Nationwide House Energy Rating Scheme[®] NatHERS[®] Certificate No. #HR-HLU86I-01

Generated on 19 Aug 2025 using Hero 4.1 (Chenath v3.23)

Property

Address Unit 01, 3A Beach Road, NEWPORT,

NSW, 2106

Lot/DP LOT 2 IN D.P. 1022509

NCC Class* 1a

Floor/all Floors 1 of 3 floors

Type New

Plans

Main Plan Rev DA, June 2025

Prepared by Incidental Architecture

Construction and environment

Assessed floor area (m²)* Exposure Type

Conditioned* 310.3 Open

Unconditioned* 32.8 NatHERS climate zone

Total 431.1 56 - Mascot AMO

Garage 88.0



Accredited assessor

Name Victoria Walker

Business name BERA - Building Energy Ratings + Advice

DMN

Emailtori@bera.com.auPhone+61 457890002Accreditation No.DMN/15/1675

Assessor Accrediting

Organisation

Declaration of interest No Conflict of Interest

NCC Requirements

BCA 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 J2D2(2)(a) and (3) 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



Thermal performance (MJ/m²)

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	19.2	9.3
Load limits	25	18

Features determining load limits

Floor type
(lowest conditioned area) CSOG
NCC climate zone 1 or 2 N
Outdoor living area N

Outdoor living area ceiling fan N

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

http://www.hero-software.com. au/pdf/HR-HLU86I-01.

When using either link, ensure you are visiting http://www.hero-software.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 and 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 Standard: NatHERS heating and cooling load limits* 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 onsite renewable energy impact

No Whole of Home performance assessment conducted for this certificate.

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.

7.1	Star	Rating	as of	19	Aua	2025
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Certificate check	Approval stage		Construction stage		
The checklist covers important items impacting the dwelling's ratings. It is recommended that the accuracy of the whole certificate is checked.	Assessor checked	Consent authority/ surveyor checked	Builder checked	ent authority/	Occupancy/other
Note: The boxes indicate when and who should check each item. It is not mandatory to complete this checklist.	Asse	Cons	Build	Consent a	nooo —
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 <i>'Floor type'</i> 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 <i>'Ceiling type'</i> table on this Certifi cate?					
Roof					
Does the external roof shade (colour) on the NatHERS stamped plans or as installed match what is shown in the <i>'Roof type'</i> 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 what is shown on the NatHERS-stamped plans?					

7.1	Star	Rating	as of	19	Aua	2025
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Certificate check	Approva	l stage	Construction stage		
Continued	Assessor checked	Consent authority/ surveyor checked	Builder checked	Consent authority/ surveyor checked	Occupancy/other
Additional NCC requirements for thermal performance (not included in	n the Nat	HERS as	sessment	')	
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	e assessr	nent is no	ot conduc	cted)	
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 NatHE	RS asses	ssment)			
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. As include, but are not limited to: condensation, structural and fire safety requirements energy efficiency requirements.					



Additional Notes

The following provisions have been used in this assessment:

Medium external wall colour
Medium internal wall colour
Medium internal ceiling colour
Medium window frame colour
Medium roof colour
Provisional Window opening percentages
Assumed number of recessed downlights

Note: Assessor discretion used to model basement store as unconditioned due to location and advice that this room will not be conditioned.

Note that some window/door widths are slightly different to glazing schedule due to software modelling limitations.

Room schedule

Room	Zone Type	Area (m²)
RUMPUS	Living	31.91
BED 3	Bedroom	20.98
BATHROOM B MIDDLE	Unconditioned	5.60
BED 2	Bedroom	16.34
HALL MIDDLE	Day Time	11.43
KITCH LIV	Kitchen/Living	80.74
BED 1	Bedroom	21.15
STUDY/BED UPPER	Bedroom	18.17
HALL UPPER	Day Time	28.96
ВАТН	Unconditioned	4.58
STORE	Unconditioned	15.49
HALL LOWER	Day Time	18.49
PANTY	Day Time	10.60
LAUNDRY	Unconditioned	7.13
STUDY/MAKER	Day Time	18.87
GUEST BED	Bedroom	15.34
ENS GUEST BED	Night Time	5.09



Room schedule

Room	Zone Type	Area (m²)
WC BED 1	Night Time	2.12
ENS BED 1	Night Time	8.66
WIR BED 1	Night Time	13.31
GARAGE	Garage	87.99
SAUNA	Day Time	6.64

