

BASIX[®]Certificate

Building Sustainability Index www.basix.nsw.gov.au

Single Dwelling

Certificate number: 957993S_05

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 06/10/2017 published by the Department. This document is available at www.basix.nsw.gov.au

This certificate is a revision of certificate number 957993S_03 lodged with the consent authority or certifier on 16 April 2019 with application DA2018_1644.

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 Environmental Planning and Assessment Regulation 2000

Secretary

Date of issue: Tuesday, 22 October 2019

To be valid, this certificate must be lodged within 3 months of the date of issue.



Project summary

Project name	999 Barrenjoey Road, Palm Beach_05
Street address	999 Barrenjoey Road Palm Beach 2108
Local Government Area	Northern Beaches Council
Plan type and plan number	deposited 732085
Lot no.	3
Section no.	-
Project type	separate dwelling house
No. of bedrooms	6

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 50	Target 50

Certificate Prepared by

Name / Company Name: Windtech Consultants

ABN (if applicable): 72050574037

Description of project

Project address

Project name	999 Barrenjoey Road, Palm Beach_05
Street address	999 Barrenjoey Road Palm Beach 2108
Local Government Area	Northern Beaches Council
Plan type and plan number	Deposited Plan 732085
Lot no.	3
Section no.	-

Project type

Project type	separate dwelling house
No. of bedrooms	6

Site details

Site area (m ²)	1150
Roof area (m ²)	140
Conditioned floor area (m2)	568.8
Unconditioned floor area (m2)	16.1
Total area of garden and lawn (m2)	883

Assessor details and thermal loads

Assessor number	20887
Certificate number	0004293114
Climate zone	56
Area adjusted cooling load (MJ/m ² .year)	26
Area adjusted heating load (MJ/m ² .year)	35

Project score

Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 50

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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 550 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 3 star (> 6 but <= 7.5 L/min) 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 8000 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 130 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 - the cold water tap that supplies each clothes washer 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			

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The swimming pool must not have a volume greater than 46.62 kilolitres.	✓	✓	
The swimming pool must be outdoors.	✓	✓	

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Simulation Method			
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.			
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 construct the floors and walls of the dwelling in accordance with the specifications listed in the table below.	✓	✓	✓

Floor and wall construction	Area
floor - concrete slab on ground	All or part of floor area square metres

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: gas instantaneous with a performance of 6 stars.	✓	✓	✓
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 > 4.0		✓	✓
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 > 4.0		✓	✓
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 > 4.0		✓	✓
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 > 4.0		✓	✓
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: manual on / timer off		✓	✓
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 on / timer off		✓	✓
Artificial lighting			
The applicant must ensure that the "primary type of artificial lighting" is fluorescent or light emitting diode (LED) lighting in each of the following rooms, and where the word "dedicated" appears, the fittings for those lights must only be capable of accepting fluorescent or light emitting diode (LED) lamps:			
• at least 6 of the bedrooms / study; dedicated		✓	✓
• at least 2 of the living / dining rooms; dedicated		✓	✓
• the kitchen; dedicated		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
all bathrooms/toilets; dedicated		✓	✓
the laundry; dedicated		✓	✓
all hallways; dedicated		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in the kitchen of the dwelling for natural lighting.	✓	✓	✓
The applicant must install a window and/or skylight in 5 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
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): solar (gas boosted)		✓	
The applicant must install a timer for the swimming pool pump in the development.		✓	
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 2.8 peak kilowatts of electricity as part of the development. The applicant must connect this system to the development's electrical system.	✓	✓	✓
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.



BASIX REPORT

999 BARRENJOEY ROAD, PALM BEACH

WE296-04F01(REV1)- BASIX REPORT

22 OCTOBER 2019

Prepared for:

Cottee Parker Architects

Level 4, 50 Stanley Street East Sydney NSW 2010

DOCUMENT CONTROL

Date	Revision History	Issued Revision	Prepared By (initials)	Instructed By (initials)	Reviewed & Authorised by (initials)
October 18, 2019	Updated for latest design.	0	TH	TH	TH
October 22, 2019	Finalised.	1	TH	TH	TH

The work presented in this document was carried out in accordance with the Windtech Consultants Quality Assurance System, which is based on International Standard ISO 9001.

This document is issued subject to review and authorisation by the Team Leader noted by the initials printed in the last column above. If no initials appear, this document shall be considered as preliminary or draft only and no reliance shall be placed upon it other than for information to be verified later.

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1 INTRODUCTION

This study investigates the estimated thermal comfort and water and energy usage of the various residential developments within the proposed development site located at 999 Barrenjoey Road, Palm Beach. The assessment is carried out using online BASIX and BERS Pro Thermal Performance assessment tool. This assessment is based on the latest architectural drawings prepared by Cottee Parker Architects, received October 2019.

2 ANALYSIS

A BASIX assessment is split into three sections; Water, Thermal Comfort and Energy. Each section measures the efficiency of the development in these areas. For the Water and Energy sections, the development is given a score based on the efficiency. BASIX sets a minimum score in these areas that the development must satisfy. The Thermal Performance section of the BASIX assessment requires a BERS Pro simulation to be undertaken. BASIX sets requirements on the maximum heating and cooling loads for each residential apartment of the development. The results of this are rated in BASIX as either a pass or fail.

2.1 WATER USAGE

The water usage of the development is measured based on the area of gardens/lawn and the number and efficiency of permanent fixtures within the development (such as showerheads, taps and toilets). The development is given a rating, with BASIX requiring a minimum rating of 40% to pass this section.

2.2 THERMAL COMFORT

The thermal comfort of the development is measured using the BERS Pro Thermal Performance assessment tool. This gives an expected level of energy consumption (expressed in Mega Joules used per square metre per annum) for the heating and cooling loads.

