

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 1730548M_02

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

Secretary

Date of issue: Wednesday, 10 April 2024

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



Project summary

Project name	116-120 Frenchs Forest Road Frenchs Forest_02
Street address	116-120 FRENCHS FOREST ROAD FRENCHS FOREST FRENCHS FOREST 2086
Local Government Area	NORTHERN BEACHES
Plan type and plan number	Deposited Plan DP213608 24/-/DP25713
Lot no.	1 2 3
Section no.	-/DP213608 24/-
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	127
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Project score

Water	✓ 40	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 65	Target 61
Materials	✓ -100	Target n/a

Certificate Prepared by

Name / Company Name: AENEC - Office: 02 9994 8906

ABN (if applicable): 32612556377

Description of project

Project address	
Project name	116-120 Frenchs Forest Road Frenchs Forest_02
Street address	116-120 FRENCHS FOREST ROAD FRENCHS FOREST FRENCHS FOREST 2086
Local Government Area	NORTHERN BEACHES
Plan type and plan number	Deposited Plan DP213608 24/-/DP25713
Lot no.	1 2 3
Section no.	-/DP213608 24/-
Project type	
No. of residential flat buildings	3
Residential flat buildings: no. of dwellings	127
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	5740.4
Roof area (m²)	2294
Non-residential floor area (m²)	0
Residential car spaces	121
Non-residential car spaces	14

Common area landscape		
Common area lawn (m²)	2583	
Common area garden (m²)	0	
Area of indigenous or low water use species (m²)	0	
Assessor details and thermal loads		
Assessor number	HERA10002	
Certificate number	HR-ZN8RQ4-01	
Climate zone	56	
Project score		
Water	<div><div>✓</div><div>40</div></div>	Target 40
Thermal Performance	<div><div>✓</div><div>Pass</div></div>	Target Pass
Energy	<div><div>✓</div><div>65</div></div>	Target 61
Materials	<div><div>✓</div><div>-100</div></div>	Target n/a

Description of project

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

Residential flat buildings - Building A, 70 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A101	2	78	4.2	0	0
A105	2	73.5	4.1	0	0
A109	2	76.6	4.9	0	0
A202	2	83.8	4.3	0	0
A206	2	72.7	4.5	0	0
A210	2	71.9	6.3	0	0
A303	2	83.4	4.3	0	0
A307	3	99.3	4.6	0	0
A311	2	76.1	6.2	0	0
A404	3	97	5.3	0	0
A408	3	95.6	3.1	0	0
A504	3	97	5.3	0	0
A508	3	95.6	3.1	0	0
A604	3	97	5.3	0	0
A608	3	95.6	3.1	0	0
AG04	1	50.4	7.1	0	0
AG08	2	72.6	4.2	0	0
ALG01	3	158.6	4.6	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A102	2	83.1	4.3	0	0
A106	2	72.7	4.5	0	0
A110	2	71.9	6.3	0	0
A203	2	83.4	4.3	0	0
A207	3	99.3	4.6	0	0
A211	2	76.1	6.2	0	0
A304	1	50.6	7.1	0	0
A308	2	77.4	4.8	0	0
A401	3	80.3	5.5	0	0
A405	3	108.1	4.7	0	0
A501	2	80.3	5.5	0	0
A505	3	108.1	4.7	0	0
A601	2	80.3	5.5	0	0
A605	3	108.1	4.7	0	0
AG01	2	78	4.2	0	0
AG05	2	73.7	4.1	0	0
AG09	2	78.2	5	0	0
ALG02	3	135.5	4.6	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A103	2	83.4	4.3	0	0
A107	3	99.3	4.6	0	0
A111	2	76.1	6.2	0	0
A204	1	50.5	7.1	0	0
A208	2	77.4	4.8	0	0
A301	2	78	4.2	0	0
A305	2	73.3	4.1	0	0
A309	2	76.6	4.9	0	0
A402	3	81.8	4.6	0	0
A406	2	76.2	4.1	0	0
A502	2	81.8	4.6	0	0
A506	2	76.2	4.1	0	0
A602	2	81.8	4.6	0	0
A606	2	76.2	4.1	0	0
AG02	2	83.1	4.3	0	0
AG06	2	67.9	4.1	0	0
AG10	2	71.9	6.3	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
A104	1	50.4	7.1	0	0
A108	2	77.4	4.8	0	0
A201	2	78	4.2	0	0
A205	2	73.2	4.1	0	0
A209	2	76.6	4.9	0	0
A302	2	83.1	4.3	0	0
A306	2	72.7	4.5	0	0
A310	2	71.9	6.3	0	0
A403	2	74.4	4.6	0	0
A407	3	70.6	4.6	0	0
A503	2	74.4	4.6	0	0
A507	2	70.6	3.5	0	0
A603	2	74.4	4.6	0	0
A607	2	70.6	3.5	0	0
AG03	2	83.5	4.3	0	0
AG07	1	45.6	5.9	0	0
AG11	2	76.1	6.2	0	0