Window and glazed door type and performance

Default* windows

Window ID	Window Description	Maximum SHG0	SHGC substitution tolerance ranges
	•	U-value*	lower limit upper limit
None			

Custom* windows

Window ID	Window Description	Maximum	SHGC*	SHGC substitution tolerance ranges		
villaow ib	Timuon Bootiphon	U-value*	0.100	lower limit	upper limit	
AWS-018-001	RESIDENTIAL SERIES 549 ENTRY DOOR - SINGLE GLAZED	5.9	0.56	0.53	0.59	
AWS-024-001	ARCHITECTURAL SERIES 702/703/704 SLIDEMASTER DOOR - SINGLE GLAZED	6.2	0.66	0.63	0.70	
AWS-024-024	ARCHITECTURAL SERIES 702/703/704 SLIDEMASTER DOOR - SINGLE GLAZED	4.5	0.54	0.51	0.57	
AWS-066-007	RESIDENTIAL SERIES 516 FIXED WINDOW - SINGLE GLAZED	5.9	0.75	0.71	0.79	
AWS-066-015	RESIDENTIAL SERIES 516 FIXED WINDOW - SINGLE GLAZED	4.0	0.64	0.61	0.67	
AWS-067-028	RES SERIES 516 FIXED WINDOW	2.2	0.55	0.52	0.58	
AWS-089-001	RES SERIES 704 FLUSH SLIDING DOOR	2.2	0.39	0.37	0.41	
AWS-092-002	Residential Series 752 High Performance Sliding Window - Double Glazed	3.0	0.53	0.51	0.56	
AWS-124-015	Series 752 Sliding Window	4.7	0.60	0.57	0.63	
AWS-124-021	Series 752 Sliding Window	6.5	0.71	0.67	0.74	
BRZ-003-013	52mm Altair Louvre Window System	4.3	0.57	0.54	0.60	

Window and glazed door schedule

Location	Window	Window	Height	Width	Window	Opening	Orient-	Shading
	ID	no.	(mm)	(mm)	type	%	ation	device*



Window and glazed door schedule

Location	Window	Window	Height		Window	Opening	Orient-	Shading
	ID BB7 003 013	no.	(mm)	(mm)	type	%	ation	device*
BATH BATHBOOM B MIRRI 5	BRZ-003-013	WD70	500	1527	Louvre	90	N	None
BATHROOM B MIDDLE	BRZ-003-013	WD38	600	1800	Louvre	90	S	None
BED 1	AWS-124-015	WD22	700	2960	Sliding	90	N	None
BED 1	BRZ-003-013	WD19	2680	900	Louvre	90	N	None
BED 1	AWS-066-015	WD20	550	2960	Fixed	0	N	None
BED 1	AWS-066-015	WD18	2680	1200	Fixed	0	N	None
BED 1	AWS-066-015	WD17	2680	4205	Fixed	0	E	None
BED 2	BRZ-003-013	WD44	600	3350	Louvre	90	N	None
BED 2	AWS-066-015	WD43	663	4164	Fixed	0	E	None
BED 2	AWS-066-015	WD42	2100	3310	Fixed	0	E	None
BED 2	BRZ-003-013	WD41	2100	860	Louvre	90	E	None
BED 2	AWS-066-015	WD40	600	2280	Fixed	0	S	None
BED 2	BRZ-003-013	WD39	600	1800	Louvre	90	S	None
BED 3	AWS-024-024	WD63	2100	3280	Sliding Door	45	E	OP-100%
BED 3	BRZ-003-013	WD64	700	4170	Louvre	90	E	OP-100%
BED 3	BRZ-003-013	WD62	2100	820	Louvre	90	E	None
BED 3	BRZ-003-013	WD61	700	2000	Louvre	90	S	None
ENS BED 1	AWS-124-015	WD23	710	2823	Sliding	45	N	None
ENS BED 1	AWS-066-015	WD21	550	2823	Fixed	0	N	None
ENS GUEST BED	AWS-024-024	WD59	2494	1362	Sliding Door	90	E	OP-70%
GARAGE	AWS-024-001	WD29	2450	5580	Sliding Door	60	N	OP-70%
GARAGE	AWS-124-021	WD01	2500	1200	Sliding	45	S	OP-70%
GARAGE	AWS-018-001	WD03	2500	1000	Hinged Door	90	E	None
GARAGE	AWS-066-007	WD02	400	5800	Fixed	0	W	OP-70%
GUEST BED	BRZ-003-013	WD73	600	1800	Louvre	90	N	None
GUEST BED	AWS-024-024	WD60	2494	4103	Sliding Door	45	E	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
HALL MIDDLE	AWS-066-015	WD37	610	2114	Fixed	0	S	None
HALL MIDDLE	AWS-066-015	WD36	600	320	Fixed	0	W	None
HALL UPPER	BRZ-003-013	WD14	550	2100	Louvre	90	E	None
HALL UPPER	AWS-066-015	WD13	2100	2100	Fixed	0	Е	None
HALL UPPER	BRZ-003-013	WD05	600	2000	Louvre	90	S	None
HALL UPPER	AWS-124-015	WD04	2400	345	Sliding	45	W	None
KITCH LIV	AWS-067-028	WD53	1500	900	Fixed	0	N	None
KITCH LIV	BRZ-003-013	WD52	1500	900	Louvre	90	N	None
KITCH LIV	AWS-067-028	WD54B	609	4844	Fixed	0	N	None
KITCH LIV	AWS-067-028	WD46	600	4260	Fixed	0	E	None
KITCH LIV	AWS-089-001	WD48	2400	5680	Sliding Door	45	E	None
KITCH LIV	BRZ-003-013	WD45	600	2120	Louvre	90	E	None
KITCH LIV	AWS-067-028	WD47	2100	700	Fixed	0	E	None
KITCH LIV	AWS-089-001	WD57	2100	5670	Sliding Door	75	W	None
KITCH LIV	BRZ-003-013	WD56	600	1420	Louvre	30	W	None
KITCH LIV	AWS-067-028	WD55	600	4250	Fixed	0	W	None
KITCH LIV	AWS-067-028	WD54A	609	5375	Fixed	0	N	None
KITCH LIV	BRZ-003-013	WD50	1500	900	Louvre	45	N	None
KITCH LIV	AWS-092-002	WD51	1500	3480	Sliding	90	N	None
KITCH LIV	AWS-067-028	WD49	1500	1200	Fixed	0	N	None
LAUNDRY	BRZ-003-013	WD31	600	1594	Louvre	90	S	None
LAUNDRY	AWS-018-001	WD34	2200	900	Hinged Door	90	S	None
PANTY	BRZ-003-013	WD33	600	3390	Louvre	90	S	None
PANTY	AWS-018-001	WD35	2200	900	Hinged Door	90	S	None
PANTY	AWS-066-015	WD32	600	1580	Fixed	0	S	None
RUMPUS	AWS-067-028	WD67	2300	1640	Fixed	0	N	None



