

BASIX™ Certificate

Building Sustainability Index

www.planningportal.nsw.gov.au/development-and-assessment/basix

Multi Dwelling

Certificate number: 1741999M_06

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.planningportal.nsw.gov.au/definitions

This certificate is a revision of certificate number 1741999M_05 submitted to the consent authority or certifier on 31 July 2024 with application 63475709.

It is the responsibility of the applicant to verify with the consent authority that the original, or any revised certificate, complies with the requirements of Schedule 1 Clause 2A, 4A or 6A of the Environment Planning and Assessment Regulation 2000

Secretary

Date of issue: Wednesday, 22 October 2025

To be valid, this certificate must be submitted with a development application or lodged with a complying development certificate application within 3 months of the date of issue.



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate 0009338920.

Project summary

Project name	12-14 MINGARA DRIVE -Tumbi Umbi Retirement Village (Copy 02)_06
Street address	12 MINGARA DRIVE TUMBI UMBI 2261
Local Government Area	CENTRAL COAST
Plan type and plan number	Deposited Plan 1010532
Lot No.	1
Section no.	-
No. of residential flat buildings	4
Residential flat buildings: no. of dwellings	163
Multi-dwelling housing: no. of dwellings	52
No. of single dwelling houses	0

Project score

Water	✓ 40	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 68	Target 63
Materials	✓ -100	Target n/a

Certificate Prepared by

Name / Company Name: RENYI PTY LTD

ABN (if applicable): 81603204299

Description of project

Project address

Project name	12-14 MINGARA DRIVE -Tumbi Umbi Retirement Village (Copy 02)_06
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Project type

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No. of single dwelling houses	0

Site details

Site area (m ²)	29957
Roof area (m ²)	9426
Non-residential floor area (m ²)	3690
Residential car spaces	296
Non-residential car spaces	8





Common area landscape

Common area lawn (m ²)	3790
Common area garden (m ²)	3790
Area of indigenous or low water use species (m ²)	758

Assessor details and thermal loads

Assessor number	DMN/18/1837
Certificate number	0009338920
Climate zone	15

Project score

Water	 40	Target 40
Thermal Performance	 Pass	Target Pass
Energy	 68	Target 63
Materials	 -100	Target n/a

Description of project

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

Residential flat buildings - Building 1, 36 dwellings, 5 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)
B1101	2	112.4	0	0	0
B1105	2	107.5	0	0	0
B1201	2	112.4	0	0	0
B1205	2	107.5	0	0	0
B1301	2	112.4	0	0	0
B1305	2	107.5	0	0	0
B1401	2	112.4	0	0	0
B1405	2	107.5	0	0	0
B1501	3	135	0	0	0
B1102	2	110.6	0	0	0
B1106	3	132.6	0	0	0
B1202	2	110.6	0	0	0
B1206	3	132.2	0	0	0
B1302	2	110.6	0	0	0
B1306	3	132.6	0	0	0
B1402	2	110.6	0	0	0
B1406	3	132.6	0	0	0
B1502	3	136.2	0	0	0
B1103	3	132.4	0	0	0
B1107	3	134.7	0	0	0
B1203	3	132.4	0	0	0
B1207	3	117	0	0	0
B1303	3	132.4	0	0	0
B1307	3	134.7	0	0	0
B1403	3	132.4	0	0	0
B1407	3	134.7	0	0	0
B1503	3	131.3	0	0	0
B1104	2	107.5	0	0	0
B1108	2	110.1	0	0	0
B1204	2	107.5	0	0	0
B1208	2	110.1	0	0	0
B1304	2	107.5	0	0	0
B1308	2	110.1	0	0	0
B1404	2	107.5	0	0	0
B1408	2	110.1	0	0	0
B1504	3	128.1	0	0	0

Residential flat buildings - Building 2, 15 dwellings, 3 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)
B2401	2	97.9	0	0	0
B2405	3	118	0	0	0
B2503	2	111.5	0	0	0
B2601	3	156.8	0	0	0
B2402	2	107	0	0	0
B2406	2	104.5	0	0	0
B2504	2	102.7	0	0	0
B2602	3	157.7	0	0	0
B2403	2	111.5	0	0	0
B2501	2	97.9	0	0	0
B2505	3	118	0	0	0
B2603	3	154.5	0	0	0
B2404	2	102.7	0	0	0
B2502	2	107	0	0	0
B2506	2	104.5	0	0	0

