

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

# Multi Dwelling

Certificate number: 818809M\_07

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 10/09/2020 published by the Department. This document is available at www.basix.nsw.gov.au

This certificate is a revision of certificate number 818809M\_04 lodged with the consent authority or certifier on 06 December 2019 with application da 65-2019.

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 Environmental Planning and Assessment Regulation 2000

Secretary

BASIX

Date of issue: Friday, 10 December 2021

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



Project summary					
Project name	Development @ New Schem 22-32 Park A_07				
Street address	22 Park Avenue Waitara	2077			
Local Government Area	Hornsby Shire Council				
Plan type and plan number	deposited 1007710	deposited 1007710			
Lot no.	1 & 2				
Section no.	-				
No. of residential flat buildings	5				
No. of units in residential flat buildings	165				
No. of multi-dwelling houses	0				
No. of single dwelling houses	0				
Project score					
Water	<b>✓</b> 41	Target 40			
Thermal Comfort	✓ Pass	Target Pass			
Energy	✓ 31 Target 25				

Certificate Prepared by
Name / Company Name: EPS
ABN (if applicable): 16645179013

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# **Description of project**

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Project address	
Project name	Development @ New Schem 22-32 Park A_07
Street address	22 Park Avenue Waitara 2077
Local Government Area	Hornsby Shire Council
Plan type and plan number	deposited 1007710
Lot no.	1 & 2
Section no.	-
Project type	
No. of residential flat buildings	5
No. of units in residential flat buildings	165
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	6963
Roof area (m²)	1960
Non-residential floor area (m²)	0.0
Residential car spaces	198
Non-residential car spaces	0

Common area landscape		
Common area lawn (m²)	400.0	
Common area garden (m²)	1186.0	
Area of indigenous or low water use species (m²)	0.0	
Assessor details		
Assessor number	20901	
Certificate number	20901251	
Climate zone	56	
Ceiling fan in at least one bedroom	No	
Ceiling fan in at least one living room or other conditioned area	No	
Project score		
Water	<b>✓</b> 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	<b>✓</b> 31	Target 25

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# **Description of project**

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

#### Residential flat buildings - Building-A, 39 dwellings, 6 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A101	1	55.0	0.0	0.0	0.0
A106	1	50.0	0.0	0.0	0.0
A203	2	70.0	0.0	0.0	0.0
A208	2	75.0	0.0	0.0	0.0
A305	2	73.0	0.0	0.0	0.0
A402	2	75.0	0.0	0.0	0.0
A407	1	50.0	0.0	0.0	0.0
A504	2	65.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A102	2	75.0	0.0	0.0	0.0
A107	2	75.0	0.0	0.0	0.0
A204	1	62.0	0.0	0.0	0.0
A301	1	55.0	0.0	0.0	0.0
A306	2	70.0	0.0	0.0	0.0
A403	2	70.0	0.0	0.0	0.0
A408	2	75.0	0.0	0.0	0.0
A505	2	95.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
A103	2	70.0	0.0	0.0	0.0
A108	1	52.0	0.0	0.0	0.0
A205	2	73.0	0.0	0.0	0.0
A302	2	75.0	0.0	0.0	0.0
A307	1	50.0	0.0	0.0	0.0
A404	1	62.0	0.0	0.0	0.0
A501	2	83.0	0.0	0.0	0.0
A506	1	60.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A104	1	58.0	0.0	0.0	0.0
A201	1	55.0	0.0	0.0	0.0
A206	2	70.0	0.0	0.0	0.0
A303	2	70.0	0.0	0.0	0.0
A308	2	75.0	0.0	0.0	0.0
A405	2	73.0	0.0	0.0	0.0
A502	2	97.0	0.0	0.0	0.0
A507	1	60.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A105	2	70.0	0.0	0.0	0.0
A202	2	75.0	0.0	0.0	0.0
A207	1	50.0	0.0	0.0	0.0
A304	1	62.0	0.0	0.0	0.0
A401	1	55.0	0.0	0.0	0.0
A406	2	70.0	0.0	0.0	0.0
A503	1	65.0	0.0	0.0	0.0

