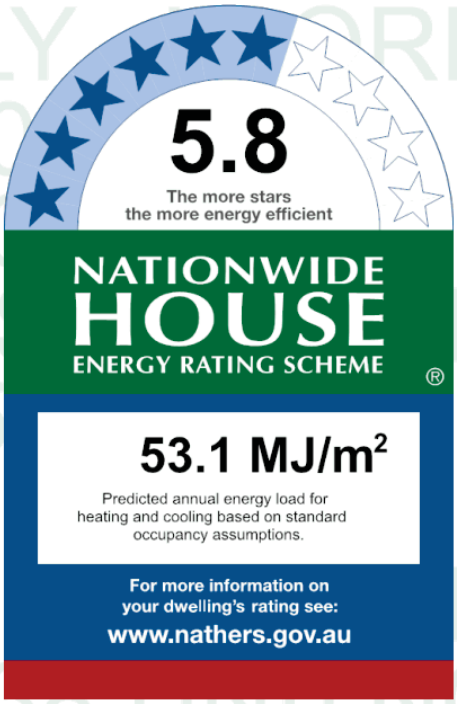

Property

Address	Unit 2, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	66.8	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	66.8	56
Garage		

Thermal performance

Heating	Cooling
2.3 MJ/m^2	**50.8** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=XyoColkEy.
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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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	Aluminium B SG Low Solar Gain Low-E	6.7	0.14	0.53	0.15

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living 9Dining 9Vitchen	ALM-002-01 A	04	2/ 00	5600	Sliding	7/	NW	None

* Refer to glossary.

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Koid	ALM-002-01 A	02	2/ 00	5600	Other	00	NW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-002	Brick wall9Plasterboard	86	Dark	Glass fibre batt: R2.0	No
EW-042	Concrete wall9Plasterboard	4	Light	Polystyrene expanded (k = 0.053): R0.69Glass fibre batt: R4.0	No

* Refer to glossary.

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living 9Dining 9Vitchen	EW-002	2/ 00	5700	NW		Yes
Entry Hall 9Bathroom	EW-042	2/ 00	4200	S		No
Koid	EW-002	2/ 00	5700	NW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-004	Plasterboard	43.11	
IW-002	Plasterboard9AAC block	458.21	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living 9Dining 9Vitchen9Neighbour	carpet - concrete 200mm	50.40			Carpet 40 + rubber underlay 8
Living 9Dining 9Vitchen9Neighbour	tiles - concrete 200mm	1.00			Ceramic tile
Bedroom 49Living 9Dining 9Vitchen	carpet - concrete 200mm	46.60			Carpet 40 + rubber underlay 8
Entry Hall 9Bathroom9Living 9Dining 9 Vitchen	carpet - concrete 200mm	3.50			Carpet 40 + rubber underlay 8
Entry Hall 9Bathroom9Living 9Dining 9 Vitchen	tiles - concrete 200mm	1.00			Ceramic tile
Entry Hall 9Bathroom9Neighbour	carpet - concrete 200mm	7.80			Carpet 40 + rubber underlay 8
Koid9Living 9Dining 9Vitchen	carpet - concrete 200mm	6.20			Carpet 40 + rubber underlay 8

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bedroom 49Living 9Dining 9Vitchen	carpet - concrete 200mm		No
Entry Hall 9Bathroom9Living 9Dining 9Vitchen	carpet - concrete 200mm		No
Entry Hall 9Bathroom9Living 9Dining 9Vitchen	tiles - concrete 200mm		No
Koid9Living 9Dining 9Vitchen	carpet - concrete 200mm		No
Neighbour9Bedroom 4	carpet - concrete 200mm		No
Neighbour9Entry Hall 9Bathroom	carpet - concrete 200mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living 9Dining 9Vitchen	8	Downlight		Sealed
Living 9Dining 9Vitchen	4	Ceiling exhaust fan	470	Sealed

* Refer to glossary.

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Bedroom 4	1	Downlight		Sealed
Entry Hall 9Bathroom	8	Downlight		Sealed
Entry Hall 9Bathroom	4	Ceiling exhaust fan	470	Sealed
Koid	2	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R4.0 - Concrete slab 200mm	R4.0	60	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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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 40 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 40m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 5 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 40m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 40 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 4, 2 or 1 buildings and attached Class 40a 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.
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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 4. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442546

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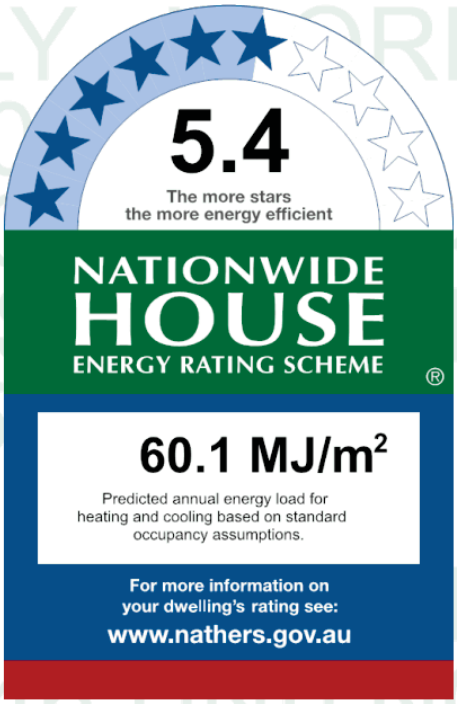

Property

Address	Unit 4, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	82.4	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	82.4	56
Garage		

Thermal performance

Heating	Cooling
26.3 MJ/m^2	33.8 MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	4.B	0.5B	0.56	0.40
ALM-001-02 A	Aluminium 3 SG Clear	4.B	0.B0	0.4B	0.B6
ALM-001-06 A	Aluminium 3 SG Low Solar Gain Low-E	5.4	0.62	0.9/	0.69

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

4ocation	Window ID	Window no5	Height 2mmN	Width 2mmN	Window tEpe	Rpening 7	Rrientation	Window shading device*
Living 7Dining 7Vitchen	ALM-001-06 A	02	1B00	9900	Sliding	4B	NW	None
Living 7Dining 7Vitchen	ALM-002-02 A	02	1200	C00	Casement	C0	NW	None
Living 7Dining 7Vitchen	ALM-001-02 A	09	2B00	2/ 00	Sliding	90	NE	None
Living 7Dining 7Vitchen	ALM-001-02 A	06	1900	550	8 ther	00	NE	None
3edroom 2	ALM-002-02 A	05	1200	C00	Casement	20	NW	None
Koid	ALM-001-06 A	04	1B00	9900	8 ther	00	NW	None
Koid	ALM-001-02 A	0B	2200	550	8 ther	00	NE	None

0oof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

0oof window *schedule*

4ocation	Window ID	Window no5	Rpening 7	Height 2mmN	Width 2mmN	Rrientation	Rutdoor shade	Indoor shade
No Data Available								

SkEight *type and performance*

SkEight ID	SkEight description
No Data Available	

SkEight *schedule*

4ocation	SkEight ID	SkEight Oo5	SkEight shaft length 2mmN	Area 2m) N	Rrientation	Rutdoor shade	Diffuser	SkEight shaft reflectance
No Data Available								

%xternal door *schedule*

4ocation	Height 2mmN	Width 2mmN	Rpening 7	Rrientation
No Data Available				

* Refer to glossary.

%xternal wall *type*

Wall ID	Wall tEpe	Solar absorptance	Wall shade 2colourN	Bulk insulation 20-valueN	0 eflective wall wrap*
EW-001	3rick wall7Plasterboard	C5	Dark	Glass fibre batt: R1.0	No

%xternal wall *schedule*

4ocation	Wall ID	Height 2mmN	Width 2mmN	Rrientation	Horizontal shading feature* maximum projection 2mmN	Vertical shading feature 2Ees/noN
Living 7Dining 7Vitchen	EW-001	1B00	9500	NW		Yes
Living 7Dining 7Vitchen	EW-001	1B00	1600	NE		No
Living 7Dining 7Vitchen	EW-001	1B00	C00	NW		No
Living 7Dining 7Vitchen	EW-001	1B00	C000	NE		No
3edroom 2	EW-001	1B00	9200	NE		No
3edroom 2	EW-001	1B00	C00	NW		No
3edroom 1	EW-001	1B00	9/ 00	NE		No
Landing 73athroom	EW-001	1B00	1500	NE		No
Koid	EW-001	1B00	9500	NW		No
Koid	EW-001	1B00	2650	NE		No

Internal wall *type*

Wall ID	Wall tEpe	Area 2m) N	Bulk insulation
IW-002	Plasterboard	94./ /	
IW-001	Plasterboard7AAC block	220.C6	

Floor *type*

4ocation	Construction	Area 2m) N	Sub-floor ventilation	Added insulation 20-valueN	Covering
Living 7Dining 7Vitchen7Neighbour	carpet - concrete 100mm	1/ .00			Carpet 20 + rubber underlay O
Living 7Dining 7Vitchen7Neighbour	tiles - concrete 100mm	9.00			Ceramic tile
Living 7Dining 7Vitchen78 utdoor Air	carpet - concrete 100mm	9.90			Carpet 20 + rubber underlay O
Living 7Dining 7Vitchen78 utdoor Air	tiles - concrete 100mm	9.00			Ceramic tile
Entry 7Powder Rm7Neighbour	carpet - concrete 100mm	4.C0			Carpet 20 + rubber underlay O
Entry 7Powder Rm7Neighbour	tiles - concrete 100mm	2.C0			Ceramic tile
3edroom 27Living 7Dining 7Vitchen	carpet - concrete 100mm	/ .20			Carpet 20 + rubber underlay O
3edroom 27Entry 7Powder Rm	tiles - concrete 100mm	9.00			Ceramic tile
3edroom 27Neighbour	carpet - concrete 100mm	9.C0			Carpet 20 + rubber underlay O
3edroom 17Living 7Dining 7Vitchen	carpet - concrete 100mm	21.10			Carpet 20 + rubber underlay O

* Refer to glossary.

