

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 649695M_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 18/09/2014 published by the Department. This document is available at www.basix.nsw.gov.au

This proposal has been the subject of an Alternative Assessment by the Department. The schedule below contains additional commitments resulting from this assessment, shown at the end of the Certificate.

Secretary

Date of issue: Friday, 05 August 2016

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



Project summary		
Project name	Barangaroo 1B (R5) - Certification_02	
Street address	6 Watermans Quay Sydney 2000	
Local Government Area	Sydney City Council	
Plan type and plan number	deposited 1204948	
Lot no.	200	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	151	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	✔ 46	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 35	Target 20




Certificate Prepared by

Name / Company Name: Lend Lease Project Management & Construction

ABN (if applicable): 97000098162

Description of project

Project address	
Project name	Barangaroo 1B (R5) - Certification_02
Street address	6 Watermans Quay Sydney 2000
Local Government Area	Sydney City Council
Plan type and plan number	deposited 1204948
Lot no.	200
Section no.	-
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	151
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m ²)	1824
Roof area (m ²)	900.75
Non-residential floor area (m ²)	916.3
Residential car spaces	142
Non-residential car spaces	1

Common area landscape		
Common area lawn (m ²)	96.77	
Common area garden (m ²)	164.31	
Area of indigenous or low water use species (m ²)	0.0	
Assessor details		
Assessor number	100282	
Certificate number	1008434043	
Climate zone	17	
Project score		
Water	 46	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 35	Target 20

