

BASIX™ Certificate

Building Sustainability Index

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

Multi Dwelling

Certificate number: 1790003M_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.planningportal.nsw.gov.au/definitions

This certificate is a revision of certificate number 1790003M submitted to the consent authority or certifier on 28 April 2025 with application SSD-63324208.

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: Friday, 01 August 2025

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



When submitting this BASIX certificate with a development application or complying development certificate application, it must be accompanied by NatHERS certificate 0011828560.

Project summary

Project name	Novus on Victoria, Chatswood_02
Street address	416 VICTORIA AVENUE CHATSWOOD 2067
Local Government Area	WILLOUGHBY
Plan type and plan number	Deposited Plan 82303
Lot No.	4
Section no.	-
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	260
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0

Project score

Water	✓ 51	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 63	Target 63
Materials	✓ -20	Target n/a

Certificate Prepared by

Name / Company Name: JHA Consulting Engineers (NSW) Pty Ltd

ABN (if applicable):

Description of project

Project address	
Project name	Novus on Victoria, Chatswood_02
Street address	416 VICTORIA AVENUE CHATSWOOD 2067
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Plan type and plan number	Deposited Plan 82303
Lot No.	4
Section no.	-
Project type	
No. of residential flat buildings	1
Residential flat buildings: no. of dwellings	260
Multi-dwelling housing: no. of dwellings	0
No. of single dwelling houses	0
Site details	
Site area (m²)	1049.9
Roof area (m²)	559.3
Non-residential floor area (m²)	1348
Residential car spaces	0
Non-residential car spaces	2

Common area landscape		
Common area lawn (m²)	300	
Common area garden (m²)	300	
Area of indigenous or low water use species (m²)	0	
Assessor details and thermal loads		
Assessor number	20647	
Certificate number	0011828560	
Climate zone	56	
Project score		
Water	✓ 51	Target 40
Thermal Performance	✓ Pass	Target Pass
Energy	✓ 63	Target 63
Materials	✓ -20	Target n/a

