

Thermal Comfort & BASIX Assessment

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Mirvac Projects Pty Ltd

Proposed Residential Development

To be built at:

2 Fig Tree Drive
SYDNEY OLYMPIC PARK NSW 2127

Issue	File Ref	Description	Author	Date
A	9135	Original Thermal and BASIX Assessment [DRAFT]	MF/TMC/HE	29/07/15
B	9135	Original Thermal and BASIX Assessment [FINAL]	MF	11/08/15
C	9135	Thermal comfort and BASIX update	MP	23/09/15

This report has been prepared by Efficient Living Pty Ltd on behalf of our client Mirvac Projects. Efficient Living prepares all reports in accordance with the BASIX Thermal Comfort Protocol and is backed by professional indemnity insurance. This report takes into account our client's instructions and preferred building inclusions.



Prepared for Mirvac Projects Pty Ltd
Level 26, 60 Margaret Street, Sydney NSW 2000

Contact Amar Prashant
Phone: 0431574102 Email: amar.prashant@mirvac.com

Introduction Efficient Living has investigated the estimated thermal comfort, water and energy usage of the proposed development to be built at 2 Fig Tree Drive, Sydney Olympic Park.

Heating and cooling loads for the development have been determined using BERS thermal simulation software. The report is based on the architectural drawings provided by BVN Architects. For further details, refer to the individual BASIX certificates and Efficient Living inclusions summary respectively.

Analysis The BASIX assessment is divided into three sections, each independently measuring the efficiency of the development. These are Water, Thermal Comfort and Energy.

BASIX requires a minimum target of 40% for the Water section. A BERS pass or fail is required for the thermal comfort section and a minimum required target of 20% in the energy section.

Water The proposed development has achieved the BASIX Water target of 40%. The water usage of the development is calculated based on the number and efficiency of permanent fixtures and appliances such as taps, showerheads and toilets, the dish washer and clothes washing machine.

The size of the rain tank and number of connections has a huge impact on your water score as does the area of gardens and lawns and whether or not low water plant species are incorporated.

Thermal comfort Thermal Comfort targets are set by the Department of Planning in the form of heating and cooling caps. The buildings thermal physics is measured using BERS thermal performance assessment tools. This equates an expected level of energy consumption to heat and cool each dwelling per annum expressed in MJ (megajoules) per square meter of floor area.

Each unit has individual heating and cooling caps and a weighted average heating and cooling load for the whole development. The weighted average caps are a lot harder to achieve than the individual unit caps.

Energy The proposed development has achieved the energy target of 20% to pass this section. The energy usage of the development is calculated based on the efficiency of fixed appliances that will be used. This includes the air conditioning system, hot water system, lighting, exhaust fans, cook top, oven, and clothes drying facilities.

Inclusions summary The inclusions as outlined in the table below have been incorporated in each unit to allow them to reach their environmental sustainability targets.

Thermal comfort Average heating loads are 11% below all allowable BASIX targets
Average cooling loads are 65% below all allowable BASIX targets

Glazing doors/windows Aluminium framed single clear glazing:
U-Value: **6.57** (equal to or lower than) SHGC: **0.74** ($\pm 10\%$)
Aluminium framed Low-E clear glazing to units, East: 4.10, 6.10, 7.10, 9.10, 10.10, 11.10, 13.10, 15.11, South: 1.03, 10.01, 10.02, 10.03, West: 11.01, 11.12
U-Value: **4.70** (equal to or lower than) SHGC: **0.63** ($\pm 10\%$)
Given values are NFRC, total window values
Minimum 10% sash operability to facades and 45% operability to balconies
Awning windows consist of one fixed panel and one operable panel from 1200mm (window sill) to 2700mm, in alignment with opening restrictions.
Fixed perforated screens to provide shading and privacy to selected areas of all facades of building North
Winter gardens are not included in the conditioned areas of the apartments

Roof Concrete roof
No insulation
Light colour (SA < 0.475)

Ceiling Plasterboard ceilings, R2.0 insulation affixed to underside of slab where roof above
Plasterboard ceilings, no insulation where neighbouring units are above except R1.1 bulk insulation where a balcony is above
Note: Loss of ceiling insulation due to penetrations from down lights has not been accounted for as allowances in ceiling heights have been made to ensure that any proposed downlights will not affect the insulation zone

External wall Brick veneer, R2.0 insulation, plasterboard lining
90mm concrete block veneer, R2.0 insulation, plasterboard lining
Metal cladding fixed to 90mm concrete block, R2.0 insulation, plasterboard lining
Metal clad sections on lightweight frame, R2.0 insulation, plasterboard lining
Locations as per elevations



All external walls to have R2.0 bulk insulation except R2.5 to units, East: 4.10, 5.10, 6.10, 7.10, 8.10, 9.10, 10.10, 11.10, 13.10, 15.11, South: 1.03, 7.03, 8.03, 9.03, 10.01, 10.02, 10.03, West: 11.01, 11.12

Default colour modelled

Inter tenancy walls

Between units – 75mm Hebel power panel, no insulation

Adjacent to hallways – 75mm Hebel power panel, R1.2 insulation to all units and R1.7 to units, East: 3.10, 4.10, 5.10, 6.10, 7.10, 8.10, 9.10, 10.10, 11.10, 13.10, 15.11, South: 4.03, 5.03, 6.03, 7.03, 8.03, 9.03, 10.01, 10.02, 10.03, West: 11.01, 11.12

Adjacent to lift shafts and stairs – 100mm insitu concrete, no insulation

Walls within dwellings

Plasterboard on studs, no insulation

Floors

Concrete with no insulation where units or retail are below

R1.0 bulk insulation to units directly above enclosed carpark

Carpet to bedrooms and living areas, tiles to wet areas and kitchens

BASIX water inclusions

Score 61/40

Fixtures within units

Showerheads: High flow (>7.5L but <=9 L/min)

Toilets: 4.0 star

Kitchen taps: 4.0 star

Bathroom vanity taps: 5.0 star

Appliances within units

Dishwashers:

