

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. UVV2H1BD0H

Generated on 3 Nov 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address U1 MD, No.55 Pringle Avenue,
Bankstown, NSW, 2200
Lot/DP 37/DP7938
NCC Class* Class 1a
Floor/all Floors
Type New Home

Plans

Main plan 1510/25 15/10/25 IssA Sht2 DA
Prepared by Rafla Design

Construction and environment

Assessed floor area [m²]*		Exposure type
Conditioned*	236.3	suburban
Unconditioned*	20.7	NatHERS climate zone
Total	257	56 Mascot AMO
Garage	18.1	



Accredited assessor

Name Bianca Alderton
Business name Red Road Engineers
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Phone 0411067691
Accreditation No. 101102
Assessor Accrediting Organisation
ABSA
Declaration of interest No

NCC Requirements

NCC provisions Volume 2
State/Territory variation Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

22.2 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 [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	9.3	13
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLandIng?PublicId=UVV2H1BD0H>. When using either link, ensure you are visiting www.fr5.com.au.





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

CSOG – Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF)

NA – Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA – not applicable

Outdoor living area:

Yes

No

NA – not applicable

Outdoor living area ceiling fan:

Yes

No

NA – not applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NATHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐



Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
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Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	☐	☐	☐	☐	☐
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
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Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room *schedule*

Room	Zone Type	Area [m²]
Ldry	dayTime	4.8
WC	unconditioned	2.7
ENS V	nightTime	3.5
Kitchen/Living/Dining	kitchen	76.9
Garage	garage	18.1
Visitors	bedroom	12
Lounge	living	27.9
Bedroom 3	bedroom	13.8
Bedroom 2	bedroom	12.4
ENS 2	nightTime	3.6
ENS M	nightTime	5.4
Bath	dayTime	7.2
Bedroom 4	bedroom	14.1
WIR M	nightTime	7.9
Bedroom Master	bedroom	21.4
Retreat	living	29.9

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-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.6
ALM-002-01 A	Aluminium B SG Clear	6.7	0.7	0.66	0.74

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*
ENS V	ALM-001-01 A	WG4	1000	900	awning	90.0	N	No
Kitchen/Living/- Dining	ALM-002-01 A	SDG1	2100	4800	sliding	60.0	W	No



Kitchen/Living/-Dining	ALM-002-01 A	WG6	600	1200	fixed	0.0	N	No
Kitchen/Living/-Dining	ALM-002-01 A	WG5	600	3000	fixed	0.0	N	No
Kitchen/Living/-Dining	ALM-002-01 A	WG7	1800	1200	sliding	30.0	N	No
Kitchen/Living/-Dining	ALM-002-01 A	WG7	1800	1200	sliding	30.0	N	No
Garage	ALM-002-01 A	WG2	900	1800	sliding	45.0	N	No
Visitors	ALM-002-01 A	WG3	1500	1800	sliding	45.0	N	No
Lounge	ALM-002-01 A	WG1	2700	1350	fixed	0.0	E	No
Bedroom 3	ALM-002-01 A	SDF2	2400	1800	sliding	45.0	W	No
Bedroom 3	ALM-002-01 A	WF4	900	1800	sliding	45.0	N	No
Bedroom 2	ALM-002-01 A	WF3	1500	1800	sliding	45.0	N	No
ENS 2	ALM-001-01 A	WF5	1200	900	awning	90.0	N	No
ENS M	ALM-001-01 A	WF5	1200	900	awning	90.0	N	No
Bedroom 4	ALM-002-01 A	SDF2	2400	1800	sliding	45.0	W	No
Bedroom Master	ALM-002-01 A	SDF1	2400	3600	sliding	60.0	E	No
Bedroom Master	ALM-002-01 A	WF2	900	2100	sliding	45.0	N	No
Retreat	ALM-002-01 A	WF1	2100	900	double_hung	45.0	E	No

Roof window* type and performance value

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 %	Area [m²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule



Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	2600	100.0	E
Lounge	2400	1000	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	CUST - Double Brick Party Wall + Plaster	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Brick Veneer	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)
Ldry	1	3000	2714	S	0	No
WC	1	3000	1501	S	0	No
ENS V	2	3000	1177	N	0	No
Kitchen/Living/Dining	2	3000	6232	W	4007	Yes
Kitchen/Living/Dining	1	3000	10459	S	0	No
Kitchen/Living/Dining	2	3000	13125	N	0	No
Garage	2	3000	1536	S	3017	Yes
Garage	2	3000	3038	E	527	Yes
Garage	2	3000	6016	N	0	No
Visitors	2	3000	3998	N	0	No
Lounge	1	3000	8226	S	0	No
Lounge	2	3000	3146	E	2112	Yes
Bedroom 3	2	2600	3018	W	1507	No
Bedroom 3	2	2600	4346	N	710	No
Bedroom 2	2	2600	4367	N	677	No
ENS 2	2	2600	1201	N	667	No
ENS M	2	2600	1817	N	746	No
Bath	1	2600	3868	S	0	No
Bedroom 4	2	2600	3124	W	1518	Yes
Bedroom 4	1	2600	4984	S	0	No
WIR M	2	2600	2656	N	695	No



Bedroom Master	2	2600	4771	E	2007	No
Bedroom Master	2	2600	4517	N	687	No
Retreat	1	2600	10276	S	0	No
Retreat	2	2600	1360	E	0	Yes

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	209.1	

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Ldry	FR5 - CSOG: Slab on Ground	4.8	Enclosed	R0.0	Tiles
WC	FR5 - CSOG: Slab on Ground	2.7	Enclosed	R0.0	Tiles
ENS V	FR5 - CSOG: Slab on Ground	3.5	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - CSOG: Slab on Ground	54.4	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - CSOG: Slab on Ground	22.5	Enclosed	R0.0	Tiles
Garage	FR5 - CSOG: Slab on Ground	4.2	Enclosed	R0.0	none
Garage	FR5 - CSOG: Slab on Ground	13.8	Enclosed	R0.0	none
Visitors	FR5 - CSOG: Slab on Ground	12	Enclosed	R0.0	Carpet
Lounge	FR5 - CSOG: Slab on Ground	27.9	Enclosed	R0.0	Tiles
Bedroom 3	FR5 - Timber Lined	13.8	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - Timber Lined	12.4	Enclosed	R0.0	Carpet
ENS 2	FR5 - Timber Lined	3.6	Enclosed	R0.0	Tiles
ENS M	FR5 - Timber Lined	5.4	Enclosed	R0.0	Tiles
Bath	FR5 - Timber Lined	7.2	Enclosed	R0.0	Tiles
Bedroom 4	FR5 - Timber Lined	14.1	Enclosed	R0.0	Carpet
WIR M	FR5 - Timber Lined	7.9	Enclosed	R0.0	Carpet
Bedroom Master	FR5 - Timber Lined	21.4	Enclosed	R0.0	Carpet
Retreat	FR5 - Timber Lined	29.9	Enclosed	R0.0	Carpet

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Ldry	FR5 - Timber Lined	R0.0	No



WC	FR5 - Timber Lined	R0.0	No
ENS V	FR5 - Timber Lined	R0.0	No
Kitchen/Living/D-ining	FR5 - Timber Lined	R0.0	No
Kitchen/Living/D-ining	Plasterboard	R6.0	Yes
Garage	Plasterboard	R6.0	Yes
Garage	FR5 - Timber Lined	R0.0	No
Visitors	FR5 - Timber Lined	R0.0	No
Lounge	FR5 - Timber Lined	R0.0	No
Bedroom 3	Plasterboard	R6.0	Yes
Bedroom 2	Plasterboard	R6.0	Yes
ENS 2	Plasterboard	R6.0	Yes
ENS M	Plasterboard	R6.0	Yes
Bath	Plasterboard	R6.0	Yes
Bedroom 4	Plasterboard	R6.0	Yes
WIR M	Plasterboard	R6.0	Yes
Bedroom Master	Plasterboard	R6.0	Yes
Retreat	Plasterboard	R6.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Ldry	1	Exhaust Fans	200	200	Sealed
WC	1	Exhaust Fans	200	200	Sealed
ENS V	1	Exhaust Fans	200	200	Sealed
Kitchen/Living/Dining	1	Exhaust Fans	200	200	Sealed
ENS 2	1	Exhaust Fans	200	200	Sealed
ENS M	1	Exhaust Fans	200	200	Sealed
Bath	1	Exhaust Fans	200	200	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.8	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
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No Data
Available

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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 .
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.



STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. S9V2LHJLGD

Generated on 3 Nov 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address U2 MD, No.55 Pringle Avenue,
Bankstown, NSW, 2200

Lot/DP 37/DP7938

NCC Class* Class 1a

Floor/all Floors

Type New Home

Plans

Main plan 1510/25 15/10/25 IssA Sht2 DA

Prepared by Rafla Design

Construction and environment

Assessed floor area [m²]*		Exposure type
Conditioned*	236.3	suburban
Unconditioned*	20.7	NatHERS climate zone
Total	257	56 Mascot AMO
Garage	18.1	



Accredited assessor

Name Bianca Alderton

Business name Red Road Engineers

Email energy@redroadengineers.com.au

Phone 0411067691

Accreditation No. 101102

Assessor Accrediting Organisation
ABSA

Declaration of interest No

NCC Requirements

NCC provisions Volume 2

State/Territory variation Yes

National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.

Thermal performance star rating



**NATIONWIDE
HOUSE**
ENERGY RATING SCHEME®

29.6 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 [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	18.5	11.1
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

Whole of Home performance rating

No Whole of Home performance rating generated for this certificate

Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLandIng?PublicId=S9V2LHJLGD> When using either link, ensure you are visiting www.fr5.com.au.





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

CSOG – Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF)

NA – Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA – not applicable

Outdoor living area:

Yes

No

NA – not applicable

Outdoor living area ceiling fan:

Yes

No

NA – not applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.



Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		Occupancy/other
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NATHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.



Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	Occupancy/other

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
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Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
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Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
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Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
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Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	☐	☐	☐	☐	☐
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Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
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Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
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Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room *schedule*

Room	Zone Type	Area [m ²]
Ldry	dayTime	4.8
WC	unconditioned	2.7
ENS V	nightTime	3.5
Kitchen/Living/Dining	kitchen	76.9
Garage	garage	18.1
Visitors	bedroom	12
Lounge	living	27.9
Bedroom 3	bedroom	13.8
Bedroom 2	bedroom	12.4
ENS 2	nightTime	3.6
ENS M	nightTime	5.4
Bath	dayTime	7.2
Bedroom 4	bedroom	14.1
WIR M	nightTime	7.9
Bedroom Master	bedroom	21.4
Retreat	living	29.9

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-001-01 A	Aluminium A SG Clear	6.7	0.57	0.54	0.6
ALM-002-03 A	Aluminium B SG High Solar Gain Low-E	5.4	0.58	0.55	0.61
ALM-004-03 A	Aluminium B DG Air Fill High Solar Gain low-E -Clear	4.3	0.53	0.5	0.56

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*
ENS V	ALM-001-01 A	WG4	1000	900	awning	90.0	S	No



Kitchen/Living/- Dining	ALM-002-03 A	WG6	600	1200	fixed	0.0	S	No
Kitchen/Living/- Dining	ALM-002-03 A	WG5	600	3000	fixed	0.0	S	No
Kitchen/Living/- Dining	ALM-002-03 A	WG7	1800	1200	sliding	30.0	S	No
Kitchen/Living/- Dining	ALM-002-03 A	WG7	1800	1200	sliding	30.0	S	No
Kitchen/Living/- Dining	ALM-004-03 A	SDG1	2100	4800	sliding	60.0	W	No
Garage	ALM-002-03 A	WG2	900	1800	sliding	45.0	S	No
Visitors	ALM-002-03 A	WG3	1500	1800	sliding	45.0	S	No
Lounge	ALM-002-03 A	WG1	2700	1350	fixed	0.0	E	No
Bedroom 3	ALM-002-03 A	WF4	900	1800	sliding	45.0	S	No
Bedroom 3	ALM-004-03 A	SDF2	2400	1800	sliding	45.0	W	No
Bedroom 2	ALM-002-03 A	WF3	1500	1800	sliding	45.0	S	No
ENS 2	ALM-001-01 A	WF5	1200	900	awning	90.0	S	No
ENS M	ALM-001-01 A	WF5	1200	900	awning	90.0	S	No
Bedroom 4	ALM-004-03 A	SDF2	2400	1800	sliding	45.0	W	No
Bedroom Master	ALM-002-03 A	WF2	900	2100	sliding	45.0	S	No
Bedroom Master	ALM-002-03 A	SDF1	2400	3600	sliding	60.0	E	No
Retreat	ALM-002-03 A	WF1	2100	900	double_hung	45.0	E	No

Roof window* type and performance value

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

				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]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		



Skylight* *schedule*

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door *schedule*

Location	Height [mm]	Width [mm]	Opening %	Orientation
Garage	2400	2600	100.0	E
Lounge	2400	1000	100.0	E

External wall *type*

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	CUST - Double Brick Party Wall + Plaster	0.5	Medium	Glass fibre batt: R2.5 (R2.5)	No
2	FR5 - Brick Veneer	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)
Ldry	1	3000	2714	N	0	No
WC	1	3000	1501	N	0	No
ENS V	2	3000	1177	S	0	No
Kitchen/Living/Dining	2	3000	13125	S	0	No
Kitchen/Living/Dining	1	3000	10459	N	0	No
Kitchen/Living/Dining	2	3000	6232	W	4007	Yes
Garage	2	3000	6016	S	0	No
Garage	2	3000	3038	E	507	No
Garage	2	3000	1536	N	3017	Yes
Visitors	2	3000	3998	S	0	No
Lounge	2	3000	1422	E	2041	Yes
Lounge	2	3000	1724	E	0	Yes
Lounge	1	3000	8226	N	0	No
Bedroom 3	2	2600	4346	S	710	No
Bedroom 3	2	2600	3018	W	1507	No
Bedroom 2	2	2600	4367	S	677	No
ENS 2	2	2600	1201	S	667	No
ENS M	2	2600	1817	S	746	No
Bath	1	2600	3868	N	0	No



Bedroom 4	1	2600	4984	N	0	No
Bedroom 4	2	2600	3124	W	1518	Yes
WIR M	2	2600	2656	S	695	No
Bedroom Master	2	2600	4517	S	687	No
Bedroom Master	2	2600	4771	E	2007	No
Retreat	2	2600	1360	E	0	Yes
Retreat	1	2600	10276	N	0	No

Internal wall type

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	209.1	Glass fibre batt: R2.0 (R2.0)

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Ldry	FR5 - CSOG: Slab on Ground	4.8	Enclosed	R0.0	Tiles
WC	FR5 - CSOG: Slab on Ground	2.7	Enclosed	R0.0	Tiles
ENS V	FR5 - CSOG: Slab on Ground	3.5	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - CSOG: Slab on Ground	54.4	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - CSOG: Slab on Ground	22.5	Enclosed	R0.0	Tiles
Garage	FR5 - CSOG: Slab on Ground	4.2	Enclosed	R0.0	none
Garage	FR5 - CSOG: Slab on Ground	13.8	Enclosed	R0.0	none
Visitors	FR5 - CSOG: Slab on Ground	12	Enclosed	R0.0	Carpet
Lounge	FR5 - CSOG: Slab on Ground	27.9	Enclosed	R0.0	Tiles
Bedroom 3	FR5 - Timber Lined	13.8	Enclosed	R0.0	Carpet
Bedroom 2	FR5 - Timber Lined	12.4	Enclosed	R0.0	Carpet
ENS 2	FR5 - Timber Lined	3.6	Enclosed	R0.0	Tiles
ENS M	FR5 - Timber Lined	5.4	Enclosed	R0.0	Tiles
Bath	FR5 - Timber Lined	7.2	Enclosed	R0.0	Tiles
Bedroom 4	FR5 - Timber Lined	14.1	Enclosed	R0.0	Carpet
WIR M	FR5 - Timber Lined	7.9	Enclosed	R0.0	Carpet
Bedroom Master	FR5 - Timber Lined	21.4	Enclosed	R0.0	Carpet
Retreat	FR5 - Timber Lined	29.9	Enclosed	R0.0	Carpet



Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Ldry	FR5 - Timber Lined	R0.0	No
WC	FR5 - Timber Lined	R0.0	No
ENS V	FR5 - Timber Lined	R0.0	No
Kitchen/Living/D-ining	FR5 - Timber Lined	R0.0	No
Kitchen/Living/D-ining	Plasterboard	R6.0	Yes
Garage	Plasterboard	R6.0	Yes
Garage	FR5 - Timber Lined	R0.0	No
Visitors	FR5 - Timber Lined	R0.0	No
Lounge	FR5 - Timber Lined	R0.0	No
Bedroom 3	Plasterboard	R6.0	Yes
Bedroom 2	Plasterboard	R6.0	Yes
ENS 2	Plasterboard	R6.0	Yes
ENS M	Plasterboard	R6.0	Yes
Bath	Plasterboard	R6.0	Yes
Bedroom 4	Plasterboard	R6.0	Yes
WIR M	Plasterboard	R6.0	Yes
Bedroom Master	Plasterboard	R6.0	Yes
Retreat	Plasterboard	R6.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Ldry	1	Exhaust Fans	200	200	Sealed
WC	1	Exhaust Fans	200	200	Sealed
ENS V	1	Exhaust Fans	200	200	Sealed
Kitchen/Living/Dining	1	Exhaust Fans	200	200	Sealed
ENS 2	1	Exhaust Fans	200	200	Sealed
ENS M	1	Exhaust Fans	200	200	Sealed
Bath	1	Exhaust Fans	200	200	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
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*Refer to glossary.