Description of project

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

Residential flat buildings - Building 1, 260 dwellings, 45 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)
1001	2	75.9	0	0	0
1005	1	29.9	0	0	0
1102	1	42.7	0	0	0
1106	1	53.8	0	0	0
1203	1	26.9	0	0	0
1207	1	52.8	0	0	0
1304	1	32.4	0	0	0
1401	2	75.9	0	0	0
1405	1	29.9	0	0	0
1502	1	42.7	0	0	0
1506	1	53.8	0	0	0
1603	1	26.9	0	0	0
1607	1	52.8	0	0	0
1704	1	32.4	0	0	0
1801	2	75.9	0	0	0
1805	1	29.9	0	0	0
1902	1	42.7	0	0	0
1906	1	53.8	0	0	0
2003	1	26.9	0	0	0
2007	1	52.8	0	0	0
2104	1	32.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1002	1	42.7	0	0	0
1006	1	53.8	0	0	0
1103	1	26.9	0	0	0
1107	1	52.8	0	0	0
1204	1	32.4	0	0	0
1301	2	75.9	0	0	0
1305	1	29.9	0	0	0
1402	1	42.7	0	0	0
1406	1	53.8	0	0	0
1503	1	26.9	0	0	0
1507	1	52.8	0	0	0
1604	1	32.4	0	0	0
1701	2	75.9	0	0	0
1705	1	29.9	0	0	0
1802	1	42.7	0	0	0
1806	1	53.8	0	0	0
1903	1	26.9	0	0	0
1907	1	52.8	0	0	0
2004	1	32.4	0	0	0
2101	2	75.9	0	0	0
2105	1	29.9	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1003	1	26.9	0	0	0
1007	1	52.8	0	0	0
1104	1	32.4	0	0	0
1201	2	75.9	0	0	0
1205	1	29.9	0	0	0
1302	1	42.7	0	0	0
1306	1	53.8	0	0	0
1403	1	26.9	0	0	0
1407	1	52.8	0	0	0
1504	1	32.4	0	0	0
1601	2	75.9	0	0	0
1605	1	29.9	0	0	0
1702	1	42.7	0	0	0
1706	1	53.8	0	0	0
1803	1	26.9	0	0	0
1807	1	52.8	0	0	0
1904	1	32.4	0	0	0
2001	2	75.9	0	0	0
2005	1	29.9	0	0	0
2102	1	42.7	0	0	0
2106	1	53.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
1004	1	32.4	0	0	0
1101	2	75.9	0	0	0
1105	1	29.9	0	0	0
1202	1	42.7	0	0	0
1206	1	53.8	0	0	0
1303	1	26.9	0	0	0
1307	1	52.8	0	0	0
1404	1	32.4	0	0	0
1501	2	75.9	0	0	0
1505	1	29.9	0	0	0
1602	1	42.7	0	0	0
1606	1	53.8	0	0	0
1703	1	26.9	0	0	0
1707	1	52.8	0	0	0
1804	1	32.4	0	0	0
1901	2	75.9	0	0	0
1905	1	29.9	0	0	0
2002	1	42.7	0	0	0
2006	1	53.8	0	0	0
2103	1	26.9	0	0	0
2107	1	52.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2201	2	75.9	0	0	0
2205	1	29.9	0	0	0
2402	2	76.3	0	0	0
2406	1	52.8	0	0	0
2504	1	29.9	0	0	0
2602	2	76.3	0	0	0
2606	1	52.8	0	0	0
2704	1	29.9	0	0	0
2802	2	76.3	0	0	0
2806	1	52.8	0	0	0
2904	1	29.9	0	0	0
3002	2	76.3	0	0	0
3006	1	52.8	0	0	0
304	1	64.1	0	0	0
308	1	39.9	0	0	0
3104	1	29.9	0	0	0
3202	2	76.3	0	0	0
3206	1	52.8	0	0	0
3304	1	29.9	0	0	0
3402	2	76.3	0	0	0
3406	1	52.8	0	0	0
3504	1	29.9	0	0	0
3602	2	76.3	0	0	0
3606	1	52.8	0	0	0
3704	1	29.9	0	0	0
3802	2	76.3	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2202	1	42.7	0	0	0
2206	1	53.8	0	0	0
2403	1	32.4	0	0	0
2501	2	75.9	0	0	0
2505	1	53.8	0	0	0
2603	1	32.4	0	0	0
2701	2	75.9	0	0	0
2705	1	53.8	0	0	0
2803	1	32.4	0	0	0
2901	2	75.9	0	0	0
2905	1	53.8	0	0	0
3003	1	32.4	0	0	0
301	2	75.9	0	0	0
305	3	121	0	0	0
3101	2	75.9	0	0	0
3105	1	53.8	0	0	0
3203	1	32.4	0	0	0
3301	2	75.9	0	0	0
3305	1	53.8	0	0	0
3403	1	32.4	0	0	0
3501	2	75.9	0	0	0
3505	1	53.8	0	0	0
3603	1	32.4	0	0	0
3701	2	75.9	0	0	0
3705	1	53.8	0	0	0
3803	1	32.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2203	1	26.9	0	0	0
2207	1	52.8	0	0	0
2404	1	29.9	0	0	0
2502	2	76.3	0	0	0
2506	1	52.8	0	0	0
2604	1	29.9	0	0	0
2702	2	76.3	0	0	0
2706	1	52.8	0	0	0
2804	1	29.9	0	0	0
2902	2	76.3	0	0	0
2906	1	52.8	0	0	0
3004	1	29.9	0	0	0
302	1	33.1	0	0	0
306	1	36.3	0	0	0
3102	2	76.3	0	0	0
3106	1	52.8	0	0	0
3204	1	29.9	0	0	0
3302	2	76.3	0	0	0
3306	2	52.8	0	0	0
3404	1	29.9	0	0	0
3502	2	76.3	0	0	0
3506	1	52.8	0	0	0
3604	1	29.9	0	0	0
3702	2	76.3	0	0	0
3706	1	52.8	0	0	0
3804	1	29.9	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
2204	1	32.4	0	0	0
2401	2	75.9	0	0	0
2405	1	53.8	0	0	0
2503	1	32.4	0	0	0
2601	2	75.9	0	0	0
2605	1	53.8	0	0	0
2703	1	32.4	0	0	0
2801	2	75.9	0	0	0
2805	1	53.8	0	0	0
2903	1	32.4	0	0	0
3001	2	75.9	0	0	0
3005	1	53.8	0	0	0
303	2	91.2	0	0	0
307	1	48.2	0	0	0
3103	1	32.4	0	0	0
3201	2	75.9	0	0	0
3205	1	53.8	0	0	0
3303	1	32.4	0	0	0
3401	2	75.9	0	0	0
3405	1	53.8	0	0	0
3503	1	32.4	0	0	0
3601	2	75.9	0	0	0
3605	1	53.8	0	0	0
3703	1	32.4	0	0	0
3801	2	75.9	0	0	0
3805	1	53.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
3806	1	52.8	0	0	0
3904	1	29.9	0	0	0
4002	2	76.3	0	0	0
4006	1	52.8	0	0	0
404	1	64.1	0	0	0
408	1	39.9	0	0	0
4104	1	29.9	0	0	0
4202	2	76.3	0	0	0
4206	1	52.8	0	0	0
4304	1	29.9	0	0	0
502	1	33.1	0	0	0
506	1	36.3	0	0	0
602	1	42.7	0	0	0
702	1	42.7	0	0	0
706	1	53.8	0	0	0
803	1	26.9	0	0	0
807	1	52.8	0	0	0
904	1	32.4	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
3901	2	75.9	0	0	0
3905	1	53.8	0	0	0
4003	1	32.4	0	0	0
401	2	75.9	0	0	0
405	3	121	0	0	0
4101	2	75.9	0	0	0
4105	1	53.8	0	0	0
4203	1	32.4	0	0	0
4301	2	75.9	0	0	0
4305	1	53.8	0	0	0
503	2	91.2	0	0	0
507	1	48.2	0	0	0
603	1	26.9	0	0	0
703	1	26.9	0	0	0
707	1	52.8	0	0	0
804	1	32.4	0	0	0
901	2	75.9	0	0	0
905	1	29.9	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
3902	2	76.3	0	0	0
3906	1	52.8	0	0	0
4004	1	29.9	0	0	0
402	1	33.1	0	0	0
406	1	36.3	0	0	0
4102	2	76.3	0	0	0
4106	1	52.8	0	0	0
4204	1	29.9	0	0	0
4302	2	76.3	0	0	0
4306	1	52.8	0	0	0
504	1	64.1	0	0	0
508	1	39.9	0	0	0
604	1	32.4	0	0	0
704	1	32.4	0	0	0
801	2	75.9	0	0	0
805	1	29.9	0	0	0
902	1	42.7	0	0	0
906	1	53.8	0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
3903	1	32.4	0	0	0
4001	2	75.9	0	0	0
4005	1	53.8	0	0	0
403	2	91.2	0	0	0
407	1	48.2	0	0	0
4103	1	32.4	0	0	0
4201	2	75.9	0	0	0
4205	1	53.8	0	0	0
4303	1	32.4	0	0	0
501	2	75.9	0	0	0
505	3	121	0	0	0
601	2	75.9	0	0	0
701	2	75.9	0	0	0
705	1	29.9	0	0	0
802	1	42.7	0	0	0
806	1	53.8	0	0	0
903	1	26.9	0	0	0
907	1	52.8	0	0	0

