

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 748725S

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 18/09/2014 published by the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Monday, 01 August 2016

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



Project summary

Project name	TPH163235
Street address	13 Therry Street Avalon Beach 2107
Local Government Area	Pittwater Council
Plan type and plan number	deposited 22726
Lot no.	4
Section no.	-
Project type	separate dwelling house
No. of bedrooms	5

Project score

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

Certificate Prepared by

Name / Company Name: T P House Pty Ltd

ABN (if applicable): 81110120315

Description of project

Project address

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Street address	13 Therry Street Avalon Beach 2107
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Site details

Site area (m ²)	691
Roof area (m ²)	323
Conditioned floor area (m2)	274.0
Unconditioned floor area (m2)	20.0
Total area of garden and lawn (m2)	378

Assessor details and thermal loads

Assessor number	BDAV/12/1452
Certificate number	0000569335
Climate zone	56
Area adjusted cooling load (MJ/m ² .year)	28
Area adjusted heating load (MJ/m ² .year)	49

Other

none	n/a
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Project score

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

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 3 star (> 7.5 but <= 9 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 2300 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 323 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.) - a tap that is located within 10 metres of the swimming pool in the development		✓ ✓ ✓ ✓	✓ ✓ ✓ ✓
Swimming pool			
The swimming pool must not have a volume greater than 34.4 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 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
floor - suspended floor above garage	All or part of floor area

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 storage with a performance of 5 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: 1-phase airconditioning; Energy rating: 3 Star (new rating)		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 3 Star (new rating)		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: 1-phase airconditioning; Energy rating: 3 Star (new rating)		✓	✓
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 bedroom: 1-phase airconditioning; Energy rating: 3 Star (new rating)		✓	✓
Ventilation			
The applicant must install the following exhaust systems in the development:			
At least 1 Bathroom: individual fan, not ducted; Operation control: manual switch on/off		✓	✓
Kitchen: individual fan, ducted to façade or roof; Operation control: manual switch on/off		✓	✓
Laundry: natural ventilation only, or no laundry; Operation control: n/a		✓	✓
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 5 of the bedrooms / study;		✓	✓
• at least 2 of the living / dining rooms;		✓	✓
• the kitchen;		✓	✓

Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
• all bathrooms/toilets; • the laundry; • all hallways;		  	  
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 3 bathroom(s)/toilet(s) in the development for natural lighting.			
Swimming pool			
The development must not incorporate any heating system for the swimming pool.			
The applicant must install a timer for the swimming pool pump in the development.			
Other			
The applicant must install a gas 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.

Nationwide House Energy Rating Scheme* Certificate

Certificate number: 0000569335

Certificate Date:

01 Aug 2016

★ Star rating:

4.4



Building features

Window type and performance value

Window ID	Window type	U-value	SHGC
ALM-002-01 A	ALM-002-01 A Aluminium B SG Clear	6.70	0.70
ALM-001-01 A	ALM-001-01 A Aluminium A SG Clear	6.70	0.57

Window schedule

Location	Window ID	Window no.	Height (mm)	Width (mm)	Orientation	Outdoor shade
Garage 1	ALM-002-01 A	n/a	933	1791	W	No Shading
Lounge	ALM-001-01 A	n/a	2400	1690	N	No Shading
Lounge	ALM-002-01 A	n/a	2400	850	N	No Shading
Lounge	ALM-002-01 A	n/a	2400	850	N	No Shading
Lounge	ALM-002-01 A	n/a	2042	843	E	No Shading
Lounge	ALM-002-01 A	n/a	2042	843	E	No Shading
Vestibule	ALM-002-01 A	n/a	2400	300	N	No Shading
Vestibule	ALM-002-01 A	n/a	2400	300	N	No Shading
Pantry	ALM-002-01 A	n/a	1191	1200	E	No Shading
Kitchen/Living	ALM-002-01 A	n/a	1362	1791	E	No Shading
Kitchen/Living	ALM-002-01 A	n/a	2057	2629	E	No Shading
Kitchen/Living	ALM-002-01 A	n/a	2400	4500	S	No Shading
Rumpus	ALM-002-01 A	n/a	2042	2700	S	No Shading
Rumpus	ALM-002-01 A	n/a	2400	2652	E	No Shading
Study	ALM-002-01 A	n/a	1534	2391	W	No Shading
Shr Rm	ALM-002-01 A	n/a	590	1200	W	No Shading
Ldry	ALM-002-01 A	n/a	1020	724	W	No Shading
Bedroom 1	ALM-002-01 A	n/a	2100	2391	S	No Shading
wir 1a	ALM-002-01 A	n/a	1020	600	S	No Shading
Ens 1	ALM-002-01 A	n/a	1020	1550	E	No Shading
Gallery	ALM-001-01 A	n/a	1029	2410	N	No Shading
Gallery	ALM-002-01 A	n/a	1200	1810	E	No Shading
Bedroom 2	ALM-002-01 A	n/a	1362	843	E	No Shading
Bedroom 2	ALM-002-01 A	n/a	1362	2489	N	No Shading
Bedroom 3	ALM-002-01 A	n/a	1362	843	W	No Shading
Bedroom 3	ALM-002-01 A	n/a	1362	2846	N	No Shading
Bath	ALM-002-01 A	n/a	1020	1550	W	No Shading
Bedroom 4	ALM-002-01 A	n/a	1191	1550	W	No Shading

