

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 0006766158

Generated on 07 Nov 2021 using BERS Pro v4.4.0.6 (3.21)

Property

Address Unit Dwelling 2, 1851 Pittwater Road ,
BAYVIEW , NSW , 2104

Lot/DP B/416603

NCC Class* 1A

Type New Dwelling

Plans

Main Plan NA

Prepared by M. Gamble

Construction and environment

Assessed floor area (m²)*	Exposure Type
Conditioned* 132.0	Suburban
Unconditioned* 39.0	NatHERS climate zone
Total 171.0	56
Garage 19.0	



Accredited assessor

Name Leanne Houseman

Business name Concept Designs Australia

Email leanne.cdaus@outlook.com

Phone 0408864184

Accreditation No. 10137

Assessor Accrediting Organisation

HERA

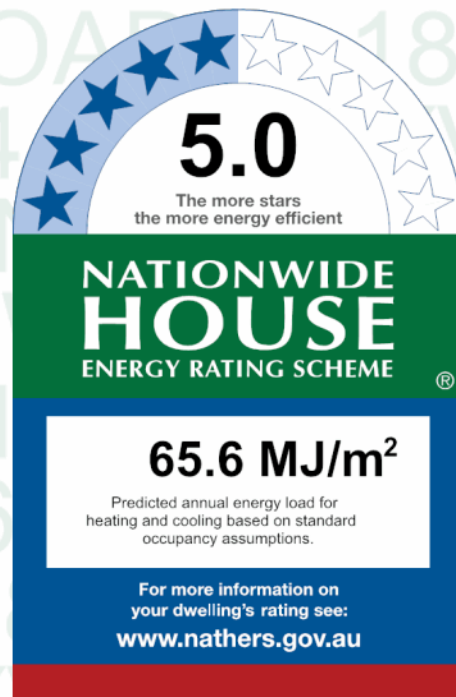
Declaration of interest Declaration completed: no conflicts

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
40.1	25.5
MJ/m²	MJ/m²

About the rating

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

Verification

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

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
TIM-001-01 W	TIM-001-01 W Timber A SG Clear	5.4	0.56	0.53	0.59
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
AWS-016-01 A	AWS-016-01 A 548 BF Al BiFold Door SG 5Clr	6.1	0.57	0.54	0.60
VAN-004-01 A	VAN-004-01 A SERIES 525 LOUVRE WINDOW SG 6Clr	6.1	0.64	0.61	0.67
AWS-068-07 A	AWS-068-07 A RES SERIES 517 FIXED WINDOW SG 5mmClr	6.3	0.75	0.71	0.79
AWS-011-01 A	AWS-011-01 A 541/542 Al Sliding Door SG 5Clr	6.2	0.72	0.68	0.76

Custom* windows

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
AWS-001-02 A	AWS-001-02 A 502/504 Al Sliding Window SG 5Clr	6.4	0.72	0.68	0.76
AWS-005-02 A	AWS-005-02 A 514 Al Double Hung Window SG 5Clr	6.2	0.71	0.67	0.75

Window and glazed door *schedule*

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orientation	Window shading device*
Plant Room	TIM-001-01 W	n/a	2100	820	n/a	90	S	No
Kitchen/Living	AWS-016-01 A	n/a	2400	3200	n/a	90	W	Yes
Kitchen/Living	VAN-004-01 A	n/a	800	1500	n/a	90	N	No
Kitchen/Living	AWS-068-07 A	n/a	1600	1500	n/a	00	N	No
Kitchen/Living	AWS-011-01 A	n/a	2400	3200	n/a	75	E	No
Kitchen/Living	AWS-068-07 A	n/a	350	2700	n/a	00	S	No
Kitchen/Living	VAN-004-01 A	n/a	500	3500	n/a	00	E	No Shading
Kitchen/Living	ALM-002-01 A	n/a	500	1100	n/a	00	N	No Shading
Entry Hall	AWS-068-07 A	n/a	2100	400	n/a	00	W	No
Entry Hall	AWS-068-07 A	n/a	500	1900	n/a	00	W	No
WC	AWS-068-07 A	n/a	2100	150	n/a	00	W	No
Bedroom 1	AWS-001-02 A	n/a	2500	1500	n/a	40	N	No
Bedroom 1	VAN-004-01 A	n/a	900	900	n/a	90	E	No
Bedroom 1	AWS-068-07 A	n/a	900	1800	n/a	00	E	No
Ensuite	VAN-004-01 A	n/a	900	900	n/a	90	E	No
Garage	TIM-001-01 W	n/a	1040	820	n/a	90	E	No
Bedroom 2	AWS-005-02 A	n/a	1800	1000	n/a	10	W	No
Bedroom 2	AWS-011-01 A	n/a	2100	1600	n/a	45	E	No
Stair/Hall	VAN-004-01 A	n/a	750	1800	n/a	90	E	No
Stair/Hall	AWS-068-07 A	n/a	750	1800	n/a	00	E	No
Stair/Hall	AWS-068-07 A	n/a	750	1800	n/a	00	E	No
Stair/Hall	AWS-068-07 A	n/a	600	950	n/a	00	W	No
Stair/Hall	VAN-004-01 A	n/a	600	950	n/a	90	W	No
Bath	AWS-068-07 A	n/a	600	900	n/a	00	W	No
Bath	VAN-004-01 A	n/a	600	900	n/a	90	W	No
Bath	AWS-068-07 A	n/a	600	900	n/a	00	W	No
Bath	VAN-004-01 A	n/a	600	900	n/a	90	W	No
Bedroom 3	AWS-068-07 A	n/a	1000	1000	n/a	00	N	No
Bedroom 3	AWS-068-07 A	n/a	350	2700	n/a	00	S	No
Bedroom 3	AWS-068-07 A	n/a	1800	1000	n/a	10	W	No