4ocation	Construction	Area 2m N	Sub-floor ventilation	Added insulation 20-valueN	Covering
Landing 73athroom 7Living 7Dining 7Vitchen	carpet - concrete 100mm	4.40			Carpet 20 + rubber underlay O
Landing 73athroom 7Living 7Dining 7Vitchen	tiles - concrete 100mm	9.B0			Ceramic tile
Koid7Living 7Dining 7Vitchen	carpet - concrete 100mm	5.20			Carpet 20 + rubber underlay O

Ceiling *type*

4ocation	Construction material/tEpe	Bulk insulation 0-value 2maEinclude edge batt valuesN	0eflective wrap*
3edroom 27Living 7Dining 7Vitchen	carpet - concrete 100mm		No
3edroom 17Living 7Dining 7Vitchen	carpet - concrete 100mm		No
Landing 73athroom 7Living 7Dining 7Vitchen	carpet - concrete 100mm		No
Landing 73athroom 7Living 7Dining 7Vitchen	tiles - concrete 100mm		No
Koid7Living 7Dining 7Vitchen	carpet - concrete 100mm		No
3edroom 27Entry 7Powder Rm	tiles - concrete 100mm		No
Neighbour7Entry 7Powder Rm	carpet - concrete 100mm		No
Neighbour73edroom 2	carpet - concrete 100mm		No
Neighbour73edroom 1	carpet - concrete 100mm		No
Neighbour7Landing 73athroom	carpet - concrete 100mm		No
Neighbour7Koid	carpet - concrete 100mm		No

Ceiling *penetrations**

4ocation	QuantitE	TEpe	Diameter 2mm) N	Sealed/unsealed
Living 7Dining 7Vitchen	22	Downlight		Sealed
Living 7Dining 7Vitchen	2	Ceiling exhaust fan	240	Sealed
Entry 7Powder Rm	6	Downlight		Sealed
Entry 7Powder Rm	2	Ceiling exhaust fan	240	Sealed
3edroom 2	5	Downlight		Sealed
3edroom 2	2	Ceiling exhaust fan	240	Sealed
3edroom 1	6	Downlight		Sealed
Landing 73athroom	6	Downlight		Sealed
Landing 73athroom	2	Ceiling exhaust fan	240	Sealed
Koid	1	Downlight		Sealed

Ceiling *fans*

4ocation	QuantitE	Diameter 2mmN
No Data Available		

* Refer to glossary.

0oof *type*

Construction	Added insulation 20-valueN	Solar absorptance	0oof shade
R2.0 - Concrete slab 100mm	R2.0	50	Medium

%xplanatorE 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 8rganisation (AA8).

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

AA8s 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 AA8 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.

GlossarE

Annual energE 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.
%ntrance 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 1 building.
%xposure categorE – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
%xposure categorE – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 9 floors).
%xposure categorE – suburban	terrain with numerous, closely spaced obstructions below 20m e.g. suburban housing, heavily vegetated bushland areas.
%xposure categorE – protected	terrain with numerous, closely spaced obstructions over 20 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.
Oational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 1 or 6 buildings and attached Class 20a buildings. Definitions can be found at www.abcb.gov.au.
Rpening 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
0eflective 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.
0oof 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 2SHGC*	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 2. The lower a window's SHGC, the less solar heat it transmits.
SkElight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442561

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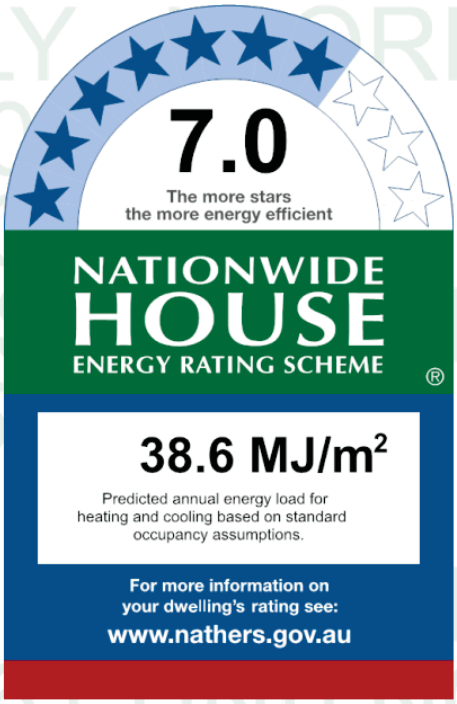

Property

Address	Unit 8, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	64.3	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	64.3	56
Garage		

Thermal performance

Heating	**Cooling**
16.8 MJ/m^2	**21.7** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

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

National Construction Code (NCC) requirements

The NMVFs reWuirements for NatHERSCated houses are detailed in ' .q- .31a212and ' .q- .0 of the NMV(olume Two.) or apartments the reWuirements are detailed in 53.- and 50 to 5V of the NMV(olume J ne.

8n NMV- 3q| , these reWuirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. ReWuirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to9insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting reWuirements. The NMV and NatHERS Heating and Mooling : oad : imits 1Lustralian Auilding Modes Aoard Standard2are available at www.abcb.gov.au.

State and territory variations and additions to the NMV 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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living KDining KOitchen	ALM-004-02 A	02	4B00	7400	Sliding	76	NW	None
5edroom 2	ALM-004-02 A	04	4B00	4/ 00	Sliding	30	NW	None
5edroom 2	ALM-002-02 A	03	4B00	V00	Casement	/ 0	NE	None
5edroom 4	ALM-004-02 A	07	2000	4000	Sliding	20	SW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-004	5rick wallKPlasterboard	V6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wallKPlasterboard	2	Light	Polystyrene expanded (k : 0.03/)8R0.6KGlass fibre batt8 R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living KDining KOitchen	EW-004	4B00	7400	NW	4400	=es
Living KDining KOitchen	EW-004	4B00	2100	SW		No
5edroom 2	EW-004	4B00	4/ 00	NW	B60	=es
5edroom 2	EW-004	4B00	2400	NE	7400	=es
5edroom 2	EW-004	4B00	6700	SW		No
5edroom 4	EW-004	4B00	4V00	SW		No
5edroom 4	EW-024	4B00	3100	SE		No
Entry Hall	EW-024	4B00	100	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	7/ .1V	
YW-004	PlasterboardkAAC block	46.22	
YW-007	Fibre-cement sheetKConcrete wallKPlasterboard	23.60	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living KDining KOitchenKNeighbour	carpet - concrete 400mm	46.30			Carpet 20 l rubber underlay V
Living KDining KOitchenKNeighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2KNeighbour	carpet - concrete 400mm	23.B0			Carpet 20 l rubber underlay V
5edroom 2KNeighbour	tiles - concrete 400mm	3.00			Ceramic tile
5edroom 4KNeighbour	carpet - concrete 400mm	20.60			Carpet 20 l rubber underlay V
Entry HallKNeighbour	carpet - concrete 400mm	6.V0			Carpet 20 l rubber underlay V

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
NeighbourKLiving KDining KOitchen	carpet - concrete 400mm		No
NeighbourK5edroom 2	carpet - concrete 400mm		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour K Bedroom 4	carpet - concrete 400mm		No
Neighbour K Entry Hall	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living K Dining K Kitchen	23	Downlight		Sealed
Living K Dining K Kitchen	2	Ceiling exhaust fan	210	Sealed
Bedroom 2	1	Downlight		Sealed
Bedroom 2	2	Ceiling exhaust fan	210	Sealed
Bedroom 4	7	Downlight		Sealed
Entry Hall	4	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
No Data Available			

* Refer to glossary.

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. Y 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 uni+ue climate qone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. zhe actual energy consumption of a home may vary significantly fromthe 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.

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Accredited assessors

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

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zhe predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. Yis 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.

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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 fromthe assessor.

Glossary

Annual energy load	the predicted amount of energy re+uired 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 re+uire 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 qone within a dwelling that is expected to re+uire heating and cooling based on standard occupancy assumptions. Yn 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 4 building.
Exposure category – exposed	terrain with no obstructions e.g. flat graqing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, 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 20me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 20 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies fromupper 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 2, 4 or 7 buildings and attached Class 20a 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 zechnical 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Yncludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442579

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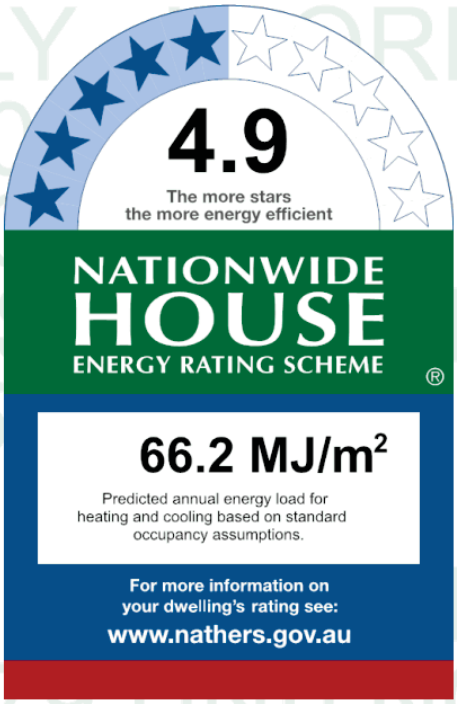

Property

Address	Unit 6, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	70.4	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	70.4	56
Garage		

Thermal performance

Heating	**Cooling**
51.6 MJ/m^2	**14.7** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=bUomBzWUM.
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?

