

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 693874S

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 Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Monday, 21 December 2015

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



Project summary		
Project name	Palm Beach	
Street address	1156 Barrenjoey Road Palm Beach 2108	
Local Government Area	Pittwater Council	
Plan type and plan number	deposited 6746	
Lot no.	15	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	4	
Project score		
Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 67	Target 40




Certificate Prepared by

Name / Company Name: benn and penna architects

ABN (if applicable): 21497268143

Description of project

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Site details	
Site area (m ²)	707
Roof area (m ²)	121
Conditioned floor area (m ²)	142.41
Unconditioned floor area (m ²)	15.19
Total area of garden and lawn (m ²)	150

Assessor details and thermal loads		
Assessor number	n/a	
Certificate number	n/a	
Climate zone	n/a	
Area adjusted cooling load (MJ/m ² .year)	n/a	
Area adjusted heating load (MJ/m ² .year)	n/a	
Other		
none	n/a	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 67	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
Landscape			
The applicant must plant indigenous or low water use species of vegetation throughout 150 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 3 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 3 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 15000 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 120 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 configure the rainwater tank so that overflow is diverted to a stormwater tank.		✓	✓
The applicant must connect the rainwater tank to: <ul style="list-style-type: none"> 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.) 		✓	✓
Stormwater tank			
The applicant must install a stormwater tank with a capacity of at least 5000 litres on the site. This stormwater tank must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.	✓	✓	✓

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must configure the stormwater tank to collect overflow from the rainwater tank.		✓	✓
The applicant must configure the stormwater tank to collect runoff from: <ul style="list-style-type: none"> • at least 120 square metres of roof area of the development (excluding the area of the roof which drains to any rainwater tank or private dam) 		✓	✓
The applicant must connect the stormwater tank to: <ul style="list-style-type: none"> • a sub-surface or non-aerosol irrigation system, or if the stormwater has been appropriately treated in accordance with applicable regulatory requirements, to at least one outdoor tap in the development (Note: NSWHealth does not recommend that stormwater be used to irrigate edible plants which are consumed raw.) 		✓	✓

Thermal Comfort CommitmentsShow on
DA plansShow on CC/CDC
plans & specsCertifier
check**Floor, walls and ceiling/roof**

The applicant must construct the floor(s), walls, and ceiling/roof of the dwelling in accordance with the specifications listed in the table below.



Construction	Additional insulation required (R-Value)	Other specifications
floor - concrete slab on ground	nil	
external wall - framed (weatherboard, fibre cement, metal clad)	1.50 (or 1.90 including construction)	
external wall - cavity brick	0.50 (or 1.17 including construction)	
ceiling and roof - raked ceiling / pitched or skillion roof, framed	ceiling: 0.74 (up), roof: foil backed blanket (100mm)	framed; medium (solar absorptance 0.475-0.70)

Note Insulation specified in this Certificate must be installed in accordance with Part 3.12.1.1 of the Building Code of Australia.

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Windows, glazed doors and skylights			
The applicant must install the windows, glazed doors and shading devices described in the table below, in accordance with the specifications listed in the table. Relevant overshadowing specifications must be satisfied for each window and glazed door.	✓	✓	✓
The dwelling may have 1 skylight (<0.7 square metres) and up to 2 windows/glazed doors (<0.7 square metres) which are not listed in the table.	✓	✓	✓
The following requirements must also be satisfied in relation to each window and glazed door: <ul style="list-style-type: none"> Except where the glass is 'single clear' or 'single toned', each window and glazed door must have a U-value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) +/-10% of that listed. Total system U-values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. The leading edge of each eave, pergola, verandah, balcony or awning must be no more than 500 millimetres above the head of the window or glazed door, except that a projection greater than 500 mm and up to 1500 mm above the head must be twice the value in the table. Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. Unless they have adjustable shading, pergolas must have fixed battens parallel to the window or glazed door above which they are situated, unless the pergola also shades a perpendicular window. The spacing between battens must not be more than 50 mm. Overshadowing buildings/vegetation must be of the height and distance from the centre and the base of the window and glazed door, as specified in the 'overshadowing' column. 	✓	✓	✓
The applicant must install the skylights described in the table below, in accordance with the specifications listed in the table.	✓	✓	✓

Skylight no.	Maximum area (square metres)	Type	Shading
S1	1.20	timber, low-E/double/argon fill	no shading
S2	2.50	timber, low-E/double/argon fill	no shading

Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W1	N	7.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 751-900 mm	1-2 m high, <1.5 m away


Window/glazed door no.	Orientation	Maximum area (square metres)	Type	Shading	Overshadowing
W2	N	4.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away
W3	N	2.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 450 mm	2-4m high, 2 m away
W4	N	2.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	2-4m high, 2 m away
W5	N	1.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 451-600 mm	1-2 m high, <1.5 m away
W6	E	2.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	1-2 m high, <1.5 m away
W7	E	0.25	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 450 mm	1-2 m high, <1.5 m away
W8	E	9.00	timber or uPVC, toned/air gap/clear (U-value:3.64, SHGC:0.42)	none	not overshadowed
W9	S	1.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W10	S	1.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 751-900 mm	not overshadowed
W11	S	1.00	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	none	not overshadowed
W12	W	14.00	timber or uPVC, toned/air gap/clear (U-value:3.64, SHGC:0.42)	awning (adjustable) 600-1,200 mm	not overshadowed
W13	W	3.50	standard aluminium, single pyrolytic low-e (U-value:5.7, SHGC:0.47)	eave/verandah/pergola/balcony 450 mm	not overshadowed
W14	W	9.80	timber or uPVC, toned/air gap/clear (U-value:3.64, SHGC:0.42)	eave/verandah/pergola/balcony 751-900 mm	not overshadowed


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.	✓	✓	✓
Cooling system			
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)		✓	✓
The living areas must not incorporate any cooling system, or any ducting which is designed to accommodate a cooling system.		✓	✓
Heating system			
The living areas must not incorporate any heating system, or any ducting which is designed to accommodate a heating system.		✓	✓
The bedrooms must not incorporate any heating system, or any ducting which is designed to accommodate a heating system.		✓	✓
Ventilation			
<p>The applicant must install the following exhaust systems in the development:</p> <p>At least 1 Bathroom: individual fan, not ducted; Operation control: manual on / timer off</p> <p>Kitchen: individual fan, not ducted; Operation control: manual switch on/off</p> <p>Laundry: individual fan, not ducted; Operation control: manual switch on/off</p>		<p>✓</p> <p>✓</p> <p>✓</p>	<p>✓</p> <p>✓</p> <p>✓</p>
Natural lighting			
The applicant must install a window and/or skylight in 2 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Alternative energy			
The applicant must install a photovoltaic system with the capacity to generate at least 2 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 a gas cooktop & electric oven in the kitchen of the dwelling.		✓	


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
The applicant must construct each refrigerator space in the development so that it is "well ventilated", as defined in the BASIX definitions.		✓	
The applicant must install a fixed outdoor clothes drying line as part of the development.		✓	
The applicant must install a fixed indoor or sheltered 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.