4.5 star to 1 bedroom units

5.0 star to 2 bedroom units

5.5 star to 3 bedroom units

Central rainwater storage

Tank size 10,000L

Collecting from 500m² of non-trafficable roof

Connected to irrigation of all common area landscaping

Reticulated water supply

Sydney Olympic Park Authority, connected to 1 car wash bay and fire sprinkler systems, all toilets within units and all washing machine connections within units



BASIX energy inclusions Score 22/20

Central hot water system Central gas instantaneous
R0.75 (~32mm) insulation to ring main and supply risers

Lift motors All lifts to have gearless traction with VVVF motor

Appliances & other efficiency measures within units Gas cooktop & electric oven
Dishwashers: 3.5 star
Clothes dryers: 2.0 star

Heating & cooling within units All units to have individual, single phase, reverse cycle air conditioning to living areas and bedrooms
An EER or COP of 3.0 – 3.5 in both heating and cooling mode
Day / night zoning has been nominated

Artificial lighting within units At least 80% of all light fittings within each room are to have fluorescent or LED globes in all bathrooms, laundries, hallways and bedrooms. No efficient lighting requirements to kitchens or living spaces.
Please note: The BASIX tools does not allow entry of LED's without an alternative assessment. LED's, if requested will be grouped under the fluorescent selection.

Ventilation within units Bathrooms – Motorised damper into central duct & VSD – interlocked to light
Laundries – Motorised damper into central duct & VSD – interlocked to light
Kitchen range hood – Individual fan, not ducted – manual on/off switch

Artificial Lighting to common areas Car park – Fluorescent lights with zoned switching and motion sensors
Lifts – LED lights connected to lift call button
Service rooms – Fluorescent lights with manual on / manual off switch
Garbage rooms – Fluorescent lights with motion sensors
Plant or service rooms – Fluorescent lights with manual on / manual off switch
Community room – Compact fluorescent lights with manual on / manual off switch
Bicycle storage area – Fluorescent lights with motion sensors
Ground floor lobbies – LEDs to remain on continuously
Hallways – LEDs with zoned switching and motion sensors



Ventilation
to common areas

Car park – Supply & exhaust air with a carbon monoxide monitor & VSD fan

Service rooms – Supply air, thermostatically controlled

Garbage rooms – Exhaust air, running continuously

Plant or service rooms – Supply air, running continuously

Community room – Air conditioning system, time clock or BMS controlled

Bicycle storage area – Low level supply air, running continuously

Ground floor lobbies – No mechanical ventilation, naturally ventilated

Hallways – No mechanical ventilation, naturally ventilated

(Please Note: All air-conditioned common areas must comply with NCC, NSW sub-section Ja glazing and insulation requirements. Independent reports should be requested prior to CC if relevant).

Alternative energy

None required

Documents referenced

BVN Architects: Project No. S1502006. Drawings: DA-2101, DA-2102, DA-2103, DA-2104, DA-2105, DA-2106, DA-2107, DA-2108, DA-2109, DA-2110, DA-2111, DA-2112, DA-2113, DA-2114, DA-2115, DA-2116, DA-2117, DA-2118, DA-2119, DA-3000, DA-3001, DA-3002, DA-3003, DA-3100, DA-3101

Report contact

Michael Fairbairn

Phone: (02) 9970 6181 Email: michael@efficientliving.com.au



Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				

North Building

1.01	2	80	0	60	17	4	0	No	None
1.02	2	72	0	54	34	4	0	No	None
1.03	2	72	0	41	15	5.5	0	No	None
1.04	2	72	0	44	15	5	0	No	None
1.06	2	72	0	31	46	4	0	No	None
1.07	2	80	0	45	19	5	0	No	None
2.01	2	80	0	49	22	4.5	0	No	None
2.02	2	72	0	44	41	4	0	No	None
2.03	2	72	0	29	17	6	0	No	None
2.04	2	72	0	32	17	6	0	No	None
2.06	2	72	0	25	43	4.5	0	No	None
2.07	2	80	0	42	33	4	0	No	None
3.01	2	80	0	49	12	5	0	No	None
3.02	2	72	0	48	19	4.5	0	No	None
3.03	2	72	0	40	12	5.5	0	No	None
3.04	2	72	0	40	12	5.5	0	No	None
3.06	2	72	0	32	29	5	0	No	None
3.07	2	80	0	44	13	5.5	0	No	None
4.01	2	80	0	57	13	4.5	0	No	None
4.02	2	72	0	48	18	5	0	No	None
4.03	2	72	0	37	11	6	0	No	None
4.04	2	72	0	41	11	5.5	0	No	None
4.06	2	72	0	32	31	5	0	No	None
4.07	2	80	0	44	13	5.5	0	No	None
5.01	2	80	0	63	15	4	0	No	None
5.02	2	72	0	66	13	4	0	No	None
5.03	2	72	0	51	10	5	0	No	None
5.04	2	72	0	54	11	5	0	No	None
5.06	2	72	0	46	32	4	0	No	None
5.07	2	80	0	59	13	4.5	0	No	None

East Building

1.01	2	81	0	41	23	5	0	No	None
1.02	2	73	0	33	21	5.5	0	No	None
1.04	1	47	0	38	19	5.5	0	No	None
1.05	1	47	0	41	20	5	0	No	None