Description of project

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

Common areas of unit building - Building 1

Common area	Floor area (m²)
Lift bank (No. 1)	-
Car park/Loading dock (Combined)	216.8
Other Common Areas (Combined)	81.7
Service room (nat vent, combined)	398.5
Common Room (a/c, Combined)	497.3
Lobby (nat vent)	1933.7

Common area	Floor area (m²)
Sauna Areas (Combined)	137.4
Switch room	52.9
Service/amenities (supply air, Combined)	893.5
Substation (Combined)	45.1
GF Lobby (Combined)	76.4

Common area	Floor area (m²)
Gym (Combined)	256.3
Garbage room (Combined)	597.5
COMMS room (a/c)	25.7
Stairs (Combined)	879.8
Other Corridors (supply air, Combined)	608.9

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building 1

(a) Buildings

(i) Materials

(b) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Performance

(c) Common areas and central systems/facilities

(i) Water

(ii) Energy

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

(b) Common areas and central systems/facilities

(i) Water

(ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building 1

(a) Buildings

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

Floor types

Floor type	Area (m2)	Insulation	Low emissions option
suspended floor above open subfloor, frame: suspended concrete slab	5026.5	polyurethane	-
suspended floor above open subfloor, frame: suspended concrete slab	14600	-	-

External wall types

External wall type	Construction type	Area (m2)	Low emissions option	Insulation
External wall type 1	AAC veneer, frame: light steel frame	4718.5	-	fibreglass batts or roll

Internal wall types			
Internal wall type	Construction type	Area (m2)	Insulation
Internal wall type 1	plasterboard, frame:light steel frame	17570.5	-
Internal wall type 2	plasterboard, frame:light steel frame	720	fibreglass batts or roll

