

NatHERS Thermal Comfort and BASIX Assessment

Proposed Dwelling: Lot 1 at 90 Brighton Street, Freshwater NSW 2096

Project Client: V. Glavan

Project Architect: Watershed Architects

Project No.: 24002

Revision	Notes	Date
A	Thermal Comfort & BASIX Assessment – NCC 2022 (NatHERS 7 Stars)	29/10/2024
B	Update to reflect revised design	11/02/2025
C	Update to reflect revised design: DA modification 02	01/09/2025

Star Rating	Climate Zone	Floor Area (m ²)		Loads (area adjusted MJ/m ² /annum)		
		Conditioned	Unconditioned	Heating	Cooling	Total
7.1	56	244	27	16.4	12.6	29.0

Thermal Comfort Specifications	
Glazing: Doors/windows	High performance double glazing throughout: Glazing may be substituted with any other product/manufacture, however you must meet the maximum U-values (be equal to or lower than) and there is a flexibility of +/-5% with the SHGC value. Aluminium framed double glazing to all windows excluding the louvres which are single glazed low-e: Louvre windows: BRZ-006-008 U-Value: 4.3 (equal to or lower than) SHGC: 0.47 (±5%) Sliding doors: REY-027-006 U-Value: 1.8 (equal to or lower than) SHGC: 0.47 (±5%) Sliding windows: DOW-022-007 U-Value: 2.0 (equal to or lower than) SHGC: 0.51 (±5%) Hinged Doors: CPT-016-005 U-Value: 1.9 (equal to or lower than) SHGC: 0.40 (±5%) Fixed windows: A&L-026-302: U-Value: 1.8 (equal to or lower than) SHGC: 0.48 (±5%) Sashless double hung windows: ANE-015-321: (bedrooms and Study modelled as 30% open) U-Value: 1.9 (equal to or lower than) SHGC: 0.38 (±5%) Note: Given values are AFRC, total window system values (glass and frame)
Skylights	Double glazed by Velux: Maximum U-Value 2.7, and SHGC: 0.24 (±5%)
Roof	Metal roof with R1.3 anticon/builders blanket (insulation only value) External Colour: Dark (SA>0.7)
Ceiling	Lower Ground Floor: R2.5 insulation (insulation only value) to internal ceiling of Garage and RWT Room where habitable areas above (between levels) Lower Ground Floor where roof above (excluding Garage): R2.5 insulation (insulation only value) where roof above. No insulation required to Garage where roof above Ceiling to Ground Floor and First Floor where metal roof above: Plasterboard ceiling with R3.5 insulation (insulation only value) Ceiling to Ground Floor where habitable rooms above (between levels): R2.0 insulation (insulation only value)
Ceiling penetrations	Sealed LED downlights (ie. IC rated): modelled at one light per 2.5m² of floor space Exhaust fans to Kitchen, Baths/Ensuites and Laundry Chimney Flue Note: All downlights are to be IC rated and sealed, all exhaust fans and chimney to have dampers
Ceiling fans	Six ceiling fans required: One to Rumpus, one to Bed 01, one to Bed 02, one to Bed 03, one to Bed 04, and one to either Living or Dining
External Walls	Lightweight cladding on timber framing with R2.7 insulation (insulation only value) Cavity brick with R2.13 insulation (or one skin of AFS wall and one skin of brick with cavity between) or Total Wall System Value R_t2.5 (insulation modelled as R1.5 bulk reflective both sides to total insulation product value of R2.13; this would be indicative of a product like Polastic 20mm reflective cavity insulation). No insulation required to external Garage and Plant Room walls External colour: Light and Dark

Internal walls	Lift: Cavity brick (or one skin of AFS wall and one skin of brick with cavity between) Lower Ground Floor: Brick walls with R1.5 insulation (insulation only value) required between the Plant Room/Bins Store and Entry Ground Floor and First Floor: Plasterboard on lightweight framing. R2.0 insulation required to the internal walls of the Baths and Laundry
Floors	Lower Ground Floor: Concrete slab on Ground with R1.5 underslab insulation (insulation only value) to Entry and Lift. No insulation required to Garage and Plant Room floors. Ground Floor: Concrete slab on Ground with R1.5 underslab insulation (insulation only value) to Rumpus Suspended timber floor to First Floor with R3.0 insulation where open to air below Floor coverings: Carpet to bedrooms, tiles to wet areas, timber and polished/bare concrete elsewhere
External Shading	Vertical louvre screens, awnings, eaves, and covered Balconies as per drawings

BASIX Water Inclusions

Fixtures	Install showerheads minimum rating of 4 stars (>6.0 and <= 7.5 Litres/min) Install toilet flushing system with a minimum rating of 4 stars in each toilet Install tap with minimum rating of 4 stars in the kitchen Install taps with minimum rating of 4 stars in each bathroom
Alternative Water	Install rainwater tank with minimum 3,500L capacity, connected to – At least one outdoor (garden) tap and all toilets Rainwater harvest collected from a min. 140m ² roof area
Pool	Volume no greater than 28kL Pool cover required