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Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
1.06	1	47	0	37	20	5.5	0	No	None
1.07	1	47	0	35	20	5.5	0	No	None
1.08	2	75	0	22	32	5.5	0	No	None
1.09	3	97	0	32	36	4.5	0	No	None
1.10	2	72	0	52	19	4.5	0	No	None
1.11	2	72	0	52	19	4.5	0	No	None
1.12	3	95	0	55	15	4.5	0	No	None
2.01	2	81	0	28	26	5.5	0	No	None
2.02	2	73	0	27	26	5.5	0	No	None
2.04	1	47	0	37	20	5.5	0	No	None
2.05	1	47	0	35	20	5.5	0	No	None
2.06	1	47	0	36	20	5.5	0	No	None
2.07	1	47	0	34	20	5.5	0	No	None
2.08	2	75	0	24	35	5	0	No	None
2.09	3	97	0	36	52	4	0	Yes	None
2.10	2	72	0	58	19	4	0	No	None
2.11	2	72	0	50	21	4.5	0	No	None
2.12	3	95	0	47	17	5	0	No	None
3.01	2	81	0	32	17	6	0	No	None
3.02	1	48	0	34	14	6	0	No	None
3.03	1	48	0	36	14	6	0	No	None
3.04	1	47	0	42	11	5.5	0	No	None
3.05	1	47	0	39	11	6	0	No	None
3.06	1	47	0	41	11	5.5	0	No	None
3.07	2	47	0	41	11	5.5	0	No	None
3.08	1	75	0	33	18	6	0	No	None
3.09	3	97	0	46	23	4.5	0	Yes	None
3.10	2	72	0	64	13	4	0	No	R1.7 walls to halls
3.11	2	72	0	56	13	4.5	0	No	None
3.12	3	95	0	54	11	5	0	No	None
4.01	2	81	0	33	14	6	0	No	None
4.02	1	48	0	32	14	6	0	No	None
4.03	1	48	0	35	13	6	0	No	None
4.04	1	47	0	42	11	5.5	0	No	None
4.05	1	47	0	38	11	6	0	No	None
4.06	1	47	0	40	11	6	0	No	None

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Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
4.07	1	47	0	40	11	6	0	No	None
4.08	2	75	0	33	18	5.5	0	No	None
4.09	3	97	0	48	25	4.5	0	Yes	None
4.10	2	72	0	61	12	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
4.11	2	72	0	60	13	4.5	0	No	None
4.12	3	95	0	56	11	4.5	0	No	None
5.01	2	81	0	33	14	6	0	No	None
5.02	1	48	0	33	13	6	0	No	None
5.03	1	48	0	35	13	6	0	No	None
5.04	1	47	0	42	11	5.5	0	No	None
5.05	1	47	0	38	11	6	0	No	None
5.06	1	47	0	40	11	6	0	No	None
5.07	1	47	0	40	11	6	0	No	None
5.08	2	75	0	34	17	5.5	0	No	None
5.09	3	97	0	49	25	4.5	0	Yes	None
5.10	2	72	0	64	12	4	0	No	R1.7 wall to hall R2.5 to external walls
5.11	2	72	0	56	13	4.5	0	No	None
5.12	3	95	0	53	13	4.5	0	No	None
6.01	2	81	0	33	14	6	0	No	None
6.02	1	48	0	33	13	6	0	No	None
6.03	1	48	0	35	13	6	0	No	None
6.04	1	47	0	42	11	5.5	0	No	None
6.05	1	47	0	38	11	6	0	No	None
6.06	1	47	0	40	11	6	0	No	None
6.07	1	47	0	40	11	6	0	No	None
6.08	2	75	0	34	17	5.5	0	No	None
6.09	3	97	0	49	24	4.5	0	No	None
6.10	2	72	0	61	11	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
6.11	2	72	0	61	13	4.5	0	No	None
6.12	3	95	0	54	14	4.5	0	No	None
7.01	2	81	0	33	14	6	0	No	None
7.02	1	48	0	33	13	6	0	No	None

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Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
7.03	1	47	0	39	11	6	0	No	None
7.04	1	47	0	43	11	5.5	0	No	None
7.05	1	47	0	39	11	6	0	No	None
7.06	1	47	0	41	11	5.5	0	No	None
7.07	1	47	0	41	11	5.5	0	No	None
7.08	2	75	0	30	16	6	0	No	None
7.09	3	97	0	49	24	4.5	0	No	None
7.10	2	72	0	62	11	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
7.11	2	72	0	57	12	4.5	0	No	None
7.12	3	95	0	56	13	4.5	0	No	None
8.01	2	81	0	34	14	6	0	No	None
8.02	1	48	0	34	13	6	0	No	None
8.03	1	48	0	36	13	6	0	No	None
8.04	1	47	0	43	11	5.5	0	No	None
8.05	1	47	0	39	11	6	0	No	None
8.06	1	47	0	41	11	5.5	0	No	None
8.07	1	47	0	41	11	5.5	0	No	None
8.08	2	75	0	35	17	5.5	0	No	None
8.09	3	97	0	50	24	4.5	0	No	None
8.10	2	72	0	62	11	4.5	0	No	R.17 walls to hall R2.5 to external walls
8.11	2	72	0	62	12	4.5	0	No	None
8.12	3	95	0	54	14	4.5	0	No	None
9.01	3	81	0	34	14	6	0	No	None
9.02	1	48	0	34	13	6	0	No	None
9.03	1	48	0	36	13	6	0	No	None
9.04	1	47	0	44	11	5.5	0	No	None
9.05	1	47	0	39	11	6	0	No	None
9.06	1	47	0	41	11	5.5	0	No	None
9.07	1	47	0	41	11	5.5	0	No	None
9.08	2	75	0	31	16	6	0	No	None
9.09	3	97	0	50	23	4.5	0	No	None
9.10	2	72	0	62	11	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen

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Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
9.11	2	72	0	58	12	4.5	0	No	None
9.12	3	95	0	55	13	4.5	0	No	None
10.01	2	81	0	35	12	6	0	No	None
10.02	1	48	0	36	12	6	0	No	None
10.03	1	48	0	39	13	5.5	0	No	None
10.04	1	47	0	46	10	5.5	0	No	None
10.05	1	47	0	41	10	5.5	0	No	None
10.06	1	47	0	43	10	5.5	0	No	None
10.07	1	47	0	43	10	5.5	0	No	None
10.08	2	75	0	37	15	5.5	0	No	None
10.09	3	97	0	50	23	4.5	0	No	None
10.10	2	72	0	61	8	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
10.11	2	72	0	60	10	4.5	0	No	None
10.12	3	95	0	57	12	4.5	0	No	None
11.01	2	81	0	35	12	6	0	No	None
11.02	1	48	0	36	12	6	0	No	None
11.03	1	48	0	39	13	5.5	0	No	None
11.04	1	47	0	46	10	5.5	0	No	None
11.05	1	47	0	41	10	5.5	0	No	None
11.06	1	47	0	43	10	5.5	0	No	None
11.07	1	47	0	43	10	5.5	0	No	None
11.08	2	75	0	37	15	5.5	0	No	None
11.09	3	97	0	52	21	4.5	0	No	None
11.10	2	72	0	63	11	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
11.11	2	72	0	64	10	4.5	0	No	None
11.12	3	95	0	57	12	4.5	0	No	None
12.01	2	81	0	35	12	6	0	No	None
12.02	1	48	0	36	12	6	0	No	None
12.03	1	48	0	39	13	5.5	0	No	None
12.04	1	47	0	46	10	5.5	0	No	None
12.05	1	47	0	42	10	5.5	0	No	None
12.06	1	47	0	43	10	5.5	0	No	None
12.07	1	47	0	48	10	5.5	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280					Accreditation #			VIC/BDAV/12/1473	
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
12.08	2	75	0	37	15	5.5	0	No	None
12.09	3	97	0	52	21	4.5	0	No	None
12.10	2	72	0	61	8	4.5	0	No	None
12.11	2	72	0	64	10	4.5	0	No	None
12.12	3	95	0	58	12	4.5	0	No	None
13.01	2	81	0	35	12	6	0	No	None
13.02	1	48	0	36	12	6	0	No	None
13.03	1	48	0	39	13	5.5	0	No	None
13.04	1	47	0	46	10	5.5	0	No	None
13.05	1	47	0	42	10	5.5	0	No	None
13.06	3	102	0	43	10	5.5	0	No	None
13.08	2	75	0	39	16	5.5	0	No	None
13.09	3	97	0	52	21	4.5	0	No	None
13.10	2	72	0	63	11	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
13.11	2	72	0	60	10	4.5	0	No	None
13.12	3	95	0	58	12	4.5	0	No	None
14.01	2	81	0	35	12	6	0	No	None
14.02	1	48	0	36	12	6	0	No	None
14.03	1	48	0	39	13	5.5	0	No	None
14.04	1	47	0	47	10	5.5	0	No	None
14.05	1	47	0	42	10	5.5	0	No	None
14.06	3	102	0	43	10	5.5	0	No	None
14.08	2	75	0	33	15	6	0	No	None
14.09	3	97	0	52	21	4.5	0	No	None
14.10	2	72	0	63	11	4.5	0	No	None
14.11	2	72	0	65	11	4	0	No	None
14.12	3	95	0	58	12	4.5	0	No	None
15.01	2	81	0	49	12	5	0	No	None
15.02	1	48	0	49	11	5	0	No	None
15.03	1	48	0	51	11	5	0	No	None
15.04	1	47	0	59	10	4.5	0	No	None
15.05	1	47	0	55	10	5	0	No	None
15.07	3	102	0	40	11	6	0	No	None
15.08	2	75	0	33	15	6	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280					Accreditation #		VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
15.09	3	97	0	63	20	4	0	No	None
15.10	2	72	0	66	8	4.5	0	No	None
15.11	2	72	0	63	9	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen
15.12	3	95	0	64	13	4	0	No	None

