

BASIX[®]Certificate

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

Single Dwelling

Certificate number: 1223703S_02

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.basix.nsw.gov.au




Secretary

Date of issue: Wednesday, 26 January 2022

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



Planning,
Industry &
Environment

Project summary		
Project name	48 WOORARRA_02	
Street address	48 WOORARRA Avenue NORTH NARRABEEN 2101	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 23429	
Lot no.	15	
Section no.	-	
Project type	separate dwelling house	
No. of bedrooms	5	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 50	Target 50

Certificate Prepared by
Name / Company Name: Leigh Sym
ABN (if applicable): N/A

Description of project

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Site details

Site area (m ²)	582
Roof area (m ²)	215
Conditioned floor area (m2)	235.7
Unconditioned floor area (m2)	24.4
Total area of garden and lawn (m2)	367

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
Ceiling fan in at least one bedroom	n/a
Ceiling fan in at least one living room or other conditioned area	n/a

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 70 square metres of the site.	✓	✓	
Fixtures			
The applicant must install showerheads with a minimum rating of 4 star (> 4.5 but <= 6 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 5 star in the kitchen in the development.		✓	
The applicant must install basin taps with a minimum rating of 5 star in each bathroom in the development.		✓	
Alternative water			
Rainwater tank			
The applicant must install a rainwater tank of at least 3000 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 200 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: <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.) 		✓	✓
Greywater diversion system			
The applicant must install a greywater diversion system on the site. This system must meet, and be installed in accordance with, the requirements of all applicable regulatory authorities.		✓	✓
The applicant must configure the greywater diversion system so that greywater for diversion is collected from:			

Water Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> each bathroom (but not the toilets) 		✓	✓
Hot water recirculation or diversion system			
The applicant must install a hot water diversion system to all showers, kitchen sinks and all basins in the development.		✓	✓
The applicant must install a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the development.		✓	✓

Thermal Comfort Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
General features			
The dwelling must not have more than 2 storeys.	✓	✓	✓
The conditioned floor area of the dwelling must not exceed 300 square metres.	✓	✓	✓
The dwelling must not contain open mezzanine area exceeding 25 square metres.	✓	✓	✓
The dwelling must not contain third level habitable attic room.	✓	✓	✓
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, 79.2 square metres	nil	
floor - suspended floor above enclosed subfloor, 78.7 square metres, framed	1.10 (or 1.8 including construction) (down)	
floor - above habitable rooms or mezzanine, 102.2 square metres, framed	nil	
floor - suspended floor above garage, framed	nil	
external wall - brick veneer	2.86 (or 3.40 including construction)	
external wall - framed (weatherboard, fibre cement, metal clad)	3.00 (or 3.40 including construction)	
internal wall shared with garage - single skin masonry	nil	
ceiling and roof - flat ceiling / flat roof, framed	ceiling: 5 (up), roof: foil backed blanket (75 mm)	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.
Note	• In some climate zones, insulation should be installed with due consideration of condensation and associated interaction with adjoining building materials.

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) which is not listed in the table.	✓	✓	✓
<p>The following requirements must also be satisfied in relation to each window and glazed door:</p> <ul style="list-style-type: none"> • For the following glass and frame types, the certifier check can be performed by visual inspection. <ul style="list-style-type: none"> - Aluminium single clear - Aluminium double (air) clear - Timber/uPVC/fibreglass single clear - Timber/uPVC/fibreglass double (air) clear • For other glass or frame types, each window and glazed door must be accompanied with certification showing a U value no greater than that listed and a Solar Heat Gain Coefficient (SHGC) within the range of those listed. Total system U values and SHGC must be calculated in accordance with National Fenestration Rating Council (NFRC) conditions. Frame and glass types shown in the table below are for reference only. • Pergolas with polycarbonate roof or similar translucent material must have a shading coefficient of less than 0.35. • Vertical external louvres and blinds must fully shade the window or glazed door beside which they are situated when fully drawn or closed. • Pergolas with adjustable shading may have adjustable blades or removable shade cloth (not less than 80% shading ratio). Adjustable blades must overlap in plan view. • 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. Total skylight area must not exceed 3 square metres (the 3 square metre limit does not include the optional additional skylight of less than 0.7 square metres that does not have to be listed in the table).	✓	✓	✓

Skylight no.	Maximum area (square metres)	Type	Shading device
S01	0.76	timber, low-E/double/argon fill	no shading