Window and glazed door schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Window type	Opening %	Orient- ation	Shading device*
RUMPUS	AWS-067-028	WD68	250	6750	Fixed	0	N	None
RUMPUS	AWS-089-001	WD66	2300	3300	Sliding Door	90	N	None
RUMPUS	AWS-089-001	WD65	2350	4669	Sliding Door	75	Е	None
RUMPUS	AWS-067-028	WD69	250	1420	Fixed	0	W	None
SAUNA	AWS-024-024	WDSauna	2150	1920	Sliding Door	45	E	None
STUDY/BED UPPER	AWS-067-028	WD10	602	4200	Fixed	0	E	None
STUDY/BED UPPER	AWS-089-001	WD09	2100	3350	Sliding Door	45	E	None
STUDY/BED UPPER	BRZ-003-013	WD08	2100	900	Louvre	90	E	None
STUDY/BED UPPER	AWS-067-028	WD07	600	2470	Fixed	0	S	None
STUDY/BED UPPER	BRZ-003-013	WD06	600	2020	Louvre	90	S	None
STUDY/BED UPPER	AWS-067-028	WD12	550	1460	Fixed	0	N	None
STUDY/BED UPPER	BRZ-003-013	WD11	2100	850	Louvre	90	N	None
STUDY/MAKER	AWS-089-001	WD58	2700	5595	Sliding Door	45	N	None
STUDY/MAKER	BRZ-003-013	WD30	600	900	Louvre	90	S	None
WIR BED 1	AWS-066-015	WD26	700	800	Fixed	0	N	None
WIR BED 1	AWS-066-015	WD24	555	2451	Fixed	0	N	None
WIR BED 1	BRZ-003-013	WD28	550	1750	Louvre	90	W	None
WIR BED 1	AWS-066-015	WD25	550	2600	Fixed	0	W	None
WIR BED 1	BRZ-003-013	WD27-B	700	850	Louvre	45	W	None
WIR BED 1	AWS-066-015	WD27-A	700	850	Fixed	0	W	None

