BASIX™Certificate

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

Multi Dwelling

Certificate number: 1763355M 04

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

This certificate is a revision of certificate number 1763355M 02 submitted to the consent authority or certifier on 27 September 2024 with application DA2024/1303.

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

Secretary

Date of issue: Wednesday, 07 May 2025

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

NSW GOVERNMENT

When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate 0009740330.

Project summary		
Project name	Club Redevelopment_04	
Street address	22 MELWOOD AVENUE FORESTV	'ILLE 2087
Local Government Area	NORTHERN BEACHES	
Plan type and plan number	Deposited Plan 752038	
Lot No.	2590	
Section no.	-	
No. of residential flat buildings	4	
Residential flat buildings: no. of dwellings	52	
Multi-dwelling housing: no. of dwellings	0	
No. of single dwelling houses	0	
Project score		
Water	✓ 41	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 68	Target 67
Materials	-100	Target n/a

Certificate Prepared by

Name / Company Name: Aspire Sustainability Consulting Pty Ltd

ABN (if applicable):

Version: 4.03 / EUCALYPTUS 03 01 0

Description of project

Project address	
Project name	Club Redevelopment_04
Street address	22 MELWOOD AVENUE FORESTVILLE 2087
Local Government Area	NORTHERN BEACHES
Plan type and plan number	Deposited Plan 752038
Lot No.	2590
Section no.	-
Project type	
No. of residential flat buildings	4
Residential flat buildings: no. of dwellings	52
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	9013
Roof area (m²)	2698
Non-residential floor area (m²)	2802.86
Residential car spaces	63
Non-residential car spaces	126

Common area landscape								
Common area lawn (m²)	587.1							
Common area garden (m²)	974.8							
Area of indigenous or low water use species (m²)	684							
Assessor details and therma	al loads							
Assessor number	10070							
Certificate number	0009740330							
Climate zone	56							
Project score								
Water	✓ 41	Target 40						
Thermal Performance	✓ Pass	Target Pass						
Energy	68	Target 67						
Materials	-100	Target n/a						

Description of project

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

Residential flat buildings - Building1, 10 dwellings, 3 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)
G01	2	116	0	0	0
L102	2	108	0	0	0
L202	2	101	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)
G02	2	116	0	0	0
L103	3	105	0	0	0
L203	2	101	0	0	0

Dwelling no. No. of bedrooms Conditioned floor area (m²) Unconditioned floor area (m²) Area of garden & lawn (m²)
G03 3 105 0 29.7 22
L104 3 105 0 0 0

11101 2 108 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)
	L101	2	108	0	0	0
L201 2 131 0 0 0	L201	2	131	0	0	0

Residential flat buildings - Building2, 11 dwellings, 3 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)
G01	2	116	0	0	0
L101	2	108	0	0	0
L201	2	131	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)
G02	2	116	0	0	0
L102	2	108	0	0	0
L202	2	101	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)
G03	3	105	0	0	0
L103	3	105	0	0	0
L203	2	101	0	0	0

Certificate No.: 1763355M_04

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & Iawn (m²)	Indigenous species (min area m²)
G04	3	105	0	51.8	13
L104	3	105	0	0	0

Residential flat buildings - Building3, 15 dwellings, 3 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)
G01	3	107	0	0	0
G05	3	130	0	0	0
L104	2	127	0	0	0
L203	2	117	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)
G02	2	96	0	0	0
L101	3	119	0	0	0
L105	2	127	0	0	0
L204	2	127	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)
G03	3	107	0	0	0
L102	2	90	0	0	0
L201	3	119	0	0	0
L205	2	127	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)
G04	3	130	0	0	0
L103	3	114	0	0	0
L202	2	89	0	0	0

Residential flat buildings - Club Building, 16 dwellings, 3 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)
L101	3	145	0	0	0
L105	3	127	0	0	0
L109	2	91	0	0	0
L203	3	109	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)
L102	3	127	0	0	0
L106	3	145	0	0	0
L110	2	91	0	0	0
L204	2	96	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)
L103	3	103	0	0	0
L107	3	134	0	0	0
L201	2	96	0	0	0
L205	3	163	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)
L104	3	103	0	0	0
L108	3	134	0	0	0
L202	3	109	0	0	0
L206	3	163	0	0	0

Description of project

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

Common areas of unit building - Building1

Common area	Floor area (m²)
GF Lobby& Kitchenette (Bdg1)	144.19

Common areas of unit building - Club Building

Common area	Floor area (m²)
Lift bank (No. 1)	-
Lift bank (No. 4)	-

Common area	Floor area (m²)
Lift bank (No. 2)	-
Lift bank (No. 5)	-

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

Common areas of the development (non-building specific)