Residential flat buildings - Building B, 38 dwellings, 5 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B101	1	53.4	3.9	0	0
B105	2	79.2	3.8	0	0
B203	2	68	4.4	0	0
B301	1	53.5	3.9	0	0
B305	2	79.2	3.8	0	0
B403	3	95.8	4.6	0	0
B503	3	95.8	4.6	0	0
B603	3	95.8	4.6	0	0
BG03	2	75.5	4.4	0	0
BLG01	2	87.1	4.9	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B102	2	87.5	3.2	0	0
B106	2	86.7	4.6	0	0
B204	2	68.5	4.2	0	0
B302	2	87.5	3.2	0	0
B306	2	86.6	4.6	0	0
B404	2	81.7	6.4	0	0
B504	2	81.7	6.4	0	0
B604	2	81.7	6.4	0	0
BG04	2	72	4.2	0	0
BLG02	2	90.6	3.8	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B103	2	68	4.4	0	0
B201	1	53.5	3.9	0	0
B205	2	79.2	3.8	0	0
B303	2	68	4.4	0	0
B401	3	124.2	5.1	0	0
B501	3	124.2	5.1	0	0
B601	3	124.2	3.9	0	0
BG01	1	49.7	3.9	0	0
BG05	2	79.2	3.8	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
B104	2	68.5	4.2	0	0
B202	2	87.5	3.2	0	0
B206	2	86.7	4.6	0	0
B304	2	68.5	4.2	0	0
B402	3	97.4	5.6	0	0
B502	3	97.4	5.6	0	0
B602	3	97.4	5.6	0	0
BG02	2	83.9	3.2	0	0
BG06	2	72.9	4.2	0	0

Residential flat buildings - Building C, 19 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C101	3	90.8	4.5	0	0
C201	3	90.7	4.5	0	0
C301	3	90.7	4.5	0	0
C401	3	50	4.2	0	0
CG01	3	109	5.3	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C102	2	71.6	4.2	0	0
C202	2	71.6	4.2	0	0
C302	2	71.6	4.2	0	0
C402	3	98.9	5	0	0
CG02	2	112	4.2	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C103	2	85.2	5.1	0	0
C203	2	67.8	4.9	0	0
C303	2	67.8	4.9	0	0
C501	3	102.6	4.2	0	0
CG03	2	62.2	11.5	0	0
Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
C104	2	83.9	4.9	0	0
C204	3	101.3	4.9	0	0
C304	3	101.3	4.9	0	0
C502	3	98.9	5	0	0

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)
Garbage room A	27.7
Stairs P A2	22
Ground floor lobby type A	107.5