BASIX Energy Commitments

Hot water System	Electric heat pump: minimum performance of 31-35 STCs
Cooling system	3 phase air conditioning to living areas and bedrooms: EER 3.0-3.5
Heating system	3 phase air conditioning to living areas and bedrooms: EER 3.0-3.5
Ventilation	Kitchen - Individual fan, externally ducted to roof or façade, manual on/off switch Bathrooms - Individual fan, externally ducted to roof or façade, interlocked to light with timer off Laundry - Individual fan, externally ducted to roof or façade, manual on/off switch
Pool	Heating system: electric heat pump Must install a timer for the swimming pool pump with a minimum 5 Star efficiency
Other	Induction cooktop & electric oven Outdoor clothes drying line Alternative Energy: Minimum 2.0kW of photovoltaics (solar); South nominated as panel orientation to allow for worst case scenario

Nationwide House Energy Rating Scheme[®]

NatHERS[®] Certificate No. 0009822750-03

Generated on 01 Sep 2025 using BERS Pro v5.2.4 (3.23)

Property

Address	Unit Lot 1, 90 90 Brighton Street, Freshwater , NSW , 2096
Lot/DP	Lot DP 14450
NCC class*	1a
Floor/all Floors	G of 3 floors
Type	New Home

Plans

Main plan	24002
Prepared by	Watershed Architects

Construction and environment

Assessed floor area [m2]*	Exposure type
Conditioned* 240.5	Suburban
Unconditioned* 22.5	NatHERS climate zone
Total 333.1	56 Mascot (Sydney Airport)
Garage 70.1	



Accredited assessor

Name	Danielle Grumont
Business name	Green Future Group
Email	hello@greenfuturegroup.com.au
Phone	0412957655
Accreditation No.	HERA10134
Assessor Accrediting Organisation	HERA
Declaration of interest	Declaration completed: no conflicts

NCC Requirements

NCC provisions	Volume Two
State/Territory variation	Yes

National Construction Code (NCC) requirements

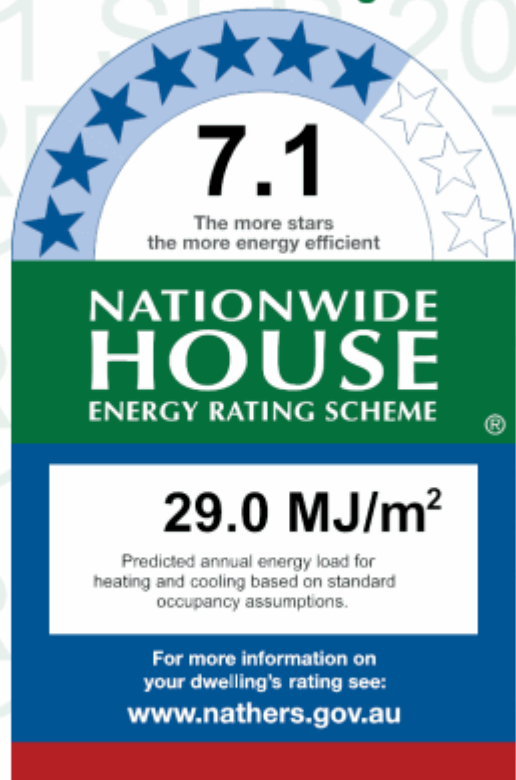
The NCC allows the use of NatHERS accredited software to comply with the energy efficiency requirements for houses (Class 1 buildings) and apartments (Class 2 sole-occupancy units and Class 4 parts of buildings). The applicable requirements for houses are detailed in Specification 42 of NCC Volume Two.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



Thermal performance [MJ/m²]

Limits taken from ABCB Standard 2022

	Heating	Cooling
Modelled	16.4	12.6
Load limits	N/A	N/A

Features determining load limits

Floor Type (lowest conditioned area)	SF
NCC climate zone 1 or 2	No
Outdoor living area	No
Outdoor living area ceiling fan	No

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
[hstar.com.au/QR/Generate?](http://hstar.com.au/QR/Generate?p=RWcciwNGt)
[p=RWcciwNGt](http://hstar.com.au/QR/Generate?p=RWcciwNGt).
When using either link,
ensure you are visiting
hstar.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 Standard 2022: 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

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

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 by whom each item should be checked. 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 what is shown	☐	☐	☐	☐	☐



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 as 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]
Garage/Plnt/Str	Garage	70.11
Lift LGF	Daytime	2.54
Entry/Stair	Daytime	19.87
Lift GF	Daytime	2.15
Laundry	Unconditioned	7.35
Bath	Unconditioned	5.12
Pantry	Daytime	3.86
Kitch/Dine/Liv	Kitchen/Living	66.1
Hall/Stair GF	Daytime	18.04
Rumpus	Living	19.55
Lift FF	Daytime	2.15
Bedroom 03	Bedroom	15.98
Bedroom 04	Bedroom	17.16
Hall/Stair FF	Daytime	27.98
Bedroom 02	Bedroom	17.18
WIR Bed 01	Nighttime	10.8
Ensuite Bed 01	Nighttime	7.81
Bedroom 01	Bedroom	17.56
WC	Daytime	1.87
Bath FF	Unconditioned	9.98

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
No Data Available					

Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
A&L-026-302	Aluminium Fixed Window DG 4PbAS2/12Ar/4PbG	1.8	0.48	0.45	0.50

* Refer to glossary.