Common area	Floor area (m²)
B1 Gym area	138.4
B2 AMB	10.24
B3-B1 Carpark	10830.9
B3 Mech (R1-R3)	85.22

Common area	Floor area (m²)
B1 Plant Equipment	36.48
B2-B1 Corridor/Hallway	104.37
B3-B1 Garbage room	265.05
GF-L2 Garbage	60.66

Common area	Floor area (m²)
B1 Theatre	137.05
B2-GF WC	95.92
B3-B1 Storage	223.91

Schedule of BASIX commitments

- 1. Commitments for Residential flat buildings Building1
 - (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 Building2
 - (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 Building3
 - (a) Buildings
 - (i) Materials
 - (b) Dwellings

BASIX

(i) Water

- (ii) Energy
- (iii) Thermal Performance
- (c) Common areas and central systems/facilities
 - (i) Water
 - (ii) Energy
- 4. Commitments for Residential flat buildings Club Building
 - (a) Buildings
 - (i) Materials
 - (b) Dwellings
 - (i) Water
 - (ii) Energy
 - (iii) Thermal Performance
 - (c) Common areas and central systems/facilities
 - (i) Water
 - (ii) Energy
- 5. Commitments for 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 carriedout. 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 - Building1

(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.			V

Floor types									
Floor type	Area (m2)	Insulation	Low emissions option						
floors above habitable rooms, frame: suspended concrete slab	617.6	-	-						
suspended floor above enclosed subfloor, frame: suspended concrete slab	667.4	fibreglass batts or roll	-						

External wall types										
External wall type	Construction type	Area (m2)	Low emissions option	Insulation						
External wall type 1	brick veneer,frame:light steel frame	422.33	-	-						
External wall type 2	framed (metal clad),frame:light steel frame	211.17	-	-						

Version: 4.03 / EUCALYPTUS_03_01_0

Internal wall types								
Internal wall type Construction type Area (m2) Insulation								
Internal wall type 1	plasterboard, frame:light steel frame	884.6	-					
Internal wall type 2	75 mm AAC panel, frame:light steel frame	614.6	fibreglass batts or roll					

Reinforcement concrete frames/columns								
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option						
yes	25.4	-						

Ceiling and roof types									
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation						
concrete - plasterboard internal, frame: light steel frame	666.7	-	-						
concrete - plasterboard internal, frame: light steel frame	353.2	foil backed blanket	-						

	Glazing types	Frame types					
Single glazing (m²)	glazing (m²) Double glazing Triple glazing (m²)		Aluminium frames (m²)	Timber frames (m²) uPVC frames (m²)		Steel frames (m²) Composite frames (m²)	
-	266.4	-	266.4	-	-	-	-

(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.	V	-	
(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	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	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	3.5 star	3.5 star	-	-	-	-	-	-	-

Department of Planning, Housing and Infrastructure

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, ducted to façade or roof		individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cod	ling	Hea	ting	Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
L201, L202	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	0	yes
All other dwellings	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1	yes

	Individual pool		Individual spa		Appliances other efficiency measures					
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	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.	V	~	V
(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.	V		
(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)			
G01	22.2	14.2	36.400			
G02	12.1	13.1	25.200			
G03	24.7	9.5	34.200			
L101	8.8	17.2	26.000			

		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)					
L102	7.3	12.2	19.500					
L103	10	8.6	18.600					
L104	28.6	7.3	35.900					
L201	20.9	7.7	28.600					
L202	22.1	14.1	36.200					
All other dwellings	29.1	13.3	42.400					

(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	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for)
Central water tank - rainwater or stormwater (No. 1)	5000	To collect run-off from at least: - 971.43 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 1561.9 square metres of common landscaped area on the site - car washing in 1 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 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
GF Lobby& Kitchenette (Bdg1)	ventilation supply only	none i.e., continuous	light-emitting diode	motion sensors	no

Central energy systems	Туре	Specification
Lift bank (No. 1)	F motor	Number of levels (including basement): 3 number of levels from the bottom of the lift shaft to the top of the lift shaft: 5 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

Department of Planning, Housing and Infrastructure

2. Commitments for Residential flat buildings - Building2

(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	
floors above habitable rooms, frame: suspended concrete slab	811.6	-	-	
suspended floor above enclosed subfloor, frame: suspended concrete slab	399.4	fibreglass batts or roll	-	

External wall types				
External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	brick veneer,frame:light steel frame	457.73	-	-
External wall type 2	framed (metal clad),frame:light steel frame	228.87	-	-

Internal wall types					
Internal wall type	Construction type	Area (m2)	Insulation		
Internal wall type 1	plasterboard, frame:light steel frame	968.6	-		
Internal wall type 2	75 mm AAC panel, frame:light steel frame	654	fibreglass batts or roll		