The thermal comfort of the development can be improved by using higher performance building materials (such as performance glazing) and/or insulation materials. BASIX sets a maximum heating and cooling load that the development is to achieve. This is given as a weighted average heating and cooling load for the entire development, **and** for each individual dwelling to achieve.

2.3 ENERGY USAGE

The energy section of the BASIX assessment measures the energy efficiency of the development based on the efficiency of the fixed appliances to be used. This includes the hot water system, air-conditioning system, exhaust fans, lighting and the cook top/oven. If a pool is to be included in the proposal then the efficiency measure of the pool heater and the pool pump is also required. The development is given a rating, with BASIX requiring a minimum rating of 50% to pass this section.

3 RESULTS OF THE BASIX ASSESSMENT

3.1 WATER

The target score in BASIX to achieve water usage compliance is **40%**. The minimum score of **40%** is achieved through the inclusion of the following;

- At least 550m² of the landscaping (883 m² total landscaping) is to be of an indigenous or low water use species.
- All showerheads are to have a water efficiency rating of at least 3.0 Stars (>6.0 but ≤7.5L/min).
- All toilets within the subject development are to have a water efficiency rating of at least 4.0 Stars.
- All kitchen taps within the subject development is to have a water efficiency rating of at least 4.0 Stars.
- All bathroom taps within the subject development is to have a water efficiency rating of at least 4.0 Stars.
- A Rainwater tank with a volume capacity of least 9,000L capacity is to be included. Water is to be provided from at least 130m² of the roof area. Water from the tank is to be used for the garden & lawn, and the laundry within the development site.
- The outdoor swimming pool has a volume capacity of 46.62kL.

3.2 Thermal Comfort

The BERS Pro assessments take into account the following fundamental aspects of energy efficient design:

- The orientation and size of the walls.
- The location, proportion and type of windows and doors, and any internal or external coverings to them.
- The materials and colours of the exterior of the building.
- Internal floor, wall and ceiling materials.
- Cross ventilation.
- Provision of any insulation in walls, roof or ceiling.
- Overshadowing to walls and windows from eaves, other parts of the development and neighbours.
- The topography and climate of the area around the proposed development.

In BASIX, the required maximum heating and cooling loads of the proposed development are **40.0 MJ/m²/year for heating** and **26.0 MJ/m²/year for cooling**. The required heating and cooling loads for the individual residential dwelling are indicated in Section 3.2.2. Note that the overall weighted average heating and cooling loads are significantly harder to achieve than the individual unit requirements.

3.2.1 Initial Results

The following construction materials were initially selected for the assessment. Note that the materials described are not prescriptive. The construction materials used on the subject development should be selected to have similar performance characteristics as the ones detailed below so as not to effect the overall thermal performance rating of each apartment. The U-value and Solar Heat Gain Coefficient (SHGC) for the glazing is also indicated.

- The wall construction of each residential dwelling are indicated in Table 1a below:

Table 1a Wall Systems for each Residential Dwelling

Envelope Wall	Wall Construction	Insulation
External (between outdoor environment and dwelling)	Cavity Brick	No initial insulation proposed
Earth (between dwelling and earth)	Concrete	No initial insulation proposed
Staircore/Lift (between staircore/lift and dwelling)	Concrete	No initial insulation proposed
Internal (internal walls within the dwelling)	Plasterboard on Stud	No initial insulation proposed

- The floor coverings will be tiles in for bathrooms, ensuite, and laundry, carpet in bedrooms and timber within the kitchen and the living areas. The floors will be concrete slabs. No initial insulation has been proposed for the floors.
- The ceilings will be concrete above plasterboard and plasterboard with no initial insulation proposed.
- The roof will be waterproofing membrane and timber shingles with no initial insulation proposed.
- Draught seals are to be installed to the windows and doors.
- Skylights are to be double glazed clear set within an aluminium or timber frame.
- No ceiling penetration due to recessed luminaries and vents, exhaust fans etc. has been assumed as the lighting arrangement/plan is yet to be determined. A reassessment may be required at a later stage once the lighting plan is finalised.
- The initial glazing systems will have the following properties: U-value = 6.7, SHGC = 0.57 for Group A system types and U-value = 6.7, SHGC = 0.70 for Group B system types as indicated in Table 1b below. This typically represents a standard single-glazed clear glazing system set within standard aluminium frames.

Table 1b Glazed System Grouping

Group A	Group B
Awning Window	Double Hung Window
Bifold Door	Fixed Window
Bifold Window	Louvre Window
Entry Door	Sliding Window
Casement Window	Sliding door
French Door	Stacker door
Tilt'n'Turn Window	
Hinged Door	

The climate zone selected for analysis was Climate Zone 56. The result of the analysis, indicated in Section 3.2.2, indicate that several of the residential dwellings within the proposed development will not satisfy the individual thermal requirements of BASIX. Hence treatment is required to some of the residential dwellings of the development.

3.2.2 Results with Treatments

Further analysis of the proposed development resulted in some recommended treatments to achieve the BASIX requirements for thermal performance. The recommended treatments are summarised as follows:

- R3.5 Ceiling/roof insulation to areas with roof above and to the ceiling space directly under the garage.
- R1.9 Insulation is to be used in all external walls to outdoor air & envelope walls abutting the earth and walls abutting the garage.
- R0.5 Flooring insulation in all floors above outdoor air and ground below.
- All awning glazed systems along the garage wall are to have the following properties:
 - o U-value – 6.70, SHGC 0.70
- All other remaining glazed systems are to have the following properties for Groups A and B type (see Table 1b above):
 - o Group A: U-value – 4.30, SHGC 0.47
 - o Group B: U-value – 4.30, SHGC 0.53
- The lobby skylight is to be double glazed clear type set within a timber or aluminium frame and to have an area of 3.78m².