# Residential flat buildings - Building-C, 24 dwellings, 6 storeys above ground

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
101	2	82.0	0.0	0.0	0.0
202	3	95.0	0.0	0.0	0.0
302	3	95.0	0.0	0.0	0.0

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Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
102	1	52.0	0.0	0.0	0.0
203	2	73.0	0.0	0.0	0.0
303	2	73.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
103	2	75.0	0.0	0.0	0.0
204	2	70.0	0.0	0.0	0.0
304	2	70.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
104	1	65.0	0.0	0.0	0.0
205	2	75.0	0.0	0.0	0.0
305	2	75.0	0.0	0.0	0.0

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Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
201	2	76.0	0.0	0.0	0.0
301	2	75.0	0.0	0.0	0.0
401	2	76.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
402	3	95.0	0.0	0.0	0.0
502	2	87.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
403	2	73.0	0.0	0.0	0.0
503	2	78.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
404	2	70.0	0.0	0.0	0.0
504	2	88.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
405	2	75.0	0.0	0.0	0.0
505	2	87.0	0.0	0.0	0.0
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Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
501	2	80.0	0.0	0.0	0.0

#### Residential flat buildings - Building-B, 43 dwellings, 6 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
B101	1	55.0	0.0	0.0	0.0
B106	2	70.0	0.0	0.0	0.0
B202	2	75.0	0.0	0.0	0.0
B207	2	70.0	0.0	0.0	0.0
B303	2	70.0	0.0	0.0	0.0
B308	1	50.0	0.0	0.0	0.0
B404	2	73.0	0.0	0.0	0.0
B409	1	50.0	0.0	0.0	0.0
B505	2	75.0	0.0	0.0	0.0

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Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m $^2$ )	Indigenous species (min area m²)
B102	2	80.0	0.0	0.0	0.0
B107	1	50.0	0.0	0.0	0.0
B203	2	70.0	0.0	0.0	0.0
B208	1	50.0	0.0	0.0	0.0
B304	2	73.0	0.0	0.0	0.0
B309	1	50.0	0.0	0.0	0.0
B405	1	62.0	0.0	0.0	0.0
B501	2	138.0	0.0	0.0	0.0
B506	1	60.0	0.0	0.0	0.0

	Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
	B103	2	70.0	0.0	0.0	0.0
	B108	2	50.0	0.0	0.0	0.0
	B204	2	73.0	0.0	0.0	0.0
	B209	1	50.0	0.0	0.0	0.0
	B305	1	62.0	0.0	0.0	0.0
	B401	1	55.0	0.0	0.0	0.0
	B406	2	70.0	0.0	0.0	0.0
	B502	2	110.0	0.0	0.0	0.0
	B507	1	60.0	0.0	0.0	0.0
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Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
B104	1	58.0	0.0	0.0	0.0
B109	1	52.0	0.0	0.0	0.0
B205	1	62.0	0.0	0.0	0.0
B301	1	55.0	0.0	0.0	0.0
B306	2	70.0	0.0	0.0	0.0
B402	2	75.0	0.0	0.0	0.0
B407	2	70.0	0.0	0.0	0.0
B503	2	83.0	0.0	0.0	0.0