Version: 4.03 / EUCALYPTUS_03_01_0 Certificate No.: 1763355M_04

Reinforcement concrete frames/columns					
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option			
yes	26.4	-			

Ceiling and roof types					
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation		
concrete - plasterboard internal, frame: light steel frame	731.6	-	-		
concrete - plasterboard internal, frame: light steel frame	389.8	foil backed blanket	-		

	Glazing types				Frame types		
Single glazin	ng (m²) Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)
-	301.2	-	301.2	-	-	-	-

(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.	V	~	
(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.	V	~	
(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	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	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	3.5 star	3.5 star	-	-	-	-	-	-	-

Department of Planning, Housing and Infrastructure

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

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

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

	Hot water Bathroom ventilation system		Kitchen venti	lation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, ducted to façade or roof		individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cod	ling	Hea	ting	Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
L201, L202	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	0	yes
All other dwellings	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1	yes

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	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			Ì
(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	~	~
(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.	V		
(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)				
G01	27.5	13.5	41.000				
G02	10.2	12.5	22.700				
G03	15.2	10.3	25.500				
G04	28.2	7.6	35.800				

Version: 4.03 / EUCALYPTUS_03_01_0 Certificate No.: 1763355M_04

		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)						
L101	17.1	8.9	26.000						
L102	7.2	12	19.200						
L103	10.3	10.9	21.200						
L104	26.1	9	35.100						
L201	21.8	8	29.800						
L202	23.5	14.3	37.800						
All other dwellings	28.2	10.2	38.400						

(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.		~	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.		~	
(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.		~	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but <= 9 L/min)	3 star	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	•

Central energy systems	Туре	Specification
Lift bank (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 3 number of levels from the bottom of the lift shaft to the top of the lift shaft: 5 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg
Lift bank (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 3 number of levels from the bottom of the lift shaft to the top of the lift shaft: 5 number of lifts: 1 lift load capacity: >= 1001 kg but <= 1500kg

3. Commitments for Residential flat buildings - Building3

(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					
floors above habitable rooms, frame: suspended concrete slab	1054.8	-	-					
suspended floor above enclosed subfloor, frame: suspended concrete slab	682.8	fibreglass batts or roll	-					

External wall types							
External wall type	Construction type	Area (m2)	Low emissions option	Insulation			
External wall type 1	cavity brick,frame:no frame	873	-	fibreglass batts or roll			

Internal wall types							
Internal wall type	Construction type	Area (m2)	Insulation				
Internal wall type 1	plasterboard, frame:light steel frame	1399.6	-				
Internal wall type 2	75 mm AAC panel, frame:light steel frame	597.2	fibreglass batts or roll				

Reinforcement concrete frames/columns						
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option				
yes	40.88	-				

Ceiling and roof types								
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation					
concrete - plasterboard internal, frame: light steel frame	456.2	foil backed blanket	-					
concrete - plasterboard internal, frame: light steel frame	1092.2	-	-					

	Glazing types		Frame types					
Single glazing (m²)	Single glazing (m²) Double glazing Triple glazing (m²)		Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)	
-	468.2	-	468.2	-	-	-	-	

(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.		~	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		_	~
(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	~	
(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.	V	7	
(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			Appli	ances	Individual pool			Individual spa					
Dwelling no.	All shower- heads	All toilet flushing systems	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	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	3.5 star	3.5 star	-	-	-	-	-	-	-

Department of Planning, Housing and Infrastructure

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

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

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

	Hot water	Bathroom ven	tilation system	Kitchen venti	lation system	Laundry vent	ilation system
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	Central hot water system (No. 1)	individual fan, ducted to façade or roof		individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

	Cooling		Hea	ting	Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
L102, L105	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	0	yes
All other dwellings	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1	yes

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	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.	V	~	V
(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.	V		
(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)				
G01	29.3	5.6	34.900				
G02	28.2	9.8	38.000				
G03	8.6	6.1	14.700				
G04	11.5	7.4	18.900				

		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)					
G05	24.3	6.8	31.100					
L101	25.1	9.1	34.200					
L102	20	12.2	32.200					
L103	11.3	7.3	18.600					
L104	14.6	8.9	23.500					
L105	19.5	9	28.500					
L201	28.9	8.7	37.600					
L202	26.6	11.6	38.200					
L203	12.1	7	19.100					
L204	18	7.8	25.800					
All other dwellings	26.4	7.7	34.100					

(c) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		~	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.		~	
(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.		~	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but <= 9 L/min)	3 star	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	~	V

4. Commitments for Residential flat buildings - Club Building

(a) Buildings

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

Floor types										
Floor type	Area (m2)	Insulation	Low emissions option							
suspended floor above open subfloor, frame: suspended concrete slab	247.2	fibreglass batts or roll	-							
floors above habitable rooms, frame: suspended concrete slab	2471	-	-							