Roof window and skylight type and performance value

ID	Window type	U-value	SHGC
GEN-04-010a	Tubular single-glazed clear, Timber and Aluminium Frame	0.00	0.00

Roof window and skylight schedule

Location	ID	Roof window/skylight no.	Area (m²)	Orientation	Outdoor shade	Indoor shade/diffuser
Hall	GEN-04-010a	1	0.1	N	None	Yes

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For more details see www.nathers.gov.au

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Building features continued

External wall type

ID	Wall type	Insulation	Wall wrap or foil
EW-1	Single Skin Brick	No insulation	No
EW-2	Brick Veneer	Bulk Insulation R2	No
EW-3	Fibro Cavity Panel Direct Fix	Anti-glare foil with bulk no gap R2	Yes

External wall schedule

Location	ID	Width (mm)	Height (mm)	Orientation	Fixed Shade	Eaves (mm)
Garage 1	EW-1	1000	2730	S	No	8300
Garage 1	EW-1	6800	2730	W	No	500
Garage 1	EW-1	6000	2730	N	No	2400
Garage 1	EW-1	1100	2730	E	No	7700
Lounge	EW-2	1700	2730	W	No	9400
Lounge	EW-2	4200	2730	N	No	1800
Lounge	EW-2	2100	2730	E	No	600
Lounge	EW-2	600	2730	N	No	3900
Lounge	EW-2	900	2730	E	No	0
Lounge	EW-2	600	2730	S	No	16500
Lounge	EW-2	2095	2730	E	No	600
Vestibule	EW-2	2890	2730	N	No	3700
Pantry	EW-2	2990	2730	E	No	600
Kitchen/Living	EW-2	6995	2730	E	No	600
Kitchen/Living	EW-2	6200	2730	S	No	4400
Rumpus	EW-2	5500	2730	S	No	600
Rumpus	EW-2	4495	2730	W	No	600
Rumpus	EW-2	4495	2730	E	No	6800
Study	EW-2	1300	2730	S	No	600
Study	EW-2	3695	2730	W	No	600
Shr Rm	EW-2	1795	2730	W	No	600
Shr Rm	EW-2	900	2730	N	No	11400
Ldry	EW-2	2190	2730	W	No	1500
Bedroom 1	EW-3	3300	2550	W	No	400
Bedroom 1	EW-3	990	2550	E	No	400
Bedroom 1	EW-3	6095	2550	S	No	3200
wir 1a	EW-3	2195	2550	S	No	3200
wir 1a	EW-3	3495	2550	E	No	400
Ens 1	EW-3	1700	2550	N	No	7100
Ens 1	EW-3	3200	2550	E	No	0
Ens 1	EW-3	400	2550	S	No	4900
Gallery	EW-3	2890	2550	N	No	400
Gallery	EW-3	2290	2550	E	No	1700
Bedroom 2	EW-3	4500	2550	E	No	400
Bedroom 2	EW-3	1300	2550	S	No	10400
Bedroom 2	EW-3	1100	2550	W	No	400
Bedroom 2	EW-3	3400	2550	N	No	300
Bedroom 3	EW-3	3495	2550	W	No	400
Bedroom 3	EW-3	700	2550	N	No	900
Bedroom 3	EW-3	600	2550	W	No	1100

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Building features continued

Bedroom 3	EW-3	3000	2550	N	No	300
Bedroom 3	EW-3	600	2550	E	No	1200
Bedroom 3	EW-3	800	2550	N	No	900
Bedroom 3	EW-3	500	2550	E	No	6700
Bath	EW-3	2200	2550	W	No	0
Bath	EW-3	400	2550	N	No	3900
Bath	EW-3	400	2550	S	No	5300
Bedroom 4	EW-3	4895	2550	W	No	400
Bedroom 4	EW-3	2495	2550	S	No	400

Internal wall type

Wall type	Area (m²)	Insulation	Wall wrap or foil
IW-1 - Cavity wall, direct fix plasterboard, single gap	29	Bulk Insulation, No Air Gap R2	No
IW-2 - Cavity wall, direct fix plasterboard, single gap	253	No insulation	No