Cont:Attic-Continuous	1.8	0.5	Medium
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Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				

Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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 .
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.



STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. 5YKY4B5S27

Thermal performance
star rating

Generated on 3 Nov 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address U1 SD, No.55 Pringle Avenue,
Bankstown, NSW, 2200
Lot/DP 37/DP7938
NCC Class* Class 1a
Floor/all Floors
Type New Home

Plans

Main plan 1510/25 15/10/25 IssA Sht2 DA
Prepared by Rafla Design

Construction and environment

Assessed floor area [m²]*	Exposure type
Conditioned* 53.3	suburban
Unconditioned* 5.2	NatHERS climate zone
Total 58.5	56 Mascot AMO
Garage -	



Accredited assessor

Name Bianca Alderton
Business name Red Road Engineers
Email energy@redroadengineers.com.au
Phone 0411067691
Accreditation No. 101102
Assessor Accrediting Organisation
ABSA
Declaration of interest No

NCC Requirements

NCC provisions Volume 2
State/Territory variation Yes

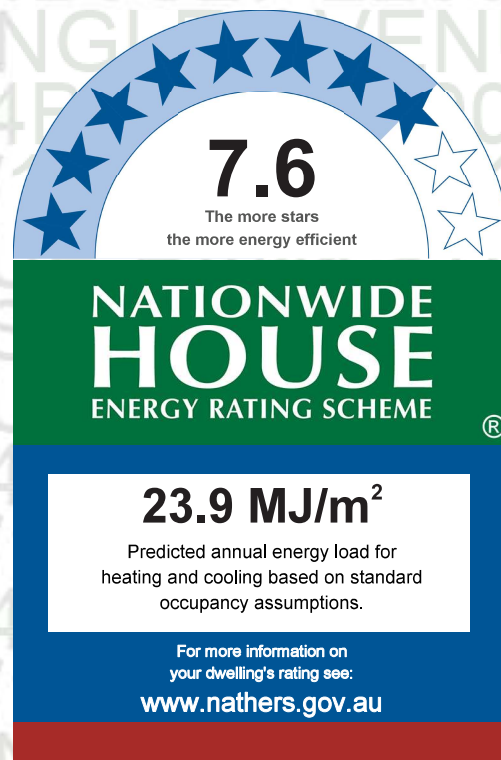
National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

The NCC, and associated ABCB Standards and support material, can be accessed at www.abcb.gov.au.

Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	15.6	8.3
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

Whole of Home performance rating

No Whole of Home
performance rating
generated for this
certificate

Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLanding?PubId=5YKY4B5S27>. When using either link, ensure you are visiting www.fr5.com.au.





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

CSOG – Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF)

NA – Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA – not applicable

Outdoor living area:

Yes

No

NA – not applicable

Outdoor living area ceiling fan:

Yes

No

NA – not applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.



Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NatHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.



Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in the NatHERS assessment)					
Thermal bridging					
Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
Insulation installation method					
Has the insulation been installed according to the NCC requirements?			☐	☐	☐
Building sealing					
Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)					
Appliances					
Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	☐	☐	☐	☐	☐
Additional NCC Requirements for Services (not included in the NatHERS assessment)					
Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
Provisional values* check					
Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
Other NCC requirements					

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room *schedule*

Room	Zone Type	Area [m ²]
Bedroom 2	bedroom	11.7
Bedroom 1	bedroom	10.1
Bath/Ldry	unconditioned	5.2
Kitchen/Living/Dining	kitchen	31.4

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	0.7	0.66	0.74

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*
Bedroom 2	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	W	No
Bedroom 1	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	N	No
Bath/Ldry	ALM-002-01 A	WG6a	600	900	sliding	45.0	S	No
Kitchen/Living/-Dining	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	S	No
Kitchen/Living/-Dining	ALM-002-01 A	WG2a	900	1800	sliding	45.0	S	No
Kitchen/Living/-Dining	ALM-002-01 A	WG1a	1800	1200	sliding	45.0	E	No
Kitchen/Living/-Dining	ALM-002-01 A	WG1a	1800	1200	sliding	45.0	E	No
Kitchen/Living/-Dining	ALM-002-01 A	WG4a	1800	800	sliding	45.0	N	No

Roof window* *type and performance value*

Default* roof windows

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

*Refer to glossary.



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 %	Area [m ²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Kitchen/Living/Dining	2100	850	100.0	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	FR5 - Brick Veneer	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)
Bedroom 2	1	2400	3609	W	607	No
Bedroom 2	1	2400	3322	N	677	No
Bedroom 1	1	2400	3617	N	653	No
Bath/Ldry	1	2400	1605	W	621	No
Bath/Ldry	1	2400	2895	S	641	No
Kitchen/Living/Dining	1	2400	8323	S	607	No
Kitchen/Living/Dining	1	2400	5310	E	3007	No
Kitchen/Living/Dining	1	2400	4176	N	676	No



Internal wall type

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	39	

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 2	FR5 - CSOG: Slab on Ground	11.7	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - CSOG: Slab on Ground	10.1	Enclosed	R0.0	Carpet
Bath/Ldry	FR5 - CSOG: Slab on Ground	5.2	Enclosed	R0.0	Tiles
Kitchen/Living/D-ining	FR5 - CSOG: Slab on Ground	31.4	Enclosed	R0.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Bedroom 2	Plasterboard	R6.0	Yes
Bedroom 1	Plasterboard	R6.0	Yes
Bath/Ldry	Plasterboard	R6.0	Yes
Kitchen/Living/D-ining	Plasterboard	R6.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bath/Ldry	1	Exhaust Fans	200	200	Sealed
Kitchen/Living/Dining	1	Exhaust Fans	200	200	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.8	0.5	Medium

Thermal bridging *schedule for steel frame elements*

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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 .
Net zero home	a home that achieves a net zero energy value*.
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
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Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.



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Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

Nationwide House Energy Rating Scheme®

NatHERS® Certificate No. IWJFTTM133

Thermal performance
star rating

Generated on 6 Nov 2025 using FirstRate5: 5.5.5a (3.22)

Property

Address U2 SD, No.55 Pringle Avenue,
Bankstown, NSW, 2200
Lot/DP 37/DP7938
NCC Class* Class 1a
Floor/all Floors
Type New Home

Plans

Main plan 1510/25 15/10/25 IssA Sht2 DA
Prepared by Rafla Design

Construction and environment

Assessed floor area [m²]*	Exposure type
Conditioned* 53.3	suburban
Unconditioned* 5.2	NatHERS climate zone
Total 58.5	56 Mascot AMO
Garage -	



Accredited assessor

Name Bianca Alderton
Business name Red Road Engineers
Email energy@redroadengineers.com.au
Phone 0411067691
Accreditation No. 101102
Assessor Accrediting Organisation
ABSA
Declaration of interest No

NCC Requirements

NCC provisions Volume 2
State/Territory variation Yes

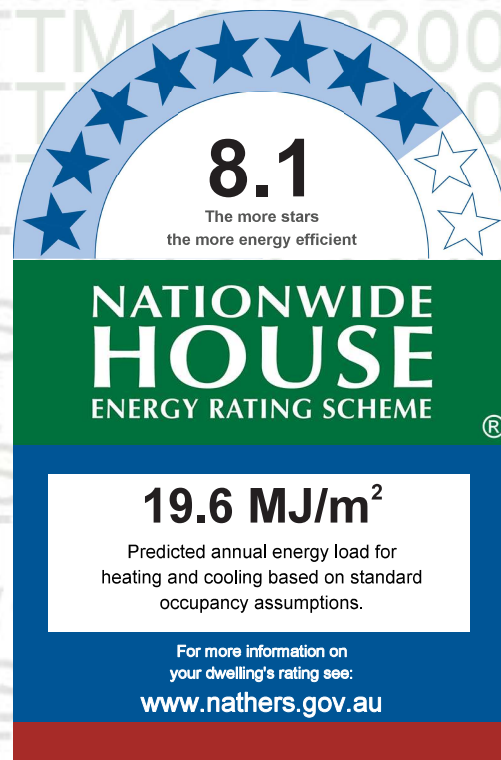
National Construction Code (NCC) requirements

The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two. For apartments the requirements are detailed in clauses J3D3 and J3D15 of NCC Volume One.

