

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0011637592-01

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Property

Address 40 Thomas Street,
Picnic Point , NSW , 2213

Lot/DP 7/29657

NCC Class* 1A

Type New Dwelling

Plans

Main plan A22005

Prepared by COSTI

Construction and environment

Assessed floor area (m²)*	Exposure type
Conditioned* 261.0	Suburban
Unconditioned* 60.0	NatHERS climate zone
Total 322.0	56
Garage 39.0	



Accredited assessor

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Accreditation No. DMN/18/1851

Assessor Accrediting Organisation Design Matters National

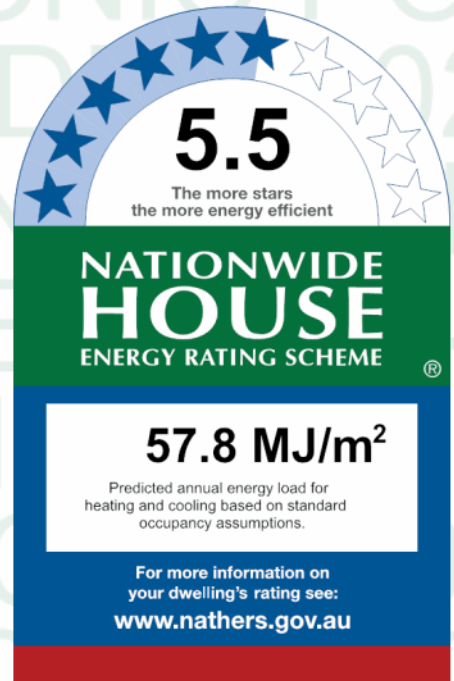
Declaration of interest Declaration completed: no conflicts

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.



Thermal performance

Heating	Cooling
39.3	18.4
MJ/m²	MJ/m²

About the rating

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

Verification

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



Certificate check

Ensure the dwelling is designed and then built as per the NatHERS Certificate. While you need to check the accuracy of the whole Certificate, the following spot check covers some important items impacting the dwelling's rating.

Genuine certificate

Does this Certificate match the one available at the web address or QR code in the verification box on the front page? Does the set of NatHERS-stamped plans for the dwelling have a Certificate number on the stamp that matches this Certificate?

Ceiling penetrations*

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

Windows

Does the installed window meet the substitution tolerances (SHGC and U-value) and window type, of the window shown on this Certificate? Substituted values must be based on the Australian Fenestration Rating Council (AFRC) protocol.

Apartment entrance doors

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

Exposure*

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

Provisional* values

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

Additional notes

I have modeled the shading in accordance with NatHERS principles

Window and glazed door *type and performance*

Default* windows

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

Custom* windows

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

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2700	4800	n/a	45	S	No

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Kitchen/Living	ALM-002-01 A	n/a	2700	4800	n/a	45	S	No
Kitchen/Living	ALM-002-01 A	n/a	2000	800	n/a	90	W	No
Kitchen/Living	ALM-002-01 A	n/a	2000	800	n/a	90	W	No
Kitchen/Living	ALM-002-01 A	n/a	900	1000	n/a	00	N	No
Rumpus	ALM-002-01 A	n/a	900	1800	n/a	45	W	No
Bath	ALM-002-01 A	n/a	400	1500	n/a	45	W	No
Office	ALM-002-01 A	n/a	400	1500	n/a	45	E	No
Ldry	ALM-002-01 A	n/a	1000	600	n/a	00	E	No
Bedroom 1	ALM-002-01 A	n/a	2400	3800	n/a	45	N	No
Bedroom 2	ALM-002-01 A	n/a	1000	1800	n/a	10	E	No
Bedroom 2	ALM-002-01 A	n/a	1000	1800	n/a	10	N	No
Bedroom 3	ALM-002-01 A	n/a	450	1800	n/a	60	E	No
Bedroom 3	ALM-002-01 A	n/a	1000	1800	n/a	10	S	No
Bedroom 4	ALM-002-01 A	n/a	1000	1800	n/a	10	S	No
Bedroom 4	ALM-002-01 A	n/a	1000	1800	n/a	10	W	No
Hall	ALM-002-01 A	n/a	1500	800	n/a	10	S	No
Bath	ALM-002-01 A	n/a	600	1200	n/a	45	E	No
Void	ALM-002-01 A	n/a	2700	1000	n/a	00	N	No