Custom windows*

Window ID	Window Description	Maximum U-value*	SHGC*	Substitution tolerance ranges	
				SHGC lower limit	SHGC upper limit
CPT-016-005	Aluminium Hinged Door DG 6ET/12Ar/6ET	1.9	0.40	0.38	0.42
BRZ-006-008	Aluminium Louvre Window SG 6LE	4.3	0.48	0.45	0.50
DOW-022-007	Thermally Broken Aluminium Sliding Window DG LB Clr 4/12/4	2.0	0.51	0.48	0.53
REY-027-006	Aluminium Sliding Door DG LB Clr 6/24/6	1.8	0.47	0.45	0.49
ANE-015-321	Thermally Broken Aluminium Double Hung Window DG 4PtOne/12Ar/6Clr	1.9	0.38	0.36	0.40

Window and glazed door schedule

Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Garage/Plnt/Str	A&L-026-302-002	W2.06	400	5487	Fixed	00	N	No
Entry/Stair	CPT-016-005-001	D1.01	2400	1300	Casement	90	E	Yes
Entry/Stair	BRZ-006-008-001	W1.01	2457	472	Louvre	90	E	No
Laundry	CPT-016-005-001	D2.05	2800	1000	Casement	90	W	No
Bath	BRZ-006-008-001	W2.07	1870	900	Louvre	90	W	No
Pantry	BRZ-006-008-001	W2.06 East	1745	900	Louvre	90	W	No
Kitch/Dine/Liv	DOW-022-007-001	W2.05	2050	2800	Sliding	60	W	Yes
Kitch/Dine/Liv	A&L-026-302-002	W2.05 fixed	2050	1400	Fixed	00	W	Yes
Kitch/Dine/Liv	REY-027-006-001	W26	2800	5600	Sliding	75	N	Yes
Kitch/Dine/Liv	DOW-022-007-001	n/a	2050	4200	Sliding	60	E	Yes
Kitch/Dine/Liv	DOW-022-007-001	n/a	2050	2800	Sliding	45	E	Yes
Hall/Stair GF	A&L-026-302-002	W2.01	2156	2000	Fixed	00	E	No
Hall/Stair GF	ANE-015-321-003	W2.02	2053	850	Double Hung	45	E	Yes
Rumpus	REY-027-006-001	D2.01	2800	4400	Sliding	60	S	No
Rumpus	ANE-015-321-003	W2.08	2800	850	Double Hung	30	W	No
Bedroom 03	ANE-015-321-003	W3.13a	2400	900	Double Hung	30	W	Yes
Bedroom 03	ANE-015-321-003	W3.13b	2400	900	Double Hung	30	W	Yes
Bedroom 04	ANE-015-321-003	W14	2500	1060	Double Hung	30	S	Yes
Bedroom 04	DOW-022-007-001	W3.10 Bed 4	2500	2840	Sliding	45	S	Yes

* Refer to glossary.



Location	Window ID	Window no.	Height [mm]	Width [mm]	Window type	Opening %	Orientation	Window shading device*
Bedroom 04	A&L-026-302-002	W3.14	2400	900	Fixed	00	W	Yes
Hall/Stair FF	ANE-015-321-003	W3.11	1500	850	Double Hung	30	W	Yes
Hall/Stair FF	ANE-015-321-003	W3.17	2400	850	Double Hung	30	E	Yes
Hall/Stair FF	ANE-015-321-003	W3.02	2400	850	Double Hung	30	E	No
Hall/Stair FF	A&L-026-302-002	W3.01	2400	2000	Fixed	00	E	No
Hall/Stair FF	ANE-015-321-003	W3.16	2400	1000	Double Hung	30	S	Yes
Hall/Stair FF	A&L-026-302-002	Clerestory window	1200	2500	Fixed	00	N	No
Bedroom 02	DOW-022-007-001	W3.09	1400	2031	Sliding	45	W	No
Bedroom 02	ANE-015-321-003	W3.10 Bed 2	2400	1367	Double Hung	30	S	Yes
WIR Bed 01	ANE-015-321-003	W3.08	2400	900	Double Hung	30	W	Yes
Ensuite Bed 01	ANE-015-321-003	W3.06	2400	800	Double Hung	30	N	Yes
Bedroom 01	REY-027-006-001	W3.07	2400	3670	Sliding	60	N	Yes
Bedroom 01	ANE-015-321-003	W3.05	2400	1420	Double Hung	30	E	Yes
Bath FF	A&L-026-302-002	W3.18	2400	700	Fixed	00	W	No
Bath FF	CPT-016-005-001	W3.12	1458	1270	Casement	90	N	No
Bath FF	A&L-026-302-002	S9	1400	1200	Fixed	00	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
VEL-011-01 W	VELUX FS - Fixed Skylight DG 3mm LoE 366 / 8.5mm Argon Gap / 5.36mm Clear La	2.6	0.24	0.23	0.25