Residential flat buildings - Building 3, 44 dwellings, 6 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)
B3101	2	101.1	0	0	0
B3105	2	107.5	0	0	0
B3201	2	102.7	0	0	0
B3205	2	107.5	0	0	0
B3301	2	102.7	0	0	0
B3305	2	107.5	0	0	0
B3401	2	102.7	0	0	0
B3405	2	107.5	0	0	0
B3501	2	102.7	0	0	0
B3505	2	107.5	0	0	0
B3601	3	132.8	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)
B3102	2	110.5	0	0	0
B3106	3	127.3	0	0	0
B3202	2	110.5	0	0	0
B3206	3	127.3	0	0	0
B3302	2	110.5	0	0	0
B3306	3	127.3	0	0	0
B3402	2	110.5	0	0	0
B3406	3	127.3	0	0	0
B3502	2	110.5	0	0	0
B3506	3	127.3	0	0	0
B3602	3	133.5	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)
B3103	3	132.7	0	0	0
B3107	2	108.9	0	0	0
B3203	3	132.7	0	0	0
B3207	2	108.9	0	0	0
B3303	3	132.7	0	0	0
B3307	2	108.9	0	0	0
B3403	3	132.7	0	0	0
B3407	2	108.9	0	0	0
B3503	3	132.7	0	0	0
B3507	2	108.9	0	0	0
B3603	3	124.2	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)
B3104	2	107.5	0	0	0
B3108	2	109.3	0	0	0
B3204	2	107.5	0	0	0
B3208	2	109.3	0	0	0
B3304	2	107.5	0	0	0
B3308	2	109.3	0	0	0
B3404	2	107.5	0	0	0
B3408	2	109.3	0	0	0
B3504	2	107.5	0	0	0
B3508	2	109.3	0	0	0
B3604	3	129.4	0	0	0

Residential flat buildings - Building 4, 68 dwellings, 5 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)
B4101	2	93.3	0	0	0
B4105	2	105.2	0	0	0
B4109	3	160.9	0	0	0
B4113	3	145.6	0	0	0
B4202	3	123.3	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)
B4102	3	123.3	0	0	0
B4106	2	105.2	0	0	0
B4110	2	106	0	0	0
B4114	3	136.7	0	0	0
B4203	3	126.1	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)
B4103	3	126.1	0	0	0
B4107	2	110.6	0	0	0
B4111	3	190.6	0	0	0
B4115	2	100.5	0	0	0
B4204	2	105.2	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)
B4104	2	105.2	0	0	0
B4108	2	100.2	0	0	0
B4112	2	100.1	0	0	0
B4201	2	93.3	0	0	0
B4205	2	105.2	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)
B4206	2	105.2	0	0	0
B4210	2	106	0	0	0
B4214	3	136.7	0	0	0
B4303	3	126.1	0	0	0
B4307	2	110.6	0	0	0
B4311	3	190.6	0	0	0
B4315	2	100.5	0	0	0
B4404	2	105.2	0	0	0
B4408	2	100.2	0	0	0
B4412	2	100.1	0	0	0
B4501	3	136.9	0	0	0
B4505	3	156.7	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)
B4207	2	110.6	0	0	0
B4211	3	190.6	0	0	0
B4215	2	100.5	0	0	0
B4304	2	105.2	0	0	0
B4308	2	100.2	0	0	0
B4312	2	100.1	0	0	0
B4401	2	93.3	0	0	0
B4405	2	105.2	0	0	0
B4409	3	160.9	0	0	0
B4413	3	145.6	0	0	0
B4502	3	130.2	0	0	0
B4506	3	157.3	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)
B4208	2	100.2	0	0	0
B4212	2	100.1	0	0	0
B4301	2	93.3	0	0	0
B4305	2	105.2	0	0	0
B4309	3	160.9	0	0	0
B4313	3	145.6	0	0	0
B4402	3	123.3	0	0	0
B4406	2	105.2	0	0	0
B4410	2	106	0	0	0
B4414	3	136.7	0	0	0
B4503	3	127.8	0	0	0
B4507	3	155.9	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)
B4209	3	160.9	0	0	0
B4213	3	145.6	0	0	0
B4302	3	123.3	0	0	0
B4306	2	105.2	0	0	0
B4310	2	106	0	0	0
B4314	3	136.7	0	0	0
B4403	3	126.1	0	0	0
B4407	2	110.6	0	0	0
B4411	3	190.6	0	0	0
B4415	2	100.5	0	0	0
B4504	3	138.2	0	0	0
B4508	3	162.4	0	0	0

