

Nationwide House Energy Rating Scheme

NatHERS Certificate No. 9BNJU9R844

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Property

Address LOT 53, 5 GULSHAN AVENUE, CLAREMONT, NSW, 2747
Lot/DP 53/1241192
NCC Class* Class 1a
Type New Home

Plans

Main plan REV A 26/11/2021
Prepared by SM

Construction and environment

Assessed floor area (m²)*		Exposure type
Conditioned*	164.2	suburban
Unconditioned*	44	NatHERS climate zone
Total	208.2	28 Richmond
Garage	31.5	



Accredited assessor

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Accreditation No. DMN/14/1667
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.

5
The more stars
the more energy efficient

**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

111.5 MJ/m²
Predicted annual energy load for
heating and cooling based on standard
occupancy assumptions.

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

Thermal performance

Heating	Cooling
55.7	55.8
MJ/m²	MJ/m²

About the rating

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

Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLanding?PublicId=9BNJU9R844> When using either link, ensure you are visiting www.FR5.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

Window selection taken from the current software glazing codes and may not align with the current WERS codes

Not rated with perimeter ceiling insulation

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
ALM-001-04 A	Aluminium A SG Low Solar Gain Low-E	5.6	0.36	0.34	0.38

Custom* windows

				Substitution tolerance ranges	
Window ID	Window description	Maximum U-value*	SHGC*	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*
GARAGE	ALM-002-04 A	GW-08	1197	2150	sliding	45.0	N	No
BED 4	ALM-002-04 A	GW-07	1197	2150	sliding	45.0	E	No



BATH	ALM-002-04 A	GW-06	1197	1200	sliding	45.0	E	No
BED 3	ALM-002-04 A	GW-05	1197	2150	sliding	45.0	E	No
BED 2	ALM-002-04 A	GW-04	1197	2150	sliding	45.0	E	No
LIVING	ALM-002-04 A	GW-02	1500	1570	sliding	45.0	S	No
LIVING	ALM-002-04 A	GW-03	1500	1555	sliding	45.0	S	No
M.BED	ALM-002-04 A	GW-01	2390	3765	sliding	45.0	S	No
ENS	ALM-002-04 A	GW-11	1197	610	sliding	45.0	N	No
L'DRY	ALM-001-04 A	D04	2100	820	casement	100.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-12	600	1087	fixed	0.0	S	No
KIT/DIN/FAM	ALM-002-04 A	CW-13	600	1087	fixed	0.0	S	No
KIT/DIN/FAM	ALM-002-04 A	CW-14	600	1087	fixed	0.0	S	No
KIT/DIN/FAM	ALM-002-04 A	CW-29	600	1036	fixed	0.0	N	No
KIT/DIN/FAM	ALM-002-04 A	CW-30	600	1036	fixed	0.0	N	No
KIT/DIN/FAM	ALM-002-04 A	CW-31	600	1036	fixed	0.0	N	No
KIT/DIN/FAM	ALM-002-04 A	CW-32	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-33	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-34	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-35	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-36	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-37	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-38	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-39	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-20	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-21	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-22	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-23	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-24	600	1036	fixed	0.0	W	No
KIT/DIN/FAM	ALM-002-04 A	CW-27	600	1036	fixed	0.0	N	No
KIT/DIN/FAM	ALM-002-04 A	CW-28	600	1036	fixed	0.0	N	No
KIT/DIN/FAM	ALM-002-04 A	D02	2400	3180	sliding	60.0	N	No
KIT/DIN/FAM	ALM-002-04 A	GW-09	1197	1200	sliding	45.0	W	No
KIT/DIN/FAM	ALM-002-04 A	GW-10	1197	1200	sliding	45.0	W	No
KIT/DIN/FAM	ALM-002-04 A	D03	2400	3180	sliding	60.0	W	No
HALLWAY	ALM-002-04 A	CW-15	600	1036	fixed	0.0	S	No
HALLWAY	ALM-002-04 A	CW-16	600	1036	fixed	0.0	S	No
HALLWAY	ALM-002-04 A	CW-17	600	1036	fixed	0.0	S	No
HALLWAY	ALM-002-04 A	CW-18	600	1036	fixed	0.0	E	No
HALLWAY	ALM-002-04 A	CW-19	600	1036	fixed	0.0	E	No
WIP	ALM-002-04 A	CW-25	600	1036	fixed	0.0	E	No
WIP	ALM-002-04 A	CW-26	600	1036	fixed	0.0	N	No