Common area	Floor area (m²)
Pump Room	23.9
Stairs A1	98
Hallway/lobby A	107.5

Common area	Floor area (m²)
Stairs P A1	22
Stairs A2	133.8

Common areas of unit building - Building B

Common area	Floor area (m²)
Garbage room B	19.5
Ground floor lobby type B	63.4

Common area	Floor area (m²)
Stairs P B	12
Hallway/lobby B	63.4

Common area	Floor area (m²)
Stairs B	91.4

Common areas of unit building - Building C

Common area	Floor area (m²)
Lift bank (No. 1)	-
Garbage room C	28.8
Ground floor lobby type C	155

Common area	Floor area (m²)
Lift bank (No. 2)	-
Bulky Store C	47
Hallway/lobby type C	32.4

Common area	Floor area (m²)
Lift bank (No. 3)	-
Stairs C	61

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Undercover car park area BS1	3043.5

Common area	Floor area (m²)
Undercover car park area MEZ	3166.5

Common area	Floor area (m²)
Undercover car park area LGF	798.4

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building A

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

2. Commitments for Residential flat buildings - Building B

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

3. Commitments for Residential flat buildings - Building C

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

- (ii) Energy

- (iii) Thermal Performance

- (c) Common areas and central systems/facilities

- (i) Water

- (ii) Energy

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

- (a) Buildings 'Other'

- (i) Materials

- (b) Common areas and central systems/facilities

- (i) Water

- (ii) Energy

Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

1. Commitments for Residential flat buildings - Building A

(a) Buildings

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

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	1168.5	fibreglass batts or roll	none
floors above habitable rooms, frame: suspended concrete slab	4566.13	-	none
concrete slab on ground, frame:	7.3	-	none
suspended floor above enclosed subfloor, frame: suspended concrete slab	338.2	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard, frame: light steel frame	6233.7	none	rockwool batts, roll or pump-in

External wall types				
External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 2	concrete block/ plasterboard,frame:light steel frame	1015.2	none	-

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	200 mm AAC block, frame:light steel frame	4699.5	-
Internal wall type 2	plasterboard, frame:light steel frame	7310	-

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

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	514.03	-	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	844.8	-	844.8	-	-	-	-






(b) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	4 star	4 star	-	not specified	4 star	-	-	-	-	-	-	-

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

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		  	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".			

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
A504, A604	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	0	yes
All other dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	0	no

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

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
A101	14.7	10	24.700
A102	14.8	6.1	20.900
A103	9.5	5.8	15.300
A104	11.5	5.9	17.400

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
A105	6.7	12.2	18.900
A106	3.6	4.4	8.000
A107	2	8	10.000
A108	26.4	4.9	31.300
A109	17.8	8.4	26.200
A110	17.4	7.8	25.200
A111	27.3	7.7	35.000
A201	12.5	8.3	20.800
A202	15.3	5.9	21.200
A203	9.8	6.5	16.300
A204	12.2	5.7	17.900
A205	6.3	12.8	19.100
A206	3.9	4.5	8.400
A207	11.2	5.4	16.600
A208	23.8	5.3	29.100
A209	18.2	9.0	27.200
A210	17.6	8	25.600
A211	29	7.6	36.600
A301	19.2	6.5	25.700
A303	24	4.4	28.400
A304	18.3	5.2	23.500
A305	5.7	12.9	18.600
A306	5.9	4.8	10.700
A307	4.5	8.3	12.800
A308	19.4	6.9	26.300
A309	16.7	10.1	26.800
A310	19.3	7.5	26.800
A311	27.6	9.9	37.500
A401	22.6	9.1	31.700
A402	18.3	7.2	25.500
A403	7.6	10.1	17.700