Multi-dwelling houses

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)
01001	3	139.8	0	0	0
02001	3	138.3	0	0	0
03001	3	138.3	0	0	0
04001	3	141	0	0	0
05001	3	141.6	0	0	0
06001	3	138.3	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)
01002	3	156.1	0	0	0
02002	3	141.7	0	0	0
03002	3	141.7	0	0	0
04002	3	141.6	0	0	0
05002	3	141	0	0	0
06002	3	141.7	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)
01101	3	156.1	0	0	0
02101	3	161	0	0	0
03101	3	161	0	0	0
04101	3	151.2	0	0	0
05101	3	145.3	0	0	0
06101	3	161	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)
01102	3	143.8	0	0	0
02102	3	157.6	0	0	0
03102	3	157.6	0	0	0
04102	3	145.3	0	0	0
05102	3	151.2	0	0	0
06102	3	157.6	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)
07001	3	141.7	0	0	0
08001	3	141	0	0	0
09001	3	141.7	0	0	0
10001	3	138.3	0	0	0
11001	3	141.7	0	0	0
12001	3	138.3	0	0	0
13001	3	141.7	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)
07002	3	138.3	0	0	0
08002	3	141.6	0	0	0
09002	3	138.3	0	0	0
10002	3	141.7	0	0	0
11002	3	138.3	0	0	0
12002	3	141.7	0	0	0
13002	3	138.3	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)
07101	3	157.6	0	0	0
08101	3	151.2	0	0	0
09101	3	157.6	0	0	0
10101	3	161	0	0	0
11101	3	157.6	0	0	0
12101	3	161	0	0	0
13101	3	157.6	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)
07102	3	161	0	0	0
08102	3	145.3	0	0	0
09102	3	161	0	0	0
10102	3	157.6	0	0	0
11102	3	161	0	0	0
12102	3	157.6	0	0	0
13102	3	161	0	0	0

Description of project

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

Common areas of unit building - Building 1

Common area	Floor area (m ²)
Undercover car park area (No. 1)	1150
Plant or service room (No. 1)	14

Common area	Floor area (m ²)
Switch room (No. 1)	15.8
Ground floor lobby type (No. 1)	23.5

Common area	Floor area (m ²)
Garbage room (No. 1)	53.7
Hallway/lobby type (No. 1)	308

Common areas of unit building - Building 2

Common area	Floor area (m ²)
Undercover car park area (No. 2)	685
Community room (No. 1)	110
Hallway/lobby type (No. 2)	302

Common area	Floor area (m ²)
Switch room (No. 2)	20.5
Plant or service room (No. 2)	28

Common area	Floor area (m ²)
Garbage room (No. 2)	57.3
Ground floor lobby type (No. 2)	12.1

Common areas of unit building - Building 3

Common area	Floor area (m ²)
Undercover car park area (No. 3)	1352
Plant or service room (No. 3)	9.5

Common area	Floor area (m ²)
Switch room (No. 3)	63
Ground floor lobby type (No. 3)	21.1

Common area	Floor area (m ²)
Garbage room (No. 3)	63.7
Hallway/lobby type (No. 3)	433

Common areas of unit building - Building 4

Common area	Floor area (m ²)
Undercover car park area (No. 4)	2233
Garbage room (No. 5)	54.7
Hallway/lobby type (No. 4)	726

Common area	Floor area (m ²)
Switch room (No. 4)	32.4
Plant or service room (No. 4)	20.3

Common area	Floor area (m ²)
Garbage room (No. 4)	53.4
Ground floor lobby type (No. 4)	75

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Undercover car park area (No. 5)	1202
Lift bank (No. 3)	-

Common area	Floor area (m ²)
Lift bank (No. 1)	-
Lift bank (No. 4)	-

Common area	Floor area (m ²)
Lift bank (No. 2)	-
Lift bank (No. 5)	-

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building 1

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

2. Commitments for Residential flat buildings - Building 2

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

3. Commitments for Residential flat buildings - Building 3

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

- (ii) Energy
- (iii) Thermal Performance

(c) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

4. Commitments for Residential flat buildings - Building 4

(a) Buildings

- (i) Materials

(b) Dwellings

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

(c) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

5. Commitments for multi-dwelling housing

(a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Performance and Materials

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

(a) Buildings 'Other'

- (i) Materials

(b) Common areas and central systems/facilities

- (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 - Building 1

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	1789.35	foil-foam composite board	none
floors above habitable rooms, frame: suspended concrete slab	4079.35	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer, frame: light steel frame	827	none	rockwool batts, roll or pump-in
External wall type 2	framed (fibre cement sheet or boards), frame: light steel frame	341	none	rockwool batts, roll or pump-in

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	3016	-
Internal wall type 2	75 mm AAC panel, frame:light steel frame	2139	rockwool batts, roll or pump-in

Reinforcement concrete frames/columns

Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
yes	89	-

Ceiling and roof types

Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	781	-	foil-foam composite board

Glazing types

Frame types

Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
198	234	0	432	0	0	0	0

(b) 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.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.	✓	✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 1)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 1)	Central cooling system (No. 1)	Central heating system (No. 1)	Central heating system (No. 1)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	3.5 star	no	no