Roof window type and performance value

Default* roof windows

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

Custom* roof windows

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

Roof window schedule

Location	Window ID	Window no.	Opening %	Area (m²)	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 (m²)	Orientation	Outdoor shade	Diffuser	Skylight shaft reflectance
No Data Available								

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
GARAGE	2400	4800	100.0	E
FOYER	2400	1200	100.0	S

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade (colour)	Bulk insulation (R-value)	Reflective wall wrap*
1	FR5 - AAC 75mm Panel Stud Wall	0.5	Medium		No
2	CW - AAC 75mm Panel Stud Wall	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
3	CW - Fibro Clad Framed	0.5	Medium	Glass fibre batt: R2.5 (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)
GARAGE	1	2845	5505	N	0	Yes
GARAGE	1	2845	1694	W	4604	Yes
GARAGE	1	2755	699	N	1698	Yes

* Refer to glossary

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GARAGE	1	2755	1719	W	3905	Yes
GARAGE	1	2845	5505	E	0	Yes
BED 4	2	2580	3201	E	0	No
BED 4	2	2580	2448	N	0	Yes
BATH	2	2580	1779	E	0	No
BED 3	2	2580	1554	S	0	Yes
BED 3	2	2580	3197	E	0	No
BED 2	2	2580	2998	E	0	Yes
LIVING	2	2580	286	S	0	Yes
LIVING	2	2580	3407	S	178	Yes
LIVING	2	2580	305	S	0	Yes
LIVING	2	2580	3341	E	0	Yes
LIVING	2	2580	601	W	1968	Yes
M.BED	2	3080	863	S	0	No
M.BED	2	3080	3787	S	178	Yes
M.BED	2	3080	1397	E	1968	Yes
M.BED	2	3080	1825	W	0	Yes
M.BED	2	3080	1826	W	0	Yes
ENS	2	2580	1050	N	5338	Yes
ENS	2	2580	1800	W	0	Yes
L'DRY	2	2580	1601	W	1023	Yes
FOYER	2	2580	2168	S	721	Yes
KIT/DIN/FAM	3	850	3600	S	450	No
KIT/DIN/FAM	3	850	3465	N	450	No
KIT/DIN/FAM	3	850	8380	W	450	No
KIT/DIN/FAM	3	950	5226	W	450	No
KIT/DIN/FAM	3	950	2460	N	450	No
KIT/DIN/FAM	2	3080	3904	N	3471	Yes
KIT/DIN/FAM	2	3080	6475	W	0	Yes
KIT/DIN/FAM	2	3080	1050	S	5338	Yes
KIT/DIN/FAM	2	3080	3998	W	1023	Yes
HALLWAY	3	850	3880	S	450	No
HALLWAY	3	850	1550	E	450	No
WIP	3	750	1402	E	450	No
WIP	3	750	643	N	450	No

Internal wall type

Wall ID	Wall type	Area (m²)	Bulk insulation
1	CW - Internal Plasterboard Stud Wall Insulated	68.3	Glass fibre batt: R2.5 (R2.5)
2	FR5 - Internal Plasterboard Stud Wall	117.6	
3	CW - Wall Adjacent Roof Space	1.2	Glass fibre batt: R2.5 (R2.5)
4	CW - Wall Adjacent Roof Space	3.1	Glass fibre batt: R2.5 (R2.5)