The glazing types selected for the windows of the proposed development should at least satisfy the required performance data listed in this report. Reducing the amount of glazing in each unit is expected to significantly increase the thermal performance of each unit. Higher performing glass types than those listed in this report are also acceptable. That is, alternative glazing systems or specifications may be used if their U value is lower, and the SHGC value is less than +/-10% than the U and SHGC values of the product specified above.

With these treatments in place the heating and cooling loads are **34.5 MJ/m²/year for heating** and **25.6 MJ/m²/year for cooling**.

The BASIX requirements for the maximum heating and cooling loads of the proposed development is **40.0 MJ/m²/year for heating** and **26.0 MJ/m²/year for cooling**. Hence, with the recommended treatments listed above, the proposed development will satisfy the thermal performance requirements of BASIX.

3.3 Energy

The target score in BASIX to achieve energy usage compliance is 50%. In order to achieve an energy usage compliance of 51% the following systems have been recommended:

- A gas instantaneous hot water system with a star rating of 6.0 is to be installed within the subject development.
- Three-phase air conditioning systems are to be installed within each residential dwelling for the living room and bedroom areas. The system is to have a minimum EER rating of at least 4.0 for cooling and heating.
- The bathroom exhaust fans of all residential dwellings are individual fans, ducted to façade/roof and are controlled by manual on/timer off switches.
- The kitchen exhaust fans are individual fans, ducted to façade/roof, and are controlled by manual on/off switches.
- The laundry exhaust fans of all residential dwellings are individual fans, ducted to façade/roof and are controlled by manual on/timer off switches.
- The bedrooms, living room, kitchen, bathroom, laundry and hallways within each residential dwelling of the proposed development will be primarily lit by fluorescent or LED lamps (i.e. at least 80% of the light fittings in the room). Dedicated fluorescent or LED fittings are to be installed.
- The swimming pool heating system is to be solar (gas boosted).
- The swimming pool pump is to be controlled by timer.
- A photovoltaic system with a peak kW rated electrical output of 2.8kW is to be installed.
- An induction cooktop and electric oven will be installed within the proposed development.
- An outdoor clothes drying line is to be installed within the proposed development.

Note that if any of the above systems are to be substituted by less efficient systems, an update to the BASIX certificate would also be required.

4 CONCLUSION

A BASIX assessment of the proposed development located at 999 Barrenjoey Road, Palm Beach has been carried out. The results of the assessment indicate that the development will satisfy the requirements of BASIX if all of the items outlined in this report are carried out.

The certified architectural drawings and Single-dwelling certificate are attached in the following appendices of this report.

APPENDIX A - DWELLING CERTIFICATE

Nationwide House Energy Rating Scheme* Certificate



Certificate number: **0004293114**

Certificate Date: **22 Oct 2019**

★ Star rating: **5.4**

BERS Pro v4.3.0.0 (3.13) cannot be used to model 'roof windows'. Roof windows are 'openable or fixed windows in a roof' and do not have a shaft, as distinct from skylights which incorporate a built-in shaft and are not ventilated. BERS Pro v4.3 can only model skylights. If a roof window is present on the floor plan then this certificate is not valid.

Assessor details

Accreditation number: **20887**
Name: **Trong Huynh**
Organisation: **Windtech Consultants PTY LTD**
Email: **Thien@windtechglobal.com**
Phone: **(02) 9503 0307**
Declaration of interest: **None**
Software: **BERS Pro v4.3.0.2d (3.13)**
AAO: **ABSA**

Overview

Dwelling details

Street: **999 Barrenjoey Road**
Suburb: **Palm Beach**
State: **NSW** Postcode: **2108**
Type: **New Dwelling** NCC Class: **1A**
NatHERS climate zone: **56**
Lot/DP number: **732085** Exposure: **Suburban**

Key construction and insulation materials

(see following pages for details)

Construction: **Cavity Brick**
Waterproofing Membrane
Concrete Slab on Ground
Insulation: **R1.9 wall insulation**
R3.5 ceiling insulation
R0.5 floor insulation
Glazing: **ALM-004-03 A Aluminium B DG Air Fill**
High Solar Gain low-E -Clear

Net floor area (m²)

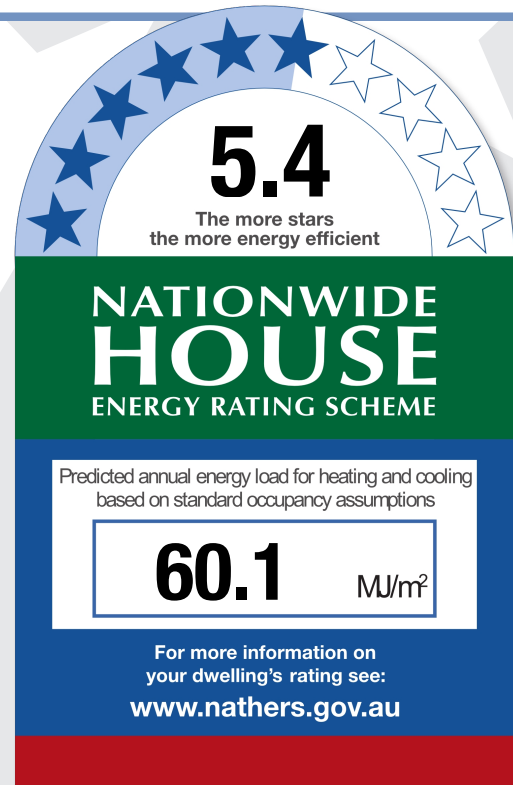
Conditioned: **569.0**
Unconditioned: **75.0**
Garage: **59.0**
TOTAL: **644.0**

Annual thermal performance loads (MJ/m²)

Heating: **34.5**
Cooling: **25.6**
TOTAL: **60.1**

Plan documents

Plan ref/date: **SD2000**
Prepared by: **COTEE PARKER ARCHITECTS PTY LTD**



Ceiling penetrations

(see following pages for details)

Sealed: **0**
Unsealed: **0**
TOTAL:** **0**

NOTE: This total is the maximum number of ceiling penetrations allowed to a ceiling (under a roof) for this certificate. **If this number is exceeded in construction then this certificate IS NOT VALID and a new certificate is required. Loss of ceiling insulation for the penetrations listed has been taken into account with the rating.