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	7200	Sliding	76	SE	None
5edroom 2	ALM-002-02 A	04	4B00	V00	Casement	V0	NE	None
5edroom 2	ALM-004-02 A	03	2V00	4600	Sliding	20	S	None
Study	ALM-004-02 A	07	2V00	2000	Sliding	20	SW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	2B00	NE		No
Living / Dining / Kitchen	EW-004	4B00	7100	SE	4200	=es
5edroom 2	EW-004	4B00	2000	NE	6300	=es
5edroom 2	EW-004	4B00	3B00	S		No
5edroom 2	EW-004	4B00	3200	SW		No
5edroom 2	EW-004	4B00	B00	NW		No
5edroom 2	EW-004	4B00	2700	SW		No
Study	EW-004	4B00	4C00	SW		No
Study	EW-024	4B00	3000	SE		No
Entry / 5athroom	EW-004	4B00	2300	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	60.44	
YW-004	Plasterboard/AAC block	30.BO	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	4V.00			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2/+ utdoor Air	R2.0 - carpet - concrete 400mm	2C40		R2.0	Carpet 20 l rubber underlay O
Study/+ utdoor Air	R2.0 - carpet - concrete 400mm	20.40		R2.0	Carpet 20 l rubber underlay O
Entry / 5athroom/Neighbour	carpet - concrete 400mm	4.C0			Carpet 20 l rubber underlay O
Entry / 5athroom/+ utdoor Air	R2.0 - tiles - concrete 400mm	7.40		R2.0	Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/Study	carpet - concrete 400mm		No
Neighbour/Entry / 5athroom	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	27	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
Study	7	Downlight		Sealed
Entry / 5athroom	4	Downlight		Sealed
Entry / 5athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
No Data Available			

* Refer to glossary.

Explanatory notes

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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

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Glossary

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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.
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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 4 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
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National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 4 or 7 buildings and attached Class 20a 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.
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Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 2. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442587

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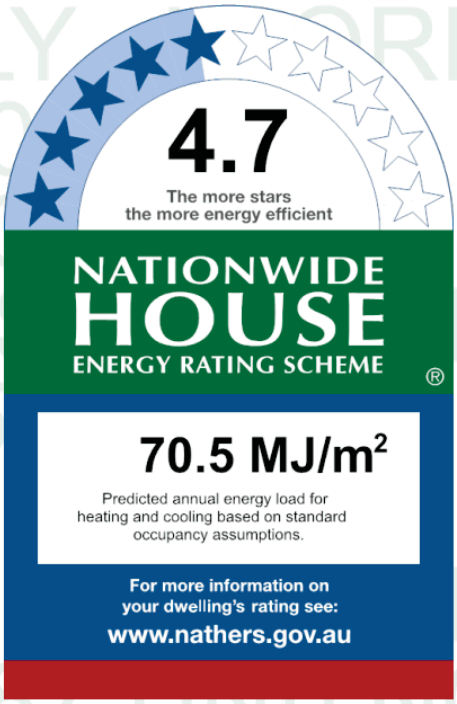

Property

Address	Unit 5, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	69.6	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	69.6	56
Garage		

Thermal performance

Heating	Cooling
61.0 MJ/m^2	**9.6** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=CjYxYstuS.
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?

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-01 A	Aluminium B SG Clear	6.7	0.70	0.67	0.74
TIM-001-01 W	Timber A SG Clear	5.4	0.56	0.53	0.59
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
No Data Available					

* Refer to glossary.

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-002-01 A	01	1700	1500	Sliding	10	NE	None
Living / Dining / Kitchen	TIM-002-01 W	02 EX	1600	850	Double Hung	10	NE	None
Living / Dining / Kitchen	TIM-002-01 W	3a EX	2700	400	Double Hung	45	E	None
Living / Dining / Kitchen	TIM-001-01 W	3b EX	2700	1200	Casement	90	SE	None
Living / Dining / Kitchen	TIM-002-01 W	3c EX	2700	400	Double Hung	45	S	None
Living / Dining / Kitchen	TIM-002-01 W	04 EX	1500	2100	Sliding	10	SW	None
Bedroom 1	ALM-002-01 A	05	1700	1500	Sliding	10	NE	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-002	Brick wall/Plasterboard	85	Dark	Glass fibre batt: R2.0	No
EW-009	Brick wall/Plasterboard	50	Medium		No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-002	2700	2900	NE		No
Living / Dining / Kitchen	EW-009	2700	4100	NE	550	Yes
Living / Dining / Kitchen	EW-009	2700	2200	SE	2800	Yes
Living / Dining / Kitchen	EW-009	2700	500	E	2800	Yes
Living / Dining / Kitchen	EW-009	2700	1200	SE	2800	Yes
Living / Dining / Kitchen	EW-009	2700	500	S	2800	Yes
Living / Dining / Kitchen	EW-009	2700	800	SE	2800	Yes
Living / Dining / Kitchen	EW-009	2700	3300	SW		No
Bedroom 1	EW-002	2700	5200	NE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-001	Plasterboard	27.00	
IW-002	Plasterboard/AAC block	39.42	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 200mm	34.90			Carpet 10 + rubber underlay 8
Living / Dining / Kitchen/Outdoor Air	carpet - concrete 200mm	1.00			Carpet 10 + rubber underlay 8
Living / Dining / Kitchen/Neighbour	tiles - concrete 200mm	7.00			Ceramic tile
Bedroom 1/Neighbour	carpet - concrete 200mm	3.50			Carpet 10 + rubber underlay 8
Bedroom 1/Outdoor Air	R1.0 - carpet - concrete 200mm	11.20		R1.0	Carpet 10 + rubber underlay 8
Entry / Bathroom/Neighbour	carpet - concrete 200mm	8.00			Carpet 10 + rubber underlay 8
Entry / Bathroom/Neighbour	tiles - concrete 200mm	4.00			Ceramic tile
Roof Space/Living / Dining / Kitchen	R2.5 - Plasterboard	17.90		R2.5	

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 200mm		No
Roof Space/Living / Dining / Kitchen	R2.5 - Plasterboard	R2.5	No
Neighbour/Bedroom 1	carpet - concrete 200mm		No
Neighbour/Entry / Bathroom	carpet - concrete 200mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	17	Downlight		Sealed
Living / Dining / Kitchen	1	Ceiling exhaust fan	160	Sealed
Bedroom 1	6	Downlight		Sealed
Entry / Bathroom	4	Downlight		Sealed
Entry / Bathroom	1	Ceiling exhaust fan	160	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Clay Tile roof with Plasterb'd ceiling under		50	Medium

* Refer to glossary.

Explanatory notes

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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.
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Opening percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
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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.
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Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442595

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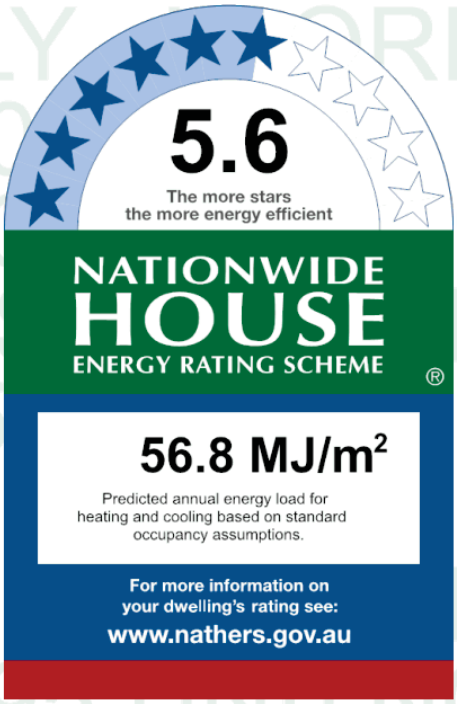

Property

Address	Unit 7, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	70.4	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	70.4	56
Garage		

Thermal performance

Heating	Cooling
40.8	**16.0**
MJ/m^2	MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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National Construction Code (NCC) requirements

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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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window noR	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	7200	Sliding	76	SE	None
5edroom 2	ALM-002-02 A	04	4B00	V00	Casement	V0	NE	None
5edroom 2	ALM-004-02 A	03	2V00	4600	Sliding	20	S	None
Study	ALM-004-02 A	07	2V00	2000	Sliding	20	SW	None

Eoof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Eoof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight 9oR	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

Nxternal door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

Nxternal wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (E-value)	Eeflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

Nxternal wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	2B00	NE		No
Living / Dining / Kitchen	EW-004	4B00	7100	SE	4200	=es
5edroom 2	EW-004	4B00	2000	NE	6300	=es
5edroom 2	EW-004	4B00	3B00	S		No
5edroom 2	EW-004	4B00	3200	SW		No
5edroom 2	EW-004	4B00	B00	NW		No
5edroom 2	EW-004	4B00	2700	SW		No
Study	EW-004	4B00	4C00	SW		No
Study	EW-024	4B00	3000	SE		No
Entry / 5athroom	EW-004	4B00	2300	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	60.44	
YW-004	Plasterboard/AAC block	30.BO	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (E-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	4V.00			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	2C40			Carpet 20 l rubber underlay O
Study/Neighbour	carpet - concrete 400mm	20.40			Carpet 20 l rubber underlay O
Entry / 5athroom/Neighbour	carpet - concrete 400mm	4.C0			Carpet 20 l rubber underlay O
Entry / 5athroom/Neighbour	tiles - concrete 400mm	7.40			Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation E-value (may include edge batt values)	Eeflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No

* Refer to glossary.

Location	Construction material/type	Bulk insulation E-value (may include edge batt values)	Eeflective wrap*
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/Study	carpet - concrete 400mm		No
Neighbour/Entry / 5athroom	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	27	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
Study	7	Downlight		Sealed
Entry / 5athroom	4	Downlight		Sealed
Entry / 5athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Eoof *type*

Construction	Added insulation (E-value)	Solar absorptance	Eoof shade
No Data Available			

* Refer to glossary.