Description of project

The tables below describe the dwellings and common areas within the project

Residential flat buildings - R5, 151 dwellings, 29 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1	3	127.0	0.0	0.0	0.0
5	3	127.0	0.0	0.0	0.0
9	3	127.0	0.0	0.0	0.0
13	3	127.0	0.0	0.0	0.0
17	3	127.0	0.0	0.0	0.0
21	3	127.0	0.0	0.0	0.0
25	3	127.0	0.0	0.0	0.0
29	2	79.0	0.0	0.0	0.0
33	2	79.0	0.0	0.0	0.0
37	2	79.0	0.0	0.0	0.0
41	2	89.0	0.0	0.0	0.0
45	2	89.0	0.0	0.0	0.0
49	2	89.0	0.0	0.0	0.0
53	1	54.0	0.0	0.0	0.0
57	1	54.0	0.0	0.0	0.0
61	1	54.0	0.0	0.0	0.0
65	1	70.0	0.0	0.0	0.0
69	1	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2	3	127.0	0.0	0.0	0.0
6	3	127.0	0.0	0.0	0.0
10	3	127.0	0.0	0.0	0.0
14	3	127.0	0.0	0.0	0.0
18	3	127.0	0.0	0.0	0.0
22	3	127.0	0.0	0.0	0.0
26	3	127.0	0.0	0.0	0.0
30	2	79.0	0.0	0.0	0.0
34	2	79.0	0.0	0.0	0.0
38	2	79.0	0.0	0.0	0.0
42	2	89.0	0.0	0.0	0.0
46	2	89.0	0.0	0.0	0.0
50	2	89.0	0.0	0.0	0.0
54	1	54.0	0.0	0.0	0.0
58	1	54.0	0.0	0.0	0.0
62	1	54.0	0.0	0.0	0.0
66	1	70.0	0.0	0.0	0.0
70	1	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
3	3	127.0	0.0	0.0	0.0
7	3	127.0	0.0	0.0	0.0
11	3	127.0	0.0	0.0	0.0
15	3	127.0	0.0	0.0	0.0
19	3	127.0	0.0	0.0	0.0
23	3	127.0	0.0	0.0	0.0
27	2	79.0	0.0	0.0	0.0
31	2	79.0	0.0	0.0	0.0
35	2	79.0	0.0	0.0	0.0
39	2	79.0	0.0	0.0	0.0
43	2	89.0	0.0	0.0	0.0
47	2	89.0	0.0	0.0	0.0
51	1	54.0	0.0	0.0	0.0
55	1	54.0	0.0	0.0	0.0
59	1	54.0	0.0	0.0	0.0
63	1	54.0	0.0	0.0	0.0
67	1	70.0	0.0	0.0	0.0
71	1	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
4	3	127.0	0.0	0.0	0.0
8	3	127.0	0.0	0.0	0.0
12	3	127.0	0.0	0.0	0.0
16	3	127.0	0.0	0.0	0.0
20	3	127.0	0.0	0.0	0.0
24	3	127.0	0.0	0.0	0.0
28	2	79.0	0.0	0.0	0.0
32	2	79.0	0.0	0.0	0.0
36	2	79.0	0.0	0.0	0.0
40	2	89.0	0.0	0.0	0.0
44	2	89.0	0.0	0.0	0.0
48	2	89.0	0.0	0.0	0.0
52	1	54.0	0.0	0.0	0.0
56	1	54.0	0.0	0.0	0.0
60	1	54.0	0.0	0.0	0.0
64	1	70.0	0.0	0.0	0.0
68	1	70.0	0.0	0.0	0.0
72	1	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
73	1	70.0	0.0	0.0	0.0
77	1	61.0	0.0	0.0	0.0
81	1	61.0	0.0	0.0	0.0
85	1	61.0	0.0	0.0	0.0
89	1	61.0	0.0	0.0	0.0
93	1	61.0	0.0	0.0	0.0
97	1	61.0	0.0	0.0	0.0
101	2	100.0	0.0	0.0	0.0
105	2	100.0	0.0	0.0	0.0
109	2	100.0	0.0	0.0	0.0
113	2	101.0	0.0	0.0	0.0
117	2	101.0	0.0	0.0	0.0
121	2	101.0	0.0	0.0	0.0
125	2	109.0	0.0	0.0	0.0
129	2	109.0	0.0	0.0	0.0
133	2	109.0	0.0	0.0	0.0
137	2	109.0	0.0	0.0	0.0
141	2	109.0	0.0	0.0	0.0
145	2	109.0	0.0	0.0	0.0
149	2	109.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
74	1	70.0	0.0	0.0	0.0
78	1	61.0	0.0	0.0	0.0
82	1	61.0	0.0	0.0	0.0
86	1	61.0	0.0	0.0	0.0
90	1	61.0	0.0	0.0	0.0
94	1	61.0	0.0	0.0	0.0
98	1	61.0	0.0	0.0	0.0
102	2	100.0	0.0	0.0	0.0
106	2	100.0	0.0	0.0	0.0
110	2	100.0	0.0	0.0	0.0
114	2	101.0	0.0	0.0	0.0
118	2	101.0	0.0	0.0	0.0
122	2	101.0	0.0	0.0	0.0
126	2	109.0	0.0	0.0	0.0
130	2	109.0	0.0	0.0	0.0
134	2	109.0	0.0	0.0	0.0
138	2	109.0	0.0	0.0	0.0
142	2	109.0	0.0	0.0	0.0
146	2	109.0	0.0	0.0	0.0
150	2	109.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
75	1	61.0	0.0	0.0	0.0
79	1	61.0	0.0	0.0	0.0
83	1	61.0	0.0	0.0	0.0
87	1	61.0	0.0	0.0	0.0
91	1	61.0	0.0	0.0	0.0
95	1	61.0	0.0	0.0	0.0
99	2	100.0	0.0	0.0	0.0
103	2	100.0	0.0	0.0	0.0
107	2	100.0	0.0	0.0	0.0
111	2	100.0	0.0	0.0	0.0
115	2	101.0	0.0	0.0	0.0
119	2	101.0	0.0	0.0	0.0
123	2	101.0	0.0	0.0	0.0
127	2	109.0	0.0	0.0	0.0
131	2	109.0	0.0	0.0	0.0
135	2	109.0	0.0	0.0	0.0
139	2	109.0	0.0	0.0	0.0
143	2	109.0	0.0	0.0	0.0
147	2	109.0	0.0	0.0	0.0
151	4 or more bedrooms	650.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
76	1	61.0	0.0	0.0	0.0
80	1	61.0	0.0	0.0	0.0
84	1	61.0	0.0	0.0	0.0
88	1	61.0	0.0	0.0	0.0
92	1	61.0	0.0	0.0	0.0
96	1	61.0	0.0	0.0	0.0
100	2	100.0	0.0	0.0	0.0
104	2	100.0	0.0	0.0	0.0
108	2	100.0	0.0	0.0	0.0
112	2	100.0	0.0	0.0	0.0
116	2	101.0	0.0	0.0	0.0
120	2	101.0	0.0	0.0	0.0
124	2	101.0	0.0	0.0	0.0
128	2	109.0	0.0	0.0	0.0
132	2	109.0	0.0	0.0	0.0
136	2	109.0	0.0	0.0	0.0
140	2	109.0	0.0	0.0	0.0
144	2	109.0	0.0	0.0	0.0
148	2	109.0	0.0	0.0	0.0

Description of project

The tables below describe the dwellings and common areas within the project

Common areas of unit building - R5

Common area	Floor area (m ²)
Lift car (No. 1)	-
Lift car (No. 4)	-
Plant or service room (nat. vent)	1273.0
Common Amenities	8.0
Hallway/lobby type (tempered)	1757.0