Roof window type and performance

Default* roof windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
DG-Generic-02 A	Glass	4.2	0.72	0.68	0.76

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
Kitchen/Living	DG-Generic-02 A	n/a	0	600	3000	E	No	No
ENS	DG-Generic-02 A	n/a	0	600	1500	E	No	No
Void	DG-Generic-02 A	n/a	0	600	3000	E	No	No
WIR	DG-Generic-02 A	n/a	90	750	1500	E	No	No
WIR	DG-Generic-02 A	n/a	90	750	1500	E	No	No

Skylight type and performance

Skylight ID Skylight description

No Data Available

Skylight schedule

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

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
Kitchen/Living	2400	1000	90	N
Garage 1	3100	5400	90	N
Office	2400	900	90	N
Ldry	2400	820	90	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Cavity Brick	0.30	Light	Foil Anti-glare one side and Reflective other of the Bulk Insulation R1.1	Yes

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-2	Weatherboard Cavity Panel Direct Fix	0.30	Light	Bulk Insulation R2.5	No

External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Kitchen/Living	EW-1	2850	7400	E	600	NO
Kitchen/Living	EW-1	2850	13200	S	4300	NO
Kitchen/Living	EW-1	2850	5345	W	500	NO
Kitchen/Living	EW-1	3400	1345	N	100	NO
Kitchen/Living	EW-1	2850	3000	E	3400	YES
Kitchen/Living	EW-1	2850	1600	N	500	YES
Rumpus	EW-1	2850	3390	W	100	NO
Garage 1	EW-1	3600	6245	W	100	NO
Garage 1	EW-1	3600	6245	N	100	NO
Bath	EW-1	2850	1890	W	100	NO
Office	EW-1	2850	3845	N	2500	YES
Office	EW-1	2850	3045	E	100	NO
Ldry	EW-1	2850	1990	E	100	NO
WIP	EW-1	2850	1490	E	100	YES
Bedroom 1	EW-2	2700	4290	N	2400	YES
Bedroom 2	EW-2	2700	4795	E	600	NO
Bedroom 2	EW-2	2700	3895	N	600	YES
Bedroom 3	EW-2	2700	4895	E	600	NO
Bedroom 3	EW-2	2700	3895	S	500	NO
Bedroom 4	EW-2	2700	6295	S	1400	YES
Bedroom 4	EW-2	2700	3295	W	800	NO
Hall	EW-2	2700	1395	S	500	NO
Hall	EW-2	2700	900	W	7100	YES
Bath	EW-2	2700	1990	E	600	NO
Void	EW-1	2700	3000	E	700	YES

Location	Wall ID	Height (mm)	Width (mm)	Orientation	Horizontal shading feature* maximum projection (mm)	Vertical shading feature (yes/no)
Void	EW-1	2700	1800	W	7100	YES
Void	EW-1	2700	1400	N	600	NO
WIR	EW-2	2700	8695	W	800	NO
WIR	EW-2	2700	1995	N	2400	NO

Internal wall type

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Single Skin Brick		112.00	No insulation
IW-2 - Single Skin Brick		36.00	Bulk Insulation, No Air Gap R2.5
IW-3 - Cavity wall, direct fix plasterboard, single gap		156.00	No insulation

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Kitchen/Living	Concrete Slab on Ground 100mm	102.60	None	No Insulation	Cork Tiles or Parquetry 8mm
Rumpus	Concrete Slab on Ground 100mm	19.90	None	No Insulation	Cork Tiles or Parquetry 8mm
Garage 1	Concrete Slab on Ground 100mm	39.00	None	No Insulation	Bare
Bath	Concrete Slab on Ground 100mm	6.30	None	No Insulation	Ceramic Tiles 8mm
Office	Concrete Slab on Ground 100mm	11.70	None	No Insulation	Cork Tiles or Parquetry 8mm
Ldry	Concrete Slab on Ground 100mm	7.70	None	No Insulation	Ceramic Tiles 8mm
PWD	Concrete Slab on Ground 100mm	1.70	None	No Insulation	Ceramic Tiles 8mm
WIP	Concrete Slab on Ground 100mm	5.10	None	No Insulation	Cork Tiles or Parquetry 8mm
Bedroom 1/Garage 1	Concrete Above Plasterboard 19mm	18.70		Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
Bedroom 2/Office	Timber Above Plasterboard 19mm	11.80		No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 2/Ldry	Timber Above Plasterboard 19mm	6.50		No Insulation	Carpet+Rubber Underlay 18mm