(iii) Thermal Performance	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.			
(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.	✔	✔	✔
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✔		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✔	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B1101	29.4	21.3	50.700
B1102	19.8	12.9	32.700
B1103	11.8	21	32.800
B1104	16.9	15.2	32.100

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B1105	14.10	15.3	29.400
B1106	19.3	22.9	42.200
B1107	33.8	20.5	54.300
B1108	24.30	24.7	49.000
B1201	19.8	23.8	43.600
B1202	17	20.1	37.100
B1203	4.90	31.4	36.300
B1204	8.60	20.1	28.700
B1205	7.20	19.9	27.100
B1206	11.30	28.9	40.200
B1207	27.60	23	50.600
B1208	15.8	29.1	44.900
B1301	21	23.4	44.400
B1302	17.9	19.4	37.300
B1303	5.50	31.3	36.800
B1304	9.50	19.6	29.100
B1305	8.1	20.1	28.200
B1306	11.4	30.6	42.000
B1307	28.90	22.3	51.200
B1308	16.40	27.3	43.700
B1401	24.9	19.2	44.100
B1402	31.7	20.2	51.900
B1403	17.7	28.8	46.500
B1404	12.6	17.5	30.100
B1405	11.2	17.7	28.900
B1406	16.60	23.6	40.200
B1407	38.70	20.3	59.000
B1408	20.9	22.2	43.100
B1501	21.40	21.4	42.800
B1502	26.10	28.9	55.000
B1503	31.10	25.9	57.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
All other dwellings	40	24.7	64.700

(c) 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	no common facility	4 star	5 star	4 star

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Central cooling system (No. 1)	-	Private water meter on make-up line connected to building management system. Conductivity controller installed in the cooling tower.	-

(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
Undercover car park area (No. 1)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Switch room (No. 1)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	no
Garbage room (No. 1)	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Plant or service room (No. 1)	ventilation supply only	none i.e., continuous	light-emitting diode	motion sensors	no
Ground floor lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	no
Hallway/lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 5 number of levels from the bottom of the lift shaft to the top of the lift shaft: 6 number of lifts: 2 lift load capacity: >= 1001 kg but <= 1500kg
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: 2.5 < COP <= 3.0
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: water cooled condenser Unit efficiency (min): low – COP < 3.5
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency medium – COP 3.5 – 5.5

2. Commitments for Residential flat buildings - Building 2

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	614.16	foil-foam composite board	none
floors above habitable rooms, frame: suspended concrete slab	2268.16	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	349	none	rockwool batts, roll or pump-in
External wall type 2	framed (fibre cement sheet or boards),frame:light steel frame	163	none	rockwool batts, roll or pump-in

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	1256	-
Internal wall type 2	75 mm AAC panel, frame:light steel frame	891	rockwool batts, roll or pump-in

Reinforcement concrete frames/columns

Building has reinforced concrete frame/columns?	Volume (m ³)	Low emissions option
yes	38	-

Ceiling and roof types

Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	684	-	foil-foam composite board

Glazing types

Frame types

Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
91	106	0	197	0	0	0	0

(b) 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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.	✓	✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 2)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 2)	Central cooling system (No. 2)	Central heating system (No. 2)	Central heating system (No. 2)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	3.5 star	no	no

(iii) Thermal Performance	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.			
(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.	✔	✔	✔
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✔		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✔	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B2401	9.8	21.7	31.500
B2402	37.40	24.3	61.700
B2403	12.30	24.3	36.600
B2404	7	28.4	35.400

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B2405	9.60	34.7	44.300
B2406	7.90	24.4	32.300
B2501	10.3	21.3	31.600
B2502	37.1	24.7	61.800
B2503	12.5	24.3	36.800
B2504	7.40	28.1	35.500
B2505	10	34.5	44.500
B2506	9.1	24.1	33.200
B2601	38.6	24.7	63.300
B2602	36.40	27.4	63.800
All other dwellings	30.40	29.1	59.500

(c) 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	no common facility	4 star	5 star	4 star

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	30000	To collect run-off from at least: - 1939 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 3790 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 2)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Central cooling system (No. 2)	-	Private water meter on make-up line connected to building management system. Conductivity controller installed in the cooling tower.	-

(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
Undercover car park area (No. 2)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Switch room (No. 2)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	no
Garbage room (No. 2)	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Community room (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	no
Plant or service room (No. 2)	ventilation supply only	none i.e., continuous	light-emitting diode	motion sensors	no
Ground floor lobby type (No. 2)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	no
Hallway/lobby type (No. 2)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 3 number of levels from the bottom of the lift shaft to the top of the lift shaft: 7 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central hot water system (No. 2)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: $2.5 < COP \leq 3.0$
Central cooling system (No. 2)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: water cooled condenser Unit efficiency (min): low – $COP < 3.5$