Roof window type and performance value

Default* roof windows

Window ID	Window Description	Maximum SHGC	SHGC substitution tolerance ranges
	·	U-value*	lower limit upper limit
None			



Custom* roof windows

Window ID Window Description

Maximum
U-value*

SHGC substitution
tolerance ranges
lower limit upper limit

None

Roof window schedule

Location	Window	Window	Opening	Height	Width	Orient-	Outdoor	Indoor
Location	ID	no.	%	(mm)	(mm)	ation	shade	shade

None

Skylight type and performance

Skylight ID Skylight description

None

Skylight schedule

Location Skylight	Skylight	Skylight	Skylight shaft	Area	Orient-	Outdoor	Diffuser	Shaft
	ID	No.	length (mm)	(m²)	ation	shade	Dillusei	Reflectance

None

External door schedule

Location	Height (mm)	Width (mm)	Opening %	Orientation
GARAGE	2400	5390	90	W
STORE	2400	900	90	E
STUDY/MAKER	2400	820	90	W

External wall type

Wall ID	Wall Type	Solar absorptance	Wall Colour	Bulk insulation (R-value)	Reflective wall wrap*
CAV-BRICK-110-110-EXP	Cavity Brick Wall - 110mm/110mm Exposed	0.50	Medium	2.27	No
CONCBLOCK-190-BRICK- 110-FCF-EXP	Concrete Block 190/110 Brick - Exposed	0.50	Medium	2.27	No
CONCBLOCK-190-FCF- EXP-A	Concrete Block 190mm Fully Core-Filled - Exposed	0.50	Medium	0.00	No
CONCBLOCK-190-FCF- EXP-B	Concrete Block 190mm Fully Core-Filled - Exposed	0.50	Medium	2.27	No
FC-NONREFL-CAV	Fibre-Cement Clad Battened (Non-Refl Cavity) Stud Wall	0.50	Medium	2.50	No
SGL-BRICK-110-EXP-A	Single 110mm Brick Wall - Exposed	0.50	Medium	0.00	No
SGL-BRICK-110-EXP-B	Single 110mm Brick Wall - Exposed	0.50	Medium	2.27	No



External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
BATH	CAV-BRICK-110-110-EXP	2600	1527	N		No
BATHROOM B MIDDLE	CAV-BRICK-110-110-EXP	2700	1860	S		Yes
BED 1	FC-NONREFL-CAV	2680	5030	N	995	Yes
BED 1	FC-NONREFL-CAV	2680	4205	E		Yes
BED 2	CAV-BRICK-110-110-EXP	2700	3490	N	7646	Yes
BED 2	CAV-BRICK-110-110-EXP	2700	4164	E	917	Yes
BED 2	CAV-BRICK-110-110-EXP	2700	4085	S		Yes
BED 3	FC-NONREFL-CAV	2900	4191	E	1073	Yes
BED 3	CAV-BRICK-110-110-EXP	2900	5133	S		No
ENS BED 1	FC-NONREFL-CAV	2680	2823	N	992	Yes
ENS GUEST BED	CAV-BRICK-110-110-EXP	2500	1362	E	1786	Yes
ENS GUEST BED	CAV-BRICK-110-110-EXP	2500	3738	S		No
ENS GUEST BED	CAV-BRICK-110-110-EXP	3000	1362	W		No
GARAGE	FC-NONREFL-CAV	2500	9454	N	277	Yes
GARAGE	FC-NONREFL-CAV	2500	12978	S	649	No
GARAGE	FC-NONREFL-CAV	2500	6780	W	381	No
GARAGE	FC-NONREFL-CAV	2500	1115	E		No
GARAGE	FC-NONREFL-CAV	2700	6650	W		No
GUEST BED	CAV-BRICK-110-110-EXP	2500	3738	N		No
GUEST BED	CAV-BRICK-110-110-EXP	2500	4103	E	1786	Yes
GUEST BED	CAV-BRICK-110-110-EXP	2500	4103	W		No
HALL LOWER	CAV-BRICK-110-110-EXP	2900	4002	S		No
HALL LOWER	CAV-BRICK-110-110-EXP	2900	3426	W		No
HALL MIDDLE	CAV-BRICK-110-110-EXP	2700	2114	S		Yes
HALL MIDDLE	FC-NONREFL-CAV	2700	906	W		No