Skylight no.	Maximum area (square metres)	Type	Shading device
S02	0.76	timber, low-E/double/argon fill	no shading

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
North-East facing					
W07	300	7700	aluminium, single, clear	eave 300 mm, 0 mm above head of window or glazed door	not overshadowed
W01	2440	2740	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	solid overhang 2170 mm, 525 mm above head of window or glazed door	not overshadowed
W02	2440	2740	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	solid overhang 2170 mm, 525 mm above head of window or glazed door	not overshadowed
W05	2440	4880	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	pergola (adjustable battens) 2170 mm, 300 mm above head of window or glazed door	not overshadowed
W04	2440	2400	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	pergola (adjustable battens) 2170 mm, 300 mm above head of window or glazed door	not overshadowed
W06	2440	2400	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	pergola (adjustable battens) 2170 mm, 300 mm above head of window or glazed door	not overshadowed
W03	2440	3280	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	solid overhang 2170 mm, 525 mm above head of window or glazed door	not overshadowed
South-East facing					
W13	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W14	300	5850	aluminium, single, clear	eave 300 mm, 0 mm above head of window or glazed door	not overshadowed

Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W11	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W12	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	external louvre/vertical blind (adjustable)	not overshadowed
W09	600	1800	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W10	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W08	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
South-West facing					
W18	2440	1800	U-value: 3.1, SHGC: 0.243 - 0.297 (aluminium: thermally broken, double (air), Lo-Tsol Low-e/clear)	solid overhang 1770 mm, 200 mm above head of window or glazed door	>4 m high, <2 m away
W15	2120	300	aluminium, single, clear	solid overhang 1800 mm, 300 mm above head of window or glazed door	>4 m high, <2 m away
W20	300	7710	aluminium, single, clear	eave 300 mm, 0 mm above head of window or glazed door	not overshadowed
W16	1100	2100	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	eave 300 mm, 300 mm above head of window or glazed door	>4 m high, <2 m away
W17	2440	4680	U-value: 3.1, SHGC: 0.243 - 0.297 (aluminium: thermally broken, double (air), Lo-Tsol Low-e/clear)	solid overhang 1770 mm, 200 mm above head of window or glazed door	>4 m high, <2 m away
W19	1400	2100	U-value: 5.6, SHGC: 0.369 - 0.451 (aluminium, single, Lo-Tsol Low-e)	none	not overshadowed
North-West facing					


Window/glazed door no.	Maximum height (mm)	Maximum width (mm)	Type	Shading Device (Dimension within 10%)	Overshadowing
W24	2400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W21	2100	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W22	2100	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W25	2400	450	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W26	2400	450	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W23	900	1800	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W27	1400	600	U-value: 4.9, SHGC: 0.297 - 0.363 (aluminium, double (air), Lo-Tsol Low-e/clear)	none	not overshadowed
W28	300	5850	aluminium, single, clear	eave 300 mm, 0 mm above head of window or glazed door	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 living area: 1-phase airconditioning; Energy rating: 4 Star (old label)		✓	✓
The applicant must install the following cooling system, or a system with a higher energy rating, in at least 1 bedroom: ceiling fans + 1-phase airconditioning; Energy rating: 4 Star (old label)		✓	✓
The cooling system must provide for day/night zoning between living areas and bedrooms.		✓	✓
Heating system			
The applicant must install the following heating system, or a system with a higher energy rating, in at least 1 living area: gas fixed flued heater; Energy rating: 4 Star		✓	✓
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: 4 Star (old label)		✓	✓
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, not ducted; Operation control: manual switch on/off		✓	✓
Laundry: individual fan, not ducted; Operation control: manual switch on/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 5 of the bedrooms / study; dedicated		✓	✓
• at least 2 of the living / dining rooms; dedicated		✓	✓


Energy Commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<ul style="list-style-type: none"> the kitchen; dedicated 		✓	✓
<ul style="list-style-type: none"> all bathrooms/toilets; dedicated 		✓	✓
<ul style="list-style-type: none"> the laundry; dedicated 		✓	✓
<ul style="list-style-type: none"> all hallways; dedicated 		✓	✓
Natural lighting			
The applicant must install a window and/or skylight in 4 bathroom(s)/toilet(s) in the development for natural lighting.	✓	✓	✓
Other			
The applicant must install a gas cooktop & electric oven in the kitchen of the dwelling.		✓	
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.		✓	

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.