Roof window type and performance

Default* roof windows

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

Custom* roof windows

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

Roof window schedule

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

Skylight type and performance

Skylight ID	Skylight description
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
Entry Hall	2100	1000	90	W
Garage	2400	2700	90	W
Garage	1000	820	90	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
EW-1	Single Skin Brick	0.50	Medium	No insulation	No
EW-2	Brick Veneer	0.50	Medium	Anti-glare foil with bulk no gap R2.5	No
EW-3	Weatherboard Cavity Panel Direct Fix	0.30	Light	Anti-glare foil with bulk no gap R2.5	No
EW-4	Metal Clad Cavity Panel Direct Fix	0.50	Medium	Anti-glare foil with bulk no gap 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)
Plant Room	EW-1	2100	3100	N	100	NO
Plant Room	EW-1	2100	3200	E	1900	NO
Plant Room	EW-1	2100	3100	S	2000	NO
Plant Room	EW-1	2100	3200	W	3100	NO
Kitchen/Living	EW-2	2400	6000	W	600	NO
Kitchen/Living	EW-2	2400	1800	N	0	YES
Kitchen/Living	EW-3	2700	5395	E	2500	YES
Kitchen/Living	EW-3	3200	4300	S	0	NO
Kitchen/Living	EW-3	3800	600	W	0	YES
Kitchen/Living	EW-2	2400	4600	S	0	YES
Entry Hall	EW-3	2400	1595	W	900	YES
Entry Hall	EW-3	2400	900	S	8600	YES
Entry Hall	EW-3	2400	2000	W	0	NO
Entry Hall	EW-2	2400	1000	N	3300	YES
WC	EW-2	2400	995	W	0	YES
WC	EW-3	2400	900	N	6900	YES
Bedroom 1	EW-3	2550	1645	N	0	YES
Bedroom 1	EW-3	2400	4995	E	800	NO
Ensuite	EW-3	2400	1995	E	800	NO
Ensuite	EW-3	2550	1700	S	5400	YES
Garage	EW-1	2400	3145	W	1000	YES
Garage	EW-1	2400	2000	E	100	YES
Bedroom 2	EW-4	3200	3195	W	100	YES
Bedroom 2	EW-3	2100	3200	E	550	NO
Bedroom 2	EW-3	2400	900	S	9100	YES
Stair/Hall	EW-3	2800	600	N	0	YES
Stair/Hall	EW-3	2100	5690	E	550	YES
Stair/Hall	EW-3	2900	1995	W	0	NO
Bath	EW-3	2900	3690	W	0	YES
Bedroom 3	EW-3	3000	1400	N	0	YES
Bedroom 3	EW-3	2100	3395	E	550	NO
Bedroom 3	EW-3	2650	5100	S	0	NO
Bedroom 3	EW-4	3200	3400	W	100	NO

Internal wall *type*

Wall ID	Wall type	Area (m ²)	Bulk insulation
---------	-----------	------------------------	-----------------

Wall ID	Wall type	Area (m ²)	Bulk insulation
IW-1 - Cavity wall, direct fix plasterboard, single gap		34.00	Bulk Insulation, No Air Gap R2
IW-2 - Cavity wall, direct fix plasterboard, single gap		61.00	No insulation
IW-3 - Single Skin Brick		18.00	No insulation
IW-4 - Brick, plasterboard		15.00	No Insulation
IW-5 - Brick, plaster on studs		11.00	Bulk Insulation both sides of air gap R2