Reinforcement concrete frames/columns		
Building has reinforced concrete frame/columns?	Volume (m³)	Low emissions option
yes	1955.49	-

Ceiling and roof types			
Ceiling and roof type	Area (m²)	Roof Insulation	Ceiling Insulation
concrete - plasterboard internal, frame: no frame	559.3	-	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)
-	4888.4	-	4888.4	-	-	-	-

(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.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 6 but ≤ 7.5 L/min)	4 star	5 star	6 star	-	5 star	5 star	-	-	-	-	-	-	-

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

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

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

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

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

	Individual pool			Individual spa		Appliances other efficiency measures				
Dwelling no.	Pool heating system	Pool Pump	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Dishwasher	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	-	induction cooktop & electric oven	4.5 star	8.0 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)
1001	16.3	6.5	22.800
1002	17.30	10.2	27.500
1003	6.4	11.2	17.600
1004	8.2	9.2	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)
1005	9.4	9.2	18.600
1006	24.7	11	35.700
1007	26.90	6.8	33.700
1101	16.6	6.5	23.100
1102	17	10.1	27.100
1103	6.6	10.7	17.300
1104	8.4	9.1	17.500
1105	9.5	9	18.500
1106	24.9	10.9	35.800
1107	27.2	6.6	33.800
1201	16.80	6.4	23.200
1202	17.6	9.7	27.300
1204	8.5	9.1	17.600
1205	9.4	9.1	18.500
1207	27.5	6.7	34.200
1301	16.8	6.1	22.900
1302	17.9	10.1	28.000
1304	8.6	9	17.600
1305	9.5	9.1	18.600
1306	25.6	10.8	36.400
1307	27.7	6.7	34.400
1401	17.1	6.3	23.400
1402	18.1	9.7	27.800
1403	6.7	10.8	17.500
1404	8.7	9.1	17.800
1405	9.7	9	18.700
1406	25.8	10.9	36.700
1407	27.6	6.6	34.200
1501	17.4	6.3	23.700
1502	18.1	9.3	27.400
1504	8.9	8.9	17.800

	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)
1505	9.8	8.9	18.700
1506	25.3	10.8	36.100
1507	27.9	6.5	34.400
1601	17.5	6.4	23.900
1602	18.8	10.4	29.200
1604	9	8.9	17.900
1605	10.1	9.1	19.200
1606	26.2	11.1	37.300
1701	17.5	6.3	23.800
1702	18.7	9.7	28.400
1703	7.1	10.5	17.600
1704	9.1	8.8	17.900
1705	10	9	19.000
1706	26.4	10.9	37.300
1801	17.6	6.3	23.900
1802	18.9	9.8	28.700
1803	7.1	10.7	17.800
1804	9.2	8.7	17.900
1805	10.3	9	19.300
1806	26.3	10.6	36.900
1901	17.8	6.3	24.100
1902	18.8	9.5	28.300
1903	7.2	11.1	18.300
1904	9.3	8.7	18.000
1905	10.3	9.2	19.500
1906	26.5	10.8	37.300
2001	17.9	6.3	24.200
2002	19.4	10.3	29.700
2003	7.1	10.4	17.500
2004	9.4	8.7	18.100
2006	26.9	10.7	37.600

	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)
2007	29	6.5	35.500
2101	17.9	6.1	24.000
2102	19.4	10	29.400
2103	7.1	10.8	17.900
2104	9.8	8.7	18.500
2106	27.10	10.6	37.700
2107	29.2	6.5	35.700
2201	19.2	4.6	23.800
2202	21.5	8.2	29.700
2203	8.6	10.3	18.900
2204	13.8	6.5	20.300
2205	14.80	7	21.800
2206	30.2	7.7	37.900
2207	31.7	4.6	36.300
2401	18.2	6.3	24.500
2402	18.4	8	26.400
2403	15.8	7	22.800
2404	17.1	7.1	24.200
2405	30.1	7.6	37.700
2406	29.5	6.6	36.100
2501	18.3	6.1	24.400
2502	17.2	8.9	26.100
2504	10.6	8.8	19.400
2505	27.6	10.4	38.000
2506	29.6	6.7	36.300
2601	18.4	6.3	24.700
2602	17.90	9.2	27.100
2603	9.9	8.8	18.700
2604	10.7	8.8	19.500
2605	27.5	10.3	37.800
2701	18.5	6.2	24.700