External wall schedule

HALL UPPER FC-NONREFL-CAV 2680 2262 E Yes HALL UPPER FC-NONREFL-CAV 2680 2096 S 649 Yes HALL UPPER FC-NONREFL-CAV 2680 1122 W NO HALL UPPER FC-NONREFL-CAV 2680 1106 S NO MO MO MITCH LIV FC-NONREFL-CAV 2700 4844 N 1096 Yes MITCH LIV FC-NONREFL-CAV 2700 4844 N 1096 Yes MITCH LIV FC-NONREFL-CAV 2700 1499 S NO MO MITCH LIV FC-NONREFL-CAV 2700 6001 W 1884 Yes MITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes MITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S NO MO MO MITCH LIV FC-NONREFL-CAV 2700 588 S N NO MO MITCH LIV FC-NONREFL-CAV 2700 588 S N NO MO MITCH LIV FC-NONREFL-CAV 2700 333 S N NO MO MITCH LIV FC-NONREFL-CAV 2700 588 S N NO MO MITCH LIV FC-NONREFL-CAV 2700 588 N NO MO MITCH LIV FC-NONREFL-CAV 2700 588 N NO MO MITCH LIV FC-NONREFL-CAV 2700 5841 S 120 NO MITCH LIV FC-NONREFL-CAV 2700 5841 S 120 NO MITCH LIV FC-NONREFL-CAV 2700 584	Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
HALL UPPER FC-NONREFL-CAV 2680 1122 W NO HALL UPPER FC-NONREFL-CAV 2680 1906 S NO KITCH LIV FC-NONREFL-CAV 2700 4844 N 1096 Yes KITCH LIV CAV-BRICK-110-110-EXP 3300 6332 E 4407 Yes KITCH LIV FC-NONREFL-CAV 2700 1499 S NO KITCH LIV CAV-BRICK-110-110-EXP 2700 988 N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY GAV-BRICK-110-110-EXP 2700 688 S NO PANTY FC-NONREFL-CAV 2700 588 S NO PANTY FC-NONREFL-CAV 2700 333 S NO PANTY FC-NONREFL-CAV 2700 466 E NO PANTY FC-NONREFL-CAV 2700 5041 S 120 NO RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W NO SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 W NO STORE CAV-BRICK-110-110-EXP 2600 1898 W NO STORE CAV-BRICK-110-110-EXP 2600 1988 W NO	HALL UPPER	FC-NONREFL-CAV	2680	2262	E		Yes
HALL UPPER FC-NONREFL-CAV 2680 1906 S	HALL UPPER	FC-NONREFL-CAV	2680	2096	S	649	Yes
KITCH LIV FC-NONREFL-CAV 2700 4844 N 1096 Yes KITCH LIV CAV-BRICK-110-110-EXP 3300 6332 E 4407 Yes KITCH LIV FC-NONREFL-CAV 2700 1499 S N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 988 N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY SGL-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S NO PANTY FC-NONREFL-CAV 2700 333 S NO PANTY FC-NONREFL-CAV 2700 466 E NO PANTY FC-NONREFL-CAV 2700 5041 S 120 NO RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W NO SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N NO NO SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 W NO STORE CAV-BRICK-110-110-EXP 2600 1227 E NO	HALL UPPER	FC-NONREFL-CAV	2680	1122	W		No
KITCH LIV CAV-BRICK-110-110-EXP 3300 6332 E 4407 Yes KITCH LIV FC-NONREFL-CAV 2700 1499 S No No KITCH LIV CAV-BRICK-110-110-EXP 2700 988 N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S NO PANTY FC-NONREFL-CAV 2700 333 S N NO PANTY FC-NONREFL-CAV 2700 333 S N NO PANTY FC-NONREFL-CAV 2700 466 E NO PANTY FC-NONREFL-CAV 2700 5041 S 120 NO RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W NO SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N N NO SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 W NO STORE CAV-BRICK-110-110-EXP 2600 1227 E NO STORE CAV-BRICK-110-110-EXP 2600 1227 E NO STORE CAV-BRICK-110-110-EXP 2600 1227 E NO	HALL UPPER	FC-NONREFL-CAV	2680	1906	S		No