Floor type

Location	Construction	Area (m ²)	Sub-floor ventilation	Added insulation (R-value)	Covering
GARAGE	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	31.5	Enclosed	R0.0	none
BED 4	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.2	Enclosed	R0.0	Timber
BATH	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	6.8	Enclosed	R0.0	Tiles
BED 3	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.2	Enclosed	R0.0	Timber
BED 2	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	11.7	Enclosed	R0.0	Timber
LIVING	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	13.4	Enclosed	R0.0	Tiles
M.BED	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	17	Enclosed	R0.0	Timber
ENS	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.2	Enclosed	R0.0	Tiles
WIR	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4	Enclosed	R0.0	Timber
L'DRY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	5.8	Enclosed	R0.0	Tiles
FOYER	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	12.9	Enclosed	R0.0	Tiles
KIT/DIN/FAM	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	13.3	Enclosed	R0.0	Tiles
KIT/DIN/FAM	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	49.7	Enclosed	R0.0	Tiles
HALLWAY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	6.9	Enclosed	R0.0	Tiles
HALLWAY	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	4.5	Enclosed	R0.0	Tiles
WIP	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	1.4	Enclosed	R0.0	Tiles
WIP	FR5 - 300mm waffle pod, 85mm concrete (R0.63)	0.9	Enclosed	R0.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap*
GARAGE	Plasterboard	R0.0	No
BED 4	Plasterboard	R5.0	Yes
BATH	Plasterboard	R5.0	Yes
BED 3	Plasterboard	R5.0	Yes
BED 2	Plasterboard	R5.0	Yes
LIVING	Plasterboard	R5.0	Yes
M.BED	Plasterboard	R5.0	No
ENS	Plasterboard	R5.0	No
WIR	Plasterboard	R5.0	No
L'DRY	Plasterboard	R5.0	No
FOYER	Plasterboard	R5.0	No
KIT/DIN/FAM	Plasterboard	R5.0	No
KIT/DIN/FAM	Plasterboard	R5.0	No
HALLWAY	Plasterboard	R5.0	Yes
HALLWAY	Plasterboard	R5.0	No
WIP	Plasterboard	R5.0	Yes
WIP	Plasterboard	R5.0	No

Ceiling penetrations*

Location	Quantity	Type	Diameter (mm)	Sealed/unsealed
BATH	1	Exhaust Fans	250	Sealed
ENS	1	Exhaust Fans	250	Sealed
L'DRY	1	Exhaust Fans	250	Sealed
KIT/DIN/FAM	1	Exhaust Fans	160	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
No Data Available		

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof shade
Framed:Flat - Flat Framed (Metal Deck)	0.0	0.5	Medium
Cont:Attic-Continuous	0.0	0.5	Medium

Explanatory Notes

About this report

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

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

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

Accredited assessors

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

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

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

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

Disclaimer

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

The predicted annual energy load in this NatHERS Certificate is an estimate based on an assessment of the building by the assessor. It is not a prediction of actual energy use, but may be used to compare how other buildings are likely to perform when used in a similar way. Information presented in this report relies on a range of standard assumptions (both embedded in NatHERS accredited software and made by the assessor who prepared this report), including assumptions about occupancy, indoor air temperature and local climate.

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

Glossary

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

National Construction Code (NCC) Class	the NCC groups buildings by their function and use, and assigns a classification code. NatHERS software models NCC Class 1, 2 or 4 buildings and attached Class 10a buildings. Definitions can be found at www.abcb.gov.au .
Opening Percentage	the openability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate airgap and emissivity value, it provides insulative properties.
Roof window	for NatHERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes eaves.
Shading features	includes neighbouring buildings, fences, and wing walls, but excludes eaves.
Solar heat gain coefficient (SHGC)	the fraction of incident solar radiation admitted through a window, both directly transmitted as well as absorbed and subsequently released inward. SHGC is expressed as a number between 0 and 1. The lower a window's SHGC, the less solar heat it transmits.
Skylight (also known as roof lights)	for NatHERS this is typically a moulded unit with flexible reflective tubing (light well) and a diffuser at ceiling level.
U-value	the rate of heat transfer through a window. The lower the U-value, the better the insulating ability.
Unconditioned	a zone within a dwelling that is assumed to not require heating and cooling based on standard occupancy assumptions.
Vertical shading features	provides shading to the building in the vertical plane and can be parallel or perpendicular to the subject wall/window. Includes privacy screens, other walls in the building (wing walls), fences, other buildings, vegetation (protected or listed heritage trees).