	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)
2702	17.90	8.9	26.800
2703	9.9	8.7	18.600
2704	10.90	9.1	20.000
2705	27.4	10.4	37.800
2802	17.70	8.8	26.500
2804	10.8	9.3	20.100
2805	27.2	10.5	37.700
2806	29.9	6.7	36.600
2902	17.7	8.8	26.500
2904	10.80	9.3	20.100
2905	27.3	10.4	37.700
2906	30.1	6.7	36.800
3001	18.7	6.2	24.900
3002	18.3	9.1	27.400
3004	11.00	9.1	20.100
3005	27.2	10.2	37.400
3006	29.80	6.8	36.600
301	17	5	22.000
302	6.50	8.8	15.300
303	13	6.6	19.600
304	9.8	5.1	14.900
305	13.3	7.5	20.800
306	16.2	9.8	26.000
307	22.7	8	30.700
308	28.8	8.5	37.300
3101	18.9	6.2	25.100
3102	18.1	8.9	27.000
3104	11	9.1	20.100
3105	27.3	10.1	37.400
3106	30.00	6.7	36.700
3201	19	6.2	25.200

	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)
3202	18.3	9.2	27.500
3204	11.1	9.2	20.300
3205	27.1	9.7	36.800
3206	29.9	6	35.900
3301	18.9	6	24.900
3302	17.9	8.8	26.700
3305	27.00	9.5	36.500
3306	29.90	6	35.900
3401	19.1	6.2	25.300
3402	18.4	9.1	27.500
3403	10.2	8.7	18.900
3404	11.4	9.2	20.600
3405	27	9.6	36.600
3501	19.10	6.2	25.300
3503	10.3	8.7	19.000
3504	11.2	9.3	20.500
3505	26.9	9.5	36.400
3601	19.2	6.2	25.400
3602	18.6	9.10	27.700
3603	10.4	8.7	19.100
3604	11.4	9.4	20.800
3605	27.3	9.4	36.700
3701	19.3	6	25.300
3703	10.4	9	19.400
3704	11.8	9.7	21.500
3705	27.5	9.4	36.900
3706	30.2	6	36.200
3801	19.3	6.1	25.400
3802	18.7	9	27.700
3803	10.40	9	19.400
3804	11.70	9.4	21.100

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
3805	27.3	9.3	36.600
3806	30	6	36.000
3901	19.5	6.2	25.700
3903	10.5	9	19.500
3904	11.8	9.4	21.200
3905	27.5	9.3	36.800
4001	19.50	6.2	25.700
4002	18.9	8.9	27.800
4005	27.5	9.6	37.100
4006	30.4	6	36.400
401	13.6	7	20.600
402	4	11.8	15.800
403	10.1	7.9	18.000
404	9.7	5.3	15.000
405	12.7	7.9	20.600
406	16.6	9.8	26.400
407	22.3	7.5	29.800
408	29.2	8.4	37.600
4101	19.6	6.1	25.700
4102	18.6	8.8	27.400
4104	11.7	9.3	21.000
4105	27.9	9.4	37.300
4106	30.60	6.1	36.700
4201	19.6	6.2	25.800
4202	19.1	9.1	28.200
4205	27.4	9.4	36.800
4206	30.3	6	36.300
4301	19.8	6.2	26.000
4303	10.70	8.8	19.500
4305	27.8	9.2	37.000
4306	30.50	6	36.500

	Thermal loads		
Dwelling no.	Area adjusted heating load (in MJ/m ² /yr)	Area adjusted cooling load (in MJ/m ² /yr)	Area adjusted total load (in MJ/m ² /yr)
501	15.20	7.5	22.700
502	4.2	11.5	15.700
503	11.9	7.4	19.300
504	14.5	4.0	18.500
505	18.1	6.3	24.400
506	23.8	8.5	32.300
507	29.2	7.1	36.300
508	30.1	7	37.100
601	14.2	6.1	20.300
602	5.8	10.8	16.600
603	3.1	14.9	18.000
604	6.3	9.7	16.000
701	14	7.2	21.200
702	14.3	9.6	23.900
703	5.4	12.3	17.700
704	6.6	9.4	16.000
705	7.7	9.5	17.200
706	21.6	12.1	33.700
707	24.1	6.8	30.900
801	14.3	7.1	21.400
802	15	9.7	24.700
803	5.5	12.3	17.800
804	6.8	9.5	16.300
805	7.9	9.7	17.600
806	22.3	12	34.300
807	24.7	7	31.700
901	16.2	6.5	22.700
902	17.2	10.1	27.300
903	6.4	11.6	18.000
904	8.2	9.3	17.500
905	9.2	9.2	18.400