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
A404	7.4	9.2	16.600
A405	9.5	6.5	16.000
A406	26.7	3.2	29.900
A407	21.4	4.4	25.800
A408	9.3	15.7	25.000
A501	23	13.5	36.500
A502	19.6	4.4	24.000
A503	18.3	6.1	24.400
A504	5.6	10.7	16.300
A505	9.4	7.5	16.900
A506	23.8	3.3	27.100
A507	25.2	4.8	30.000
A508	18.1	7.3	25.400
A601	27.6	8	35.600
A602	24	10.1	34.100
A603	18.3	11.6	29.900
A604	19.8	16.9	36.700
A605	16.3	14.5	30.800
A606	31.4	5.7	37.100
A607	27	8.9	35.900
A608	24.4	10.4	34.800
AG01	16.2	10.9	27.100
AG03	25.6	5.4	31.000
AG04	14.3	6.8	21.100
AG05	4.5	12.7	17.200
AG06	3.1	6.1	9.200
AG07	3.2	7.5	10.700
AG08	22.3	3.4	25.700
AG09	26.6	7.3	33.900
AG10	18.4	11.2	29.600
AG11	24	9.0	33.000

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
ALG01	1.9	7.3	9.200
ALG02	11.6	3.8	15.400
All other dwellings	18.6	6.1	24.700

(c) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	10000	To collect run-off from at least: - 2294 square metres of roof area of buildings in the development - 0 square metres of impervious area in the development - 0 square metres of garden/lawn area in the development - 0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 2583 square metres of common landscaped area on the site - car washing in 2 car washing bays on the site

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

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

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Garbage room A	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Pump Room	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Stairs P A1	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Stairs P A2	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Stairs A1	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Stairs A2	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Ground floor lobby type A	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Hallway/lobby A	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 2 lift load capacity: <1001 kg

2. Commitments for Residential flat buildings - Building B

(a) Buildings

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

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	1168.5	fibreglass batts or roll	none
floors above habitable rooms, frame: suspended concrete slab	4566.13	-	none
concrete slab on ground, frame:	7.3	-	none
suspended floor above enclosed subfloor, frame: suspended concrete slab	338.2	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	6233.7	none	rockwool batts, roll or pump-in
External wall type 2	concrete block/ plasterboard,frame:light steel frame	1015.2	none	-

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	200 mm AAC block, frame:light steel frame	4699.5	-
Internal wall type 2	plasterboard, frame:light steel frame	7310	-

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

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	514.03	-	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	844.8	-	844.8	-	-	-	-






(b) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but ≤ 6 L/min)	4 star	4 star	4 star	-	not specified	4 star	-	-	-	-	-	-	-

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

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		  	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".			

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
All dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	0	no

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

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
B101	18.8	6.9	25.700
B102	32.1	4.8	36.900
B103	19	5.4	24.400
B104	17.2	11.2	28.400

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
B105	20.5	4.4	24.900
B106	9.1	13.9	23.000
B201	17.7	7	24.700
B202	30.5	6.2	36.700
B203	19.3	9.1	28.400
B204	17.3	11.3	28.600
B205	20.5	8.6	29.100
B206	9.4	17.6	27.000
B301	22.1	6.8	28.900
B302	28.1	7	35.100
B303	26	7.9	33.900
B304	23.5	9.5	33.000
B305	24.1	7.8	31.900
B306	13.3	18.3	31.600
B401	19	9.0	28.000
B402	16.9	8.8	25.700
B403	4.1	12.0	16.100
B404	1.9	13.6	15.500
B501	18.2	8.3	26.500
B502	15.6	10.1	25.700
B503	3.9	11.8	15.700
B504	1.8	11	12.800
B601	21.4	12.1	33.500
B602	22.1	12.7	34.800
B603	7.3	13.2	20.500
B604	4.9	13.1	18.000
BG01	31.5	5.1	36.600
BG02	31	6.5	37.500
BG03	13.8	15.5	29.300
BG04	13.8	15.8	29.600
BG05	9.7	5.9	15.600

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
BG06	9.1	11.7	20.800
BLG01	23.8	7.1	30.900
All other dwellings	13.8	9.04	22.840

(c) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	5 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.	✓	✓	✓

	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
Garbage room B	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Stairs P B	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Stairs B	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Ground floor lobby type B	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Hallway/lobby B	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no