Roof window* schedule

Location	Window ID	Window no.	Opening %	Height [mm]	Width [mm]	Orientation	Outdoor shade	Indoor shade
WIR Bed 01	VEL-011-01 W	S5	0	1100	600	W	Yes	Yes
WC	VEL-011-01 W	S7	0	900	1000	E	Yes	Yes
Bath FF	VEL-011-01 W	S6	0	1100	1100	W	Yes	Yes

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/Plnt/Str	2400	5451	90	N
Garage/Plnt/Str	2500	2912	90	E
Garage/Plnt/Str	2400	6000	90	E

External wall type

Wall ID	Wall type	Solar absorptance	Wall shade [colour]	Bulk insulation [R-value]	Reflective wall wrap*
EW-1	Cavity Brick	0.50		No insulation	No
EW-2	Cavity Brick	0.50		Foil reflective both sides of the Bulk Insulation R1.5	Yes
EW-3	Fibro Timber Stud Frame Panel Direct Fix	0.85		Bulk Insulation R2.7	No
EW-4	Fibro Timber Stud Frame Panel Direct Fix	0.50		Bulk Insulation R2.7	No
EW-5	Cavity Brick	0.85		Foil reflective both sides of the Bulk Insulation R1.5	Yes
EW-6	Cavity Brick	0.30		Foil reflective both sides of the Bulk Insulation R1.5	Yes



External wall schedule

Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Garage/Plnt/Str	EW-1	2500	500	W	1050	No
Garage/Plnt/Str	EW-1	2500	5650	N	2050	No
Garage/Plnt/Str	EW-1	2500	750	E	1150	No
Garage/Plnt/Str	EW-1	2500	200	N	2800	No
Garage/Plnt/Str	EW-1	2500	9150	E	950	No
Garage/Plnt/Str	EW-1	2500	447	SE	1178	No
Garage/Plnt/Str	EW-1	2500	412	S	5566	No
Garage/Plnt/Str	EW-1	2500	800	S	11150	No
Garage/Plnt/Str	EW-1	2500	2250	S	10350	No
Garage/Plnt/Str	EW-1	2500	10700	W	50	No
Garage/Plnt/Str	EW-1	2500	800	N	950	No
Lift LGF	EW-2	2500	1695	W	1300	No
Lift LGF	EW-2	2500	1645	S	5700	No
Entry/Stair	EW-2	2500	1300	W	3000	No
Entry/Stair	EW-2	2500	2790	W	2300	No
Entry/Stair	EW-2	2500	2145	E	2350	No
Entry/Stair	EW-2	2500	1300	N	14650	No
Entry/Stair	EW-2	2500	472	NE	1609	No
Entry/Stair	EW-2	2500	492	E	604	No
Entry/Stair	EW-2	2500	700	E	450	No
Entry/Stair	EW-2	2500	750	S	1800	No
Entry/Stair	EW-2	2500	3150	E	1200	No
Entry/Stair	EW-2	2500	2450	S	4400	No
Laundry	EW-3	2800	2290	W	1150	No
Bath	EW-4	2800	3345	W	50	No
Bath	EW-4	2800	1100	S	9600	No
Pantry	EW-4	2800	750	S	50	No
Pantry	EW-5	2800	1945	W	50	No
Kitch/Dine/Liv	EW-6	2800	3145	W	50	No

* Refer to glossary.