South Building

1.02	2	72	0	53	20	4.5	0	No	None
1.03	2	72	0	65	15	4	0	No	R2.5 to external walls Low-e glazing to living only
1.04	2	74	0	63	24	4	0	No	None
1.05	2	72	0	38	17	5.5	0	No	None
1.06	1	48	0	47	21	4.5	0	No	None
1.07	1	48	0	48	20	4.5	0	No	None
1.08	2	72	0	44	14	5.5	0	No	None
2.01	2	72	0	63	24	4	0	No	None
2.02	2	72	0	46	23	4.5	0	No	None
2.03	2	72	0	59	22	4	0	No	None
2.04	2	74	0	49	29	4	0	No	None
2.05	2	72	0	27	21	6	0	No	None
2.06	1	48	0	29	22	6	0	No	None
2.07	1	48	0	36	25	5	0	No	None
2.08	1	48	0	50	27	4	0	No	None
2.09	1	48	0	49	24	4.5	0	No	None
2.10	3	106	0	46	13	5	0	No	None
3.01	2	72	0	57	16	4.5	0	No	None
3.02	2	72	0	52	14	4.5	0	No	None
3.03	2	72	0	65	13	4	0	No	None
3.04	2	74	0	56	19	4	0	No	None
3.05	2	72	0	32	12	6.5	0	No	None
3.06	1	47	0	30	16	6	0	No	None
3.07	1	48	0	40	16	5.5	0	No	None
3.08	2	72	0	48	10	5	0	No	None
3.09	1	48	0	39	17	5.5	0	No	None
3.10	3	106	0	29	15	6.5	0	No	None
4.01	2	72	0	53	18	4.5	0	No	None
4.02	2	72	0	53	16	4.5	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
4.03	2	72	0	66	16	4	0	No	R1.7 wall to halls
4.04	2	74	0	56	19	4	0	No	None
4.05	2	72	0	32	12	6.5	0	No	None
4.06	1	47	0	30	15	6	0	No	None
4.07	1	48	0	41	15	5.5	0	No	None
4.08	2	72	0	49	10	5	0	No	None
4.09	1	48	0	39	17	5.5	0	No	None
4.10	3	106	0	29	15	6.5	0	No	None
5.01	2	72	0	58	15	4.5	0	No	None
5.02	2	72	0	53	16	4.5	0	No	None
5.03	2	72	0	64	13	4	0	No	R1.7 wall to halls
5.04	2	74	0	57	19	4	0	No	None
5.05	2	72	0	33	13	6	0	No	None
5.06	1	47	0	30	15	6	0	No	None
5.07	1	48	0	41	15	5.5	0	No	None
5.08	2	72	0	49	10	5	0	No	None
5.09	1	48	0	39	17	5.5	0	No	None
5.10	3	106	0	29	15	6.5	0	No	None
6.01	2	72	0	54	17	4.5	0	No	None
6.02	2	72	0	56	14	4.5	0	No	None
6.03	2	72	0	66	14	4	0	No	R1.7 wall to halls
6.04	2	74	0	57	19	4	0	No	None
6.05	2	72	0	33	13	6	0	No	None
6.06	1	47	0	30	15	6	0	No	None
6.07	1	48	0	41	15	5.5	0	No	None
6.08	2	72	0	49	10	5	0	No	None
6.09	1	48	0	40	16	5.5	0	No	None
6.10	3	106	0	29	15	6.5	0	No	None
7.01	2	72	0	54	17	4.5	0	No	None
7.02	2	72	0	55	14	4.5	0	No	None
7.03	2	72	0	66	14	4	0	No	R1.7 walls to halls R2.5 to external walls
7.04	2	74	0	56	19	4	0	No	None
7.05	2	72	0	33	13	6	0	No	None
7.06	1	47	0	31	16	6	0	No	None
7.07	1	48	0	42	15	5.5	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
7.08	2	72	0	49	10	5	0	No	None
7.09	1	48	0	40	16	5.5	0	No	None
7.10	3	106	0	29	15	6.5	0	No	None
8.01	2	72	0	58	15	4.5	0	No	None
8.02	2	72	0	57	14	4.5	0	No	None
8.03	2	72	0	66	14	4	0	No	R1.7 walls to halls R2.5 to external walls
8.04	2	74	0	56	19	4	0	No	None
8.05	2	72	0	32	13	6.5	0	No	None
8.06	1	47	0	31	16	6	0	No	None
8.07	1	48	0	42	15	5.5	0	No	None
8.08	2	72	0	48	11	5	0	No	None
8.09	1	48	0	40	16	5.5	0	No	None
8.10	3	106	0	28	15	6.5	0	No	None
9.01	2	72	0	55	17	4.5	0	No	None
9.02	2	72	0	55	14	4.5	0	No	None
9.03	2	72	0	66	14	4	0	No	R1.7 walls to halls R2.5 to external walls
9.04	2	74	0	56	19	4	0	No	None
9.05	2	72	0	31	13	6.5	0	No	None
9.06	1	47	0	31	16	6	0	No	None
9.07	1	48	0	42	15	5.5	0	No	None
9.08	2	72	0	48	11	5	0	No	None
9.09	1	48	0	40	16	5.5	0	No	None
9.10	3	106	0	28	15	6.5	0	No	None
10.01	2	72	0	61	15	4	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen sliding door
10.02	2	72	0	62	13	4.5	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living/kitchen sliding door
10.03	2	72	0	65	12	4	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing throughout
10.04	2	74	0	66	19	4	0	No	None
10.05	2	72	0	38	13	6	0	No	None
10.06	1	47	0	44	15	5	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280					Accreditation #			VIC/BDAV/12/1473	
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
10.07	1	48	0	54	14	4.5	0	No	None
10.08	2	72	0	59	11	4.5	0	No	None
10.09	1	48	0	56	14	4.5	0	No	None
10.10	3	106	0	37	15	5.5	0	No	None
West Building									None
1.09	1	52	0	54	23	4	0	No	None
1.10	2	73	0	44	20	5	0	No	None
1.11	2	72	0	49	20	4.5	0	No	None
2.01	2	74	0	62	20	4	0	No	None
2.02	2	71	0	36	26	5	0	No	None
2.03	1	47	0	44	15	5	0	No	None
2.04	1	47	0	44	15	5	0	No	None
2.05	1	47	0	44	15	5	0	No	None
2.06	1	47	0	44	15	5	0	No	None
2.07	1	54	0	41	29	4.5	0	No	None
2.08	2	77	0	26	26	5.5	0	No	None
2.09	1	52	0	36	27	5	0	No	None
2.10	2	73	0	28	23	5.5	0	No	None
2.11	2	71	0	50	35	4	0	No	None
3.01	2	74	0	57	14	4.5	0	No	None
3.02	2	71	0	30	17	6	0	No	None
3.03	1	47	0	36	10	6	0	No	None
3.04	1	47	0	38	10	6	0	No	None
3.05	1	47	0	38	10	6	0	No	None
3.06	1	47	0	38	10	6	0	No	None
3.07	1	54	0	36	19	5.5	0	No	None
3.08	2	77	0	24	18	6.5	0	No	None
3.09	2	73	0	42	13	5.5	0	No	None
3.10	2	73	0	31	14	6	0	No	None
3.11	2	74	0	50	20	4.5	0	No	None
3.12	2	73	0	56	11	4.5	0	No	None
4.01	2	74	0	57	13	4.5	0	No	None
4.02	2	71	0	32	17	6	0	No	None
4.03	1	47	0	37	9	6	0	No	None
4.04	1	47	0	39	9	6	0	No	None
4.05	1	47	0	39	9	6	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
4.06	1	47	0	41	10	5.5	0	No	None
4.07	1	54	0	37	19	5.5	0	No	None
4.08	2	77	0	24	18	6.5	0	No	None
4.09	2	73	0	37	13	6	0	No	None
4.10	2	73	0	35	14	6	0	No	None
4.11	2	74	0	50	20	4.5	0	No	None
4.12	2	73	0	57	11	4.5	0	No	None
5.01	2	74	0	58	13	4.5	0	No	None
5.02	2	71	0	32	17	6	0	No	None
5.03	1	47	0	37	9	6	0	No	None
5.04	1	47	0	39	9	6	0	No	None
5.05	1	47	0	39	9	6	0	No	None
5.06	1	47	0	41	10	5.5	0	No	None
5.07	1	54	0	37	19	5.5	0	No	None
5.08	2	77	0	25	17	6.5	0	No	None
5.09	2	73	0	34	13	6	0	No	None
5.10	2	73	0	35	15	6	0	No	None
5.11	2	74	0	51	19	4.5	0	No	None
5.12	2	73	0	57	11	4.5	0	No	None
6.01	2	74	0	58	13	4.5	0	No	None
6.02	2	71	0	31	16	6	0	No	None
6.03	1	47	0	37	9	6	0	No	None
6.04	1	47	0	39	9	6	0	No	None
6.05	1	47	0	39	9	6	0	No	None
6.06	1	47	0	41	10	5.5	0	No	None
6.07	1	54	0	37	19	5.5	0	No	None
6.08	2	77	0	25	17	6.5	0	No	None
6.09	2	73	0	34	13	6	0	No	None
6.10	2	73	0	36	14	6	0	No	None
6.11	2	74	0	51	19	4.5	0	No	None
6.12	2	73	0	58	11	4.5	0	No	None
7.01	2	74	0	59	13	4.5	0	No	None
7.02	2	71	0	33	16	6	0	No	None
7.03	1	47	0	38	9	6	0	No	None
7.04	1	47	0	40	9	6	0	No	None
7.05	1	47	0	40	9	6	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
7.06	1	47	0	42	10	5.5	0	No	None
7.07	1	54	0	39	18	5.5	0	No	None
7.08	2	77	0	25	17	6.5	0	No	None
7.09	2	73	0	34	13	6	0	No	None
7.10	2	73	0	36	14	6	0	No	None
7.11	2	74	0	52	18	4.5	0	No	None
7.12	2	73	0	58	11	4.5	0	No	None
8.01	2	74	0	59	13	4.5	0	No	None
8.02	2	71	0	31	15	6	0	No	None
8.03	1	47	0	38	9	6	0	No	None
8.04	1	47	0	40	9	6	0	No	None
8.05	1	47	0	40	9	6	0	No	None
8.06	1	47	0	42	10	5.5	0	No	None
8.07	1	54	0	39	18	5.5	0	No	None
8.08	2	77	0	26	16	6.5	0	No	None
8.09	2	73	0	35	13	6	0	No	None
8.10	2	73	0	36	14	6	0	No	None
8.11	2	74	0	52	18	4.5	0	No	None
8.12	2	73	0	58	11	4.5	0	No	None
9.01	2	74	0	59	13	4.5	0	No	None
9.02	2	71	0	34	16	5.5	0	No	None
9.03	1	47	0	38	9	6	0	No	None
9.04	1	47	0	40	9	6	0	No	None
9.05	1	47	0	40	9	6	0	No	None
9.06	1	47	0	44	10	5.5	0	No	None
9.07	1	54	0	39	18	5.5	0	No	None
9.08	2	77	0	26	16	6.5	0	No	None
9.09	2	73	0	35	13	6	0	No	None
9.10	2	73	0	36	14	6	0	No	None
9.11	2	74	0	53	18	4.5	0	No	None
9.12	2	73	0	59	10	4.5	0	No	None
10.01	2	74	0	61	11	4.5	0	No	None
10.02	2	71	0	33	13	6	0	No	None
10.03	1	47	0	41	9	6	0	No	None
10.04	1	47	0	42	9	6	0	No	None
10.05	3	101	0	45	7	5.5	0	No	None