(min area m²)
0
0
0
0
0
0
0
0

Residential flat buildings - Building-D, 35 dwellings, 6 storeys above ground

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Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
101	3	108.0	0.0	0.0	0.0
106	2	70.0	0.0	0.0	0.0
203	2	70.0	0.0	0.0	0.0
301	3	108.0	0.0	0.0	0.0
306	2	70.0	0.0	0.0	0.0
404	1	50.0	0.0	0.0	0.0
502	1	64.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
102	3	108.0	0.0	0.0	0.0
107	1	56.0	0.0	0.0	0.0
204	1	50.0	0.0	0.0	0.0
302	3	108.0	0.0	0.0	0.0
307	1	56.0	0.0	0.0	0.0
405	1	50.0	0.0	0.0	0.0
503	2	92.0	0.0	0.0	0.0
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Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
103	2	70.0	0.0	0.0	0.0
108	1	56.0	0.0	0.0	0.0
205	1	50.0	0.0	0.0	0.0
303	2	70.0	0.0	0.0	0.0
401	3	108.0	0.0	0.0	0.0
406	2	70.0	0.0	0.0	0.0
504	2	92.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
104	1	45.0	0.0	0.0	0.0
201	3	108.0	0.0	0.0	0.0
206	2	70.0	0.0	0.0	0.0
304	1	50.0	0.0	0.0	0.0
402	3	108.0	0.0	0.0	0.0
407	1	56.0	0.0	0.0	0.0
505	1	64.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
105	1	50.0	0.0	0.0	0.0
202	3	108.0	0.0	0.0	0.0
207	1	56.0	0.0	0.0	0.0
305	1	50.0	0.0	0.0	0.0
403	2	70.0	0.0	0.0	0.0
501	2	96.0	0.0	0.0	0.0
506	2	96.0	0.0	0.0	0.0

# Residential flat buildings - Building-E, 24 dwellings, 6 storeys above ground

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
101	2	82.0	0.0	0.0	0.0
202	3	95.0	0.0	0.0	0.0
302	3	95.0	0.0	0.0	0.0
402	3	95.0	0.0	0.0	0.0
502	1	56.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
102	1	52.0	0.0	0.0	0.0
203	2	73.0	0.0	0.0	0.0
303	2	73.0	0.0	0.0	0.0
403	2	73.0	0.0	0.0	0.0
503	2	78.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
103	2	75.0	0.0	0.0	0.0
204	2	70.0	0.0	0.0	0.0
304	2	70.0	0.0	0.0	0.0
404	2	70.0	0.0	0.0	0.0
504	2	88.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
104	1	65.0	0.0	0.0	0.0
205	2	75.0	0.0	0.0	0.0
305	2	75.0	0.0	0.0	0.0
405	2	75.0	0.0	0.0	0.0
505	2	87.0	0.0	0.0	0.0

Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
201	2	76.0	0.0	0.0	0.0
301	2	76.0	0.0	0.0	0.0
401	2	76.0	0.0	0.0	0.0
501	2	87.0	0.0	0.0	0.0

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# **Description of project**

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

## Common areas of unit building - Building-A

Common area	Floor area (m²)
Car park area Basement-01_Bld-A	790.0
Lift car (No.2)	-
Plant room-1_Basement-01_Bld-A	7.0

Common area	Floor area (m²)
Car park area Basement-02_Bld-A	833.0
Garbage room 01_Basement-01_Bld-A	27.0
Hallway/lobby Bld-A_Level 1	57.0

Common area	Floor area (m²)
Lift car (No.1)	-
Garbage room 02_Basement-01_Bld-A	28.0
Hallway/lobby Bld-A_Level-2-4	120.0

# Common areas of unit building - Building-C

Common area	Floor area (m²)
Car park area Basement-01_Bld-C	490.0
Garbage roomBasement-01_Bld-C	17.0
Hallway/lobby Bld-C_Level-2-4	75.0

Common area	Floor area (m²)
Car park area Basement-02_Bld-C	520.0
Temp Waste room_Bld-C	41.0
Hallway/lobby Bld-C_Level-1	32.0

Common area	Floor area (m²)
Lift car (No.5)	-
Plant room-3_Basement-01_Bld-C	12.0

# Common areas of unit building - Building-B

Common area	Floor area (m²)
Car park area Basement-01_Bld-B	803.0
Lift car (No.4)	-
Garbage roomBasement-01_Bld-D	23.0
Plant room-1_Basement-01_Bld-D	26.0

Common area	Floor area (m²)
Car park area Basement-02_Bld-B	830.0
Garbage room 01_Basement-01_Bld-B	28.0
Garbage room 07Basement-01_Bld-E	17.0
Hallway/lobby Bld-B_Level 1	58.0