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Kitch/Dine/Liv	EW-6	2800	750	N	50	No
Kitch/Dine/Liv	EW-3	2800	3650	W	50	No
Kitch/Dine/Liv	EW-6	2800	700	S	150	No
Kitch/Dine/Liv	EW-6	1000	2400	W	0	No
Kitch/Dine/Liv	EW-4	1800	2400	W	150	No
Kitch/Dine/Liv	EW-6	2800	700	N	150	No
Kitch/Dine/Liv	EW-3	2800	1450	W	50	No
Kitch/Dine/Liv	EW-4	2800	5650	N	1350	No
Kitch/Dine/Liv	EW-6	2800	10595	E	50	No
Hall/Stair GF	EW-5	1500	7640	E	0	No
Hall/Stair GF	EW-4	1300	7640	E	50	No
Hall/Stair GF	EW-4	1300	1145	S	7300.0190258504	No
Rumpus	EW-3	1500	4345	E	0	No
Rumpus	EW-4	1300	4345	E	50	No
Rumpus	EW-3	2800	4550	S	2950	No
Rumpus	EW-6	1500	4345	W	0	No
Rumpus	EW-4	1300	4345	W	1150	No
Bedroom 03	EW-4	2400	3640	W	0	No
Bedroom 04	EW-4	2400	2750	E	1450	No
Bedroom 04	EW-4	2500	4500	S	1450	No
Bedroom 04	EW-4	2400	3845	W	0	No
Hall/Stair FF	EW-4	2400	1290	W	2450	No
Hall/Stair FF	EW-4	2400	15195	E	300	No
Hall/Stair FF	EW-4	2400	1145	S	4200	No
Bedroom 02	EW-4	2400	3845	W	950	No
Bedroom 02	EW-4	2400	1500	S	15550	No
WIR Bed 01	EW-4	2400	2440	W	950	No
Ensuite Bed 01	EW-4	2400	4095	W	950	No
Ensuite Bed 01	EW-4	2400	1945	N	2450	No
Bedroom 01	EW-4	2500	3695	N	2450	No
Bedroom 01	EW-4	2400	6545	E	1133	No



Location	Wall ID	Height [mm]	Width [mm]	Orientation	Horizontal shading feature* maximum projection [mm]	Vertical shading feature [yes/no]
Bath FF	EW-4	2400	5245	W	0	No
Bath FF	EW-4	2400	1445	N	14200	No

Internal wall type

Wall ID	Wall type	Area [m ²]	Bulk insulation
IW-001	Cavity Brick	3.00	Bulk Insulation, No Air Gap R1.5
IW-002	Cavity Brick	40.26	No insulation
IW-003	Timber Stud Frame, Direct Fix Plasterboard	115.40	No insulation
IW-004	Timber Stud Frame, Direct Fix Plasterboard	45.32	Bulk Insulation, No Air Gap R2

Floor type

Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Garage/Plnt/Str	Concrete Slab on Ground 250mm	70.05	None	No Insulation	Bare
Lift LGF	Concrete Slab on Ground 250mm	2.54	None	Bulk Insulation in Contact with Floor R1.5	Bare
Entry/Stair	Concrete Slab on Ground 250mm	19.87	None	Bulk Insulation in Contact with Floor R1.5	Bare
Lift GF / Lift LGF	Concrete Timber Framed Above Plasterboard 250mm	0.00		No Insulation	Bare
Laundry	Concrete Slab on Ground 250mm	7.35	None	Bulk Insulation in Contact with Floor R1.5	Bare
Bath	Concrete Slab on Ground 250mm	5.12	None	Bulk Insulation in Contact with Floor R1.5	Bare
Pantry	Concrete Slab on Ground 250mm	3.86	None	Bulk Insulation in Contact with Floor R1.5	Ceramic Tiles 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Kitch/Dine/Liv / Garage/Plnt/Str	Concrete Timber Framed Above Plasterboard 250mm	54.87		Bulk Insulation R2.5	Bare
Kitch/Dine/Liv / Entry/Stair	Concrete Timber Framed Above Plasterboard 250mm	6.58		No Insulation	Bare
Kitch/Dine/Liv	Concrete Slab on Ground 250mm	4.19	None	Bulk Insulation in Contact with Floor R1.5	Bare
Hall/Stair GF / Entry/Stair	Concrete Timber Framed Above Plasterboard 250mm	9.04		No Insulation	Bare
Hall/Stair GF	Concrete Slab on Ground 250mm	4.88	None	Bulk Insulation in Contact with Floor R1.5	Bare
Rumpus	Concrete Slab on Ground 250mm	19.55	None	Bulk Insulation in Contact with Floor R1.5	Carpet+Rubber Underlay 18mm
Lift FF / Lift GF	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2	Bare
Bedroom 03 / Laundry	Timber Framed Timber Above Plasterboard 19mm	0.92		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bedroom 03 / Rumpus	Timber Framed Timber Above Plasterboard 19mm	10.61		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bedroom 03	Suspended Floor Timber Frame 19mm	3.57	Totally Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
Bedroom 04 / Rumpus	Timber Framed Timber Above Plasterboard 19mm	3.58		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bedroom 04	Suspended Floor Timber Frame 19mm	13.42	Totally Open	Bulk Insulation in Contact with Floor R3	Carpet+Rubber Underlay 18mm
Hall/Stair FF / Laundry	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2	Cork Tiles or Parquetry 8mm