Central energy systems	Type	Specification
Central heating system (No. 2)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency medium – COP 3.5 – 5.5

3. Commitments for Residential flat buildings - Building 3

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	1911.3	foil-foam composite board	none
floors above habitable rooms, frame: suspended concrete slab	5081.3	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	1014	none	rockwool batts, roll or pump-in
External wall type 2	framed (fibre cement sheet or boards),frame:light steel frame	418	none	rockwool batts, roll or pump-in

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	3683	-
Internal wall type 2	75 mm AAC panel, frame:light steel frame	2614	rockwool batts, roll or pump-in

Reinforcement concrete frames/columns

Building has reinforced concrete frame/columns?	Volume (m ³)	Low emissions option
yes	112	-

Ceiling and roof types

Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	781	-	foil-foam composite board

Glazing types

Frame types

Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
242	286	0	528	0	0	0	0

(b) 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.	✔	✔	✔

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.	✓	✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 3)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 3)	Central cooling system (No. 3)	Central heating system (No. 3)	Central heating system (No. 3)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	3.5 star	no	no

(iii) Thermal Performance	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.			
(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.	✔	✔	✔
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✔		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✔	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B3101	42.9	11.2	54.100
B3102	28.1	17.6	45.700
B3103	36.2	16.5	52.700
B3104	6.5	11.8	18.300

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B3105	6.2	11.9	18.100
B3106	10.8	17.7	28.500
B3107	31.9	16.6	48.500
B3108	25	25.4	50.400
B3201	31.2	20.2	51.400
B3202	25.5	24.2	49.700
B3203	2.8	21.4	24.200
B3204	1	14	15.000
B3205	0.9	14.1	15.000
B3206	2.5	27.5	30.000
B3207	16.30	25.6	41.900
B3208	16.5	28.6	45.100
B3301	32.6	19.6	52.200
B3302	26.9	23.6	50.500
B3303	3.20	20.7	23.900
B3304	1.4	14.1	15.500
B3305	1.20	14.2	15.400
B3306	3.1	26.9	30.000
B3307	17.3	25	42.300
B3308	17.70	27.9	45.600
B3401	37.40	13.4	50.800
B3402	31.9	19.9	51.800
B3403	4.9	15.9	20.800
B3404	3.20	12.3	15.500
B3405	3	12.4	15.400
B3406	5.20	21.9	27.100
B3407	20.90	21.3	42.200
B3408	21.7	22.7	44.400
B3501	43.30	15.3	58.600
B3502	34.10	31.3	65.400
B3503	13.00	18.1	31.100

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B3504	9.80	15.4	25.200
B3505	4.8	13	17.800
B3506	10.6	24.3	34.900
B3507	28.9	16.8	45.700
B3508	28.50	25.9	54.400
B3601	30.8	14.8	45.600
B3602	18.10	19.4	37.500
B3603	19.6	12.4	32.000
All other dwellings	52	13.1	65.100

(c) 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	no common facility	4 star	5 star	4 star

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 2)	30000	To collect run-off from at least: - 1939 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 3790 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 3)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Central cooling system (No. 3)	-	Private water meter on make-up line connected to building management system. Conductivity controller installed in the cooling tower.	-

(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
Undercover car park area (No. 3)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Switch room (No. 3)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	no
Garbage room (No. 3)	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Plant or service room (No. 3)	ventilation supply only	none i.e., continuous	light-emitting diode	motion sensors	no
Ground floor lobby type (No. 3)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	no
Hallway/lobby type (No. 3)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 6 number of levels from the bottom of the lift shaft to the top of the lift shaft: 7 number of lifts: 2 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central hot water system (No. 3)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: $2.5 < COP \leq 3.0$
Central cooling system (No. 3)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: water cooled condenser Unit efficiency (min): low – $COP < 3.5$

Central energy systems	Type	Specification
Central heating system (No. 3)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency medium – COP 3.5 – 5.5

4. Commitments for Residential flat buildings - Building 4

(a) Buildings

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	3504.1	foil-foam composite board	none
floors above habitable rooms, frame: suspended concrete slab	8094.1	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	1653	none	rockwool batts, roll or pump-in
External wall type 2	framed (fibre cement sheet or boards),frame:light steel frame	681	none	rockwool batts, roll or pump-in

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	6027	-
Internal wall type 2	75 mm AAC panel, frame:light steel frame	4279	rockwool batts, roll or pump-in

Reinforcement concrete frames/columns

Building has reinforced concrete frame/columns?	Volume (m ³)	Low emissions option
yes	183	-

Ceiling and roof types

Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	1632	-	foil-foam composite board

Glazing types

Frame types

Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
361	432	0	793	0	0	0	0

(b) 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.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.	✓	✓	✓
(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;		✓	