Issued in accordance with **BASIX** Thermal Comfort Simulation Method

Certificate # 14733280				Accreditation #			VIC/BDAV/12/1473		
Thermal performance specifications									
Unit number	Number of Bedrooms	Floor area (M ²)		Predict. loads (MJ/M ² /y)		Star Rating	Window in Bathroom	Window in Kitchen	Thermal Comfort Upgrades
		Con.	Uncon.	Heat	Cool (Sens & Lat)				
10.07	1	54	0	45	16	5	0	No	None
10.08	2	77	0	27	16	6.5	0	No	None
10.09	2	73	0	37	11	6	0	No	None
10.10	2	73	0	38	13	6	0	No	None
10.11	2	74	0	54	15	4.5	0	No	None
10.12	2	73	0	60	9	4.5	0	No	None
11.01	2	74	0	65	12	4	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living
11.02	2	71	0	46	14	5	0	No	None
11.03	1	47	0	44	10	5.5	0	No	None
11.04	1	47	0	55	9	5	0	No	None
11.05	3	101	0	48	10	5.5	0	No	None
11.07	1	54	0	54	14	4.5	0	No	None
11.08	2	77	0	36	15	6	0	No	None
11.09	2	73	0	49	12	5	0	No	None
11.10	2	73	0	49	12	5	0	No	None
11.11	2	74	0	66	17	4	0	No	None
11.12	2	73	0	66	11	4	0	No	R1.7 walls to halls R2.5 to external walls Low-e glazing to living sliding door



NatHERS Certificate

New Dwelling



5.0 Stars

Simulation Software

Software Name BERS Pro 4.2
Software Version Release 110811/A
Engine Version CHENATH V2.13

Simulation Details

Project Name G-100- Unit W3.11 _1
Date 27/07/2015
Location HOMEBUSH BAY PC 2127
Climate file climat56.TXT
Adjusted Star Rating 5.0 Stars
Conditioned Area 73.69 m²
Unconditioned Area 0.00 m²
Adjusted Cooling 13.8 MJ/m²
Adjusted Heating 47.9 MJ/m²
Adjusted Total 61.7 MJ/m²

Dwelling Address



DP Number 787402
Unit Number
Lot Number 22
House Number 2
Street Name Figtree Drive
Development Name Site 53 - Figtree Drive, Sydney Olympic Park
Suburb Sydney Olympic Park NSW 2127

Client Details

Name Mirvac Design Pty Ltd
Phone 02 9080 8937 Fax 02 9080 8181
Email
Postal Address Level 26, 60 Margaret Street, Sydney NSW 2000
Street Details Level 26, 60 Margaret Street, Sydney NSW 2000

Assessor Details

Name Tracey Cools
Phone 02 9970 6181 Fax 02 9970 6181
Email admin@efficientliving.com.au
Postal Address
Street Details 13/13 Lagoon Street, Narrabeen NSW 2101

		Energy Rating		Certificate Number <u>14733280</u>	
<input type="checkbox"/>	single-dwelling rating			5.0 stars	
<input checked="" type="checkbox"/>	multi-unit development (attach listing of ratings)			heating	45 MJ/m ²
<small>If selected, data specified is the average across the entire development</small>				cooling	15 MJ/m ²
Recessed downlights confirmation:		<input checked="" type="checkbox"/> Rated with	<input type="checkbox"/> Rated without		
Assessor Name/Number		<u>Tracey Cools VIC/BDAV/12/1473</u>			
Assessor Signature				Date	<u>10/08/15</u>

Signed by the Assessor..........Date 10 / 08 / 2015

*Tilted roof windows with blinds cannot be modelled using this version of BERSPro.
All windows are modelled with Holland Blinds for regulatory purposes.*