Location	Construction	Area [m ²]	Sub-floor ventilation	Added insulation [R-value]	Covering
Hall/Stair FF / Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard 19mm	0.00		Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Hall/Stair FF / Hall/Stair GF	Timber Framed Timber Above Plasterboard 19mm	15.00		Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Hall/Stair FF / Rumpus	Timber Framed Timber Above Plasterboard 19mm	0.84		Bulk Insulation R2	Cork Tiles or Parquetry 8mm
Bedroom 02 / Pantry	Timber Framed Timber Above Plasterboard 19mm	0.29		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Bedroom 02 / Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard 19mm	16.45		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
WIR Bed 01 / Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard 19mm	10.81		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
Ensuite Bed 01 / Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard 19mm	7.81		Bulk Insulation R2	Ceramic Tiles 8mm
Bedroom 01 / Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard 19mm	17.55		Bulk Insulation R2	Carpet+Rubber Underlay 18mm
WC / Laundry	Timber Framed Timber Above Plasterboard 19mm	1.87		Bulk Insulation R2	Ceramic Tiles 8mm
Bath FF / Laundry	Timber Framed Timber Above Plasterboard 19mm	2.38		Bulk Insulation R2	Ceramic Tiles 8mm
Bath FF / Bath	Timber Framed Timber Above Plasterboard 19mm	4.85		Bulk Insulation R2	Ceramic Tiles 8mm
Bath FF	Suspended Floor Timber Frame 19mm	1.43	Totally Open	Bulk Insulation in Contact with Floor R3	Ceramic Tiles 8mm

Ceiling type

Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Garage/Plnt/Str	Concrete, Plasterboard with Timber Frame	No insulation	
Garage/Plnt/Str	Concrete Timber Framed Above Plasterboard	Bulk Insulation R2.5	
Lift LGF	Concrete, Plasterboard with Timber Frame	Bulk Insulation R2.5	



Location	Construction material/type	Bulk insulation R-value (may include edge batt values)	Reflective wrap* [yes/no]
Lift LGF	Concrete Timber Framed Above Plasterboard	No Insulation	
Entry/Stair	Concrete, Plasterboard with Timber Frame	Bulk Insulation R2.5	
Entry/Stair	Concrete Timber Framed Above Plasterboard	No Insulation	
Lift GF	Plasterboard on Timber	Bulk Insulation R3.5	
Lift GF	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Laundry	Plasterboard on Timber	Bulk Insulation R3.5	
Laundry	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Bath	Plasterboard on Timber	Bulk Insulation R3.5	
Bath	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Pantry	Plasterboard on Timber	Bulk Insulation R3.5	
Pantry	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Kitch/Dine/Liv	Plasterboard on Timber	Bulk Insulation R3.5	
Kitch/Dine/Liv	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Hall/Stair GF	Plasterboard on Timber	Bulk Insulation R3.5	
Hall/Stair GF	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Rumpus	Plasterboard on Timber	Bulk Insulation R3.5	
Rumpus	Timber Framed Timber Above Plasterboard	Bulk Insulation R2	
Lift FF	Plasterboard on Timber	Bulk Insulation R3.5	
Bedroom 03	Plasterboard on Timber	Bulk Insulation R3.5	
Bedroom 04	Plasterboard on Timber	Bulk Insulation R3.5	
Hall/Stair FF	Plasterboard on Timber	Bulk Insulation R3.5	
Bedroom 02	Plasterboard on Timber	Bulk Insulation R3.5	
WIR Bed 01	Plasterboard on Timber	Bulk Insulation R3.5	
Ensuite Bed 01	Plasterboard on Timber	Bulk Insulation R3.5	
Bedroom 01	Plasterboard on Timber	Bulk Insulation R3.5	
WC	Plasterboard on Timber	Bulk Insulation R3.5	
Bath FF	Plasterboard on Timber	Bulk Insulation R3.5	

Ceiling penetrations*

Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Entry/Stair	8	Downlights - LED	150	Sealed
Laundry	1	Downlights - LED	100	Sealed



Location	Quantity	Type	Diameter [mm]	Sealed/unsealed
Laundry	1	Exhaust Fans	300	Sealed
Bath	1	Downlights - LED	100	Sealed
Bath	1	Exhaust Fans	300	Sealed
Pantry	1	Downlights - LED	100	Sealed
Kitch/Dine/Liv	18	Downlights - LED	100	Sealed
Kitch/Dine/Liv	1	Exhaust Fans	300	Sealed
Kitch/Dine/Liv	1	Chimneys	250	Sealed
Hall/Stair GF	5	Downlights - LED	150	Sealed
Rumpus	4	Downlights - LED	100	Sealed
Lift FF	1	Downlights - LED	100	Sealed
Bedroom 03	4	Downlights - LED	100	Sealed
Bedroom 04	4	Downlights - LED	100	Sealed
Hall/Stair FF	6	Downlights - LED	100	Sealed
Bedroom 02	4	Downlights - LED	100	Sealed
WIR Bed 01	2	Downlights - LED	100	Sealed
Ensuite Bed 01	2	Downlights - LED	100	Sealed
Ensuite Bed 01	1	Exhaust Fans	300	Sealed
Bedroom 01	5	Downlights - LED	100	Sealed
WC	1	Downlights - LED	150	Sealed
WC	1	Exhaust Fans	300	Sealed
Bath FF	3	Downlights - LED	100	Sealed
Bath FF	1	Exhaust Fans	300	Sealed