NCC 2022 includes enhanced thermal performance requirements for houses and apartments. It also includes a new whole-of-home annual energy use budget which applies to the major equipment in the home.

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Note, variations and additions to the NCC energy efficiency requirements may apply in some states and territories.



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	11.1	8.5
Load limits	N/A	N/A
Features determining load limits		
Floor type (lowest conditioned area)		N/A
NCC climate zone 1 or 2		N/A
Outdoor living area		N/A
Outdoor living area ceiling fan		N/A

Whole of Home performance rating

No Whole of Home
performance rating
generated for this
certificate

Verification

To verify this certificate, scan the QR code or visit <https://www.fr5.com.au/QRCodeLandIng?PublicId=IWJFTTM133>
When using either link, ensure you are visiting www.fr5.com.au.





About the ratings

Thermal performance rating

NatHERS thermal software models the expected heating and cooling energy loads using information about the design, construction, climate and common patterns of household use. The thermal performance rating (shown as a star rating on this Certificate) does not take into account appliances, apart from the airflow impacts from ceiling fans.

Whole of Home performance rating

NatHERS Whole of Home software uses the heating and cooling energy loads combined with the energy performance of the home's appliances (heating, cooling, hot water, lighting, pool/spa pump and onsite renewable energy generation and storage) and models the expected energy value* of the whole home. The Whole of Home performance rating is shown as a score out of 100 on this Certificate.

Heating & Cooling Load Limits

Additional information

In some locations under the NCC NatHERS pathway, separate heating and cooling load limits may apply. Minimum required star ratings in northern parts of Australia may also be affected by the presence or absence of an outdoor living area and/or an outdoor living area ceiling fan. Refer to the ABCB NatHERS heating and cooling load limits Standard 2022 for details or contact the relevant local building regulating authority, noting that State and Territory variations may also apply.

Setting options:

Floor type:

CSOG – Concrete Slab on Ground

SF – Suspended Floor (or a mixture of CSOG and SF)

NA – Not Applicable

NCC climate Zone 1 or 2:

Yes

No

NA – not applicable

Outdoor living area:

Yes

No

NA – not applicable

Outdoor living area ceiling fan:

Yes

No

NA – not applicable

Predicted Whole of Home annual impact by appliance

Shows the contribution each appliance has on the home's annual energy use, greenhouse gas emissions and cost without solar

Energy use:

No Whole of Home performance assessment conducted for this certificate.

Greenhouse gas emissions:

No Whole of Home performance assessment conducted for this certificate.

Cost:

No Whole of Home performance assessment conducted for this certificate.

Graph key:



Predicted onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

Certificate check

The checklist covers important items impacting the dwelling's ratings.
It is recommended that the accuracy of the whole certificate is checked.

Note: The boxes indicate when and who should check each item.
It is not mandatory to complete this checklist.

	Approval stage		Construction stage		Occupancy/other
	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	
Genuine certificate check					
Does this Certificate match the one available at the web address or QR code verification link on the front page?		☐	☐	☐	☐
Does the NatHERS certificate number on the NatHERS-stamped plans match the number on this Certificate?		☐	☐	☐	☐
Thermal performance check					
Windows and glazed doors					
Does the window size, opening type and location shown on the NatHERS-stamped plans or as installed match what is shown in 'Window and glazed door schedule' and 'Roof window schedule' tables on this Certificate?	☐	☐	☐	☐	☐
Does the installed windows meet the substitution tolerances (AFRC* based SHGC* and U-values*) as shown in the 'Window and glazed door type and performance' and 'Roof window type and performance' tables on this Certificate?			☐	☐	☐
External walls					
Does the external wall bulk insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the External wall type table on this Certificate?	☐	☐	☐	☐	☐
Does the external wall shade (colour) match what is shown in the 'External wall type' table on this Certificate?	☐	☐	☐	☐	☐
Floor					
Does the floor insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Floor type' table on this certificate?	☐	☐	☐	☐	☐
Ceiling penetrations*					
Does the 'quantity' and 'type' of ceiling penetrations* (e.g. downlights, exhaust fans, etc) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling penetrations' table on this Certificate?	☐	☐	☐	☐	☐
Ceiling					
Does the ceiling insulation (R-value) shown on the NatHERS-stamped plans or as installed match what is shown in the 'Ceiling type' table on this Certificate?	☐	☐	☐	☐	☐
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the 'Roof type' table on this Certificate?	☐	☐	☐	☐	☐
Apartment entrance doors (NCC Class 2 assessments only)					
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 type (terrain) (shown on page 1) been applied? For example, it is unlikely that a ground-floor apartment is "exposed" or a top floor high-rise apartment is "protected".	☐	☐		☐	☐
Heating and cooling load limits*					
Do the load limits settings (shown on page 1) match the values in the ABCB Standard 2022: NatHERS heating and cooling load limits for the appropriate climate zone?	☐	☐	☐	☐	☐

*Refer to glossary.



Certificate check

Continued

	Approval stage		Construction stage		
	Assessor checked	Consent authority/surveyor checked	Builder checked	Consent authority/surveyor checked	

Additional NCC requirements for thermal performance (not included in the NatHERS assessment)

Thermal bridging

Does the dwelling meet the NCC requirement for thermal bridging?		☐	☐	☐	☐
--	--	--------------------------	--------------------------	--------------------------	--------------------------

Insulation installation method

Has the insulation been installed according to the NCC requirements?			☐	☐	☐
--	--	--	--------------------------	--------------------------	--------------------------

Building sealing

Does the dwelling meet the NCC requirements for Building Sealing?		☐	☐	☐	☐
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Whole of Home performance check (not applicable if a Whole of Home performance assessment is not conducted)

Appliances

Does the cooling appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the Appliance schedule on this Certificate?	☐	☐	☐	☐	☐
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Does the heating appliance/s type, location and efficiency/performance shown on the NatHERS-stamped plans or installed, match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Does the hot water system type and efficiency/performance shown on the NatHERS-stamped plans or as installed match the location and minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Does the pool pump efficiency/performance shown on the NatHERS-stamped plans or as installed match the minimum efficiency/performance requirements shown in the 'Appliance schedule' on this Certificate?	☐	☐	☐	☐	☐
---	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Does the onsite renewable energy system type, orientation and system size or generation capacity shown on the NatHERS stamped plans or installed match the 'Onsite Renewable Energy schedule' on this Certificate?	☐	☐	☐	☐	☐
--	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Additional NCC Requirements for Services (not included in the NatHERS assessment)

Does the lighting meet the artificial lighting requirements specified in the NCC?		☐	☐	☐	☐
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Does the hot water system meet the additional requirements specified in the NCC?		☐	☐	☐	☐
--	--	--------------------------	--------------------------	--------------------------	--------------------------

Provisional values* check

Have provisional values* been used in the assessment and, if so, are they noted in 'Additional notes' table below?	☐	☐			
--	--------------------------	--------------------------	--	--	--

Other NCC requirements

Note: This Certificate only covers the energy efficiency requirements in the NCC. Additional requirements that must also be satisfied include, but are not limited to: condensation, structural and fire safety requirements and any state or territory variations to the NCC energy efficiency requirements.