Principle downlight type: **Unknown**

Window selection - default windows only

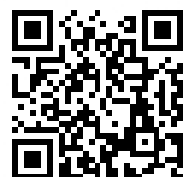
Note on allowable window values:
Only a 5% tolerance to the nominated SHGC window values shown on page 2 can be used with this rating.

Note: Only a +/- 5% SHGC tolerance is allowed with this rating.

NB: This tolerance ONLY applies to SHGC, the U-value can always be lower but not higher than the values stated on page 2.

If any of windows selected are outside the 5% tolerance then this certificate is no longer valid and the dwelling will need to be rerated to confirm compliance.

Scan to access this
certificate online and
confirm this is valid.



Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0004293114**

Certificate Date:

22 Oct 2019

★ Star rating:

5.4



Building features

Window type and performance value

Window ID	Window type	U-value	SHGC
ALM-003-03 A	ALM-003-03 A Aluminium A DG Air Fill High Solar Gain low-E -Clear	4.3	0.47
ALM-004-03 A	ALM-004-03 A Aluminium B DG Air Fill High Solar Gain low-E -Clear	4.3	0.53
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.7	0.70

Window schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Outdoor shade
Basement Tunnel	ALM-003-03 A	n/a	3200	2400	W	No Shading
Study	ALM-004-03 A	n/a	2700	3300	S	Vertical Louvres, Horizontal Blades
master Ensuite	ALM-004-03 A	n/a	2700	2400	N	No Shading
Kitchen/Living	ALM-004-03 A	n/a	2700	5500	W	Vertical Louvres, Horizontal Blades
Kitchen/Living	ALM-004-03 A	n/a	2700	700	N	No Shading
Kitchen/Living	ALM-003-03 A	n/a	2700	3250	W	Vertical Louvres, Horizontal Blades
Kitchen/Living	ALM-003-03 A	n/a	2700	1500	N	No Shading
Kitchen/Living	ALM-004-03 A	n/a	2700	4200	W	Vertical Louvres, Horizontal Blades
Kitchen/Living	ALM-003-03 A	n/a	2700	1550	W	Vertical Louvres, Horizontal Blades
Kitchen/Living	ALM-003-03 A	n/a	2700	1550	E	No Shading
Kitchen/Living	ALM-004-03 A	n/a	3200	850	N	No Shading
Kitchen/Living	ALM-004-03 A	n/a	3200	4200	E	No Shading
Kitchen/Living	ALM-004-03 A	n/a	3200	850	S	No Shading
Kitchen/Living	ALM-003-03 A	n/a	2700	1550	E	No Shading
Kitchen/Living	ALM-004-03 A	n/a	2700	700	S	No Shading
Kids Room	ALM-004-03 A	n/a	2700	3300	N	Vertical Louvres, Horizontal Blades
Master Bed	ALM-004-03 A	n/a	2700	700	S	No Shading
Master Bed	ALM-004-03 A	n/a	2700	5000	W	Vertical Louvres, Horizontal Blades
Master Bed	ALM-004-03 A	n/a	2700	700	N	Vertical Louvres, Vertical Blades
Bed 1	ALM-004-03 A	n/a	3200	1000	S	No Shading
Bed 1	ALM-003-03 A	n/a	2700	3400	W	Vertical Louvres, Horizontal Blades
Bed 2	ALM-003-03 A	n/a	2700	2600	N	No Shading
Bed 2	ALM-004-03 A	n/a	2700	3500	S	Vertical Louvres, Horizontal Blades
Ensuite 2	ALM-003-03 A	n/a	1500	700	N	No Shading
Ensuite 1	ALM-003-03 A	n/a	2700	1600	W	Vertical Louvres, Horizontal Blades
Ensuite 1	ALM-003-03 A	n/a	1500	700	N	No Shading
Bed 4	ALM-004-03 A	n/a	2700	3500	N	Vertical Louvres, Horizontal Blades
Bed 3	ALM-003-03 A	n/a	2700	3400	W	Vertical Louvres, Horizontal Blades
Bed 3	ALM-004-03 A	n/a	3000	1000	N	No Shading
Ensuite 4	ALM-003-03 A	n/a	1500	700	S	No Shading
Ensuite 3	ALM-003-03 A	n/a	1500	700	S	No Shading

* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments. For more details see www.nathers.gov.au

Nationwide House Energy Rating Scheme* Certificate

Certificate number: **0004293114**

Certificate Date:

22 Oct 2019

★ Star rating:

5.4



Building features continued

Ensuite 3	ALM-003-03 A	n/a	2700	1600	W	Vertical Louvres, Horizontal Blades
Lobby	ALM-003-03 A	n/a	1500	1100	E	No Shading
Lobby	ALM-003-03 A	n/a	1500	1100	E	No Shading
Garage	ALM-003-03 A	n/a	1500	970	W	No Shading
Garage	ALM-003-03 A	n/a	1500	970	W	No Shading
Garage	ALM-002-01 A	n/a	1500	970	W	No Shading
Garage	ALM-002-01 A	n/a	1500	970	W	No Shading
Garage	ALM-002-01 A	n/a	1500	970	W	No Shading
Lobby Level 5	ALM-004-03 A	n/a	2200	4200	W	No Shading
Void	ALM-004-03 A	n/a	3200	4200	W	Vertical Louvres, Horizontal Blades
Bedroom 6	ALM-004-03 A	n/a	2700	5100	W	No Shading
Bedroom 6	ALM-004-03 A	n/a	2700	900	N	No Shading
Night Time 7	ALM-004-03 A	n/a	2700	1900	N	No Shading

Roof window and skylight type and performance value

ID	Window type	U-value	SHGC
GEN-04-008a	Double-glazed clear, Timber and Aluminium Frame	0.0	0.00

Roof window and skylight schedule

Location	ID	Roof window/skylight no.	Area (m²)	Orientation	Outdoor shade	Indoor shade/diffuser
Kitchen/Living	GEN-04-008a	1	2.2	N	None	No
Lobby Level 5	GEN-04-008a	1	3.8	N	None	No

External wall type

ID	Wall type	Insulation	Wall wrap or foil
EW-1	Cavity Brick	Bulk Insulation R1.9	No
EW-2	Concrete block, lined	Bulk Insulation R1.9	No
EW-3	Concrete Block	Bulk Insulation R1.9	No
EW-4	Cavity Brick	No insulation	No

External wall schedule

Location	ID	Width (mm)	Height (mm)	Orientation	Fixed Shade	Eaves (mm)
Basement Tunnel	EW-1	2395	3200	W	No	5900
Basement Tunnel	EW-2	3900	3200	N	No	0
Basement Tunnel	EW-2	2400	3200	E	No	0
Basement Tunnel	EW-2	11900	3200	S	No	0
Lift 1	EW-2	2455	3200	N	No	0
Lift 1	EW-2	2255	3200	E	No	0
B Storage 1	EW-2	3950	3200	N	No	0
B Storage 2	EW-1	2200	3200	S	No	2400
B Storage 2	EW-1	2335	3200	NW	No	0

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B Storage 2	EW-1	3295	3200	N	No	0
Stairwell	EW-2	7700	3200	S	No	0
Stairwell	EW-2	8595	3200	W	No	5600
Stairwell	EW-2	2050	3200	E	No	0
Stairwell	EW-2	3900	3200	N	No	0
Stairwell	EW-2	4200	3200	E	No	0
Lift 2	EW-2	2210	3200	E	No	0
Study	EW-2	2095	3200	N	No	0
Study	EW-2	4800	3200	E	No	0
Study	EW-2	1100	3200	S	No	0
Study	EW-1	4095	3200	S	No	8800
master Ensuite	EW-1	2495	3200	N	No	300
master Ensuite	EW-2	500	3200	E	No	0
master Ensuite	EW-2	1700	3200	N	No	0
master Ensuite	EW-2	3100	3200	E	No	0
M WIR	EW-1	2895	3200	N	No	0
M WIR	EW-1	300	3200	E	No	2500
Kitchen/Living	EW-1	5600	3200	W	No	2000
Kitchen/Living	EW-1	1100	3200	N	No	19400
Kitchen/Living	EW-1	4000	3200	W	No	3600
Kitchen/Living	EW-1	2900	3200	N	No	15900
Kitchen/Living	EW-1	4755	3200	W	No	6500
Kitchen/Living	EW-1	1550	3200	W	No	7400
Kitchen/Living	EW-1	495	3200	S	No	19075
Kitchen/Living	EW-1	2400	3200	E	No	800
Kitchen/Living	EW-1	1600	3200	N	No	2400
Kitchen/Living	EW-1	4200	3200	E	No	0
Kitchen/Living	EW-1	1600	3200	S	No	2200
Kitchen/Living	EW-1	2200	3200	E	No	800
Kitchen/Living	EW-1	395	3200	N	No	17500
Kitchen/Living	EW-2	6895	3200	S	No	1425
Kitchen/Living	EW-1	800	3200	W	No	4300
Kitchen/Living	EW-1	2300	3200	S	No	2200
Kids Room	EW-1	4295	3200	N	No	8800
Kids Room	EW-2	4300	3200	E	No	0
Kids Room	EW-2	1200	3200	S	No	700
Lift 3	EW-3	2255	3200	W	No	6500
Lift 3	EW-3	900	3200	N	No	8800
Master Bed	EW-1	600	3200	W	No	5200
Master Bed	EW-1	2800	3200	S	No	0
Master Bed	EW-1	5100	3200	W	No	1900
Master Bed	EW-1	1000	3200	N	No	700
Master Bed	EW-1	1200	3200	W	No	2900
Master Bed	EW-1	4395	3200	N	No	0
Master Bed	EW-1	295	3200	W	No	7400
Master Bed	EW-1	2200	3200	S	No	0
Pantry Laundry	EW-2	4495	3200	E	No	0
Pantry Laundry	EW-2	3095	3200	S	No	1475