Ceiling fans

Location	Quantity	Diameter [mm]
Kitch/Dine/Liv	1	1400
Rumpus	1	1400
Bedroom 03	1	1200
Bedroom 04	1	1200
Bedroom 02	1	1200
Bedroom 01	1	1200



Roof type

Construction	Added insulation [R-value]	Solar absorptance	Roof shade [colour]
Waterproofing Membrane	No Added Insulation, No air Gap	0.50	Medium
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, Air Gap Above R1.2	0.50	Medium
Corrugated Iron Timber Frame	Bulk, Reflective Side Down, No Air Gap Above R1.2	0.50	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 Data Available				

Heating system

Appliance/ system type	Location	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available				

Hot water system

Appliance/ system type	Fuel type	Hot Water CER Zone	Minimum efficiency /STC	Zone 3 STC	Zone 3 Substitution tolerance ranges		Assessed daily load [litres]
					lower limit	upper limit	
No Data Available							

Pool/spa equipment

Appliance/ system type	Fuel type	Minimum efficiency/ performance	Recommended capacity
No Data Available			



Onsite Renewable Energy Schedule

System Type	Orientation	System Size Or Generation Capacity
No Data Available		

Battery Schedule

System Type	Size [Battery Storage Capacity]
No Data Available	



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 home's 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

AFRC	Australian Fenestration Rating Council
Annual energy load	the predicted amount of energy required for heating and cooling, based on standard occupancy assumptions.
Assessed floor area	the floor area modelled in the software for the purpose of the NatHERS assessment. Note, this may not be consistent with the floor area in the design documents.
Ceiling penetrations	features that require a penetration to the ceiling, including downlights, vents, exhaust fans, 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.
COP	Coefficient of performance
Conditioned	a zone within a dwelling that is expected to require heating and cooling based on standard occupancy assumptions. In some circumstances it will include garages.
Custom windows	windows listed in NatHERS software that are available on the market in Australia and have a WERS (Window Energy Rating Scheme) rating.
Default windows	windows that are representative of a specific type of window product and whose properties have been derived by statistical methods.
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 home's 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 – protected	terrain with numerous, closely spaced obstructions below 10m e.g. suburban housing, heavily vegetated bushland areas.
Exposure category – suburban	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 operability percentage or operable (moveable) area of doors or windows that is used in ventilation calculations.
Provisional value	an assumed value that does not represent an actual value. For example, if the wall colour is unspecified in the documentation, a provisional value of 'medium' must be modelled. Acceptable provisional values are outlined in the NatHERS Technical Note and can be found at www.nathers.gov.au
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.
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.
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.
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 Regulator (CER)
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 or continuous thermal breaks such as polystyrene insulation sheathing or plastic strips
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	device fixed to windows that provides shading e.g. window awnings or screens but excludes horizontal* or vertical shading features* (eg eaves and balconies)

* Refer to glossary.

BASIX™ Certificate

Building Sustainability Index

www.planningportal.nsw.gov.au/development-and-assessment/basix

Single Dwelling

Certificate number: 1769532S_04

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.planningportal.nsw.gov.au/definitions

This certificate is a revision of certificate number 1769532S_02 submitted to the consent authority or certifier on 31 October 2024 with application PAN-479932.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environment Planning and Assessment Regulation 2000

Secretary

Date of issue: Monday, 01 September 2025

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate 0009822750-03.

Project summary

Project name	Lot 1, 90 Brighton Street, Freshwater (Copy 01)_04
Street address	90 BRIGHTON Street FRESHWATER 2096
Local Government Area	Northern Beaches Council
Plan type and plan number	Deposited Plan DP14450
Lot no.	11
Section no.	-
Project type	dwelling house (detached)
No. of bedrooms	4

Project score

Water	✓ 40	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 77	Target 72
Materials	✓ -74	Target n/a

Certificate Prepared by

Name / Company Name: Green Future Group Pty Ltd

ABN (if applicable): 55656040078

Description of project

Project address	
Project name	Lot 1, 90 Brighton Street, Freshwater (Copy 01)_04
Street address	90 BRIGHTON Street FRESHWATER 2096
Local Government Area	Northern Beaches Council
Plan type and plan number	Deposited Plan DP14450
Lot no.	11
Section no.	-
Project type	
Project type	dwelling house (detached)
No. of bedrooms	4
Site details	
Site area (m ²)	429
Roof area (m ²)	179
Conditioned floor area (m ²)	241.0
Unconditioned floor area (m ²)	23.0
Total area of garden and lawn (m ²)	160
Roof area of the existing dwelling (m ²)	0

Assessor details and thermal loads		
NatHERS assessor number	HERA10134	
NatHERS certificate number	0009822750-03	
Climate zone	56	
Area adjusted cooling load (MJ/ m².year)	13	
Area adjusted heating load (MJ/ m².year)	16	
Project score		
Water	✔ 40	Target 40
Thermal Performance	✔ Pass	Target Pass
Energy	✔ 77	Target 72
Materials	✔ -74	Target n/a