Common area	Floor area (m²)
Lift car (No.3)	-
Garbage room 02_Basement-01_Bld-B	27.0
Plant room-2_Basement-01_Bld-B	7.5
Hallway/lobby Bld-B_Level-2-4	126.0

# Common areas of unit building - Building-D

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Common area	Floor area (m²)
Car park area Basement-01_Bld-D	680.0
Hallway/lobby Bld-D_Level-2-4	120.0

Common area	Floor area (m²)
Car park area Basement-02_Bld-D	790.0
Hallway/lobby Bld-D_Level-1	40.0

Common area	Floor area (m²)
Lift car (No.6)	-

# Common areas of unit building - Building-E

Common area	Floor area (m²)
Car park area Basement-01_Bld-E	400.0
Temp Waste room_Bld-E	41.0
Hallway/lobby Bld-E_Level-2-4	75.0

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Common area	Floor area (m²)
Car park area Basement-02_Bld-E	510.0
Plant room-2_Basement-01_Bld-E	12.0

Common area	Floor area (m²)
Lift car (No.7)	-
Hallway/lobby Bld-E_Level-1	33.0

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# **Schedule of BASIX commitments**

- 1. Commitments for Residential flat buildings Building-A
  - (a) Dwellings
    - (i) Water
    - (ii) Energy
    - (iii) Thermal Comfort
  - (b) Common areas and central systems/facilities
    - (i) Water
    - (ii) Energy
- 2. Commitments for Residential flat buildings Building-C
  - (a) Dwellings
    - (i) Water
    - (ii) Energy
    - (iii) Thermal Comfort
  - (b) Common areas and central systems/facilities
    - (i) Water
    - (ii) Energy
- 3. Commitments for Residential flat buildings Building-B
  - (a) Dwellings
    - (i) Water
    - (ii) Energy
    - (iii) Thermal Comfort
  - (b) Common areas and central systems/facilities
    - (i) Water
    - (ii) Energy
- 4. Commitments for Residential flat buildings Building-D
  - (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort
- (b) Common areas and central systems/facilities
  - (i) Water
  - (ii) Energy
- 5. Commitments for Residential flat buildings Building-E
  - (a) Dwellings
    - (i) Water
    - (ii) Energy
    - (iii) Thermal Comfort
  - (b) Common areas and central systems/facilities
    - (i) Water
    - (ii) Energy
- 6. Commitments for multi-dwelling houses
- 7. Commitments for single dwelling houses
- 8. Commitments for common areas and central systems/facilities for the development (non-building specific)
  - (i) Water
  - (ii) Energy

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#### **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-A

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		<b>~</b>	~
(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.		<b>~</b>	V
(e) The applicant must install:			
(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		<b>✓</b>	-
(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.		<b>✓</b>	-
(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.	V	<b>~</b>	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		<b>✓</b>	
(g) The pool or spa must be located as specified in the table.	V	<b>✓</b>	
(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.	~	~	V

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			Fixtur	es		Appli	ances		Indi	vidual pool		İn	dividual	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 (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	no	-	3 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		
None	-	-	-	-	-	-	-	-		

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

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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		<b>~</b>	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		•	
(h) The applicant must install in the dwelling:			
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		•	
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		•	V
(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".		<b>V</b>	

	Hot water	Bathroom ven	tilation system	Kitchen vent	ilation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous 5 star	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	

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	Coo	ling	Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitcher
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual po	ool	Individual s	ра			Appliance	es & other effic	iency meas	ures		
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	yes	3 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		~	

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(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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:	V	<b>V</b>	V
(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.	•	V	V

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A101	42.0	22.0
A102	44.0	16.0
A106	35.0	25.0
A107	41.0	22.0
A108	41.0	14.0
A206	34.0	25.0
A401	29.0	23.0
A402	45.0	12.0
A408	25.0	26.0
A502	42.0	15.0
A503	41.0	13.0
A506	29.0	19.0
A507	39.0	27.0
A208, A308	40.0	13.0