KITCH LIV FC-NONREFL-CAV 2700 1499 S No No KITCH LIV CAV-BRICK-110-110-EXP 2700 988 N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY FC-NONREFL-CAV 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 W No SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No	KITCH LIV	FC-NONREFL-CAV	2700	4844	N	1096	Yes
KITCH LIV CAV-BRICK-110-110-EXP 2700 988 N 1579 Yes KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 1227 E No	KITCH LIV	CAV-BRICK-110-110-EXP	3300	6332	E	4407	Yes
KITCH LIV CAV-BRICK-110-110-EXP 2700 6001 W 1884 Yes KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 1227 E No	KITCH LIV	FC-NONREFL-CAV	2700	1499	S		No
KITCH LIV FC-NONREFL-CAV 3300 5375 N 1096 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	KITCH LIV	CAV-BRICK-110-110-EXP	2700	988	N	1579	Yes
LAUNDRY CAV-BRICK-110-110-EXP 2700 1594 S 120 Yes LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No <	KITCH LIV	CAV-BRICK-110-110-EXP	2700	6001	W	1884	Yes
LAUNDRY CAV-BRICK-110-110-EXP 2700 122 W No LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	KITCH LIV	FC-NONREFL-CAV	3300	5375	N	1096	Yes
LAUNDRY SGL-BRICK-110-EXP-A 2700 588 S No PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No No STORE CAV-BRICK-110-110-EXP 2600 1227 E No No	LAUNDRY	CAV-BRICK-110-110-EXP	2700	1594	S	120	Yes
PANTY FC-NONREFL-CAV 2700 333 S No PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	LAUNDRY	CAV-BRICK-110-110-EXP	2700	122	W		No
PANTY FC-NONREFL-CAV 2700 466 E No PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	LAUNDRY	SGL-BRICK-110-EXP-A	2700	588	S		No
PANTY CAV-BRICK-110-110-EXP 2700 5041 S 120 No RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	PANTY	FC-NONREFL-CAV	2700	333	S		No
RUMPUS CAV-BRICK-110-110-EXP 2600 6847 N 2394 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	PANTY	FC-NONREFL-CAV	2700	466	E		No
RUMPUS CAV-BRICK-110-110-EXP 2600 4669 E 1724 Yes RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	PANTY	CAV-BRICK-110-110-EXP	2700	5041	S	120	No
RUMPUS CAV-BRICK-110-110-EXP 2600 1671 W No SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	RUMPUS	CAV-BRICK-110-110-EXP	2600	6847	N	2394	Yes
SAUNA CONCBLOCK-190-FCF-EXP-B 2700 3339 N No SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	RUMPUS	CAV-BRICK-110-110-EXP	2600	4669	E	1724	Yes
SAUNA SGL-BRICK-110-EXP-A 2700 1988 E Yes SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	RUMPUS	CAV-BRICK-110-110-EXP	2600	1671	W		No
SAUNA CONCBLOCK-190-FCF-EXP-A 2700 1988 W No STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	SAUNA	CONCBLOCK-190-FCF-EXP-B	2700	3339	N		No
STORE CAV-BRICK-110-110-EXP 2600 1227 E No STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	SAUNA	SGL-BRICK-110-EXP-A	2700	1988	E		Yes
STORE CONCBLOCK-190-FCF-EXP-A 2600 2367 S No	SAUNA	CONCBLOCK-190-FCF-EXP-A	2700	1988	W		No
	STORE	CAV-BRICK-110-110-EXP	2600	1227	E		No
STORE CONCBLOCK-190-FCF-EXP-A 2600 5324 W No	STORE	CONCBLOCK-190-FCF-EXP-A	2600	2367	S		No
	STORE	CONCBLOCK-190-FCF-EXP-A	2600	5324	W		No