Additional notes



Room *schedule*

Room	Zone Type	Area [m ²]
Bedroom 2	bedroom	11.7
Bedroom 1	bedroom	10.1
Bath/Ldry	unconditioned	5.2
Kitchen/Living/Dining	kitchen	31.4

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	0.7	0.66	0.74

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*
Bedroom 2	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	W	No
Bedroom 1	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	S	No
Bath/Ldry	ALM-002-01 A	WG6a	600	900	sliding	45.0	N	No
Kitchen/Living/-Dining	ALM-002-01 A	WG4a	1800	800	sliding	45.0	S	No
Kitchen/Living/-Dining	ALM-002-01 A	WG1a	1800	1200	sliding	45.0	E	No
Kitchen/Living/-Dining	ALM-002-01 A	WG1a	1800	1200	sliding	45.0	E	No
Kitchen/Living/-Dining	ALM-002-01 A	WG3a	1200	1500	sliding	45.0	N	No
Kitchen/Living/-Dining	ALM-002-01 A	WG2a	900	1800	sliding	45.0	N	No

Roof window* *type and performance value*

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 %	Area [m ²]	Width [mm]	Orientation	Outdoor shade	Indoor shade
No Data Available								

Skylight* type and performance

Skylight ID	Skylight description	Skylight shaft reflectance
No Data Available		

Skylight* schedule

Location	Skylight ID	Skylight No.	Skylight shaft length [mm]	Area [m ²]	Orientation	Outdoor shade	Diffuser
No Data Available							

External door schedule

Location	Height [mm]	Width [mm]	Opening %	Orientation
Kitchen/Living/Dining	2100	850	100.0	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
1	FR5 - Brick Veneer	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)
Bedroom 2	1	2400	3322	S	677	No
Bedroom 2	1	2400	3609	W	607	No
Bedroom 1	1	2400	3617	S	653	No
Bath/Ldry	1	2400	2895	N	641	No
Bath/Ldry	1	2400	1605	W	621	No
Kitchen/Living/Dining	1	2400	4176	S	676	No
Kitchen/Living/Dining	1	2400	5310	E	3007	No
Kitchen/Living/Dining	1	2400	8323	N	607	No



Internal wall type

Wall ID	Wall type	Area [m²]	Bulk insulation
1	FR5 - Internal Plasterboard Stud Wall	39	

Floor type

Location	Construction	Area [m²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Bedroom 2	FR5 - CSOG: Slab on Ground	11.7	Enclosed	R0.0	Carpet
Bedroom 1	FR5 - CSOG: Slab on Ground	10.1	Enclosed	R0.0	Carpet
Bath/Ldry	FR5 - CSOG: Slab on Ground	5.2	Enclosed	R0.0	Tiles
Kitchen/Living/Dining	FR5 - CSOG: Slab on Ground	31.4	Enclosed	R0.0	Tiles

Ceiling type

Location	Construction material/type	Bulk insulation R-value [may include edge batt values]	Reflective wrap*
Bedroom 2	Plasterboard	R6.0	Yes
Bedroom 1	Plasterboard	R6.0	Yes
Bath/Ldry	Plasterboard	R6.0	Yes
Kitchen/Living/Dining	Plasterboard	R6.0	Yes

Ceiling penetrations*

Location	Quantity	Type	Height [mm]	Width [mm]	Sealed/unsealed
Bath/Ldry	1	Exhaust Fans	200	200	Sealed
Kitchen/Living/Dining	1	Exhaust Fans	200	200	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
No Data Available		

Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Cont:Attic-Continuous	1.8	0.5	Medium

Thermal bridging schedule for steel frame elements

Building element	Steel section dimensions [height x width, mm]	Frame spacing [mm]	Steel thickness [BMT,mm]	Thermal break [R-value]
No Data Available				



Appliance *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

Note: A flat assumption of 5W/m2 is used for lighting, therefore lighting is not included in the appliance schedule.

Cooling system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.				

Hot water system

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Hot Water CER Zone	Zone 3 STC	Assessed daily load
No Whole of Home performance assessment conducted for this certificate.					

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Whole of Home performance assessment conducted for this certificate.			

Onsite renewable energy *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Orientation	System size or generation capacity
No Whole of Home performance assessment conducted for this certificate.		

Battery *schedule*

(not applicable if a Whole of Home performance assessment is not conducted for this certificate)

System type	Size [battery storage capacity]
No Whole of Home performance assessment conducted for this certificate.	



Explanatory Notes

About this report

NatHERS ratings are a reliable guide for comparing different dwelling designs and to demonstrate that designs meet the energy efficiency requirements in the National Construction Code.

NatHERS ratings use computer modelling to evaluate a home's energy efficiency and performance. They use localised climate data and standard assumptions on how people use their home to predict the heating and cooling energy loads and energy value* of the whole home. The thermal performance star rating uses the home's building specifications, layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings) to predict the heating and cooling energy loads. The Whole of Home performance rating uses information about the home's appliances and onsite energy generation and storage to estimate the homes energy value*.

The actual energy loads, cost and greenhouse gas emissions of a home may vary from that predicted. This is because the assumptions will not always match the actual occupant usage patterns. For example, the number of occupants and how people use their appliances will vary. Energy efficient homes use less energy, are warmer on cool days, cooler on hot days and cost less to run.

Accredited assessors

For quality assured NatHERS Certificates, always use an accredited or licenced assessor registered with an Assessor Accrediting Organisation (AAO). AAOs have strict quality assurance processes, and professional development requirements ensuring consistently high standards for assessments.

Non-accredited assessors (Raters) have no ongoing training requirements and are not quality assured.

Any queries about this report should be directed to the assessor. If the assessor is unable to address questions or concerns, contact the AAO specified on the front of this certificate.

Disclaimer

The NatHERS Certificate format is developed by the NatHERS Administrator. However, the content in the certificate is entered by the assessor. It is the assessor's responsibility to use NatHERS accredited software correctly and follow the NatHERS Technical Note to produce a NatHERS Certificate.

The predicted annual energy load, cost and greenhouse gas emissions in this NatHERS Certificate are an estimate based on an assessment of the dwelling's design by the assessor. It is not a prediction of actual energy use, cost or emissions. The information and ratings may be used to compare how other dwellings 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, behaviour, appliance performance, indoor air temperature and local climate.

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

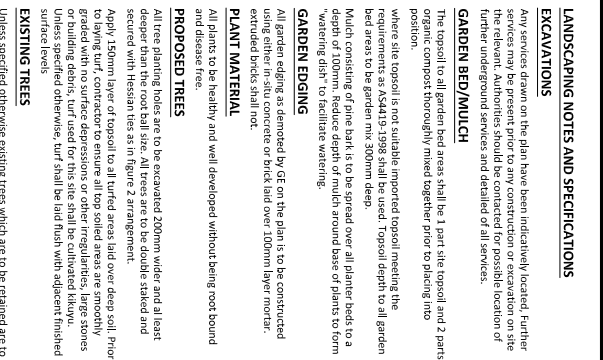
Glossary

Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
AFRC	Australian Fenestration Rating Council
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, range hoods, 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.
COP	Coefficient of performance
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.
EER	Energy Efficiency Ratio, measure of how much cooling can be achieved by an air conditioner for a single kWh of electricity input
Energy use	This is your homes rating without solar or batteries.
Energy value	The net cost to society including, but not limited to, costs to the building user, the environment and energy networks (as defined in the ABCB Housing Provisions Standard).
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 .
Net zero home	a home that achieves a net zero energy value*.
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
Recommended capacity	this is the capacity or size of equipment that is recommended by NatHERS to achieve the desired comfort conditions in the zone or zones serviced. This is a recommendation and the final selection sizing should be confirmed by a suitably qualified person.
Reflective wrap (also known as foil)	can be applied to walls, roofs and ceilings. When combined with an appropriate air gap 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 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.

*Refer to glossary.



STCs	Small-scale Technology Certificates, certificates created by the REC registry for renewable energy technologies that may be bought and sold as part of the Small-scale Renewable Energy Scheme operated by the Clean Energy Regulatory
Thermal breaks	are materials with an R-value greater than or equal to 0.2 that must separate the metal frame from the cladding. This includes, but is not limited to, materials such as timber battens greater than or equal to 20mm thick, continuous thermal breaks such as polystyrene insulation sheeting, plastic strips or furring channels.
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).
Window shading device	a device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)



EXCAVATIONS

EXCAVATIONS

Any services drawn on the plan have been indicatively located. Further services may be present prior to any construction or excavation on site the relevant. Authorities should be contacted for possible location of further underground services and detailed of all services.