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 6 but <= 7.5 L/min plus spray force and/or coverage tests) in all showers in the development.		✓	✓
The applicant must install a toilet flushing system with a minimum rating of 4 star in each toilet in the development.		✓	✓
The applicant must install taps with a minimum rating of 4 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 4 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 3500 litres on the site. This rainwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓
The applicant must configure the rainwater tank to collect rain runoff from at least 140 square metres of the roof area of the development (excluding the area of the roof which drains to any stormwater tank or private dam).		✓	✓
The applicant must connect the rainwater tank to: - all toilets in the development - at least one outdoor tap in the development (Note: NSW Health does not recommend that rainwater be used for human consumption in areas with potable water supply.)		✓ ✓	✓ ✓
Swimming Pool			
The swimming pool must not have a volume greater than 28 kilolitres.	✓	✓	

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The swimming pool must have a pool cover.		✓	
The swimming pool must be outdoors.	✓	✓	

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Simulation Method			
Assessor details and thermal loads			
The applicant must attach the certificate referred to under "Assessor Details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for an occupation certificate for the proposed development.			
The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX certificate, including the Cooling and Heating loads shown on the front page of this certificate and the "Construction" and "Glazing" tables below.			
The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Assessor Certificate requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor to certify that this is the case. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.	✓	✓	✓
The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
The applicant must show on the plans accompanying the development application for the proposed development, the locations of ceiling fans set out in the Assessor Certificate. The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.	✓	✓	✓

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Construction			
The applicant must construct the floors, walls, roofs, ceilings and glazing of the dwelling in accordance with the specifications listed in the tables below.	✓	✓	✓
The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the tables below.			✓

Construction	Area - m ²	Insulation
floor - concrete slab on ground, conventional slab.	72	polystyrene
floor - suspended floor above open subfloor, plywood; frame: timber - H2 treated softwood.	19	rockwool batts, roll or pump-in
floor - above habitable rooms or mezzanine, plywood; frame: timber - H2 treated softwood..	103	not specified
floor - suspended floor above garage, concrete - suspended; frame: no frame.	70	rockwool batts, roll or pump-in
garage floor - concrete slab on ground.	70	none
external wall: cavity brick; frame: no frame.	68	polystyrene+ foil/sarking
external wall: framed (fibre cement sheet or boards); frame: timber - H2 treated softwood.	133	rockwool batts, roll or pump-in
external wall: concrete panel/plasterboard; frame: no frame.	20	rockwool batts, roll or pump-in
internal wall: plasterboard; frame: timber - H2 treated softwood.	165	rockwool batts, roll or pump-in
internal wall: 200 mm AAC block; frame: no frame.	45	rockwool batts, roll or pump-in
ceiling and roof - flat ceiling / flat roof, framed - metal roof, timber - H2 treated softwood.	179	ceiling: rockwool batts, roll or pump-in; roof: foil backed blanket.

Thermal Performance and Materials commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Glazing			
The applicant must install windows, glazed doors and skylights as described in the table below, in accordance with the specifications listed in the table.	✓	✓	✓

Frames	Maximum area - m2
aluminium	127
timber	0
uPVC	0
steel	0
composite	0

Glazing	Maximum area - m2
single	5
double	122
triple	0

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Hot water			
The applicant must install the following hot water system in the development, or a system with a higher energy rating: electric heat pump with a performance of 31 to 35 STCs or better.	✓	✓	✓
Cooling system			
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 3-phase airconditioning; Energy rating: EER 3.0 - 3.5		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, ducted to façade or roof; Operation control: please select		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Artificial lighting			
The applicant must ensure that a minimum of 80% of light fixtures are fitted with fluorescent, compact fluorescent, or light-emitting-diode (LED) lamps.		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 3 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Swimming pool			
The applicant must install the following heating system for the swimming pool in the development (or alternatively must not install any heating system for the swimming pool): electric heat pump		✓	
The applicant must install the following pump for the swimming pool in the development, or a pump with a higher energy rating: multi-speed with a performance of 5 stars.		✓	
The applicant must install a timer for the swimming pool pump in the development.		✓	
Alternative energy			
The applicant must install a photovoltaic system as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓
The photovoltaic system must consist of: • photovoltaic collectors with the capacity to generate at least 2 peak kilowatts of electricity, installed at an angle between 0 degrees and 10 degrees to the horizontal facing south	✓	✓	✓
Other			
The applicant must install an induction cooktop & electric oven in the kitchen of the dwelling.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	

Legend

In these commitments, "applicant" means the person carrying out the development.

Commitments identified with a  in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).

Commitments identified with a  in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.

Commitments identified with a  in the "Certifier check" column must be certified by a certifying authority as having been fulfilled, before a final occupation certificate (either interim or final) for the development may be issued.