Nxplanatory notes

About this report

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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 re+uirements 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. zhe higher the star rating the more thermally efficient the dwelling is.

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Glossary

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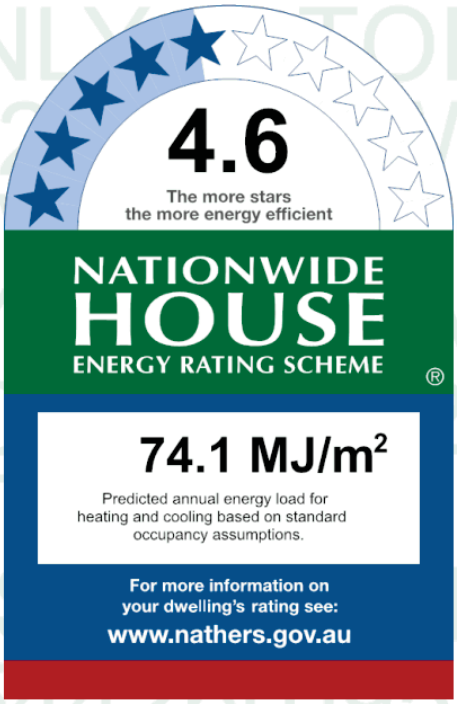
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies fromupper levels.
9ational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 4 or 7 buildings and attached Class 20a 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 zechnical Note and can be found at www.nathers.gov.au
Eeflective 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.
Eoof 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Yncludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442603

Generated on 30 Nov 2020 using AccuRate Sustainability V2.4.3.21



Property

Address	Unit 10, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	95.1	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	95.1	56
Garage		

Thermal performance

Heating	Cooling
28.9 MJ/m^2	45.2 MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

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

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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?

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

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

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	4.B	0.5B	0.56	0.40
ALM-001-02 A	Aluminium 3 SG Clear	4.B	0.B0	0.4B	0.B6

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
3edroom 2	ALM-001-02 A	02	2700	2100	Sliding	90	NE	None
3edroom 2	ALM-001-02 A	01	2700	2B00	V ther	00	NE	None
3edroom 2	ALM-002-02 A	09	2K00	2000	Awning	20	SE	None
3edroom 2 Ens	ALM-001-02 A	06	400	2B00	Sliding	20	NE	None
3edroom 1	ALM-002-02 A	05	2K00	2100	Awning	20	SE	None
Living CDining C8itchen	ALM-001-02 A	04	2K00	400	V ther	00	NE	None
Living CDining C8itchen	ALM-001-02 A	0B	2K00	2B00	V ther	00	NE	None
Living CDining C8itchen	ALM-001-02 A	07	1B00	4000	Sliding	65	SE	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

* Refer to glossary.

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-001	3rick wall@Plasterboard	75	Dark	Glass fibre batt: R1.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
3edroom 2	EW-001	1B00	5B00	NE		No
3edroom 2	EW-001	1B00	9500	SE		No
3edroom 2 Ens	EW-001	1B00	1600	NE		No
3edroom 1	EW-001	1B00	9050	SE		No
Living @Dining @8itchen	EW-001	1B00	4500	NE		No
Living @Dining @8itchen	EW-001	1B00	4400	SE	1000	Yes

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-002	Plasterboard	60.50	
IW-001	Plasterboard@AAC block	7B.67	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
3edroom 20Neighbour	carpet - concrete 100mm	10.K0			Carpet 20 + rubber underlay 7
3edroom 2 Ens0Neighbour	tiles - concrete 100mm	4.B0			Ceramic tile
3edroom 10Neighbour	carpet - concrete 100mm	26.00			Carpet 20 + rubber underlay 7
Lower Hall @8athroom0Neighbour	carpet - concrete 100mm	7.00			Carpet 20 + rubber underlay 7
Lower Hall @8athroom0Neighbour	tiles - concrete 100mm	6.70			Ceramic tile
Living @Dining @8itchen@3edroom 2	carpet - concrete 100mm	25.10			Carpet 20 + rubber underlay 7
Living @Dining @8itchen@3edroom 2 Ens	carpet - concrete 100mm	4.B0			Carpet 20 + rubber underlay 7
Living @Dining @8itchen@3edroom 1	carpet - concrete 100mm	9.00			Carpet 20 + rubber underlay 7
Living @Dining @8itchen@3edroom 1	tiles - concrete 100mm	4.00			Ceramic tile
Living @Dining @8itchen@Lower Hall @ 3athroom	carpet - concrete 100mm	21.70			Carpet 20 + rubber underlay 7

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Living Dining Kitchen Bedroom 2	carpet - concrete 100mm		No
Living Dining Kitchen Bedroom 2 Ens	carpet - concrete 100mm		No
Living Dining Kitchen Bedroom 1	carpet - concrete 100mm		No
Living Dining Kitchen Bedroom 1	tiles - concrete 100mm		No
Living Dining Kitchen Lower Hall Bathroom	carpet - concrete 100mm		No
Neighbour Living Dining Kitchen	carpet - concrete 100mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Bedroom 2	K	Downlight		Sealed
Bedroom 2 Ens	1	Downlight		Sealed
Bedroom 2 Ens	2	Ceiling exhaust fan	240	Sealed
Bedroom 1	6	Downlight		Sealed
Lower Hall Bathroom	6	Downlight		Sealed
Lower Hall Bathroom	2	Ceiling exhaust fan	240	Sealed
Living Dining Kitchen	2B	Downlight		Sealed
Living Dining Kitchen	2	Ceiling exhaust fan	240	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R2.0 - Concrete slab 100mm	R2.0	50	Medium

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Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 9 floors).
Exposure category – suburban	terrain with numerous, closely spaced obstructions below 20m e.g. suburban housing, heavily vegetated bushland areas.
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National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 1 or 6 buildings and attached Class 20a 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 2. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442611

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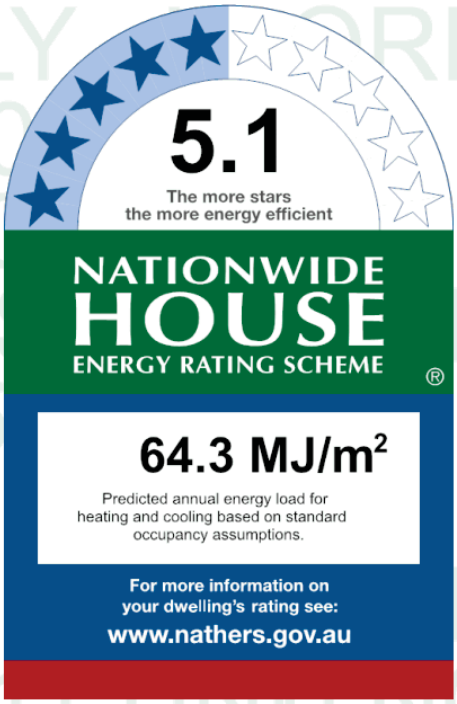

Property

Address	Unit 9, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	70.6	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	70.6	56
Garage		

Thermal performance

Heating	**Cooling**
38.5 MJ/m^2	**25.9** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest Declaration completed: no conflicts

About the rating

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

Verification

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

National Construction Code (NCC) requirements

The NWWal reQuirements for NatHERS'rated houses are detailed in q.-3.12a020and q.-3.(of the NWW) olume Two. 5or apartments the reQuirements are detailed in V1.3 and V(to VF of the NWW) olume J ne.

8n NWW31-Q 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 tol insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting reQuirements. The NWWand NatHERS Heating and Wooling 9oad 9imits 2 ustralian Luilding Wodes Loard Standard0are available at www.abcb.gov.au.

State and territory variations and additions to the NWWmay 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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	4.B	0.5B	0.56	0.40
ALM-001-02 A	Aluminium 3 SG Clear	4.B	0.B0	0.4B	0.B6

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living 7Dining 7Vitchen	ALM-001-02 A	02	1B00	6000	Sliding	65	NW	None
3edroom 2	ALM-001-02 A	01	1B00	9000	Sliding	65	NW	None
3edroom 2	ALM-002-02 A	09	1B00	C50	Casement	K0	SW	None
3edroom 1	ALM-002-02 A	06	1200	C00	Casement	20	NW	None

6oof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

6oof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight Eo.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

Rxternal door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

Rxternal wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (6-value)	6effective wall wrap*
EW-001	3rick wall7Plasterboard	C5	Dark	Glass fibre batt8R1.0	No

Rxternal wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living 7Dining 7Vitchen	EW-001	1B00	6000	NW	1100	: es
Living 7Dining 7Vitchen	EW-001	1B00	2900	NE		No
3edroom 2	EW-001	1B00	9000	NW	K50	: es
3edroom 2	EW-001	1B00	2200	SW	6200	: es
3edroom 2	EW-001	1B00	5C00	NE		No
3edroom 1	EW-001	1B00	9100	NE		No
3edroom 1	EW-001	1B00	C00	NW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	62.5O	
YW-001	Plasterboard7AAC block	55.CK	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (6-value)	Covering
Living 7Dining 7Vitchen7Neighbour	carpet - concrete 100mm	90.B0			Carpet 20 l rubber underlay O
Living 7Dining 7Vitchen7Neighbour	tiles - concrete 100mm	4.00			Ceramic tile
3edroom 27Neighbour	carpet - concrete 100mm	26.20			Carpet 20 l rubber underlay O
3edroom 27Neighbour	tiles - concrete 100mm	9.00			Ceramic tile
3edroom 17Neighbour	carpet - concrete 100mm	29.00			Carpet 20 l rubber underlay O
Entry Hall7Neighbour	carpet - concrete 100mm	9.C0			Carpet 20 l rubber underlay O

Ceiling *type*

Location	Construction material/type	Bulk insulation 6-value (may include edge batt values)	6effective wrap*
Neighbour7Living 7Dining 7Vitchen	carpet - concrete 100mm		No
Neighbour7Entry Hall	carpet - concrete 100mm		No

* Refer to glossary.