GARDEN BED/MULCH

The topsoil to all garden bed areas shall be 1 part site topsoil and 2 parts organic compost thoroughly mixed together prior to placing into position.

where site topsoil is not suitable imported

Mulch consisting of pine bark is to be spread over all planter beds to a depth of 100mm. Reduce depth of mulch around base of plants to form "watering dish" to facilitate watering.

GARDEN EDGING

All garden edging as demoted by GE on the plan is to be constructed using either in-situ concrete or brick laid over 100mm layer mortar.

PLANT MATERIAL

All plants to be healthy and well developed without being root bound and disease free.

PROPOSED TREES

All tree planting holes are to be excavated 200mm wider and at least deeper than the root ball size. All trees are to be double staked and secured with Hessian ties as in figure 2 arrangement.

Apply 150mm layer of topsoil to all turfed areas laid over deep soil. Prior to laying turf, contractor to ensure all top soiled areas are smoothly graded with no surface depressions or other irregularities, large stones or building debris, turf used for this site shall be cultivated kikyuu. Unless specified otherwise, turf shall be laid flush with adjacent finished surface levels

EXISTING TREES

Unless speed otherwise existing trees which are to be retained are protected for the duration of the construction period, install a 1.5m high temporary protective fence at a distance of 3.0m around the base of the tree or group of trees. The protective fencing shall be constructed using parawebbing. The area to be protected is to be mulched with a 100mm layer of organic mulch such as pine bark or similar. Attach sign on fence to advise contractor. Do not store or otherwise place any harmful materials under or near such trees. Where it is absolutely necessary to cut tree roots firstly obtain council approval.

Do not ca

obtained in order to minimize root damage, any excavation work occurring near an existing tree is to be retained shall be carried out under the supervision of a qualified

PAVING

All pavement areas including driveway and pathways are to have stenciled concrete finish. All pavement surfaces to comply with the requirements of AS/NZ 3661.1 1993 Slip resistance of pedestrian surface.

STANDARDS

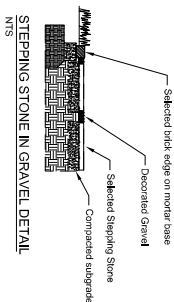
All Materials and standards of workmanship used on this project is to comply with the latest revision of the relevant Australian Standards.

DISCREPANCIES

Should there be any discrepancies on the drawings and or on site, landscape contractor to notify the superintendent for resolution prior to commencement of the works. Where the situation is not readily resolved on site, the superintendent is to notify the landscape planner immediately for correction.

IRRIGATION

provide on housecock in the front and rear yard, or the installation of automatic water system as owner choice.

LANDSCAPE PLAN
1:200

PLANT SCHEDULE					
Symbol	Spacing	Standard Name	Common Name	Size	Mature H x S
		<i>Elaeagnus multiflorus</i>	<i>Blueberry Ash (new)</i>	75L	7-12m x 2-4m
		<i>Cladonia terminalis</i>	<i>Chesee tree (new)</i>	75L	15m x 5m
	0.50	<i>Acmena smithii</i> 'Alym Magic'	<i>Dwarf Lily Pilly (New)</i>	200mm	Low Hedge
	1m	<i>Syzygium resilience</i>	<i>Lily Pilly (Native)</i>	200mm	Medium Hedge
	1.5m	<i>Murraya paniculata</i>	<i>Orange Jessamine</i>	200mm	Medium Hedge
	2m	<i>Westringia 'Jervis Gem'</i>	<i>Dwarf Coastal Rosemary</i>	200mm	Low Hedge
Garden soil Sandy loam PH 6.5					
Mulch Mulch annually with eucalyptus mulch to a depth of 75mm					
Fertiliser All native to be fed by OS more Native SW relative fertilizer. Other with osmotic slow release for trees and shrub and citrus					

MAINTENANCE

Maintain all landscape areas to ensure plant health and occupant safety for a period of 12 months beginning from date of practical completion to the satisfaction of council

Maintenance will include but not limited to the following activities

Mowing, edging, pruning and top dressing of turf areas, also all plants to be fed slow release

.....

	LAWN: Sir Walter Buffalo		GROUND COVER & OR GRAVELS
--	---------------------------------	---	--------------------------------------



Plan No	Date	Issue No	Scale	Sheet No
1510/25	15/10/2025	A	1:200	1c
A	15/10/2025	DA APP/LOCATION		

OWNER: Mr

RAFLA DESIGN

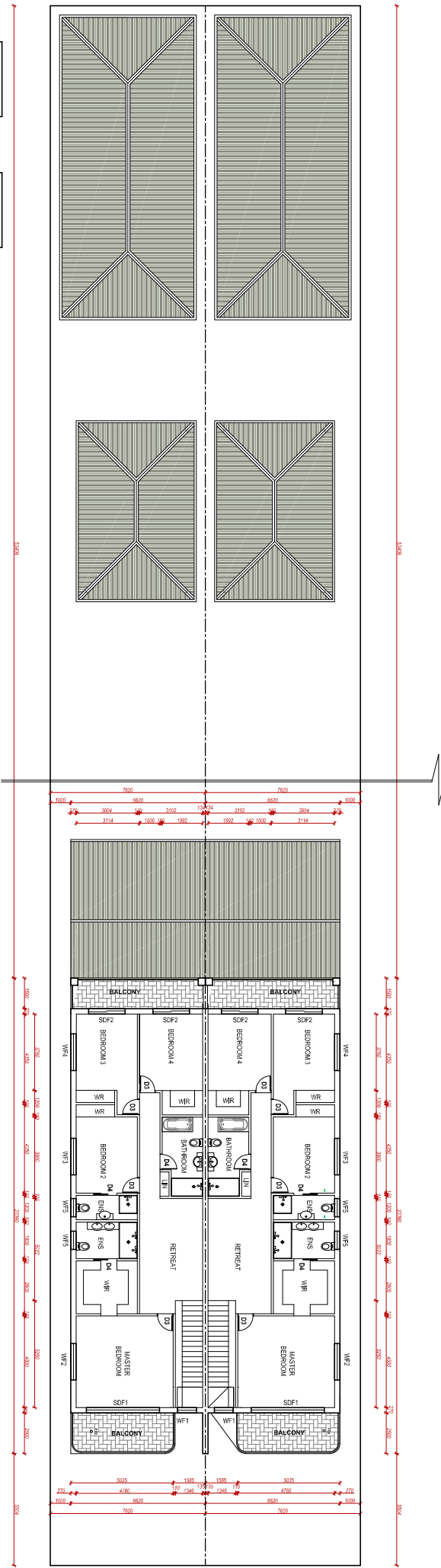
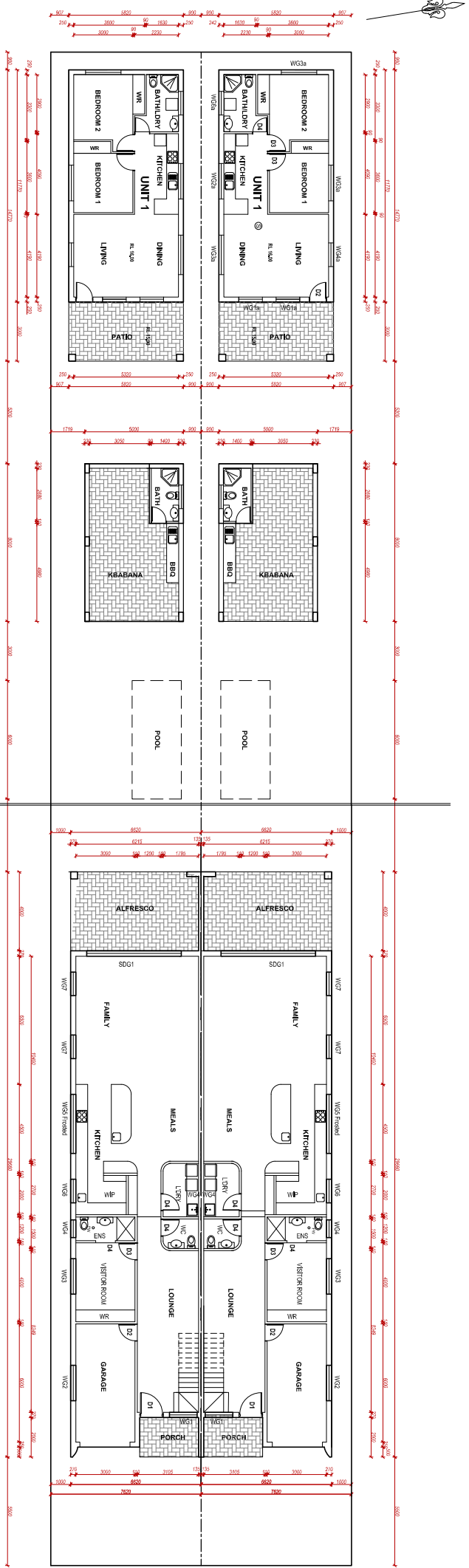
DESIGN Detailing