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Thermal loads						
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)				
A103, A104, A105	35.0	18.0				
A202, A302, A406, A501	38.0	14.0				
A203, A303, A306, A403	24.0	25.0				
A201, A207, A301, A307, A407	35.0	21.0				
All other dwellings	32.0	18.0				

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#### (b) Common areas and central systems/facilities

BASIX

(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.		<u> </u>	V
(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.	V	•	
(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.		<u> </u>	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		<u> </u>	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		<b>V</b>	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.	V	•	V

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	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		
Car park area Basement-01_Bld-A	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No		
Car park area Basement-02_Bld-A	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No		
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No		
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	No		
Garbage room 01_Basement-01_Bld-A	ventilation exhaust only	-	fluorescent	motion sensors	No		
Garbage room 02_Basement-01_Bld-A	ventilation exhaust only	-	fluorescent	motion sensors	No		
Plant room-1_Basement-01_Bld-A	no mechanical ventilation	-	fluorescent	motion sensors	No		
Hallway/lobby Bld-A_Level 1	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No		
Hallway/lobby Bld-A_Level-2-4	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No		

Central energy systems	Туре	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 7
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 7

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# 2. Commitments for Residential flat buildings - Building-C

## (a) Dwellings

BASIX

(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.		~	V
(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.		<b>~</b>	~
(e) The applicant must install:			
(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		<b>✓</b>	V
(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.		<b>→</b>	-
(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.	V	<b>~</b>	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		<b>~</b>	
(g) The pool or spa must be located as specified in the table.	•	<b>✓</b>	
(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.	~	~	~

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	Fixtures			Appli	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 (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	no	-	3 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	
None	-	-	-	-	-	-	-	-	

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

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check	
(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		<b>~</b>		
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		•		
(h) The applicant must install in the dwelling:				
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		•		
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		•	V	
(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".		<b>V</b>		

	Hot water	Bathroom ven	tilation system	Kitchen vent	ilation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous 5 star	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	

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	Cooling Heating		Artificial lighting					Natural lighting				
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitche
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

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

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		~	

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ii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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:	V	<b>~</b>	V
(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.	•	~	V

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
101	40.0	25.0
102	44.0	23.0
103	36.0	16.0
104	30.0	26.0
201	33.0	29.0
301	29.0	23.0
401	28.0	25.0
402	44.0	11.0
404	33.0	17.0
501	32.0	17.0
502	42.0	15.0
503	44.0	16.0
504	26.0	17.0
505	29.0	18.0

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		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
202, 302	45.0	12.0
204, 304	34.0	18.0
403, 405	30.0	16.0
All other dwellings	31.0	17.0

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#### (b) Common areas and central systems/facilities

BASIX

(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.		<u> </u>	V
(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.	V	•	
(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.		<u> </u>	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		<u> </u>	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		<b>V</b>	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.	V	•	V

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	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
Car park area Basement-01_Bld-C	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No
Car park area Basement-02_Bld-C	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No
Lift car (No.5)	-	-	light-emitting diode	connected to lift call button	No
Garbage roomBasement-01_Bld-C	ventilation exhaust only	-	fluorescent	motion sensors	No
Temp Waste room_Bld-C	ventilation exhaust only	-	fluorescent	motion sensors	No
Plant room-3_Basement-01_Bld-C	no mechanical ventilation	-	fluorescent	motion sensors	No
Hallway/lobby Bld-C_Level-2-4	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No
Hallway/lobby Bld-C_Level-1	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No

Central energy systems	Туре	Specification
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 7

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# 3. Commitments for Residential flat buildings - Building-B

## (a) Dwellings

BASIX

(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.		<b>~</b>	V
(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.		<b>~</b>	V
(e) The applicant must install:			
(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		•	V
(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.	V	<b>~</b>	
(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.	•	<b>✓</b>	
(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.	~	~	~

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	Fixtures			Appliances Indiv		lividual 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 (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	no	-	3 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	
None	-	-	-	-	-	-	-	-	

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

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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		<b>~</b>	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		•	
(h) The applicant must install in the dwelling:			
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		•	
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		<b>~</b>	V
(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".		<b>V</b>	