External wall schedule

Location	Wall ID	Height (mm)	Width (mm)	Orient- ation	Horizontal shading feature* projection (mm)	Vertical shading feature
STORE	CAV-BRICK-110-110-EXP	2600	323	E		Yes
STUDY/BED UPPER	FC-NONREFL-CAV	2680	4284	E		Yes
STUDY/BED UPPER	FC-NONREFL-CAV	2680	4242	S	649	Yes
STUDY/BED UPPER	FC-NONREFL-CAV	2680	1505	N		Yes
STUDY/MAKER	CAV-BRICK-110-110-EXP	2700	6746	N	6943	Yes
STUDY/MAKER	SGL-BRICK-110-EXP-B	2700	3681	S		No
STUDY/MAKER	CONCBLOCK-190-BRICK-110- FCF-EXP	2700	4305	W		No
WIR BED 1	FC-NONREFL-CAV	2680	2451	N	992	Yes
WIR BED 1	FC-NONREFL-CAV	2680	4210	W	1833	Yes

Internal wall type

Wall ID	Wall Type	Area (m²)	Bulk insulation
CAV-BRICK-110-110-EXP	Cavity Brick Wall - 110mm/110mm Exposed	24.9	0.00
CAV-BRICK-110-110-EXP	Cavity Brick Wall - 110mm/110mm Exposed	12.8	2.27
CONCBLOCK-190-FCF-PB	Concrete Block 190mm Fully Core-Filled - Plasterboard Internally	4.1	0.00
INT-PB	Internal Plasterboard Stud Wall	170.5	2.50
SGL-BRICK-110-EXP	Single 110mm Brick Wall - Exposed	3.6	0.00
SGL-BRICK-110-EXP	Single 110mm Brick Wall - Exposed	8.4	2.27

Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
ВАТН	CSOG-200: Concrete Slab on Ground (200mm)	4.6	N/A	2.00	Exposed
BATHROOM B MIDDLE	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	5.6	N/A	0.15	Exposed
BED 1	TIMB-002: Suspended Timber Floor - Lined Below	21.1	N/A	0.15	Timber (12mm)
BED 2	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	13.0	N/A	0.15	Timber (12mm)
BED 2	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	3.3	N/A	2.00	Timber (12mm)



Floor type

Location	Construction	Area (m²)	Sub-floor ventilation	Added insulation (R-value)	Covering
BED 3	CSOG-200: Concrete Slab on Ground (200mm)	21.0	N/A	2.00	Exposed
ENS BED 1	TIMB-002: Suspended Timber Floor - Lined Below	8.6	N/A	0.15	Tile (8mm)
ENS GUEST BED	CSOG-200: Concrete Slab on Ground (200mm)	5.1	N/A	2.00	Exposed
GARAGE	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	61.7	N/A	0.15	Exposed
GARAGE	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	26.3	Open	2.00	Exposed
GUEST BED	CSOG-200: Concrete Slab on Ground (200mm)	15.3	N/A	2.00	Exposed
HALL LOWER	CSOG-200: Concrete Slab on Ground (200mm)	18.5	N/A	2.00	Exposed
HALL MIDDLE	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	11.4	N/A	0.15	Timber (12mm)
HALL MIDDLE	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	0.1	N/A	0.15	Exposed
HALL UPPER	TIMB-002: Suspended Timber Floor - Lined Below	28.8	N/A	0.15	Timber (12mm)
HALL UPPER	SUSP-CONC-200-LINED: Suspended Concrete Slab Floor (200mm) - Lined Below	0.1	N/A	2.00	Exposed
KITCH LIV	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	62.2	N/A	0.15	Exposed
KITCH LIV	SUSP-CONC-300-LINED: Suspended Concrete Slab Floor (300mm) - Lined Below	6.9	N/A	2.00	Timber (12mm)
KITCH LIV	CSOG-200: Concrete Slab on Ground (200mm)	11.7	N/A	2.00	Exposed
LAUNDRY	CSOG-200: Concrete Slab on Ground (200mm)	7.1	N/A	2.00	Exposed
PANTY	CSOG-200: Concrete Slab on Ground (200mm)	10.6	N/A	2.00	Exposed
RUMPUS	CSOG-200: Concrete Slab on Ground (200mm)	31.9	N/A	2.00	Exposed
SAUNA	CSOG-200: Concrete Slab on Ground (200mm)	6.6	N/A	2.00	Timber (12mm)
STORE	CSOG-200: Concrete Slab on Ground (200mm)	15.5	N/A	2.00	Exposed
STUDY/BED UPPER	TIMB-002: Suspended Timber Floor - Lined Below	18.1	N/A	0.15	Timber (12mm)
STUDY/MAKER	CSOG-200: Concrete Slab on Ground (200mm)	18.9	N/A	2.00	Exposed
WC BED 1	TIMB-002: Suspended Timber Floor - Lined Below	2.1	N/A	0.15	Timber (12mm)
	TIMB-002: Suspended Timber Floor - Lined Below	40.0	N/A	0.15	Timber

Ceiling type

Location Construction Bulk insulation (R-value) Reflective wrap*



Ceiling type

Location	Construction	Bulk insulation (R-value)	Reflective wrap*
BED 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
BED 2	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
ENS BED 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
ENS GUEST BED	SLAB-300-CEIL-01: Concrete Slab (300mm) with Suspended PB Ceiling	0.00	No
GARAGE	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
GUEST BED	SLAB-300-CEIL-01: Concrete Slab (300mm) with Suspended PB Ceiling	0.00	No
HALL LOWER	SLAB-300-CEIL-01: Concrete Slab (300mm) with Suspended PB Ceiling	0.00	No
HALL UPPER	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
RUMPUS	SLAB-300-CEIL-01: Concrete Slab (300mm) with Suspended PB Ceiling	0.00	No
STUDY/BED UPPER	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
WC BED 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No
WIR BED 1	FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	6.00	No