Location	Construction	Area Sub-floor (m ²) ventilation	Added insulation (R-value)	Covering
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 19mm	17.30	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 3/WIP	Timber Above Plasterboard 19mm	1.00	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Kitchen/Living	Timber Above Plasterboard 19mm	12.30	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 4/Rumpus	Timber Above Plasterboard 19mm	5.80	No Insulation	Carpet+Rubber Underlay 18mm
Hall/Kitchen/Living	Timber Above Plasterboard 19mm	12.40	No Insulation	Cork Tiles or Parquetry 8mm
ENS/Rumpus	Timber Above Plasterboard 19mm	10.00	No Insulation	Ceramic Tiles 8mm
ENS/Bath	Timber Above Plasterboard 19mm	2.60	No Insulation	Ceramic Tiles 8mm
Bath/Ldry	Timber Above Plasterboard 19mm	1.50	No Insulation	Ceramic Tiles 8mm
Bath/PWD	Timber Above Plasterboard 19mm	1.50	No Insulation	Ceramic Tiles 8mm
Bath/WIP	Timber Above Plasterboard 19mm	4.40	No Insulation	Ceramic Tiles 8mm
Stair/Kitchen/Living	Timber Above Plasterboard 19mm	6.30	No Insulation	Cork Tiles or Parquetry 8mm
Void/Kitchen/Living	Timber Above Plasterboard 19mm	7.00	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Rumpus	Timber Above Plasterboard 19mm	4.30	No Insulation	Carpet+Rubber Underlay 18mm
WIR/Garage 1	Concrete Above Plasterboard 19mm	8.70	Bulk Insulation R2.5	Carpet+Rubber Underlay 18mm
WIR/Bath	Timber Above Plasterboard 19mm	3.90	No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Kitchen/Living	Plasterboard	Bulk Insulation R4	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Rumpus	Plasterboard	Bulk Insulation R4	No
Rumpus	Timber Above Plasterboard	No Insulation	No
Garage 1	Plasterboard	No insulation	No
Garage 1	Concrete Above Plasterboard	Bulk Insulation R2.5	No

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Bath	Plasterboard	Bulk Insulation R4	No
Bath	Timber Above Plasterboard	No Insulation	No
Office	Plasterboard	Bulk Insulation R4	No
Office	Timber Above Plasterboard	No Insulation	No
Ldry	Plasterboard	Bulk Insulation R4	No
Ldry	Timber Above Plasterboard	No Insulation	No
PWD	Plasterboard	Bulk Insulation R4	No
PWD	Timber Above Plasterboard	No Insulation	No
WIP	Plasterboard	Bulk Insulation R4	No
WIP	Timber Above Plasterboard	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
Bedroom 2	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No
Bedroom 4	Plasterboard	Bulk Insulation R4	No
Hall	Plasterboard	Bulk Insulation R4	No
ENS	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Stair	Plasterboard	Bulk Insulation R4	No
Void	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Kitchen/Living	39	Downlights - LED	150	Sealed
Kitchen/Living	1	Exhaust Fans	300	Sealed
Rumpus	9	Downlights - LED	150	Sealed
Garage 1	16	Downlights - LED	150	Sealed
Bath	3	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
Office	5	Downlights - LED	150	Sealed
Ldry	4	Downlights - LED	150	Sealed
Ldry	1	Exhaust Fans	300	Sealed
PWD	1	Downlights - LED	150	Sealed
PWD	1	Exhaust Fans	300	Sealed
WIP	3	Downlights - LED	150	Sealed
Bedroom 1	8	Downlights - LED	150	Sealed
Bedroom 2	8	Downlights - LED	150	Sealed
Bedroom 4	8	Downlights - LED	150	Sealed
Hall	6	Downlights - LED	150	Sealed
ENS	6	Downlights - LED	150	Sealed
ENS	1	Exhaust Fans	300	Sealed
Bath	4	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Stair	3	Downlights - LED	150	Sealed
Void	3	Downlights - LED	150	Sealed
WIR	7	Downlights - LED	150	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
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No Data Available

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.30	Light
Concrete	No Insulation, Only an Air Gap	0.50	Medium
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R1.3	0.30	Light

Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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