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Bed 1	EW-1	2395	3200	S	No	1300
Bed 1	EW-1	5200	3200	W	No	1700
Bed 1	EW-1	2000	3200	N	No	0
Lift 4	EW-3	1995	3200	W	No	4100
Bed 2	EW-1	2895	3200	N	No	1800
Bed 2	EW-2	5200	3000	E	No	4975
Bed 2	EW-2	700	3000	S	No	2400
Bed 2	EW-1	4495	3200	S	No	2400
Ensuite 2	EW-1	3895	3200	N	No	0
Ensuite 2	EW-1	2700	3200	E	No	6400
Ensuite 1	EW-1	3095	3200	W	No	0
Ensuite 1	EW-1	4095	3200	N	No	0
Bed 4	EW-1	4295	3200	N	No	6400
Bed 4	EW-2	5000	3200	E	No	0
Bed 4	EW-2	1900	3200	S	No	0
Bed 3	EW-1	2000	3200	S	No	0
Bed 3	EW-1	5300	3200	W	No	1600
Bed 3	EW-1	1695	3200	N	No	1400
Ensuite 4	EW-2	2995	3200	E	No	0
Ensuite 4	EW-2	1800	3200	S	No	0
Ensuite 4	EW-1	2095	3200	S	No	0
Ensuite 3	EW-1	4195	3200	S	No	0
Ensuite 3	EW-1	2995	3200	W	No	0
Lobby	EW-1	2400	3200	E	No	8225
Lobby	EW-1	1100	3200	N	No	10300
Lobby	EW-1	4200	3200	E	No	0
Lobby	EW-1	1200	3200	S	No	2200
Lobby	EW-1	2200	3200	E	No	0
	EW-1	1900	3200	W	No	3300
	EW-1	800	3200	N	No	4900
Garage	EW-4	9495	3200	E	No	700
Garage	EW-4	6200	3200	S	No	500
Garage	EW-4	9500	3200	W	No	600
Garage	EW-4	500	3200	N	No	400
Lift 5	EW-3	2495	3400	N	No	3600
Lift 5	EW-3	2295	3400	W	No	0
Lobby Level 5	EW-1	4190	2400	W	No	0
Lobby Level 5	EW-1	600	2400	N	No	5900
Lobby Level 5	EW-1	4200	2400	E	No	0
Lobby Level 5	EW-1	700	2400	S	No	10000
Day Time 10	EW-1	3295	3200	N	No	3600
Day Time 10	EW-1	2295	3200	E	No	4600
Void	EW-1	4190	3200	W	No	0
Bedroom 6	EW-2	2800	3200	S	No	8600
Bedroom 6	EW-1	5500	3200	W	No	2400
Bedroom 6	EW-1	1000	3200	N	No	900
Bedroom 6	EW-1	1200	3200	W	No	3400
Bedroom 6	EW-1	3200	3200	N	No	0

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Bedroom 6	EW-1	1000	3200	E	No	2400
Night Time 7	EW-1	2395	3200	N	No	1000
Night Time 7	EW-2	3495	3200	E	No	0
Night Time 8	EW-2	2190	3200	E	No	0

Internal wall type

Wall type	Area (m²)	Insulation	Wall wrap or foil
IW-1 - Cavity wall, direct fix plasterboard, single gap	355.0	No insulation	No
IW-2 - Concrete Block	72.0	No insulation	No
IW-3 - Cavity wall, direct fix plasterboard, single gap	14.0	Bulk Insulation, Air Gap R1.9	No

Floors

Location	Construction	Area (m²)	Sub floor ventilation	Added insulation	Covering
Basement Tunnel	Concrete Slab on Ground 250mm	28.2	None	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Lift 1	Concrete Slab on Ground 250mm	5.5	None	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
B Storage 1	Concrete Slab on Ground 250mm	8.8	None	Bulk Insulation in Contact with Floor R0.5	Ceramic Tiles 8mm
B Storage 2	Concrete Slab on Ground 250mm	7.9	None	Bulk Insulation in Contact with Floor R0.5	Ceramic Tiles 8mm
Stairwell/Basement Tunnel	Concrete Above Plasterboard 250mm	18.3		No Insulation	Carpet 10mm
Stairwell/B Storage	Concrete Above Plasterboard 250mm	3.0		No Insulation	Carpet 10mm
Stairwell	Concrete Slab on Ground 250mm	21.6	None	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Lift 2/Lift 1	Concrete Above Plasterboard 150mm	5.4		No Insulation	Cork Tiles or Parquetry 8mm
Study	Concrete Slab on Ground 250mm	22.4	None	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Powder Room	Concrete Slab on Ground 250mm	3.8	None	Bulk Insulation in Contact with Floor R0.5	Ceramic Tiles 8mm
master Ensuite	Concrete Slab on Ground 250mm	18.0	None	Bulk Insulation in Contact with Floor R0.5	Ceramic Tiles 8mm
M WIR/Night Time 7	Concrete Above Plasterboard 150mm	4.0		No Insulation	Carpet 10mm
M WIR	Suspended Concrete Slab 150mm	3.4	Totally Open	Bulk Insulation in Contact with Floor R0.5	Carpet 10mm