	Hot water	Bathroom ventilation system		Kitchen vent	ilation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous 5 star	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	

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Cooling Heating				Artificial lighting						hting		
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitcher
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual po	ool	Individual s	ра	Appliances & other efficiency measures							
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	yes	3 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(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.		~	

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(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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:	V	<b>V</b>	V
(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.	•	V	V

	Therm	al loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B107	41.0	22.0
B108	40.0	13.0
B109	37.0	17.0
B401	30.0	23.0
B402	44.0	12.0
B403	23.0	25.0
B406	37.0	14.0
B407	34.0	21.0
B408	24.0	26.0
B409	24.0	24.0
B501	42.0	25.0
B503	41.0	13.0
B505	44.0	14.0
B506	32.0	20.0

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		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B507	39.0	21.0
B101, B106	35.0	25.0
B203, B303	24.0	25.0
B206, B306	38.0	14.0
B207, B307	35.0	21.0
B208, B308	25.0	26.0
B209, B309	25.0	24.0
B404, B405	31.0	18.0
B102, B201, B301	29.0	23.0
B103, B104, B105	35.0	18.0
B202, B302, B502	45.0	12.0
All other dwellings	32.0	18.0

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#### (b) Common areas and central systems/facilities

BASIX

(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.		<u> </u>	V
(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.	V	•	
(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.		<u> </u>	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		<u> </u>	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		<b>V</b>	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.	V	•	V

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	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	
Car park area Basement-01_Bld-B	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No	
Car park area Basement-02_Bld-B	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No	
Lift car (No.3)	-	-	light-emitting diode	connected to lift call button	No	
Lift car (No.4)	-	-	light-emitting diode	connected to lift call button	No	
Garbage room 01_Basement-01_Bld-B	ventilation exhaust only	-	fluorescent	motion sensors	No	
Garbage room 02_Basement-01_Bld-B	ventilation exhaust only	-	fluorescent	motion sensors	No	
Garbage roomBasement-01_Bld-D	ventilation exhaust only	-	fluorescent	motion sensors	No	
Garbage room 07Basement-01_Bld-E	ventilation exhaust only	-	fluorescent	motion sensors	No	
Plant room-2_Basement-01_Bld-B	no mechanical ventilation	-	fluorescent	motion sensors	No	
Plant room-1_Basement-01_Bld-D	no mechanical ventilation	-	fluorescent	motion sensors	No	
Hallway/lobby Bld-B_Level 1	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No	
Hallway/lobby Bld-B_Level-2-4	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No	

Central energy systems	Туре	Specification
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 7
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 7

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# 4. Commitments for Residential flat buildings - Building-D

## (a) Dwellings

BASIX

(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.		<b>~</b>	~
(e) The applicant must install:			
(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		<b>✓</b>	V
(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.		<b>→</b>	-
(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.	V	<b>→</b>	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		<b>~</b>	
(g) The pool or spa must be located as specified in the table.	~	<b>✓</b>	
(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.	~	~	~

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	Fixtures				Appli	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 (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	no	-	3 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		
None	-	-	-	-	-	-	-	-		

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		~	V
(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.		~	~

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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		<b>~</b>	
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		•	
(h) The applicant must install in the dwelling:			
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		•	
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		•	V
(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".		<b>V</b>	

	Hot water	Bathroom ven	tilation system	Kitchen vent	ilation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous 5 star	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	

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	Coo	ling	Hea	ting		Artificial lighting		Natural lighting				
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitcher
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual po	ool	Individual s	ра		Appliances & other efficiency measures						
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	yes	3 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		~	

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(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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:	V	<b>V</b>	V
(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.	•	V	V

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
102	42.0	13.0
103	44.0	23.0
106	42.0	25.0
207	24.0	15.0
402	41.0	14.0
403	43.0	24.0
406	41.0	26.0
407	41.0	12.0
502	42.0	15.0
503	45.0	16.0
504	26.0	17.0
505	29.0	18.0
202, 302	40.0	13.0
203, 303	42.0	23.0