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm²)	Sealed/unsealed
Living 7Dining 7Vitchen	26	Downlight		Sealed
Living 7Dining 7Vitchen	2	Ceiling exhaust fan	240	Sealed
3edroom 2	4	Downlight		Sealed
3edroom 2	2	Ceiling exhaust fan	240	Sealed
3edroom 1	5	Downlight		Sealed
Entry Hall	1	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

6oof *type*

Construction	Added insulation (6-value)	Solar absorptance	6oof shade
R2.0 - Concrete slab 100mm	R2.0	50	Medium

* Refer to glossary.

Rxplanatory 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. Y 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 uni+ue climate qone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. zhe actual energy consumption of a home may vary significantly fromthe 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 re+uirements 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. zhe higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

zo ensure the NatHERS Certificate is of a high +uality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Trganisation (AAT).

Australian Capital zerritory (ACz) 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 ACz licensing register

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

Any +uestions or concerns about this report should be directed to the assessor in the first instance. Y the assessor is unable to address these +uestions or concerns, the AAT specified on the front of this certificate should be contacted.

Disclaimer

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

zhe predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. Yis 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.

Yrformation 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 fromthe assessor.

Glossary

Annual energy load	the predicted amount of energy re+uired 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 re+uire 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 qone within a dwelling that is expected to re+uire heating and cooling based on standard occupancy assumptions. Yn 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.
Rntrance 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 1 building.
Rxposure category – exposed	terrain with no obstructions e.g. flat graqing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Rxposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 9 floors).
Rxposure category – suburban	terrain with numerous, closely spaced obstructions below 20me.g. suburban housing, heavily vegetated bushland areas.
Rxposure category – protected	terrain with numerous, closely spaced obstructions over 20 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies fromupper levels.
Eational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 1 or 6 buildings and attached Class 20a 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 zechnical Note and can be found at www.nathers.gov.au
6eflective 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.
6oof 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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 wall7window. Yncludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442637

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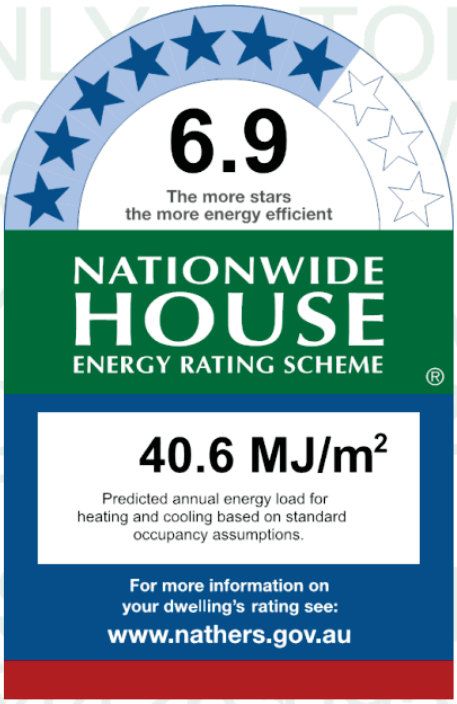

Property

Address	Unit 12, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	77.3	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	77.3	56
Garage		

Thermal performance

Heating	**Cooling**
17.0 MJ/m^2	**23.6** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=MUWmwJclA.
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?

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	1400	Sliding	76	NE	None
5edroom 2	ALM-004-02 A	04	2V00	4200	Sliding	20	NW	None
5edroom 2	ALM-002-02 A	03	4B00	V00	Casement	V0	NE	None
5edroom 2	ALM-004-02 A	07	2B00	V00	Sliding	00	SW	None
5edroom 4	ALM-004-02 A	06	2000	4C00	Sliding	20	SW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	3B00	NW		No
Living / Dining / Kitchen	EW-004	4B00	OB00	NE	2700	=es
Living / Dining / Kitchen	EW-004	4B00	2100	SW		No
5edroom 2	EW-004	4B00	3000	NW		No
5edroom 2	EW-004	4B00	V00	NE		No
5edroom 2	EW-004	4B00	1000	SW		No
5edroom 4	EW-004	4B00	4O00	SW		No
5edroom 4	EW-024	4B00	3100	SE		No
Entry Hall	EW-024	4B00	100	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	62.03	
YW-004	Plasterboard/AAC block	V.76	
YW-007	Fibre-cement sheet/Concrete wall/Plasterboard	27.O6	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	30.40			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	O.00			Ceramic tile
Living / Dining / Kitchen/+ utdoor Air	carpet - concrete 400mm	4.B0			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	carpet - concrete 400mm	27.V0			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	tiles - concrete 400mm	3.00			Ceramic tile
5edroom 2/+ utdoor Air	carpet - concrete 400mm	2.40			Carpet 20 l rubber underlay O
5edroom 4/Neighbour	carpet - concrete 400mm	22.20			Carpet 20 l rubber underlay O
Entry Hall/Neighbour	carpet - concrete 400mm	1.40			Carpet 20 l rubber underlay O

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/5edroom 4	carpet - concrete 400mm		No
Neighbour/Entry Hall	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	2B	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
5edroom 4	7	Downlight		Sealed
Entry Hall	4	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R2.0 - Concrete slab 400mm	R2.0	60	Medium

* Refer to glossary.

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

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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 4 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, 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 20m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 20 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 2, 4 or 7 buildings and attached Class 20a 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 2. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442645

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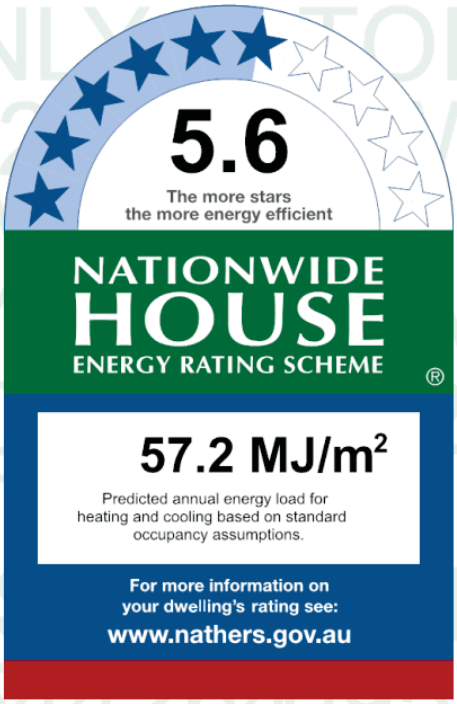

Property

Address	Unit 11, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	70.4	Suburban
Unconditioned*	0.0	**NatHERS climate zone**
Total	70.4	56
Garage		

Thermal performance

Heating	**Cooling**
41.5	**15.6**
MJ/m^2	MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

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

National Construction Code (NCC) requirements

The N' ' qs re- uirements for NatHERS3rated houses are detailed in 1.20.( )a5)i5and 1.20.V of the N' ' Folume Two. Jor apartments the re- uirements are detailed in 8(.0 and 8V to 8Oof the N' ' Folume I ne.

9n N' ' 0(2: , these re- uirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Re- uirements additional to the NatHERS assessment that must also be satisfied include, but are not limited toLinsulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting re- uirements. The N' ' and NatHERS Heating and ' ooling Wad Vimits)Mustralian Auilding ' odes Aoard Standard5are available at www.abcb.gov.au.

State and territory variations and additions to the N' ' 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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

* Refer to glossary.

Window and glazed door *schedule*

4ocation	Window ID	Window no5	Height 2mmN	Width 2mmN	Window tEpe	Rpening 7	Rrientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	7200	Sliding	76	SE	None
5edroom 2	ALM-002-02 A	04	4B00	V00	Casement	V0	NE	None
5edroom 2	ALM-004-02 A	03	2V00	4600	Sliding	20	S	None
Study	ALM-004-02 A	07	2V00	2000	Sliding	20	SW	None

0oof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

0oof window *schedule*

4ocation	Window ID	Window no5	Rpening 7	Height 2mmN	Width 2mmN	Rrientation	Rutdoor shade	Indoor shade
No Data Available								

SkEight *type and performance*

SkEight ID	SkEight description
No Data Available	

SkEight *schedule*

4ocation	SkEight ID	SkEight Oo5	SkEight shaft length 2mmN	Area 2m) N	Rrientation	Rutdoor shade	Diffuser	SkEight shaft reflectance
No Data Available								

%xternal door *schedule*

4ocation	Height 2mmN	Width 2mmN	Rpening 7	Rrientation
No Data Available				

* Refer to glossary.

%xternal wall *type*

Wall ID	Wall tEpe	Solar absorptance 2colourN	Wall shade	Bulk insulation 20-valueN	0eflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

%xternal wall *schedule*

4ocation	Wall ID	Height 2mmN	Width 2mmN	Rrientation	Horizontal shading feature* maximum projection 2mmN	Vertical shading feature 2Ees/noN
Living / Dining / Kitchen	EW-004	4B00	2B00	NE		No
Living / Dining / Kitchen	EW-004	4B00	7100	SE	4200	=es
5edroom 2	EW-004	4B00	2000	NE	6300	=es
5edroom 2	EW-004	4B00	3B00	S		No
5edroom 2	EW-004	4B00	3200	SW		No
5edroom 2	EW-004	4B00	B00	NW		No
5edroom 2	EW-004	4B00	2700	SW		No
Study	EW-004	4B00	4C00	SW		No
Study	EW-024	4B00	3000	SE		No
Entry / 5athroom	EW-004	4B00	2300	SE		No

Internal wall *type*

Wall ID	Wall tEpe	Area 2m)N	Bulk insulation
YW-002	Plasterboard	60.44	
YW-004	Plasterboard/AAC block	30.BO	

Floor *type*

4ocation	Construction	Area 2m)N	Sub-floor ventilation	Added insulation 20-valueN	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	4V.00			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	2O40			Carpet 20 l rubber underlay O
Study/Neighbour	carpet - concrete 400mm	20.40			Carpet 20 l rubber underlay O
Entry / 5athroom/Neighbour	carpet - concrete 400mm	4.O0			Carpet 20 l rubber underlay O
Entry / 5athroom/Neighbour	tiles - concrete 400mm	7.40			Ceramic tile

Ceiling *type*

4ocation	Construction material/tEpe	Bulk insulation 0-value 2maEinclude edge batt valuesN	0eflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No

* Refer to glossary.