Building Element Details

Project G-100- Unit W3.11 Run 1
HOMEBUSH BAY PC 2127 Lat -33.90 Long 151.10 Climate File climat56.TXT

Summary

Conditioned Area	73.7 m ²
Unconditioned Area	0.0 m ²
Total Floor Area	73.7 m ²
Total Glazed Area	20.8 m ²
Total External Solid door Area	1.7 m ²
Glass to Floor Area	28.2 %
Gross External Wall Area	101.5 m ²
Net External Wall Area	79.0 m ²

Window

20.8 m ²	GGG-05-001a Generics	Uval 6.57	SHGC 0.74
	Glass	Single Glazed Clear	
	Frame	Aluminium	

External Wall

47.6 m ²	Concrete block, lined	Bulk Insulation R 2.0
18.5 m ²	PowerPanel	Bulk Insulation R 1.2
13.0 m ²	Tilt up concrete, lined	Bulk Insulation R 0.5

Internal Wall

52.7 m ²	Cavity Panel 70mm gap	No Insulation
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External Floor


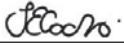
37.8 m ²	Concrete Slab, Unit Below	60/40 Carpet 10mm/Ceramic	No Insulation
10.5 m ²	Concrete Slab, Unit Below	Ceramic Tiles 8mm	No Insulation
25.4 m ²	Concrete Slab, Unit Below	Carpet 10mm	No Insulation

External Ceiling

73.7 m ²	Plasterboard	No Insulation Apartment above
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Roof (Horizontal area)

73.7 m ²	Concrete	No Insulation, Only an Air Gap	0° slope	Skillion roof
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	Energy Rating	Certificate Number <u>14733280</u>
<input type="checkbox"/> single-dwelling rating		<u>5.0</u> stars
<input checked="" type="checkbox"/> multi-unit development (attach listing of ratings) <small>If selected, data specified is the average across the entire development</small>	heating <u>45</u> MJ/m ² cooling <u>15</u> MJ/m ²	
Recessed downlights confirmation: <input checked="" type="checkbox"/> Rated with <input type="checkbox"/> Rated without		
Assessor Name/Number <u>Tracey Cools VIC/BDAV/12/1473</u>		
Assessor Signature <u></u>	Date <u>10/8/15</u>	

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 650643M_03




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 18/09/2014 published by Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

Director-General

Date of issue: Wednesday, 23 September 2015

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



Project summary		
Project name	2 Fig Tree Drive, Sydney Olympic Park_03	
Street address	2 Fig Tree Drive Sydney Olympic Park 2127	
Local Government Area	Auburn Council	
Plan type and plan number	deposited 787402	
Lot no.	22	
Section no.	-	
No. of residential flat buildings	4	
No. of units in residential flat buildings	422	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	 61	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 22	Target 20

Water score comprises:

- Sydney Olympic Park Authority reticulated alternative water: 27.1
- Other water efficiency commitments: 33.9

Certificate Prepared by

Name / Company Name: Efficient Living Pty Ltd

ABN (if applicable): 82 116 346 082

Description of project

Project address

Project name	2 Fig Tree Drive, Sydney Olympic Park_03
Street address	2 Fig Tree Drive Sydney Olympic Park 2127
Local Government Area	Auburn Council
Plan type and plan number	deposited 787402
Lot no.	22
Section no.	-

Project type

No. of residential flat buildings	4
No. of units in residential flat buildings	422
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m²)	12697
Roof area (m²)	3721
Non-residential floor area (m²)	1699
Residential car spaces	457
Non-residential car spaces	44

Common area landscape

Common area lawn (m²)	1007
Common area garden (m²)	2538
Area of indigenous or low water use species (m²)	0.0

Assessor details

Assessor number	BDAV/12/1473
Certificate number	14733280
Climate zone	56

Project score

Water	✓ 61	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 22	Target 20

Water score comprises:

- Sydney Olympic Park Authority reticulated alternative water: 27.1
- Other water efficiency commitments: 33.9