& Drafting Services

En

Ph: 0409 701 57
afla@blgpond.co

1	PROPOSED DUPLEX AND GRANNY FLAT
2	SITE: 55 PRINGLE AVENUE BANKSTOWN
3	SHEET: LANDSCAPE PLAN
4	COUNCIL: CANTERBURY BANKSTOWN CITY COUNCIL



FIRST FLOOR PLAN

INDOOR SCHEDULE			
Code	Heating from	Warm from	
WG1	2700	1350	
WG2	900	1800	
WG3	1500	1800	
WG4	1000	900	
WG5	600	3000	
WG6	600	1200	
WG7	1800	1200	
SDG1	2400	4800	
WG1a	1800	1200	
WG2a	600	1800	
WG3a	1200	1500	
WG4a	1800	800	
WG6a	600	900	

WINDOW SCHEDULE			
Code	Height mm	Width mm	
WF1	2100	900	
WF2	900	2100	
WF3	1500	1800	
WF4	900	1800	
WF5	900	1200	
SDF1	2400	3600	
SDF2	2400	1800	
D1	2400	1200	
D2	2400	820	
D3	2400	820	
D4	2400	720	

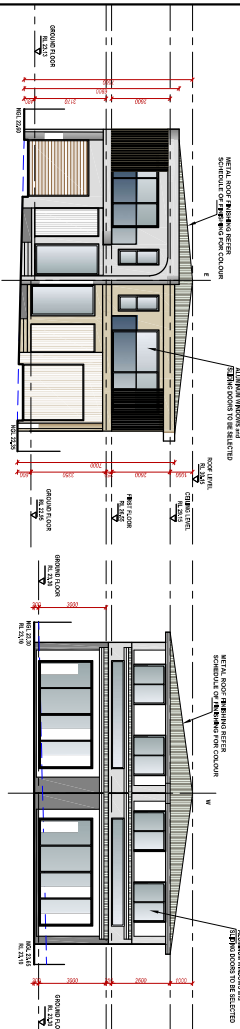
Frosted

Form No	Date	Issue no	Scale	Sheet No
15/10/25	15/10/2025	A	1:100	3
OWNER: Mr				

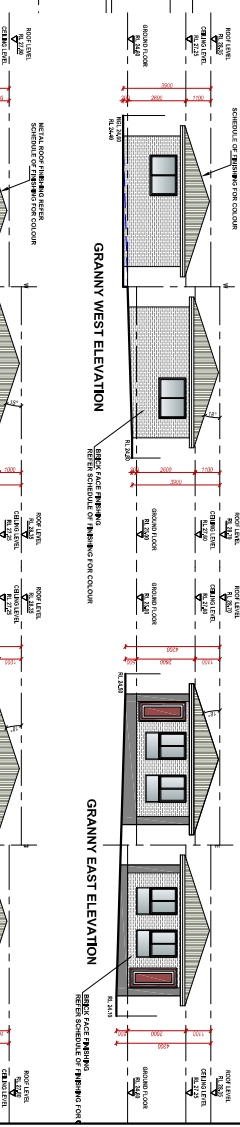
PROPOSED DUPLEX AND GRANNY FLAT

- ② Smoke Alarm accordance to Part 9.5 of NCC 2022 and AS3786.
- ⑩ Mechanical ventilation to in accordance with Part 10.5 & 10.6 of NCC 2022.
- Floor wastes accordance with Part 10.2 of NCC 2022 and AS 3740.