4ocation	Construction material/tEpe	Bulk insulation 0-value 2maEinclude edge batt valuesN	0eflective wrap*
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/Study	carpet - concrete 400mm		No
Neighbour/Entry / 5athroom	carpet - concrete 400mm		No

Ceiling *penetrations**

4ocation	QuantitE	TEpe	Diameter 2mm)N	Sealed/unsealed
Living / Dining / Kitchen	27	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
Study	7	Downlight		Sealed
Entry / 5athroom	4	Downlight		Sealed
Entry / 5athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

4ocation	QuantitE	Diameter 2mmN
No Data Available		

0oof *type*

Construction	Added insulation 20-valueN	Solar absorptance	0oof shade
No Data Available			

* Refer to glossary.

%xplanatorE 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. Y 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 uni+ue climate qone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. zhe 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 re+uirements 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. zhe higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

zo ensure the NatHERS Certificate is of a high +uality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Trganisation (AAT).

Australian Capital zerritory (ACz) 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 ACz licensing register

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

Any +uestions or concerns about this report should be directed to the assessor in the first instance. Y the assessor is unable to address these +uestions or concerns, the AAT specified on the front of this certificate should be contacted.

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GlossarE

Annual energE load	the predicted amount of energy re+uired 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.
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%xposure categorE – exposed	terrain with no obstructions e.g. flat graqing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
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%xposure categorE – suburban	terrain with numerous, closely spaced obstructions below 20m e.g. suburban housing, heavily vegetated bushland areas.
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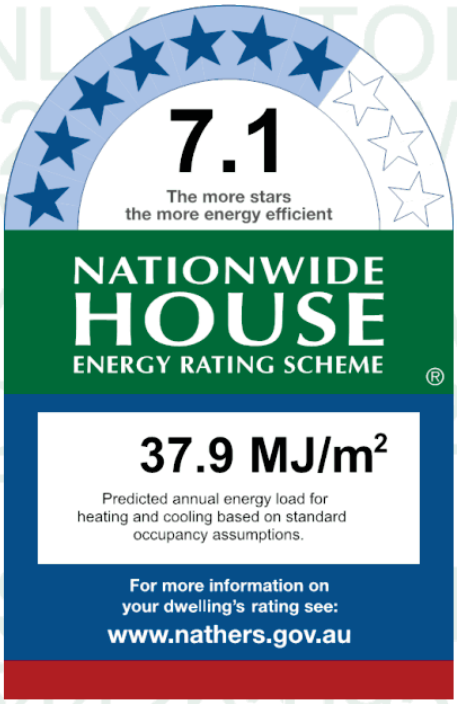
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
Oational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 4 or 7 buildings and attached Class 20a buildings. Definitions can be found at www.abcb.gov.au.
Rpening 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 zechnical Note and can be found at www.nathers.gov.au
0eflective 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.
0oof 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 2SHGCN	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe lower a window's SHGC, the less solar heat it transmits.
SkElight (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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Y cludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442652

Generated on 30 Nov 2020 using AccuRate Sustainability V2.4.3.21



Property

Address	Unit 14, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	71.7	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	71.7	56
Garage		

Thermal performance

Heating	Cooling
15.9 MJ/m^2	22.1 MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=PKrQcRjwt.
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?

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no7	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	6100	Sliding	76	NE	None
5edroom 2	ALM-004-02 A	04	2V00	4200	Sliding	20	NW	None
5edroom 2	ALM-002-02 A	03	2V00	V00	Casement	20	NE	None
5edroom 2	ALM-004-02 A	07	2B00	V00	Sliding	00	SW	None
5edroom 4	ALM-004-02 A	06	2000	4C00	Sliding	20	SW	None

Eoof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Eoof window *schedule*

Location	Window ID	Window no7	Opening %	Height (mm)	Width (mm)	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight 1 o7	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

Nxternal door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

Nxternal wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (E-value)	Eeflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

Nxternal wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	3B00	NW		No
Living / Dining / Kitchen	EW-004	4B00	BC00	NE	4400	=es
Living / Dining / Kitchen	EW-004	4B00	2100	SW		No
5edroom 2	EW-004	4B00	3000	NW		No
5edroom 2	EW-004	4B00	V00	NE		No
5edroom 2	EW-004	4B00	1000	SW		No
5edroom 4	EW-004	4B00	4C00	SW		No
5edroom 4	EW-024	4B00	3100	SE		No
Entry Hall	EW-024	4B00	100	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	62.03	
YW-004	Plasterboard/AAC block	6.V7	
YW-007	Fibre-cement sheet/Concrete wall/Plasterboard	27.C6	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (E-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	4B.30			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	Q00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	27.V0			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	tiles - concrete 400mm	3.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	2.40			Carpet 20 l rubber underlay O
5edroom 4/Neighbour	carpet - concrete 400mm	22.20			Carpet 20 l rubber underlay O
Entry Hall/Neighbour	carpet - concrete 400mm	1.40			Carpet 20 l rubber underlay O

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation E-value (may include edge batt values)	Eeflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/5edroom 4	carpet - concrete 400mm		No
Neighbour/Entry Hall	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	21	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
5edroom 4	7	Downlight		Sealed
Entry Hall	4	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Eoof *type*

Construction	Added insulation (E-value)	Solar absorptance	Eoof shade
No Data Available			

* Refer to glossary.

Nxplanatory notes

About this report

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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 re+uirements 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. zhe higher the star rating the more thermally efficient the dwelling is.

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Glossary

Annual energy load	the predicted amount of energy re+uired 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.
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Conditioned	a qone within a dwelling that is expected to re+uire heating and cooling based on standard occupancy assumptions. Yn some circumstances it will include garages.
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Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies fromupper levels.
1ational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 4 or 7 buildings and attached Class 20a 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 zechnical Note and can be found at www.nathers.gov.au
Eeflective 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.
Eoof 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Yncludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442660

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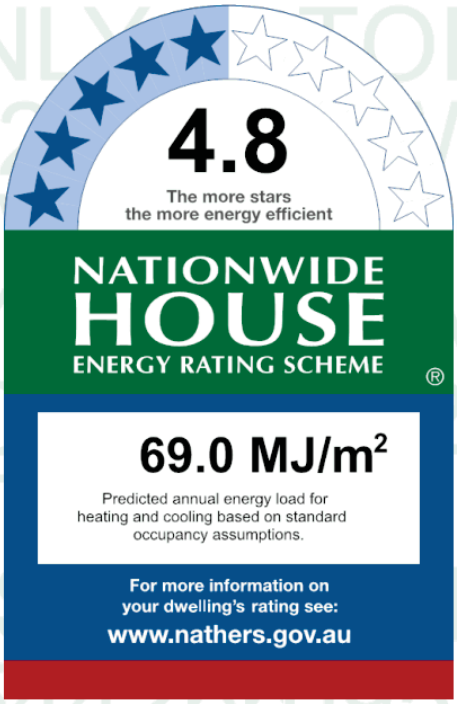

Property

Address	Unit 13, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m²)*		**Exposure Type**
Conditioned*	97.8	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	97.8	56
Garage		

Thermal performance

Heating	**Cooling**
48.1 MJ/m²	**21.0** MJ/m²

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475

Assessor Accrediting Organisation

Design Matters National

Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

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

National Construction Code (NCC) requirements

The NFFW/reQuirements for NatHERS'rated houses are detailed in q.-3.12a020and q.-3.(of the NFF) olume Two. 5or apartments the reQuirements are detailed in V1.3 and V(to VJ of the NFF) olume 8 ne.

In NFF 31-9, 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 NFF and NatHERS Heating and Fooling Load Limits 2Australian Building Fodes Board Standard0are available at www.abcb.gov.au.

State and territory variations and additions to the NFF 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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window noR	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	1C60	Sliding	76	NE	None
Living / Dining / Kitchen	ALM-004-02 A	04	2V00	4400	8 ther	00	E	None
Living / Dining / Kitchen	ALM-004-02 A	03	2V00	4300	8 ther	40	SE	None
5edroom 2	ALM-002-02 A	07	4B00	V00	Casement	V0	NE	None
5edroom 2	ALM-004-02 A	06	4000	4600	Sliding	20	SE	None
5edroom 4	ALM-004-02 A	01	2V00	600	8 ther	00	NE	None
5edroom 4	ALM-004-02 A	0B	4B00	3000	Sliding	30	SE	None
Study	ALM-004-02 A	0O	4B00	2000	Sliding	20	SW	None

Eoof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Eoof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight 7 oR	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

* Refer to glossary.