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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 (No. 4)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 4)	Central cooling system (No. 4)	Central heating system (No. 4)	Central heating system (No. 4)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	3.5 star	no	no

(iii) Thermal Performance	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.			
(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.	✔	✔	✔
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✔		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✔	

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B4101	26.4	14.1	40.500
B4102	32.5	22.5	55.000
B4103	14.4	20.1	34.500
B4104	9.20	14.7	23.900

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B4105	9.3	15.4	24.700
B4106	7.60	15.3	22.900
B4107	23.9	8.8	32.700
B4108	43.6	17.4	61.000
B4109	21.3	19.4	40.700
B4110	6	15.9	21.900
B4111	12.40	24.5	36.900
B4112	29.10	22.3	51.400
B4113	28.7	29.9	58.600
B4114	27.1	21.9	49.000
B4115	26.7	25.1	51.800
B4201	14.1	15.9	30.000
B4202	24.3	34.6	58.900
B4203	9.60	27.5	37.100
B4204	2.4	20	22.400
B4205	2.50	20.9	23.400
B4206	1.60	20.8	22.400
B4207	12.3	12.6	24.900
B4208	29.3	20.5	49.800
B4209	11.9	25.3	37.200
B4210	1.50	21.7	23.200
B4211	6.2	33.5	39.700
B4212	19.50	31.5	51.000
B4213	27.2	31.4	58.600
B4214	23.30	26.1	49.400
B4215	15.20	26.8	42.000
B4301	15.1	15.9	31.000
B4302	25.60	34.4	60.000
B4303	10.50	26.7	37.200
B4304	2.8	20	22.800
B4305	3	20.8	23.800

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B4306	1.9	20.7	22.600
B4307	13	12.4	25.400
B4308	30.6	20.3	50.900
B4309	12.8	24.6	37.400
B4310	1.8	21.3	23.100
B4311	7	33	40.000
B4312	20.6	30.9	51.500
B4313	28.6	31	59.600
B4314	24.70	25.1	49.800
B4315	16.3	26.2	42.500
B4401	18.3	14.2	32.500
B4402	37.9	27.9	65.800
B4403	23.5	24.9	48.400
B4404	4.90	17.6	22.500
B4405	5.3	18.2	23.500
B4406	3.8	18.1	21.900
B4407	20.9	12.2	33.100
B4408	35.30	18.8	54.100
B4409	18.5	20.3	38.800
B4410	3.20	18.7	21.900
B4411	15.7	31	46.700
B4412	26.3	28.5	54.800
B4413	35.50	29.9	65.400
B4414	36.70	23.1	59.800
B4415	21.3	23.8	45.100
B4501	33.40	21.6	55.000
B4502	13.50	16.6	30.100
B4503	9	14.7	23.700
B4504	34.7	17.7	52.400
B4505	20.30	12.7	33.000
B4506	21.1	30.9	52.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B4507	40.50	23.5	64.000
All other dwellings	31.9	33.1	65.000

(c) 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	no common facility	4 star	5 star	4 star

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 4)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Central cooling system (No. 4)	-	Private water meter on make-up line connected to building management system. Conductivity controller installed in the cooling tower.	-

(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
Undercover car park area (No. 4)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Switch room (No. 4)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	no
Garbage room (No. 4)	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Garbage room (No. 5)	ventilation exhaust only	-	light-emitting diode	motion sensors	no
Plant or service room (No. 4)	ventilation supply only	none i.e., continuous	light-emitting diode	motion sensors	no
Ground floor lobby type (No. 4)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	no
Hallway/lobby type (No. 4)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 4)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 5 number of levels from the bottom of the lift shaft to the top of the lift shaft: 6 number of lifts: 4 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central hot water system (No. 4)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: $2.5 < COP \leq 3.0$
Central cooling system (No. 4)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: water cooled condenser Unit efficiency (min): low – $COP < 3.5$
Central heating system (No. 4)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency medium – $COP 3.5 - 5.5$

5. Commitments for multi-dwelling housing

(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
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	5 star	-	-	-	-	-	-	-	-	-	-

Alternative water source								
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	No alternative water supply	-	-	-	-	-	-	-

(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.	✓	✓	✓
(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:			

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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".		✓	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	✓	✓	✓

	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 (No. 1)	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	Central cooling system (No. 1)	Central cooling system (No. 1)	Central heating system (No. 1)	Central heating system (No. 1)	0	no

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	3.5 star	no	no

Alternative energy			
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)	Photovoltaic collector installation	Orientation inputs
All dwellings	-	-	-

(iii) Thermal Performance and Materials	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.			
(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.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