Common area	Floor area (m ²)
Lift car (No. 2)	-
Lift motor room (No. 1)	34.0
Security & control zones	11.4
Fire stairs (basement & podium & tower)	842.0

Common area	Floor area (m ²)
Lift car (No. 3)	-
Community room/function	114.0
Conditioned 24/7 (comm & D.A.S)	30.3
Ground Lobby	81.6

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Gym (No. 1)	57.0
Plant/service room	1117.0
store room (enclosed)	307.3

Common area	Floor area (m ²)
Car park area (No. 1)	6011.0
Plant or service room (Grease Arrester)	51.3
Hallway/lobby type (basement)	70.4

Common area	Floor area (m ²)
Garbage room (No. 1)	27.3
Plant or service room (switch rooms)	6.2

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - R5

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

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.

1. Commitments for Residential flat buildings - R5

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: <ul style="list-style-type: none"> (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) 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 dwelling. 		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
151	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	4 star	no	-	5.5 star	22.0	yes	indoors	yes	-	-	-

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83,	3 star (> 6 but <= 7.5 L/min)	4 star	4 star	4 star	no	-	5 star	-	-	-	-	-	-	-

Dwelling no.	Fixtures					Appliances		Individual pool			Individual spa			
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131,														

Dwelling no.	Fixtures					Appliances		Individual pool				Individual spa		
	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150														

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	on-site recycled water system (no. 1)	See central systems	See central systems	no	yes	no	no	no
None	-		-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✔	✔	✔

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	motorised damper into central duct + VSD	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off	motorised damper into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
151	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	5 (dedicated)	3 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no

Dwelling no.	Cooling		Heating		Artificial lighting					Natural lighting		
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no

Dwelling no.	Cooling		Heating		Artificial lighting					Natural lighting		
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Cooling		Heating		Artificial lighting					Natural lighting		
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
151	gas	yes	-	-	gas cooktop & electric oven	3 star (new rating)	no	3.5 star	-	2 star	no	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79,	-	-	-	-	gas cooktop & electric oven	3 star (new rating)	no	3.5 star	-	2 star	no	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127,												

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150												

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol 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.			
(e) 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.			
(f) 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.		✔	✔
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✔	✔	✔
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✔	✔	✔

Thermal loads		
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1	5.9	31.9
2	2.9	18.6
15	2.7	30.5
25	2.0	35.6
26	3.6	32.3
27	32.4	18.9
40	25.0	30.9
50	28.7	35.9
51	22.1	22.4
64	26.8	20.8
74	24.3	23.7

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
75	32.1	17.1
88	27.6	23.1
98	36.4	24.0
99	13.8	16.5
100	12.3	16.1
113	17.9	17.2
125	7.7	13.7
126	7.2	13.0
139	9.1	10.4
151	46.0	33.4
13, 14	2.7	28.8
16, 17	2.5	32.5
38, 39	27.0	27.1
41, 42	17.4	33.6
62, 63	19.1	26.1
65, 66	12.4	23.1
86, 87	31.7	21.6
89, 90	25.1	24.0
3, 4, 5	3.1	19.9
10, 11, 12	2.7	26.9
18, 19, 20	2.4	34.4
28, 29, 30	32.2	20.1
35, 36, 37	28.1	25.0
43, 44, 45	15.8	34.7
52, 53, 54	22.4	23.0
59, 60, 61	19.9	26.0
6, 7, 8, 9	2.8	23.6

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
67, 68, 69	11.1	23.2
76, 77, 78	32.8	19.1
83, 84, 85	32.2	20.8
91, 92, 93	23.5	25.1
101, 102, 103	13.2	15.6
127, 128, 129	7.7	12.1
21, 22, 23, 24	2.1	35.7
31, 32, 33, 34	29.4	22.8
46, 47, 48, 49	13.0	35.4
55, 56, 57, 58	20.7	25.0
70, 71, 72, 73	8.7	24.1
79, 80, 81, 82	32.4	19.0
94, 95, 96, 97	20.6	25.5
104, 105, 106, 107	14.0	15.0
130, 131, 132, 133	8.4	11.5
108, 109, 110, 111, 112	14.6	14.7
114, 115, 116, 117, 118	18.4	16.7
134, 135, 136, 137, 138	8.9	10.6
140, 141, 142, 143, 144	9.4	10.2
119, 120, 121, 122, 123, 124	19.1	15.9
All other dwellings	9.9	9.8

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but ≤ 9 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 2)	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✔	✔
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✔	✔	✔