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M WIR	Suspended Concrete Slab 250mm	4.0	Totally Open	Bulk Insulation in Contact with Floor	Carpet 10mm
Kitchen/Living/Stair well	Concrete Above Plasterboard 250mm	29.2		No Insulation	Carpet 10mm
Kitchen/Living	Concrete Slab on Ground 250mm	106.0	None	Bulk Insulation in Contact with Floor R0.5	20/80 Ceramic/Cork
Kids Room	Concrete Slab on Ground 250mm	16.2	None	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Lift 3/Lift 2	Concrete Above Plasterboard 250mm	5.5		No Insulation	Cork Tiles or Parquetry 8mm
Master Bed/Stairwell	Concrete Above Plasterboard 150mm	1.2		No Insulation	Carpet 10mm
Master Bed/Bedroom 6	Concrete Above Plasterboard 150mm	25.5		No Insulation	Carpet 10mm
Master Bed/Night Time 7	Concrete Above Plasterboard 150mm	4.1		No Insulation	Carpet 10mm
Master Bed/Night Time 8	Concrete Above Plasterboard 150mm	5.1		No Insulation	Carpet 10mm
Master Bed	Suspended Concrete Slab 150mm	3.2	Totally Open	Bulk Insulation in Contact with Floor R0.5	Carpet 10mm
Pantry Laundry	Concrete Slab on Ground 250mm	11.3	None	Bulk Insulation in Contact with Floor R0.5	40/60 Ceramic/Cork
Bed 1/M WIR	Concrete Above Plasterboard 250mm	1.5		No Insulation	Carpet 10mm
Bed 1/Kitchen/Living	Concrete Above Plasterboard 250mm	3.6		No Insulation	Carpet 10mm
Bed 1/Master Bed	Concrete Above Plasterboard 250mm	15.4		No Insulation	Carpet 10mm
Bed 1	Suspended Concrete Slab 250mm	7.5	Open	Bulk Insulation in Contact with Floor R0.5	40/60 Cork/Carpet 10mm
Lift 4/Lift 3	Concrete Above Plasterboard 250mm	5.4		No Insulation	Carpet 10mm
Bed 2/Study	Concrete Above Plasterboard 250mm	22.4		No Insulation	Carpet 10mm
Bed 2/Powder Room	Concrete Above Plasterboard 250mm	3.7		No Insulation	Carpet 10mm
Bed 2/master Ensuite	Concrete Above Plasterboard 250mm	3.6		No Insulation	Carpet 10mm
Bed 2/Kitchen/Living	Concrete Above Plasterboard 250mm	0.8		No Insulation	Carpet 10mm
Bed 2	Concrete Slab on Ground 250mm	0.8	None	Bulk Insulation in Contact with Floor R0.5	20/80 Cork/Carpet 10mm
Ensuite 2/master Ensuite	Concrete Above Plasterboard 250mm	10.8		No Insulation	Ceramic Tiles 8mm
Ensuite 2/M WIR	Concrete Above Plasterboard 250mm	1.0		No Insulation	Ceramic Tiles 8mm
Ensuite 1/M WIR	Concrete Above Plasterboard 250mm	7.0		No Insulation	Ceramic Tiles 8mm
Ensuite 1/Master Bed	Concrete Above Plasterboard 250mm	5.1		No Insulation	Ceramic Tiles 8mm

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Bed 4/Kitchen/Living	Concrete Above Plasterboard 250mm	8.0		No Insulation	Carpet 10mm
Bed 4/Kids Room	Concrete Above Plasterboard 250mm	16.2		No Insulation	Carpet 10mm
Bed 4/Pantry Laundry	Concrete Above Plasterboard 250mm	1.6		No Insulation	Carpet 10mm
Bed 4	Concrete Slab on Ground 250mm	0.8	None	Bulk Insulation in Contact with Floor R0.5	20/80 Cork/Carpet 10mm
Bed 3/Kitchen/Living	Concrete Above Plasterboard 250mm	28.6		No Insulation	40/60 Cork/Carpet 10mm
Ensuite 4/Kitchen/Living	Concrete Above Plasterboard 250mm	6.1		No Insulation	Carpet 10mm
Ensuite 4/Pantry Laundry	Concrete Above Plasterboard 250mm	5.3		No Insulation	Carpet 10mm
Ensuite 3/Kitchen/Living	Concrete Above Plasterboard 250mm	12.3		No Insulation	Carpet 10mm
Lobby/Kitchen/Living	Concrete Above Plasterboard 250mm	35.0		No Insulation	Carpet 10mm
Lobby	Suspended Concrete Slab 250mm	2.0	Open	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
/Kitchen/Living	Concrete Above Plasterboard 250mm	6.8		No Insulation	Carpet 10mm
Garage/Bed 4	Concrete Above Plasterboard 250mm	8.0		Bulk Insulation R3.5	Carpet 10mm
Garage/Bed 3	Concrete Above Plasterboard 250mm	18.7		Bulk Insulation R3.5	Carpet 10mm
Garage/Ensuite 4	Concrete Above Plasterboard 250mm	4.6		Bulk Insulation R3.5	Carpet 10mm
Garage/Ensuite 3	Concrete Above Plasterboard 250mm	9.6		Bulk Insulation R3.5	Carpet 10mm
Garage/Lobby	Concrete Above Plasterboard 250mm	9.8		No Insulation	Carpet 10mm
Garage/	Concrete Above Plasterboard 250mm	6.9		Bulk Insulation R3.5	Carpet 10mm
Garage	Suspended Concrete Slab 250mm	1.1	Open	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Lift 5/Lift 4	Concrete Above Plasterboard 250mm	5.5		No Insulation	Cork Tiles or Parquetry 8mm
Lobby Level 5/Lobby	Concrete Above Plasterboard 250mm	17.7		No Insulation	Cork Tiles or Parquetry 8mm
Lobby Level 5/Void	Concrete Above Plasterboard 250mm	8.6		No Insulation	Cork Tiles or Parquetry 8mm
Day Time 10/Lobby	Concrete Above Plasterboard 250mm	6.2		No Insulation	Carpet 10mm
Day Time 10	Suspended Concrete Slab 250mm	1.1	Open	Bulk Insulation in Contact with Floor R0.5	Cork Tiles or Parquetry 8mm
Void/Kitchen/Living	Concrete Above Plasterboard 250mm	8.4		No Insulation	Carpet 10mm
Bedroom 6	Concrete Slab on Ground 250mm	26.6	None	Bulk Insulation in Contact with Floor R0.5	Carpet 10mm
Night Time 7	Concrete Slab on Ground	8.1	None	Bulk Insulation	Ceramic Tiles

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	250mm			in Contact with 8mm Floor R0.5
Night Time 8	Concrete Slab on Ground 250mm	5.0	None	Bulk Insulation Carpet 10mm in Contact with Floor R0.5