Floors

Location	Construction	Area (m²)	Sub floor ventilation	Added insulation	Covering
Garage 1	Waffle pod slab 225 mm	40.3	None	Waffle Pod 225mm	Bare
Lounge	Waffle pod slab 225 mm	21.6	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
Vestibule	Waffle pod slab 225 mm	18.5	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Pantry	Waffle pod slab 225 mm	5.7	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Kitchen/Living	Waffle pod slab 225 mm	60.9	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Rumpus	Waffle pod slab 225 mm	24.5	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Study	Waffle pod slab 225 mm	15.8	None	Waffle Pod 225mm	Carpet+Rubber Underlay 18mm
Shr Rm	Waffle pod slab 225 mm	5.3	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Ldry	Waffle pod slab 225 mm	6.7	None	Waffle Pod 225mm	Ceramic Tiles 8mm
Hall	Waffle pod slab 225 mm	7.5	None	Waffle Pod 225mm	Cork Tiles or Parquetry 8mm
Bedroom 1/Kitchen/Living	Timber Above Plasterboard	27.2	No Insulation	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Study	Timber Above Plasterboard	1.8	No Insulation	No Insulation	Carpet+Rubber Underlay 18mm
Bedroom 1/Hall	Timber Above Plasterboard	1.0	No Insulation	No Insulation	Carpet+Rubber Underlay 18mm
wir 1a/Kitchen/Living	Timber Above Plasterboard	7.4	No Insulation	No Insulation	Carpet+Rubber Underlay 18mm
wir	Timber Above Plasterboard	3.0	No Insulation	No Insulation	Carpet+Rubber

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Building features continued

1b/Kitchen/Living					Underlay 18mm
Ens 1/Pantry	Timber Above Plasterboard	0.9	No Insulation		Ceramic Tiles 8mm
Ens 1/Kitchen/Living	Timber Above Plasterboard	10.0	No Insulation		Ceramic Tiles 8mm
Storage/Kitchen/Living	Timber Above Plasterboard	3.0	No Insulation		Carpet++Rubber Underlay 18mm
Gallery/Garage 1	Timber Above Plasterboard	3.3	No Insulation		Carpet++Rubber Underlay 18mm
Gallery/Vestibule	Timber Above Plasterboard	18.7	No Insulation		Carpet++Rubber Underlay 18mm
Gallery/Kitchen/Living	Timber Above Plasterboard	4.6	No Insulation		Carpet++Rubber Underlay 18mm
Gallery/Hall	Timber Above Plasterboard	1.7	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 2/Lounge	Timber Above Plasterboard	15.1	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 3/Garage	Timber Above Plasterboard	16.4	No Insulation		Carpet++Rubber Underlay 18mm
Bath/Garage 1	Timber Above Plasterboard	8.1	No Insulation		Ceramic Tiles 8mm
Bedroom 4/Garage	Timber Above Plasterboard	1.9	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 4/Study	Timber Above Plasterboard	1.0	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 4/Shr Rm	Timber Above Plasterboard	3.0	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 4/Ldry	Timber Above Plasterboard	5.8	No Insulation		Carpet++Rubber Underlay 18mm
Bedroom 4/Hall	Timber Above Plasterboard	5.2	No Insulation		Carpet++Rubber Underlay 18mm

Ceiling type

Location	Construction	Added insulation	Roof space above
Garage 1	Plasterboard	No insulation	Yes
Garage 1	Timber Above Plasterboard	No Insulation	No
Lounge	Plasterboard	Bulk Insulation R3	Yes
Lounge	Timber Above Plasterboard	No Insulation	No
Vestibule	Timber Above Plasterboard	No Insulation	No
Pantry	Plasterboard	Bulk Insulation R3	Yes
Pantry	Timber Above Plasterboard	No Insulation	No
Kitchen/Living	Plasterboard	Bulk Insulation R3	Yes
Kitchen/Living	Timber Above Plasterboard	No Insulation	No
Rumpus	Plasterboard	Bulk Insulation R3	Yes
Study	Plasterboard	Bulk Insulation R3	Yes
Study	Timber Above Plasterboard	No Insulation	No

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Building features continued

Shr Rm	Plasterboard	Bulk Insulation R3	Yes
Shr Rm	Timber Above Plasterboard	No Insulation	No
Ldry	Plasterboard	Bulk Insulation R3	Yes
Ldry	Timber Above Plasterboard	No Insulation	No
Hall	Timber Above Plasterboard	No Insulation	No
Bedroom 1	Plasterboard	Bulk Insulation R3	Yes
wir 1a	Plasterboard	Bulk Insulation R3	Yes
wir 1b	Plasterboard	Bulk Insulation R3	Yes
Ens 1	Plasterboard	Bulk Insulation R3	Yes
Storage	Plasterboard	Bulk Insulation R3	Yes
Gallery	Plasterboard	Bulk Insulation R3	Yes
Bedroom 2	Plasterboard	Bulk Insulation R3	Yes
Bedroom 3	Plasterboard	Bulk Insulation R3	Yes
Bath	Plasterboard	Bulk Insulation R3	Yes
Bedroom 4	Plasterboard	Bulk Insulation R3	Yes

Ceiling penetrations

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

Ceiling fans

Location	Number	Diameter (mm)
None Present		

Roof type

Construction	Added insulation	Roof colour
Corrugated Iron	Bulk, Reflective Side Down, No Air Gap Above R0.7	Medium
Corrugated Iron	Bulk, Reflective Side Down, Anti-glare Up R0.7	Medium

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★ Star rating: 4.4



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