Dwelling no.	Thermal loads		
	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
01001	10.8	20.79	31.590
01002	7.70	14.3	22.000
01101	27.2	23	50.200
01102	25.3	22.7	48.000
02001	16.80	14.3	31.100
02002	5.10	20.3	25.400
02102	22.40	19.8	42.200
03002	5.2	20.4	25.600
03102	22.4	19.80	42.200
04001	22.30	20.8	43.100
04002	10.10	19	29.100
04101	25.6	24.3	49.900
04102	17.9	27.3	45.200
05001	20.7	18.7	39.400
05002	13.9	20.8	34.700
05101	23.3	25.9	49.200
05102	20.8	26.1	46.900
06002	5.2	20	25.200
06101	24.9	23	47.900
06102	22.4	19.8	42.200
07001	9.20	18	27.200
07002	5	17.6	22.600
07101	31.5	18.2	49.700
07102	20	23.3	43.300
08001	21.7	23.4	45.100
08002	10.20	19.6	29.800
08101	26.3	24.3	50.600
08102	22.5	25.5	48.000
09001	21	16.4	37.400
09002	10	15.5	25.500
09101	35.2	14.3	49.500

Thermal loads			
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
09102	18.30	29.3	47.600
10001	21.30	17.6	38.900
10002	13.30	18.2	31.500
10101	25.30	24.7	50.000
10102	27.2	22.6	49.800
11001	21	16.1	37.100
11002	11.10	16.5	27.600
11101	31.7	16.5	48.200
11102	18.6	28.9	47.500
12001	16.5	16.7	33.200
12002	16.60	14.8	31.400
12101	19.8	20.4	40.200
12102	33.2	17	50.200
13001	18.00	14.4	32.400
13002	15.10	15.4	30.500
13101	27.1	19.9	47.000
13102	19.30	25.7	45.000
02101, 03101	24.7	24.4	49.100
All other dwellings	16.8	14.3	31.100

Construction of floors and walls					
Dwelling no.	Concrete slab on ground (m ²)	Suspended floor with open subfloor (m ²)	Suspended floor with enclosed subfloor (m ²)	Suspended floor above garage (m ²)	Primarily rammed earth or mudbrick walls
05002	141	-	-	-	no
06002	50	-	-	-	no
08001	91	-	-	-	no
08002	91.6	-	-	-	no
11002	138.3	-	-	-	no
01001, 12002	100	-	-	-	no
04002, 05001	135	-	-	-	no
06001, 07002, 10001	88.3	-	-	-	no

Construction of floors and walls					
Dwelling no.	Concrete slab on ground (m ²)	Suspended floor with open subfloor (m ²)	Suspended floor with enclosed subfloor (m ²)	Suspended floor above garage (m ²)	Primarily rammed earth or mudbrick walls
07001, 09001, 10002, 11001	91.7	-	-	-	no
01002, 02002, 03002, 04001, 13001	133	-	-	-	no
02001, 03001, 09002, 12001, 13002	128	-	-	-	no
All other dwellings	10	-	-	-	no

Floor types										
Dwelling no.	Concrete slab on ground				Suspended floor above enclosed subfloor			Suspended floor above open subfloor		
	Area (m ²)	Insulation	Low emissions option	Dematerialisation	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation
03001	128	-	-	conventional slab	-	-	-	-	-	-
05002	141	-	-	conventional slab	-	-	-	-	-	-
06002	50	-	-	conventional slab	-	-	-	-	-	-
08001	91	-	-	conventional slab	-	-	-	-	-	-
08002	91.6	-	-	conventional slab	-	-	-	-	-	-
10001	88.3	-	-	conventional slab	-	-	-	-	-	-
11002	138.3	-	-	conventional slab	-	-	-	-	-	-
01001, 12002	100	-	-	conventional slab	-	-	-	-	-	-
01002, 13001	133	-	-	conventional slab	-	-	-	-	-	-
04002, 05001	135	-	-	conventional slab	-	-	-	-	-	-
06001, 07002	88.3	-	-	conventional slab	-	-	-	-	-	-
02002, 03002, 04001	133	-	-	conventional slab	-	-	-	-	-	-
02001, 09002, 12001, 13002	128	-	-	conventional slab	-	-	-	-	-	-
07001, 09001, 10002, 11001	91.7	-	-	conventional slab	-	-	-	-	-	-
01101, 01102, 03102, 09101,	10	-	-	conventional slab	-	-	-	-	-	-

Floor types										
	Concrete slab on ground				Suspended floor above enclosed subfloor			Suspended floor above open subfloor		
Dwelling no.	Area (m ²)	Insulation	Low emissions option	Dematerialisation	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation
10101, 10102, 12102, 13101, 13102										
All other dwellings	10	-	-	conventional slab	-	-	-	-	-	-