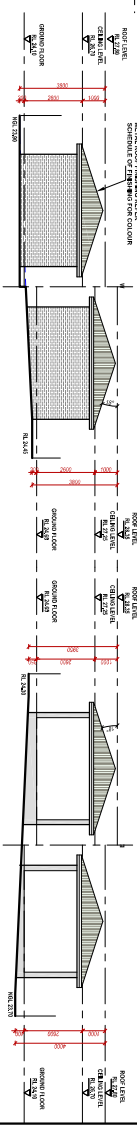


HOUSE EAST ELEVATION



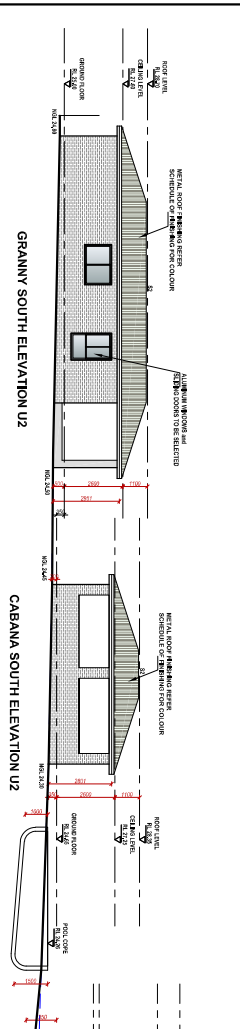
GRANNY WEST ELEVATION

GRANNY EAST ELEVATION



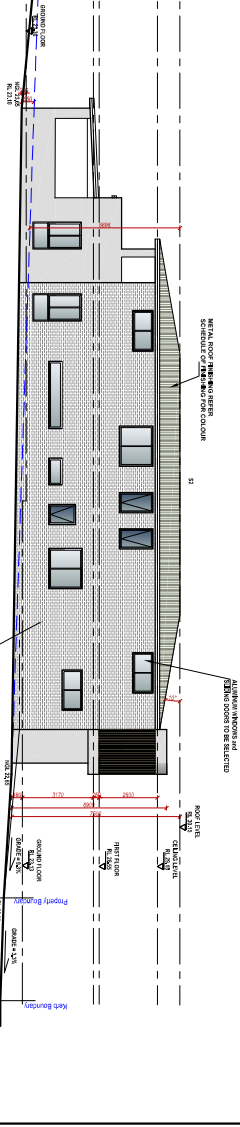
CABANA WEST ELEVATION

CABANA EAST ELEVATION



GRANNY SOUTH ELEVATION U2

CABANA SOUTH ELEVATION U2

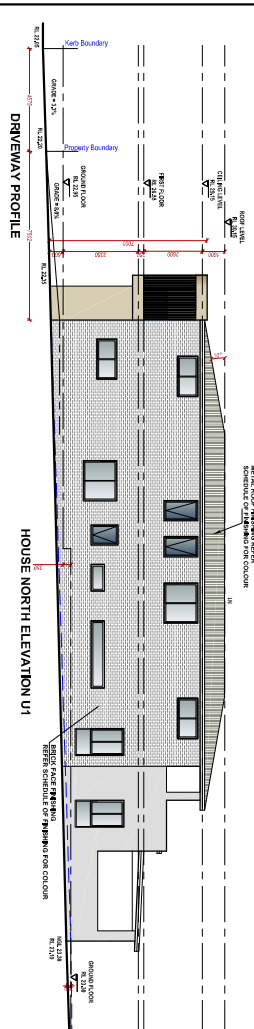


HOUSE SOUTH ELEVATION U2

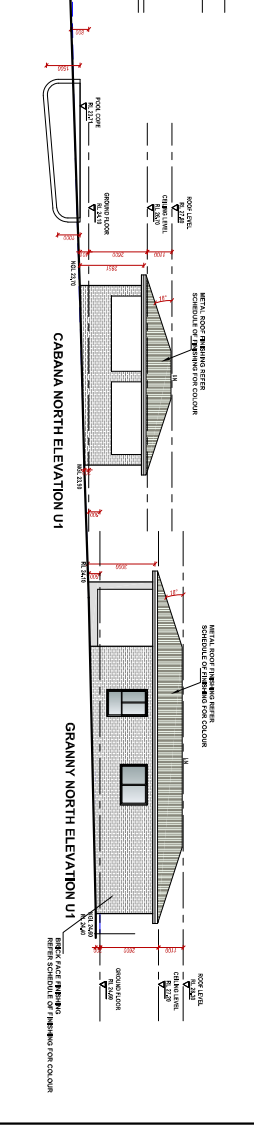
BACK FACE PAINTING
REFER SCHEDULE OF PAINTING FOR COLOUR

DRIVEWAY PROFILE

DRIVEWAY PROFILE

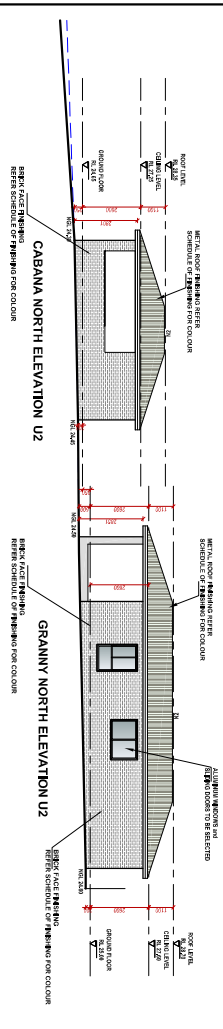


HOUSE NORTH ELEVATION U



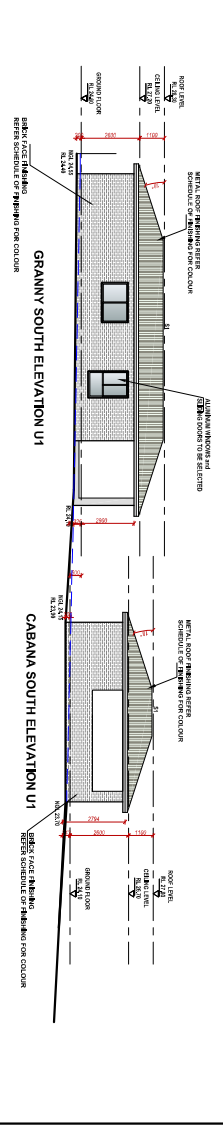
CABANA NORTH ELEVATION U1

DISMINUIR LA ELEVACION DE



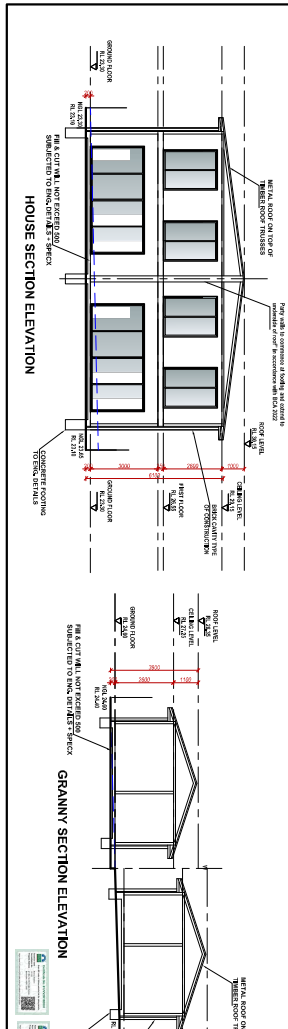
CABANA NORTH ELEVATION U2

GRANNY NORTH ELEVATION 23

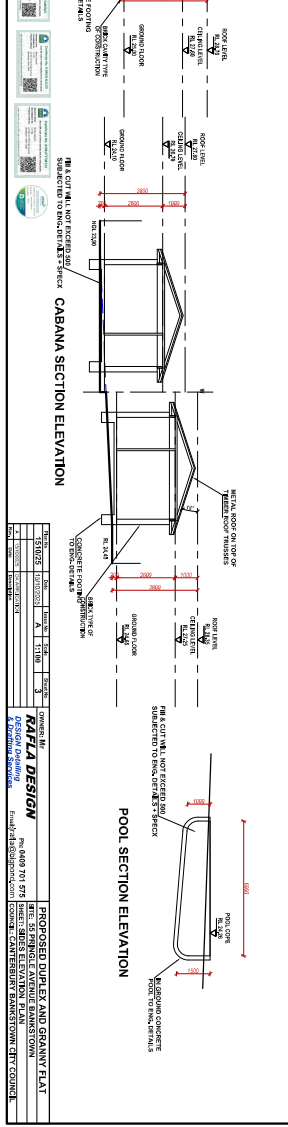


GRANNY SOUTH ELEVATION 01

CABANA SOUTH ELEVATION U.



HOUSE SECTION ELEVATION

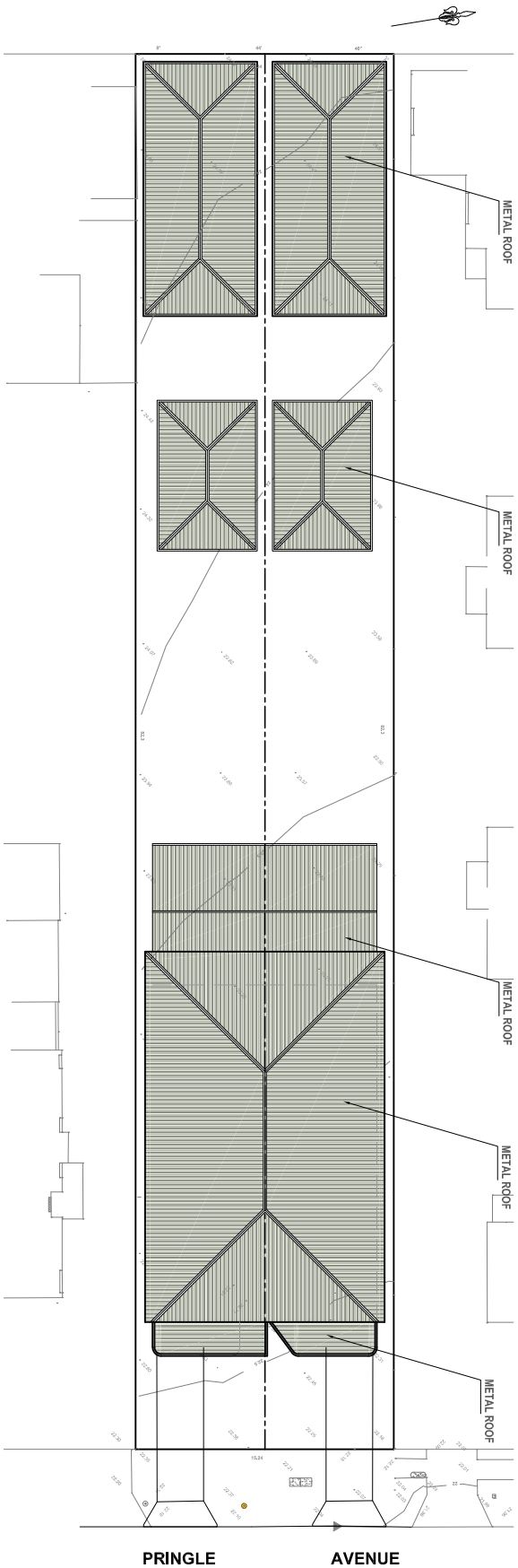


GRANNY SECTION ELEVATION

CABANA SECTION ELEVATION

POOL SECTION ELEVATION

Ref No	Date	Time	Street No	OWNER/ M/	PROPOSED DUPLEX AND GRANNY FLAT
151025	19/10/2024	A 11:00	3	RAFAA DESIGN	41E, 55 PENROSE AVENUE BANGSTOWN
				DESIGN Drafting & Rendering Services	SHEET: SITES ELEVATION PLAN
				Pen 0409 761 575	COUNCIL: CANTERBURY BANGSTOWN CITY COUNCIL
				Email rafaa@boltonp.com	
Project No	Project Name				



Sheet No.	Date	Issue No.	Scale	Sheet No.
151025	15/10/2025	A	1:100	4
OWNER: MR. RAFLA DESIGN				
DESIGN: RAFLA DESIGN				
& Drafting Services				
Ph: 0409 701 575				
Email: raf@rafla.com.au				
PROJECT: PROPOSED DUPLEX AND GRANNY FLAT				
SITE: 55 PRINGLE AVENUE BANKSTOWN				
SHEET: ROOF PLAN				
COUNCIL: CANTERBURY BANKSTOWN CITY COUNCIL				