Ceiling penetrations*

BATH 1 Downlight 195 Sealed BATHROOM B MIDDLE 1 Downlight 195 Sealed BED 1 4 Downlight 195 Sealed BED 2 1 Downlight 195 Sealed BED 3 3 Downlight 195 Sealed ENS BED 1 1 Downlight 195 Sealed ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL WIDDLE 1 Downlight 195 Sealed	Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
BED 1 4 Downlight 195 Sealed BED 2 1 Downlight 195 Sealed BED 3 3 Downlight 195 Sealed ENS BED 1 1 Downlight 195 Sealed ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	BATH	1	Downlight	195	Sealed
BED 2 1 Downlight 195 Sealed BED 3 3 Downlight 195 Sealed ENS BED 1 1 Downlight 195 Sealed ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	BATHROOM B MIDDLE	1	Downlight	195	Sealed
BED 3 3 Downlight 195 Sealed ENS BED 1 1 Downlight 195 Sealed ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	BED 1	4	Downlight	195	Sealed
ENS BED 1 1 Downlight 195 Sealed ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	BED 2	1	Downlight	195	Sealed
ENS GUEST BED 1 Downlight 195 Sealed GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	BED 3	3	Downlight	195	Sealed
GUEST BED 2 Downlight 195 Sealed HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	ENS BED 1	1	Downlight	195	Sealed
HALL LOWER 1 Downlight 195 Sealed HALL MIDDLE 1 Downlight 195 Sealed	ENS GUEST BED	1	Downlight	195	Sealed
HALL MIDDLE 1 Downlight 195 Sealed	GUEST BED	2	Downlight	195	Sealed
	HALL LOWER	1	Downlight	195	Sealed
HALL UPPER 5 Downlight 195 Sealed	HALL MIDDLE	1	Downlight	195	Sealed
2 20	HALL UPPER	5	Downlight	195	Sealed



Ceiling penetrations*

Location	Quantity	Туре	Diameter (mm)	Sealed /unsealed
HALL UPPER	1	Other	300	Sealed
KITCH LIV	3	Downlight	195	Sealed
LAUNDRY	1	Downlight	195	Sealed
PANTY	1	Downlight	195	Sealed
RUMPUS	2	Downlight	195	Sealed
SAUNA	1	Downlight	195	Sealed
STORE	3	Downlight	195	Sealed
STUDY/BED UPPER	3	Downlight	195	Sealed
STUDY/MAKER	3	Downlight	195	Sealed
WC BED 1	1	Downlight	195	Sealed
WIR BED 1	2	Downlight	195	Sealed

Ceiling fans

Location	Quantity	Diameter (mm)
BED 1	1	1300
BED 2	1	1300
BED 3	1	1300
GUEST BED	1	1300
KITCH LIV	1	1500
RUMPUS	1	1500
STUDY/BED UPPER	1	1300
STUDY/MAKER	1	1300

Roof type

Construction	Added insulation (R-value)	Solar absorptance	Roof Colour
FLAT-01: Flat Framed / Skillion Metal Roof & Flat PB Ceiling	0.00	0.50	Medium
SLAB-300-CEIL-01: Concrete Slab (300mm) with Suspended PB Ceiling	1.79	0.50	Medium



Thermal bridging schedule for steel frame elements

Building element Steel section dimensions Frame spacing Steel thickness Thermal Break (height x width, mm) (mm) (BMT mm) (R-value)

None

Appliance schedule

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

Cooling system

Type Location Fuel Type efficiency / performance Recommended capacity

No Whole of Home Data

Heating system

Type Location Fuel Type efficiency / performance capacity

No Whole of Home Data

Hot water system

Type Fuel type Water efficiency / daily load CER Zone STC [litres]

No Whole of Home Data

Pool / spa equipment

Type Fuel type English Fuel ty

No Whole of Home Data

Onsite Renewable Energy schedule

Type Orientatation Generation Capacity [kW]

No Whole of Home Data

Battery schedule

Type Storage Capacity [kWh]

No Whole of Home Data



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	see exposure categories below
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 airgap and emissivity value, it provides insulative properties.
Roof window	for NathERS this is typically an operable window (i.e. can be opened), will have a plaster or similar light well if there is an attic space, and generally does not have a diffuser.
Shading 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.
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)