Ceiling type

Location	Construction	Added insulation	Roof space above
Basement Tunnel	Concrete, Plasterboard	No insulation	No
Basement Tunnel	Concrete Above Plasterboard	No Insulation	No
Lift 1	Concrete, Plasterboard	Bulk Insulation R3.5	No
Lift 1	Concrete Above Plasterboard	No Insulation	No
B Storage 1	Concrete, Plasterboard	No insulation	No
B Storage 1	Concrete Above Plasterboard	No Insulation	No
B Storage 2	Concrete, Plasterboard	No insulation	No
Stairwell	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Stairwell	Concrete Above Plasterboard	No Insulation	No
Lift 2	Concrete Above Plasterboard	No Insulation	No
Study	Concrete Above Plasterboard	No Insulation	No
Powder Room	Concrete Above Plasterboard	No Insulation	No
master Ensuite	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
master Ensuite	Concrete Above Plasterboard	No Insulation	No
M WIR	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
M WIR	Concrete Above Plasterboard	No Insulation	No
Kitchen/Living	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Kitchen/Living	Concrete Above Plasterboard	No Insulation	No
Kids Room	Concrete Above Plasterboard	No Insulation	No
Lift 3	Concrete Above Plasterboard	No Insulation	No
Master Bed	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Master Bed	Concrete Above Plasterboard	No Insulation	No
Pantry Laundry	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Pantry Laundry	Concrete Above Plasterboard	No Insulation	No
Bed 1	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Lift 4	Concrete Above Plasterboard	No Insulation	No
Bed 2	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Ensuite 2	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Ensuite 1	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Bed 4	Concrete, Plasterboard	Bulk Insulation	Yes

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		R3.5	
Bed 4	Concrete Above Plasterboard	Bulk Insulation R3.5	No
Bed 3	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Bed 3	Concrete Above Plasterboard	Bulk Insulation R3.5	No
Ensuite 4	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Ensuite 4	Concrete Above Plasterboard	Bulk Insulation R3.5	No
Ensuite 3	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Ensuite 3	Concrete Above Plasterboard	Bulk Insulation R3.5	No
Lobby	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Lobby	Concrete Above Plasterboard	No Insulation	No
	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
	Concrete Above Plasterboard	Bulk Insulation R3.5	No
Garage	Plasterboard	Bulk Insulation R3.5	Yes
Lift 5	Plasterboard	Bulk Insulation R3.5	Yes
Lobby Level 5	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Day Time 10	Plasterboard	Bulk Insulation R3.5	Yes
Void	Concrete Above Plasterboard	No Insulation	No
Bedroom 6	Concrete, Plasterboard	Bulk Insulation R3.5	Yes
Bedroom 6	Concrete Above Plasterboard	No Insulation	No
Night Time 7	Concrete Above Plasterboard	No Insulation	No
Night Time 8	Concrete Above Plasterboard	No Insulation	No

Ceiling penetrations

Location	Number	Type	Diameter (mm)	Sealed/unsealed
None Present				

Ceiling fans

Location	Number	Diameter (mm)
None Present		

Roof type

Construction	Added	Roof colour
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	insulation	
Waterproofing Membrane	No Insulation, Only an Air Gap	Medium
Timber Shingles	No Insulation, Only an Air Gap	Medium

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Additional information

Explanatory notes

About this report

Residential energy ratings address the quality of the building fabric i.e. walls, windows, floors and roof/ceilings. Ratings do not cover the energy or water efficiency of appliances including heating and cooling, hot water, dishwashers, ovens, fridges, TVs etc. or solar panel or water tank requirements. The efficiency or specification of these items is generally covered by other regulations, standards or guidelines.

General Information

A NatHERS House Energy Rating is a comprehensive, dynamic computer modelling evaluation of the floorplans, elevations and specifications to predict an energy load of a home. Not all of us use our homes in the same way, so ratings are generated using standard assumptions. This means homes can be compared across the country.

The actual energy consumption of your home may vary significantly from the predicted energy load figures in the report depending on issues such as the size of your household and your personal preferences, e.g. in terms of heating or cooling.

While the figures are an indicative guide to energy use, they can be used as a reliable guide for comparative purposes between different house designs and for demonstrating that the design meets the required regulatory compliance.

Homes that are energy efficient use less energy, are warmer in winter, cooler in summer and cost less to run. The higher the star rating the more energy efficient.

This NatHERS House Energy Rating report was carefully prepared by your assessor on the basis of comprehensive modelling using standard procedures to rate your home using the underlying engine developed by the Australian Commonwealth Scientific and Industrial Research Organisation (CSIRO).

All information relating to energy loads presented in this report is based on a range of standard assumptions in order to allow for comparisons with reports prepared for other homes and to demonstrate minimum regulatory compliance.

The standard assumptions include figures for occupancy, indoor air temperature and are based on a unique climate file for your region.

Accredited Assessors

To ensure you get a high-quality, professional NatHERS House Energy Rating report, you should always use an accredited assessor, accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO).

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

If you have any questions or concerns about this report, please direct them to your assessor in the first instance.

If your assessor is unable to address your questions or concerns, please contact their AAO listed under 'assessor details'. You can also find a range of information about accredited assessors on the AAO websites.

Disclaimer

The energy values quoted are for comparison purposes only; they are not a prediction of actual energy use. This rating only applies to the floor plan, construction details, orientation and climate as submitted and included in the attached drawing set that bears a stamp with the same number as this certificate. Changes to any of these details could affect the rating.

Contact

For more information on the Nationwide House Energy Rating Scheme (NatHERS), visit www.nathers.gov.au

For more information on energy efficient design and insulation visit www.yourhome.gov.au

APPENDIX B - CERTIFIED ARCHITECTURAL DRAWINGS