Floor types											
	First floor above habitable rooms or mezzanine			Suspended floor above garage			Garage floor				
Dwelling no.	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation	Low emissions option	Dematerialisation
01101	concrete - suspended	146.1	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
01102	concrete - suspended	133.8	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
05002, 11002	concrete - suspended	-	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
04101, 05102, 08101	concrete - suspended	141.2	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
04102, 05101, 08102	concrete - suspended	135.3	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
02101, 03101, 06101, 07102, 09102, 10101, 11102, 12101, 13102	concrete - suspended	151	-	-	-	-	concrete slab on ground	20	-	none	conventional slab

Floor types											
	First floor above habitable rooms or mezzanine			Suspended floor above garage			Garage floor				
Dwelling no.	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation	Low emissions option	Dematerialisation
02102, 03102, 06102, 07101, 09101, 10102, 11101, 12102, 13101	concrete - suspended	147.6	-	-	-	-	concrete slab on ground	20	-	none	conventional slab
All other dwellings	concrete - suspended	50	-	-	-	-	concrete slab on ground	20	-	none	conventional slab

External walls								
	External wall type 1				External wall type 2			
Dwelling no.	Wall type	Area (m ²)	Insulation	Low emissions option	Wall type	Area (m ²)	Insulation	Low emissions option
All dwellings	cavity brick, frame : light steel frame	30	rockwool batts, roll or pump-in	none	framed (fibre cement sheet or boards), frame : light steel frame	20	rockwool batts, roll or pump-in	none

External walls								
	External wall type 3				External wall type 4			
Dwelling no.	Wall type	Area (m ²)	Insulation	Low emissions option	Wall type	Area (m ²)	Insulation	Low emissions option
All dwellings	-	-	-	-	-	-	-	-

Internal walls									
	Internal walls shared with garage			Internal wall type 1			Internal wall type 2		
Dwelling no.	Wall type	Area (m ²)	Insulation	Wall type	Area (m ²)	Insulation	Wall type	Area (m ²)	Insulation
All dwellings	-	-	-	plasterboard, frame: light steel frame	50	-	75 mm AAC panel, frame: light steel frame	30	-

Ceiling and roof									
	Flat ceiling / pitched roof			Raked ceiling / pitched or skillion roof			Flat ceiling / flat roof		
Dwelling no.	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation	Construction type	Area (m ²)	Insulation
01001, 01002, 02001, 02002, 03001, 03002, 04001, 04002, 05001, 05002, 06001, 06002, 07001, 07002, 08001, 08002, 09001, 09002, 10001, 10002, 11001, 11002, 12001, 12002, 13001, 13002	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard internal, frame: light steel frame	24	Ceiling:foil- foam composite board,Roof: none
All other dwellings	-	-	Ceiling:,Roof:	-	-	Ceiling:,Roof:	concrete - plasterboard internal, frame: light steel frame	189	Ceiling:foil- foam composite board,Roof: none

	Glazing type			Frame types				
Dwelling no.	Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
All dwellings	17	18	0	35	0	0	0	0

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

(a) Buildings 'Other'

(i) Materials	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) 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 "Floor types", "External wall types", "Internal wall types", "Ceiling and roof types", "Frames" and "Glazing" tables below.			✓
(b) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all specifications included in the tables below.		✓	
(c) The applicant must construct the floors, walls, roof, ceiling and roof, windows, glazed doors and skylights of the development in accordance with the specifications listed in the tables below. In the case of glazing, a 5% variance from the area values listed in the "Frames" and "Glazing" tables is permitted.	✓	✓	✓
(d) The applicant must show through receipts that the materials purchased for construction are consistent with the specifications listed in the below tables.			✓

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	1202	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	10	none	rockwool batts, roll or pump-in

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	10	-
Internal wall type 2	75 mm AAC panel, frame:light steel frame	10	rockwool batts, roll or pump-in

Reinforcement concrete frames/columns

Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
no	-	-

Ceiling and roof types

Ceiling and roof type	Area (m ²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	10	-	foil-foam composite board

Glazing types**Frame types**

Single glazing (m ²)	Double glazing (m ²)	Triple glazing (m ²)	Aluminium frames (m ²)	Timber frames (m ²)	uPVC frames (m ²)	Steel frames (m ²)	Composite frames (m ²)
0	0	0	0	0	0	0	0

(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	no common facility	4 star	5 star	4 star

(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 ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Undercover car park area (No. 5)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 3)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 4)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 5)	-	-	light-emitting diode	connected to lift call button	-

Central energy systems	Type	Specification
Lift bank (No. 5)	gearless traction with V V V F motor	Number of levels with apartments served by a lift: 2 number of levels from the bottom of the lift shaft to the top of the lift shaft: 2 number of lifts: 13 lift load capacity: >= 1001 kg but <= 1500kg
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 120 peak kW
Other	Building management system installed?: yes Active power factor correction installed?: yes	-

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).