Nxternal door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

Nxternal wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (E-value)	Eeflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt: R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k = 0.03V): R0.6/Glass fibre batt: R2.0	No

Nxternal wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	O700	NE	2700	Yes
Living / Dining / Kitchen	EW-004	4B00	B00	NE	2700	Yes
Living / Dining / Kitchen	EW-004	4B00	4400	E	2400	Yes
Living / Dining / Kitchen	EW-004	4B00	4O00	SE		No
5edroom 2	EW-004	4B00	2B00	SE	4300	Yes
5edroom 2	EW-004	4B00	2000	NE	6200	Yes
5edroom 2	EW-004	4B00	3B00	SE		No
5edroom 2	EW-004	4B00	3400	SW		No
5edroom 2	EW-004	4B00	B00	NW		No
5edroom 4	EW-004	4B00	4600	NE		No
5edroom 4	EW-004	4B00	3000	SE	4300	Yes
Study	EW-004	4B00	4O00	SW		No
Study	EW-024	4B00	3000	SE		No
5athroom	EW-004	4B00	2700	SW		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
IW-002	Plasterboard	61.B0	
IW-004	Plasterboard/AAC block	46.22	
IW-007	Fibre-cement sheet/Concrete wall/Plasterboard	B.61	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (E-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	37.00			Carpet 20 + rubber underlay O

* Refer to glossary.

Location	Construction	Area (m)	Sub-floor ventilation	Added insulation (E-value)	Covering
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	27.00			Ceramic tile
Living / Dining / Kitchen/8 utdoor Air	carpet - concrete 400mm	6.30			Carpet 20 + rubber underlay O
5 edroom 2/Neighbour	carpet - concrete 400mm	21.00			Carpet 20 + rubber underlay O
5 edroom 2/Neighbour	tiles - concrete 400mm	7.20			Ceramic tile
5 edroom 4/Neighbour	carpet - concrete 400mm	22.V0			Carpet 20 + rubber underlay O
Study/Neighbour	carpet - concrete 400mm	V.B0			Carpet 20 + rubber underlay O
5 athroom/Neighbour	tiles - concrete 400mm	4.C0			Ceramic tile

Ceiling *type*

Location	Construction material/type	Bulk insulation E-value (may include edge batt values)	Eeflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No
Neighbour/5 edroom 2	carpet - concrete 400mm		No
Neighbour/5 edroom 4	carpet - concrete 400mm		No
Neighbour/Study	carpet - concrete 400mm		No
Neighbour/5 athroom	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	42	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5 edroom 2	O	Downlight		Sealed
5 edroom 2	2	Ceiling exhaust fan	210	Sealed
5 edroom 4	6	Downlight		Sealed
Study	7	Downlight		Sealed
5 athroom	4	Downlight		Sealed
5 athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Eoof *type*

Construction	Added insulation (E-value)	Solar absorptance	Eoof shade
R2.0 - Concrete slab 400mm	R2.0	60	Medium

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Nxplanatory notes

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Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442678

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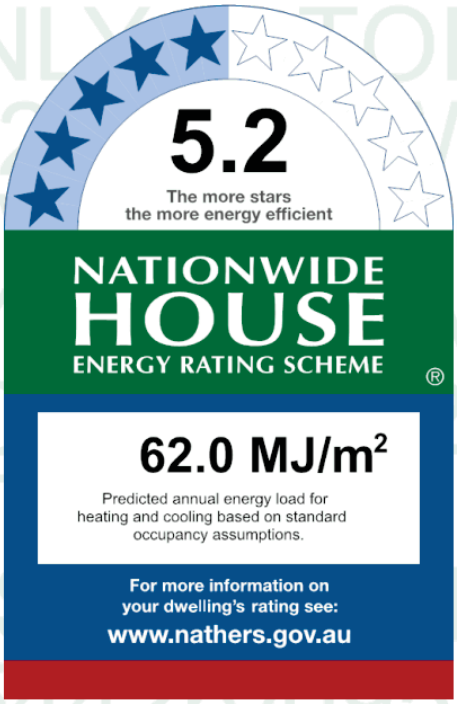

Property

Address	Unit 15, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	76.4	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	76.4	56
Garage		

Thermal performance

Heating	**Cooling**
39.3 MJ/m^2	**22.7** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=GxWrwKOQp.
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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.

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

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	7B00	Sliding	76	NE	None
Living / Dining / Kitchen	ALM-004-02 A	04	4B00	2C00	Louvre	46	SE	None
Living / Dining / Kitchen	ALM-004-02 A	03	4B00	3000	Sliding	76	SE	None
5edroom 2	ALM-002-02 A	07	4400	3400	Casement	20	NE	None
5edroom 4	ALM-004-02 A	06	4B00	4200	Sliding	76	SE	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	7V00	NE	2600	=es
Living / Dining / Kitchen	EW-004	4B00	4V00	SE		No
Living / Dining / Kitchen	EW-004	4B00	6B00	SE	3400	=es
5edroom 2	EW-004	4B00	3400	NE		No
5edroom 2	EW-004	4B00	2V00	NE		No
5edroom 2	EW-004	4B00	3100	NW	1700	=es
5edroom 4	EW-004	4B00	4400	SE	4700	=es
5edroom 4	EW-004	4B00	C00	SE	4700	=es
5edroom 4	EW-004	4B00	3B00	SW		No
Hall / 5athroom	EW-004	4B00	2760	SW		No
Hall / 5athroom	EW-024	4B00	3200	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	33.42	
YW-004	Plasterboard/AAC block	44.72	
YW-007	Fibre-cement sheet/Concrete wall/Plasterboard	B.61	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	37.70			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	22.10			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	tiles - concrete 400mm	3.30			Ceramic tile
5edroom 2/+ utdoor Air	carpet - concrete 400mm	7.70			Carpet 20 l rubber underlay O
5edroom 4/Neighbour	carpet - concrete 400mm	22.20			Carpet 20 l rubber underlay O
Hall / 5athroom/Neighbour	carpet - concrete 400mm	4.10			Carpet 20 l rubber underlay O
Hall / 5athroom/Neighbour	tiles - concrete 400mm	3.00			Ceramic tile

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Neighbour/Living / Dining / Kitchen	carpet - concrete 400mm		No
Neighbour/5edroom 2	carpet - concrete 400mm		No
Neighbour/5edroom 4	carpet - concrete 400mm		No
Neighbour/Hall / 5athroom	carpet - concrete 400mm		No

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	21	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	O	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
5edroom 4	7	Downlight		Sealed
Hall / 5athroom	3	Downlight		Sealed
Hall / 5athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
No Data Available			

* Refer to glossary.

Explanatory notes

About this report

A NatHERS rating is a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate an energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances or energy production of solar panels.

Ratings are based on a unique climate zone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. The actual energy consumption of a home may vary significantly from the predicted energy load, as the assumptions used in the rating will not match actual usage patterns. For example, the number of occupants and personal heating or cooling preferences will vary.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparing different dwelling designs and to demonstrate that the design meets the energy efficiency requirements in the National Construction Code. Homes that are energy efficient use less energy, are warmer on cool days, cooler on hot days and cost less to run. The higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

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

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

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

Disclaimer

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

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

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

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, rangehoods, chimneys and flues. Excludes fixtures attached to the ceiling with small holes through the ceiling for wiring, e.g. ceiling fans; pendant lights, and heating and cooling ducts.
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
Entrance door	these signify ventilation benefits in the modelling software and must not be modelled as a door when opening to a minimally ventilated corridor in a Class 4 building.
Exposure category – exposed	terrain with no obstructions e.g. flat grazing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, 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 20m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 20 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 2, 4 or 7 buildings and attached Class 20a 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 2. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442694

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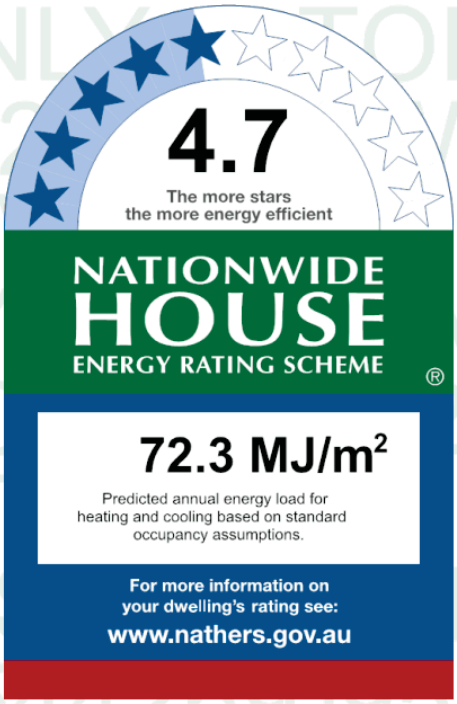

Property

Address	Unit 16, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	71.7	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	71.7	56
Garage		

Thermal performance

Heating	Cooling
28.5	**43.7**
MJ/m^2	MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=fiIfZQrpj.
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?

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	6100	Sliding	76	NE	None
5edroom 2	ALM-004-02 A	04	2V00	4200	Sliding	20	NW	None
5edroom 2	ALM-002-02 A	03	2V00	V00	Casement	20	NE	None
5edroom 2	ALM-004-02 A	07	2B00	V00	Sliding	00	SW	None
5edroom 4	ALM-004-02 A	06	2000	4C00	Sliding	20	SW	None

Roof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

Roof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

External wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	3B00	NW		No
Living / Dining / Kitchen	EW-004	4B00	BC00	NE		=es
Living / Dining / Kitchen	EW-004	4B00	2100	SW		No
5edroom 2	EW-004	4B00	3000	NW		No
5edroom 2	EW-004	4B00	V00	NE		No
5edroom 2	EW-004	4B00	1000	SW		No
5edroom 4	EW-004	4B00	4C00	SW		No
5edroom 4	EW-024	4B00	3100	SE		No
Entry Hall	EW-024	4B00	100	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	62.03	
YW-004	Plasterboard/AAC block	6.V7	
YW-007	Fibre-cement sheet/Concrete wall/Plasterboard	27.C6	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (R-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	4B.30			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	Q00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	27.V0			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	tiles - concrete 400mm	3.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	2.40			Carpet 20 l rubber underlay O
5edroom 4/Neighbour	carpet - concrete 400mm	22.20			Carpet 20 l rubber underlay O
Entry Hall/Neighbour	carpet - concrete 400mm	1.40			Carpet 20 l rubber underlay O

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	21	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	1	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
5edroom 4	7	Downlight		Sealed
Entry Hall	4	Downlight		Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
R4.6 - Concrete slab 400mm	R4.6	60	Medium

* Refer to glossary.