External wall types										
External wall type	Construction type	Area (m2)	Low emissions option	Insulation						
External wall type 1	cavity brick,frame:no frame	888.8	-	fibreglass batts or roll						

Internal wall types									
Internal wall type	Construction type	Area (m2)	Insulation						
Internal wall type 1	plasterboard, frame:light steel frame	1329	-						
Internal wall type 2	75 mm AAC panel, frame:light steel frame	779.2	fibreglass batts or roll						

Reinforcement concrete frames/columns									
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option							
yes	20.56	-							

Ceiling and roof types										
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation							
concrete - plasterboard internal, frame: light steel frame	1079	foil backed blanket	-							
concrete - plasterboard internal, frame: light steel frame	844.8	-	-							

	Glazing types		Frame types					
Single glazing (n	Double glazing (m²)	Triple glazing (m²)	Aluminium frames (m²)	Timber frames (m²)	uPVC frames (m²)	Steel frames (m²)	Composite frames (m²)	
-	534.0	-	534.0	-	-	-	-	

(b) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	>	>	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		~	~
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		~	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	~	
(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.	~	~	7

	Fixtures			Appliances		Individual pool			Individual spa					
Dwelling no.	All shower- heads	All toilet flushing systems	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	3 star (> 7.5 but <= 9 L/min)	3 star	3 star	3 star	-	3.5 star	3.5 star	-	-	-	-	-	-	-

Department of Planning, Housing and Infrastructure

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

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

Version: 4.03 / EUCALYPTUS_03_01_0 Certificate No.: 1763355M_04

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

	Hot water	Bathroom ven	tilation system	Kitchen venti	lation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	Central hot water system (No. 1)	individual fan, ducted to façade or roof		individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	

	Cooling		Hea	iting	Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bathrooms or toilets	Main kitchen
L103, L104, L107, L108, L109, L110	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	0	yes
All other dwellings	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1-phase airconditioning - non ducted / EER 3.0 - 3.5	1	yes

	Individual pool		Individual spa		Appliances other efficiency measures					
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4 star	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:	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	~
(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.	V		
(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)		
All dwellings	19.11	12.39	31.500		

Version: 4.03 / EUCALYPTUS_03_01_0 Certificate No.: 1763355M_04

Department of Planning, Housing and Infrastructure

(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.		~	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.		~	
(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.		~	V

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	3 star (> 7.5 but <= 9 L/min)	3 star	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	~	V

	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	
Lift bank (No. 4)	-	-	light-emitting diode	connected to lift call button	no	
Lift bank (No. 5)	-	-	light-emitting diode	connected to lift call button	no	

Central energy systems	Туре	Specification
Lift bank (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 2 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 but <= 1500kg
Lift bank (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 2 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 but <= 1500kg

5. 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.			V

Floor types					
Floor type	Area (m2)	Insulation	Low emissions option		
suspended floor above enclosed subfloor, frame: suspended concrete slab	5029.69	-	-		

External wall types					
External wall type	Construction type	Area (m2)	Low emissions option	Insulation	
External wall type 1	cavity brick,frame:no frame	1	-	-	

Internal wall types			
Internal wall type Construction type Area (m2) Insulation			
Internal wall type 1	cavity brick wall, frame:no frame	1	-

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				
-	-	-		

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)
-	-	-	-	-	-	-	-

(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.		~	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.	>	~	
(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.		~	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	3 star (> 7.5 but <= 9 L/min)	3 star	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	~	V

	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
B1 Gym area	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	time clocks	no
B1 Plant Equipment	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	no
B1 Theatre	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	no
B2 AMB	ventilation (supply + exhaust)	time clock or BMS controlled	light-emitting diode	manual on / manual off	no
B2-B1 Corridor/Hallway	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	no
B2-GF WC	ventilation exhaust only	none i.e., continuous	light-emitting diode	motion sensors	no
B3-B1 Carpark	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	no
B3-B1 Garbage room	ventilation exhaust only	-	light-emitting diode	motion sensors	no
B3-B1 Storage	no mechanical ventilation	-	light-emitting diode	motion sensors	no
B3 Mech (R1-R3)	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	no
GF-L2 Garbage	ventilation exhaust only	-	light-emitting diode	motion sensors	no

Central energy systems	Туре	Specification
Central hot water system (No. 1)		Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: 3.0 < COP <= 3.5
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 45 peak kW
Other	Common area clothes drying line installed?: yes	-

Notes

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

Legend

BASIX

- 1. Commitments identified with a "V" 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 "V" 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 "V" 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).

Version: 4.03 / EUCALYPTUS 03 01 0

Department of Planning, Housing and Infrastructure

Certificate No.: 1763355M 04