	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)
906	24.7	10.8	35.500
907	26.9	6.3	33.200
1203, 1303	6.7	10.9	17.600
1206, 2503	9.8	8.8	18.600
1503, 1603	6.9	10.8	17.700
1607, 1807	28.4	6.5	34.900
1707, 1907	28.5	6.5	35.000
2005, 2105	10.5	8.9	19.400
2606, 2706	29.5	6.8	36.300
2801, 2901	18.6	6.1	24.700
2803, 2903	10.1	8.8	18.900
3003, 3103	10.00	8.8	18.800
3203, 3303	10.2	8.8	19.000
3304, 4004	11.4	9.3	20.700
3406, 3506	29.7	6.2	35.900
3502, 3702	18.4	8.8	27.200
3606, 3906	30.1	6	36.100
3902, 4302	18.7	8.7	27.400
4204, 4304	11.5	9.2	20.700
All other dwellings	10.5	8.8	19.300

(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	4 star (> 6 but <= 7.5 L/min)	4 star	6 star	5 star

Central systems	Size	Configuration	Connection (to allow for...)
Swimming pool (No. 1)	Volume: 90 kLs	Location: Building 1 Pool shaded: yes	-
Swimming pool (No. 2)	Volume: 5 kLs	Location: Sauna Areas (Combined)	-
Swimming pool (No. 3)	Volume: 5 kLs	Location: Sauna Areas (Combined)	-
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

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

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

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/ BMS
Lift bank (No. 1)	-	-	light-emitting diode	connected to lift call button	yes
Sauna Areas (Combined)	ventilation exhaust only	time clock or BMS controlled	light-emitting diode	manual on / manual off	yes
Gym (Combined)	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	yes
Car park/Loading dock (Combined)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with daylight sensor	yes
Switch room	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Garbage room (Combined)	ventilation exhaust only	-	light-emitting diode	manual on / manual off	yes
Other Common Areas (Combined)	ventilation exhaust only	time clock or BMS controlled	light-emitting diode	motion sensors	yes
Service/amenities (supply air, Combined)	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
COMMS room (a/c)	air conditioning system	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Service room (nat vent, combined)	no mechanical ventilation	-	light-emitting diode	manual on / manual off	yes
Substation (Combined)	ventilation supply only	thermostatically controlled	light-emitting diode	manual on / manual off	yes
Stairs (Combined)	no mechanical ventilation	-	light-emitting diode	motion sensors	yes
Common Room (a/c, Combined)	air conditioning system	time clock or BMS controlled	light-emitting diode	motion sensors	yes
GF Lobby (Combined)	air conditioning system	time clock or BMS controlled	light-emitting diode	daylight sensor and motion sensor	yes
Other Corridors (supply air, Combined)	ventilation supply only	time clock or BMS controlled	light-emitting diode	daylight sensor and motion sensor	yes
Lobby (nat vent)	no mechanical ventilation	-	light-emitting diode	daylight sensor and motion sensor	yes

Central energy systems	Type	Specification
Swimming pool (No. 1)	Heating source: electric heat pump	Pump controlled by timer: yes
Swimming pool (No. 2)	Heating source: electric heat pump	Pump controlled by timer: yes
Swimming pool (No. 3)	Heating source: no heating	Pump controlled by timer: yes
Sauna (No. 1)	Heating source: electric infrared	Efficiency measure: manual on / timer off
Lift bank (No. 1)	gearless traction with V V V F motor and regenerative drive	Number of levels (including basement): 41 number of levels from the bottom of the lift shaft to the top of the lift shaft: 48 number of lifts: 4 lift load capacity: ≥ 1001 kg but ≤ 1500 kg
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: water cooled condenser Unit efficiency (min): high – COP > 5.5
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency high – COP > 5.5
Central hot water system (No. 1)	electric heat pump – air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: no external pipework; (b) Piping internal to building: R1.0 (~38 mm) (c) Unit Efficiency: $3.5 < \text{COP} \leq 4.0$

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

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 6 but <= 7.5 L/min)	4 star	6 star	5 star

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

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 24 peak kW
Other	Building management system installed?: yes Common area clothes washer rating: 5 star	-

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).