Explanatory notes

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Ratings are based on a uni+ue climate qone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. zhe actual energy consumption of a home may vary significantly fromthe 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.

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Annual energy load	the predicted amount of energy re+uired for heating and cooling, based on standard occupancy assumptions.
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Conditioned	a qone within a dwelling that is expected to re+uire heating and cooling based on standard occupancy assumptions. Yn some circumstances it will include garages.
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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 4 building.
Exposure category – exposed	terrain with no obstructions e.g. flat graqing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Exposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, 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 20me.g. suburban housing, heavily vegetated bushland areas.
Exposure category – protected	terrain with numerous, closely spaced obstructions over 20 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies fromupper 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 2, 4 or 7 buildings and attached Class 20a 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 zechnical 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Yncludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.

Nationwide House Energy Rating Scheme
NatHERS Certificate No. 0005442710

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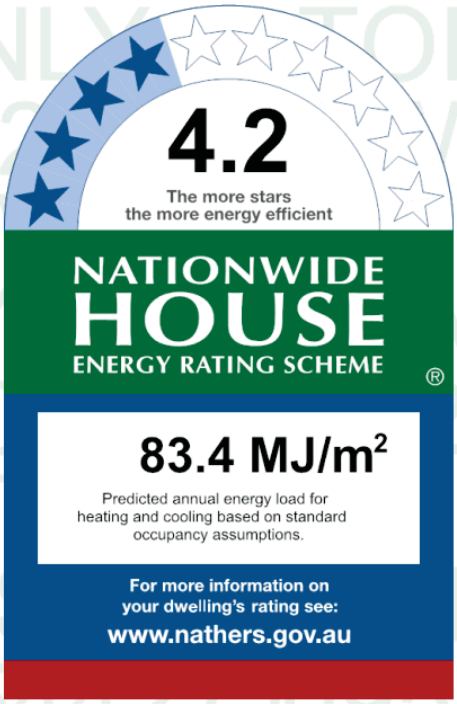

Property

Address	Unit 17, 9-11 Victoria Parade , Manly , NSW , 2095
Lot/DP	Lot -
NCC Class*	2
Type	New Home

Plans

Main Plan	September 2020
Prepared by	Platform Architects

Construction and environment

Assessed floor area (m^2)*		**Exposure Type**
Conditioned*	76.4	Open
Unconditioned*	0.0	**NatHERS climate zone**
Total	76.4	56
Garage		

Thermal performance

Heating	**Cooling**
51.0 MJ/m^2	**32.4** MJ/m^2

Accredited assessor

Name	Robert Mallindine
Business name	AGA Consultants Pty Ltd
Email	rob@agaconsultants.com.au
Phone	02 9977 2794
Accreditation No.	DMN/12/1475
Assessor Accrediting Organisation	
Design Matters National	
Declaration of interest	Declaration completed: no conflicts

About the rating

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

Verification

To verify this certificate, scan the QR code or visit www.hstar.com.au/QR/Generate?p=acAFNyRAR.
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. Jor apartments the requirements are detailed in F0.2 and F5 to F8 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 (Bustralian * uilding Codes * oard 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?

Additional notes

Window and glazed door *type and performance*

Default* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
ALM-002-02 A	Aluminium A SG Clear	1.B	0.6B	0.67	0.10
ALM-004-02 A	Aluminium 5 SG Clear	1.B	0.B0	0.1B	0.B7

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Living / Dining / Kitchen	ALM-004-02 A	02	4B00	7B00	Sliding	76	NE	None
Living / Dining / Kitchen	ALM-004-02 A	04	4B00	2C00	Louvre	46	SE	None
Living / Dining / Kitchen	ALM-004-02 A	03	4B00	3000	Sliding	76	SE	None
5edroom 2	ALM-002-02 A	07	4400	3400	Casement	20	NE	None
5edroom 4	ALM-004-02 A	06	4B00	4200	Sliding	76	SE	None

6oof window *type and performance*

Default* roof windows

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

Custom* roof windows

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

6oof window *schedule*

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

Skylight *type and performance*

Skylight ID	Skylight description
No Data Available	

Skylight *schedule*

Location	Skylight ID	Skylight Eo.	Skylight shaft length (mm)	Area (m^2)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

Rxternal door *schedule*

Location	Height (mm)	Width (mm)	Opening %	Orientation
No Data Available				

* Refer to glossary.

Rxternal wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (6-value)	6effective wall wrap*
EW-004	5rick wall/Plasterboard	O6	Dark	Glass fibre batt8R4.0	No
EW-024	Concrete wall/Plasterboard	2	Light	Polystyrene expanded (k : 0.03V)8R0.6/Glass fibre batt8 R2.0	No

Rxternal wall *schedule*

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Living / Dining / Kitchen	EW-004	4B00	7V00	NE	2060	=es
Living / Dining / Kitchen	EW-004	4B00	4V00	SE		No
Living / Dining / Kitchen	EW-004	4B00	6B00	SE	4000	=es
5edroom 2	EW-004	4B00	3400	NE		No
5edroom 2	EW-004	4B00	2V00	NE		No
5edroom 2	EW-004	4B00	3100	NW		=es
5edroom 4	EW-004	4B00	3000	SE	2200	=es
5edroom 4	EW-004	4B00	3B00	SW		No
Hall / 5athroom	EW-004	4B00	2760	SW		No
Hall / 5athroom	EW-024	4B00	3200	SE		No

Internal wall *type*

Wall ID	Wall type	Area (m^2)	Bulk insulation
YW-002	Plasterboard	33.42	
YW-004	Plasterboard/AAC block	44.72	
YW-007	Fibre-cement sheet/Concrete wall/Plasterboard	B.61	

Floor *type*

Location	Construction	Area (m^2)	Sub-floor ventilation	Added insulation (6-value)	Covering
Living / Dining / Kitchen/Neighbour	carpet - concrete 400mm	37.70			Carpet 20 l rubber underlay O
Living / Dining / Kitchen/Neighbour	tiles - concrete 400mm	1.00			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	22.10			Carpet 20 l rubber underlay O
5edroom 2/Neighbour	tiles - concrete 400mm	3.30			Ceramic tile
5edroom 2/Neighbour	carpet - concrete 400mm	7.70			Carpet 20 l rubber underlay O
5edroom 4/Neighbour	carpet - concrete 400mm	22.20			Carpet 20 l rubber underlay O
Hall / 5athroom/Neighbour	carpet - concrete 400mm	4.10			Carpet 20 l rubber underlay O
Hall / 5athroom/Neighbour	tiles - concrete 400mm	3.00			Ceramic tile

* Refer to glossary.

Ceiling *type*

Location	Construction material/type	Bulk insulation 6-value (may include edge batt values)	6eflective wrap*
No Data Available			

Ceiling *penetrations**

Location	Quantity	Type	Diameter (mm^2)	Sealed/unsealed
Living / Dining / Kitchen	21	Downlight		Sealed
Living / Dining / Kitchen	2	Ceiling exhaust fan	210	Sealed
5edroom 2	O	Downlight		Sealed
5edroom 2	2	Ceiling exhaust fan	210	Sealed
5edroom 4	7	Downlight		Sealed
Hall / 5athroom	3	Downlight		Sealed
Hall / 5athroom	2	Ceiling exhaust fan	210	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

6oof *type*

Construction	Added insulation (6-value)	Solar absorptance	6oof shade
R4.6 - Concrete slab 400mm	R4.6	60	Medium

* Refer to glossary.

Rxplanatory 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. Y 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 uni+ue climate qone where the home is located and are generated using standard assumptions, including occupancy patterns and thermostat settings. zhe 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 re+uirements 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. zhe higher the star rating the more thermally efficient the dwelling is.

Accredited assessors

zo ensure the NatHERS Certificate is of a high +uality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Trganisation (AAT).

Australian Capital zerritory (ACz) 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 ACz licensing register

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

Any +uestions or concerns about this report should be directed to the assessor in the first instance. Y the assessor is unable to address these +uestions or concerns, the AAT specified on the front of this certificate should be contacted.

Disclaimer

zhe 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. Y is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS zechnical Notes to produce a NatHERS Certificate.

zhe predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. Y 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.

Yformation 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 re+uired 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 re+uire 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 qone within a dwelling that is expected to re+uire heating and cooling based on standard occupancy assumptions. Y 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.
Rntrance 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 4 building.
Rxposure category – exposed	terrain with no obstructions e.g. flat graqing land, ocean-frontage, desert, exposed high-rise unit (usually above 20 floors).
Rxposure category – open	terrain with few obstructions at a similar height e.g. grasslands with few well scattered obstructions below 20m, farmland with scattered sheds, lightly vegetated bush blocks, elevated units (e.g. above 3 floors).
Rxposure category – suburban	terrain with numerous, closely spaced obstructions below 20me.g. suburban housing, heavily vegetated bushland areas.
Rxposure category – protected	terrain with numerous, closely spaced obstructions over 20 me.g. city and industrial areas.
Horizontal shading feature	provides shading to the building in the horiqontal plane, e.g. eaves, verandahs, pergolas, carports, or overhangs or balconies from upper levels.
Eational Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 2, 4 or 7 buildings and attached Class 20a 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 zechnical Note and can be found at www.nathers.gov.au
6eflective 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.
6oof 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 subse+uently released inward. SHGC is expressed as a number between 0 and 2. zhe 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. zhe lower the U-value, the better the insulating ability.
Unconditioned	a qone within a dwelling that is assumed to not re+uire 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. Y cludes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).

* Refer to glossary.