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Lift car (No. 1)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No. 2)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No. 3)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No. 4)	-	-	light-emitting diode	connected to lift call button	Yes
Lift motor room (No. 1)	air conditioning system	thermostatically controlled	fluorescent	motion sensors	Yes
Community room/function	air conditioning system	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Plant or service room (nat. vent)	no mechanical ventilation	-	fluorescent	motion sensors	Yes
Security & control zones	air conditioning system	thermostatically controlled	fluorescent	motion sensors	Yes
Conditioned 24/7 (comm & D.A.S)	air conditioning system	thermostatically controlled	fluorescent	motion sensors	Yes
Common Amenities	ventilation exhaust only	interlocked to light	compact fluorescent	motion sensors	Yes
Fire stairs (basement & podium & tower)	no mechanical ventilation	-	light-emitting diode	time clock and motion sensors	Yes
Ground Lobby	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes
Hallway/lobby type (tempered)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifolded)	Piping insulation (ringmain & supply risers): (b) Piping internal to building: R0.75 (~32 mm)
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 33
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 33
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 14
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 14

4. Commitments for common areas and central systems/facilities for the development (non-building specific)

(b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but ≤ 9 L/min)	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central on-site recycled/alternative water supply (No. 1)	To supply at least 10000.0 litres of recycled water per day to the development (over and above the system's committed capacity, if any)	-	- Irrigation of 259.0 square metres of common landscape area on the site - car washing in 0 car washing bays on the site
Reticulated alternative water supply	-	Installation of plumbing to make provision for connection to No scheme found reticulated alternative water supply.	
Fire sprinkler system (No. 1)	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym (No. 1)	air conditioning system	time clock or BMS controlled	compact fluorescent	time clocks	Yes
Car park area (No. 1)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	time clock and motion sensors	Yes
Garbage room (No. 1)	ventilation exhaust only	-	fluorescent	motion sensors	Yes
Plant/service room	ventilation exhaust only	interlocked to light	fluorescent	motion sensors	Yes
Plant or service room (Grease Arrester)	ventilation exhaust only	none ie. continuous	fluorescent	motion sensors	Yes
Plant or service room (switch rooms)	ventilation exhaust only	interlocked to light	fluorescent	motion sensors	Yes
store room (enclosed)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	Yes
Hallway/lobby type (basement)	ventilation supply only	time clock or BMS controlled	light-emitting diode	time clock and motion sensors	Yes

Central energy systems	Type	Specification
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: air cooled condenser
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 68.0 peak kW

Central energy systems	Type	Specification
Other	Building management system installed?: yes Active power factor correction installed?: yes	-

Alternative Assessment

Water commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
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Alternative Assessment

Thermal Comfort commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
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Alternative Assessment

Energy commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
Central cooling system (No. 1) The applicant must install the central cooling system with a coefficient of performance (COP) of at least 5.5.	✓	✓	✓
Lifts The number of levels (including basements) of Lifts No. 1, No.2, No.3, and No.4 specified in the commitments section of the BASIX certificate may not correspond to the actual number of levels being serviced by the lifts. The applicant must attach with the BASIX certificate a document titled "Barangaroo 1B (R5) Commitment Summary Report" issued by Lend Lease Building Pty Limited on 22 October 2015. The document must show the actual number of levels (including basements) being serviced by Lifts No. 5.1, No. 5.2, No. 5.3, and No. 5.4. The document must also demonstrate that the number of levels specified for BASIX purposes is derived from the actual number of levels being serviced (independent of the number of levels travelled by the lifts). The number of levels specified for BASIX purposes in the document must be consistent with the descriptions in the commitments section of the BASIX certificate.	✓	✓	✓

Energy commitments	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
<p>Common area ventilation system</p> <p>Fan motor power density (W/m²) of the following common areas must not exceed the values specified in the document titled "Barangaroo 1B (R5) Commitment Summary Report" issued by Lend Lease Building Pty Limited on 22 October 2015:</p> <ul style="list-style-type: none"> • Store room (enclosed) • Common amenities • Ground lobby • Gym • Community Room • Security & Control zones • Conditioned 24/7 (Comm & DAS) • Plant/services <p>The applicant must attach the document with the BASIX certificate.</p>	✓	✓	✓
<p>Common area lighting</p> <p>Lighting power density (W/m²) of Store room (enclosed) must not exceed the values specified in the document titled "Barangaroo 1B (R5) Commitment Summary Report" issued by Lend Lease Building Pty Limited on 22 October 2015. The applicant must attach the document with the BASIX certificate.</p>	✓	✓	✓

Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

Legend

1. 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).
2. 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.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).