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	Thermal loads  Area adjusted heating load (in mJ/m²/yr)  40.0  32.0  Area adjusted cooling load (in mJ/m²/yr)  25.0  17.0			
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)		
206, 306	40.0	25.0		
501, 506	32.0	17.0		
401, 404, 405	24.0	16.0		
101, 104, 105, 108	25.0	15.0		
All other dwellings	23.0	15.0		

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## (b) Common areas and central systems/facilities

BASIX

(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.		~	V
(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.	V	<b>~</b>	
(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.		<b>~</b>	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		<b>~</b>	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		V	-

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.	V	•	V

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	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	
Car park area Basement-01_Bld-D	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No	
Car park area Basement-02_Bld-D	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No	
Lift car (No.6)	-	-	light-emitting diode	connected to lift call button	No	
Hallway/lobby Bld-D_Level-2-4	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No	
Hallway/lobby Bld-D_Level-1	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No	

Central energy systems	Туре	Specification
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 7

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# 5. Commitments for Residential flat buildings - Building-E

# (a) Dwellings

BASIX

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		<b>~</b>	V
(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.		<b>~</b>	V
(e) The applicant must install:			
(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		•	V
(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.		<b>✓</b>	V
(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.	•	<b>✓</b>	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		<b>~</b>	
(g) The pool or spa must be located as specified in the table.	V	<b>✓</b>	
(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.	~	~	~

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	Fixtures				Appli	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 (> 4.5 but <= 6 L/min)	4 star	3 star	3 star	no	-	3 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			
None	-	-	-	-	-	-	-	-			

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

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(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check	
(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		<b>~</b>		
(bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		•		
(h) The applicant must install in the dwelling:				
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below;		•		
(bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and		•	V	
(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".		<b>V</b>		

	Hot water	Bathroom ven	tilation system	Kitchen vent	ilation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	gas instantaneous 5 star	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	

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	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitche
All dwellings	1-phase airconditioning EER 3.0 - 3.5	-	1-phase airconditioning EER 3.0 - 3.5	-	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

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

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifie 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.		~	

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(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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:	V	~	-
(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.	~	V	~

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
101	33.0	17.0
102	43.0	24.0
103	44.0	13.0
104	27.0	17.0
501	28.0	19.0
502	31.0	18.0
503	25.0	24.0
504	40.0	14.0
505	32.0	18.0
201, 301, 401	31.0	27.0
202, 302, 402	40.0	17.0
203, 303, 403	39.0	19.0
204, 304, 404	42.0	15.0
All other dwellings	42.0	14.0

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## (b) Common areas and central systems/facilities

BASIX

(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.		-	V	
(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.	V	•		
(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.		<u> </u>		
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		•	V	
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		<b>V</b>	V	

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.	V	•	V

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	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
Car park area Basement-01_Bld-E	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No
Car park area Basement-02_Bld-E	ventilation exhaust only	carbon monoxide monitor + 2-speed fan	fluorescent	daylight sensor and motion sensor	No
Lift car (No.7)	-	-	light-emitting diode	connected to lift call button	No
Temp Waste room_Bld-E	no mechanical ventilation	-	fluorescent	motion sensors	No
Plant room-2_Basement-01_Bld-E	no mechanical ventilation	-	fluorescent	motion sensors	No
Hallway/lobby Bld-E_Level-1	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No
Hallway/lobby Bld-E_Level-2-4	no mechanical ventilation	-	fluorescent	daylight sensor and motion sensor	No

Central energy systems	Туре	Specification
Lift (No. 7)	gearless traction with V V V F motor	Number of levels (including basement): 7

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

#### (b) Common areas and central systems/facilities

BASIX

(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>~</b>	V
(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.	V	<b>~</b>	
(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.		<b>~</b>	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		~	V
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		<b>V</b>	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	3 star	no common laundry facility

(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.		~	V
(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.	V	~	~

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#### **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

BASIX

- 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 fulfillment it is required to monitor in relation to the building or part, has been fulfilled).

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