Central energy systems	Type	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 8 number of levels from the bottom of the lift shaft to the top of the lift shaft: 10 number of lifts: 2 lift load capacity: <1001 kg

3. Commitments for Residential flat buildings - Building C

(a) Buildings

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

Floor types			
Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above garage, frame: suspended concrete slab	1168.5	fibreglass batts or roll	none
floors above habitable rooms, frame: suspended concrete slab	4566.13	-	none
concrete slab on ground, frame:	7.3	-	none
suspended floor above enclosed subfloor, frame: suspended concrete slab	338.2	-	none

External wall types				
External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	6233.7	none	rockwool batts, roll or pump-in
External wall type 2	concrete block/ plasterboard,frame:light steel frame	1015.2	none	-

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	200 mm AAC block, frame:light steel frame	4699.5	-
Internal wall type 2	plasterboard, frame:light steel frame	7310	-

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

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	514.03	-	fibreglass batts or roll

Glazing types			Frame types				
Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	844.8	-	844.8	-	-	-	-






(b) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and (bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓ ✓	✓ ✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	4 star	4 star	-	not specified	4 star	-	-	-	-	-	-	-

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

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		  	
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".			

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	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

	Cooling		Heating		Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
C402, C502	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	2	no
All other dwellings	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	airconditioning ducting only	0	no

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

(iii) Thermal Performance	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.	✓		
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.		✓	
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓
(i) The applicant must show on The plans accompanying The development application for The proposed development, The locations of ceiling fans set out in The Assessor Certificate.	✓		
(j) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), the locations of ceiling fans set out in the Assessor Certificate.		✓	

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m²/yr)	Area adjusted cooling load (in MJ/m²/yr)	Area adjusted total load (in MJ/m²/yr)
C101	13.8	11.7	25.500
C102	21.8	9.9	31.700
C103	3.1	9.8	12.900
C104	22.3	11.3	33.600

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
C201	13.6	11	24.600
C202	21.9	9.4	31.300
C203	1.7	10.3	12.000
C204	11.4	13.5	24.900
C301	15.7	9.6	25.300
C302	14.2	6.7	20.900
C303	6	8.5	14.500
C304	11.1	11.6	22.700
C401	14	10.9	24.900
C402	12.4	12.4	24.800
C501	20.3	13.9	34.200
C502	20	14.2	34.200
CG01	16.1	9.0	25.100
CG02	12.4	17.3	29.700
All other dwellings	8.8	8.6	17.400

(c) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	5 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.	✓	✓	✓

	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
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 2)	-	-	light-emitting diode	connected to lift call button	no
Lift bank (No. 3)	-	-	light-emitting diode	connected to lift call button	no
Garbage room C	ventilation exhaust only	-	light-emitting diode	manual on / manual off	no
Bulky Store C	no mechanical ventilation	-	light-emitting diode	manual on / manual off	no
Stairs C	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Ground floor lobby type C	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	no
Hallway/lobby type C	no mechanical ventilation	-	light-emitting diode	time clock and motion sensors	no

Central energy systems	Type	Specification
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 6 number of levels from the bottom of the lift shaft to the top of the lift shaft: 6 number of lifts: 1 lift load capacity: <1001 kg

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

(a) Buildings 'Other'

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

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
concrete slab on ground, frame:	4919	-	none

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	concrete block/ plasterboard,frame:light steel frame	197.4	none	-

Internal wall types

Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	200 mm AAC block, frame:no frame	43.6	-

Reinforcement concrete frames/columns

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

Ceiling and roof types

Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: light steel frame	514.03	-	fibreglass batts or roll

Glazing types**Frame types**

Single glazing (m²)	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	844.8	-	844.8	-	-	-	-

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	5 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.	✓	✓	✓

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Undercover car park area BS1	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	no
Undercover car park area MEZ	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	no
Undercover car park area LGF	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	no

Central energy systems	Type	Specification
Other	-	-

Notes

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

Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).