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
Plant Room	Concrete Slab on Ground 100mm	9.90	None	No Insulation	Bare
Kitchen/Living/Plant Room	Concrete Above Plasterboard 150mm	4.40		Bulk Insulation R2	Carpet 10mm
Kitchen/Living	Suspended Concrete Slab 150mm	47.20	Open	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Entry Hall	Suspended Concrete Slab 150mm	14.60	Open	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
WC	Suspended Concrete Slab 150mm	2.10	Enclosed	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Bedroom 1	Suspended Concrete Slab 150mm	10.00	Open	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Bedroom 1	Suspended Concrete Slab 150mm	9.00	Totally Open	Bulk Insulation in Contact with Floor	Carpet+Rubber Underlay 18mm
WIR	Suspended Concrete Slab 150mm	4.00	Open	Bulk Insulation in Contact with Floor R2	Carpet+Rubber Underlay 18mm
Ensuite	Suspended Concrete Slab 150mm	1.70	Open	Bulk Insulation in Contact with Floor R2	Ceramic Tiles 8mm
Ensuite	Suspended Concrete Slab 150mm	3.60	Totally Open	Bulk Insulation in Contact with Floor	Ceramic Tiles 8mm
Garage	Concrete Slab on Ground 100mm	19.10	None	No Insulation	Ceramic Tiles 8mm
Bedroom 2/Garage	Concrete Above Plasterboard 150mm	11.40		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bedroom 2	Suspended Concrete Slab 150mm	1.30	Totally Open	No Insulation	Carpet+Rubber Underlay 18mm
Stair/Hall/Kitchen/Living	Timber Above Plasterboard 100mm	1.60		No Insulation	Cork Tiles or Parquetry 8mm
Stair/Hall/Entry Hall	Timber Above Plasterboard 100mm	10.60		No Insulation	Cork Tiles or Parquetry 8mm
Bath/Kitchen/Living	Timber Above Plasterboard 19mm	2.20		No Insulation	Ceramic Tiles 8mm
Bath/Entry Hall	Timber Above Plasterboard 19mm	2.10		No Insulation	Ceramic Tiles 8mm
Bath/WC	Timber Above Plasterboard 19mm	2.20		No Insulation	Ceramic Tiles 8mm
Bath	Suspended Timber Floor 19mm	1.40	Totally Open	No Insulation	Ceramic Tiles 8mm
Bedroom 3/Kitchen/Living	Timber Above Plasterboard 100mm	17.20		No Insulation	Carpet+Rubber Underlay 18mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
----------	----------------------------	--	------------------

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
Plant Room	Concrete	No insulation	No
Plant Room	Concrete Above Plasterboard	Bulk Insulation R2	No
Kitchen/Living	Plasterboard	Bulk Insulation R4	No
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Entry Hall	Plasterboard	Bulk Insulation R4	No
Entry Hall	Timber Above Plasterboard	No Insulation	No
WC	Plasterboard	Bulk Insulation R4	No
WC	Timber Above Plasterboard	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R4	No
WIR	Plasterboard	Bulk Insulation R4	No
Ensuite	Plasterboard	Bulk Insulation R4	No
Garage	Plasterboard	Bulk Insulation R4	No
Garage	Concrete Above Plasterboard	Bulk Insulation R2	No
Bedroom 2	Plasterboard	Bulk Insulation R4	No
Stair/Hall	Plasterboard	Bulk Insulation R4	No
Bath	Plasterboard	Bulk Insulation R4	No
Bedroom 3	Plasterboard	Bulk Insulation R4	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm ²)	Sealed/unsealed
Kitchen/Living	12	Downlights - LED	150	Sealed
Entry Hall	2	Downlights - LED	150	Sealed
Entry Hall	1	Exhaust Fans	300	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Bedroom 1	4	Downlights - LED	150	Sealed
WIR	1	Downlights - LED	150	Sealed
Ensuite	2	Downlights - LED	150	Sealed
Ensuite	1	Exhaust Fans	300	Sealed
Bedroom 2	4	Downlights - LED	150	Sealed
Stair/Hall	4	Downlights - LED	150	Sealed
Bath	2	Downlights - LED	150	Sealed
Bath	1	Exhaust Fans	300	Sealed
Bedroom 3	4	Downlights - LED	150	Sealed

Ceiling *fans*

Location	Quantity	Diameter (mm)
No Data Available		

Roof *type*

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

Explanatory notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

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

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

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

Glossary

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