Description of project

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

Residential flat buildings - Building West, 120 dwellings, 11 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)
109	1	52.0	0.0	0	0
202	2	71.0	0.0	31	0
206	1	47.0	0.0	11	0
210	2	73.0	0.0	7	0
303	1	47.0	0.0	0	0
307	1	54.0	0.0	0	0
311	2	74.0	0.0	0	0
403	1	47.0	0.0	0	0
407	1	54.0	0.0	0	0
411	2	74.0	0.0	0	0
503	1	47.0	0.0	0	0
507	1	54.0	0.0	0	0
511	2	74.0	0.0	0	0
603	1	47.0	0.0	0	0
607	1	54.0	0.0	0	0
611	2	74.0	0.0	0	0
703	1	47.0	0.0	0	0
707	1	54.0	0.0	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)
110	2	73.0	0.0	0	0
203	1	47.0	0.0	13	0
207	1	47.0	0.0	9	0
211	2	71.0	0.0	7	0
304	1	47.0	0.0	0	0
308	2	77.0	0.0	0	0
312	2	73.0	0.0	0	0
404	1	47.0	0.0	0	0
408	2	77.0	0.0	0	0
412	2	73.0	0.0	0	0
504	1	47.0	0.0	0	0
508	2	77.0	0.0	0	0
512	2	74.0	0.0	0	0
604	1	47.0	0.0	0	0
608	2	77.0	0.0	0	0
612	2	73.0	0.0	0	0
704	1	47.0	0.0	0	0
708	2	77.0	0.0	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)
111	2	72.0	0.0	0	0
204	1	47.0	0.0	11	0
208	2	77.0	0.0	0	0
301	2	74.0	0.0	0	0
305	1	47.0	0.0	0	0
309	2	73.0	0.0	0	0
401	2	74.0	0.0	0	0
405	1	47.0	0.0	0	0
409	2	73.0	0.0	0	0
501	2	74.0	0.0	0	0
505	1	47.0	0.0	0	0
509	2	73.0	0.0	0	0
601	2	74.0	0.0	0	0
605	1	47.0	0.0	0	0
609	2	73.0	0.0	0	0
701	2	74.0	0.0	0	0
705	1	47.0	0.0	0	0
709	2	73.0	0.0	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)
201	2	74.0	0.0	0	0
205	1	47.0	0.0	9	0
209	1	52.0	0.0	4	0
302	2	71.0	0.0	0	0
306	1	47.0	0.0	0	0
310	2	73.0	0.0	0	0
402	2	71.0	0.0	0	0
406	1	47.0	0.0	0	0
410	2	73.0	0.0	0	0
502	2	71.0	0.0	0	0
506	1	47.0	0.0	0	0
510	2	73.0	0.0	0	0
602	2	71.0	0.0	0	0
606	1	47.0	0.0	0	0
610	2	73.0	0.0	0	0
702	2	71.0	0.0	0	0
706	1	47.0	0.0	0	0
710	2	73.0	0.0	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)
711	2	74.0	0.0	0	0
803	1	47.0	0.0	0	0
807	1	54.0	0.0	0	0
811	2	74.0	0.0	0	0
903	1	47.0	0.0	0	0
907	1	54.0	0.0	0	0
911	2	74.0	0.0	0	0
1003	1	47.0	0.0	0	0
1008	2	77.0	0.0	0	0
1012	2	73.0	0.0	0	0
1104	1	47.0	0.0	0	0
1109	2	73.0	0.0	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)
712	2	73.0	0.0	0	0
804	1	47.0	0.0	0	0
808	2	77.0	0.0	0	0
812	2	73.0	0.0	0	0
904	2	47.0	0.0	0	0
908	2	77.0	0.0	0	0
912	2	73.0	0.0	0	0
1004	1	47.0	0.0	0	0
1009	2	73.0	0.0	0	0
1101	2	74.0	0.0	0	0
1105	3	101.0	0.0	0	0
1110	2	73.0	0.0	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)
801	2	74.0	0.0	0	0
805	1	47.0	0.0	0	0
809	2	73.0	0.0	0	0
901	2	74.0	0.0	0	0
905	1	47.0	0.0	0	0
909	2	73.0	0.0	0	0
1001	2	74.0	0.0	0	0
1005	3	101.0	0.0	0	0
1010	2	73.0	0.0	0	0
1102	2	71.0	0.0	0	0
1107	1	54.0	0.0	0	0
1111	2	74.0	0.0	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)
802	2	71.0	0.0	0	0
806	1	47.0	0.0	0	0
810	2	73.0	0.0	0	0
902	2	71.0	0.0	0	0
906	1	47.0	0.0	0	0
910	2	73.0	0.0	0	0
1002	2	71.0	0.0	0	0
1007	1	54.0	0.0	0	0
1011	2	74.0	0.0	0	0
1103	1	47.0	0.0	0	0
1108	2	77.0	0.0	0	0
1112	2	73.0	0.0	0	0

Residential flat buildings - Building North , 30 dwellings, 6 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m ²)	Unconditioned floor area (m ²)	Area of garden & lawn (m ²)	Indigenous species (min area m ²)
101	2	80.0	0.0	0	0
106	2	72.0	0.0	13	0
203	2	72.0	0.0	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)
102	2	72.0	0.0	16	0
107	2	80.0	0.0	0	0
204	2	72.0	0.0	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)
103	2	72.0	0.0	23	0
201	2	80.0	0.0	0	0
206	2	72.0	0.0	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)
104	2	72.0	0.0	23	0
202	2	72.0	0.0	0	0
207	2	80.0	0.0	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)
301	2	80.0	0.0	0	0
306	2	72.0	0.0	0	0
403	2	72.0	0.0	0	0
501	2	80.0	0.0	0	0
506	2	72.0	0.0	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)
302	2	72.0	0.0	0	0
307	2	80.0	0.0	0	0
404	2	72.0	0.0	0	0
502	2	72.0	0.0	0	0
507	2	80.0	0.0	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)
303	2	72.0	0.0	0	0
401	2	80.0	0.0	0	0
406	2	72.0	0.0	0	0
503	2	72.0	0.0	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)
304	2	72.0	0.0	0	0
402	2	72.0	0.0	0	0
407	2	80.0	0.0	0	0
504	2	72.0	0.0	0	0

Residential flat buildings - Building East, 175 dwellings, 16 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)
101	2	81.0	0.0	0	0
106	1	47.0	0.0	0	0
110	2	72.0	0.0	0	0
202	2	73.0	0.0	7	0
207	1	47.0	0.0	3	0
211	2	72.0	0.0	12	0
303	1	48.0	0.0	0	0
307	2	47.0	0.0	0	0
311	2	72.0	0.0	0	0
403	1	48.0	0.0	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)
102	2	73.0	0.0	0	0
107	1	47.0	0.0	0	0
111	2	72.0	0.0	0	0
204	1	47.0	0.0	2	0
208	2	75.0	0.0	0	0
212	3	95.0	0.0	0	0
304	1	47.0	0.0	0	0
308	1	75.0	0.0	0	0
312	3	95.0	0.0	0	0
404	1	47.0	0.0	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)
104	1	47.0	0.0	0	0
108	2	75.0	0.0	0	0
112	3	95.0	0.0	0	0
205	1	47.0	0.0	2	0
209	3	97.0	0.0	6	0
301	2	81.0	0.0	0	0
305	1	47.0	0.0	0	0
309	3	97.0	0.0	0	0
401	2	81.0	0.0	0	0
405	1	47.0	0.0	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)
105	1	47.0	0.0	0	0
109	3	97.0	0.0	0	0
201	2	81.0	0.0	7	0
206	1	47.0	0.0	3	0
210	2	72.0	0.0	13	0
302	1	48.0	0.0	0	0
306	1	47.0	0.0	0	0
310	2	72.0	0.0	0	0
402	1	48.0	0.0	0	0
406	1	47.0	0.0	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)
407	1	47.0	0.0	0	0
411	2	72.0	0.0	0	0
503	1	48.0	0.0	0	0
507	1	47.0	0.0	0	0
511	2	72.0	0.0	0	0
603	1	48.0	0.0	0	0
607	1	47.0	0.0	0	0
611	2	72.0	0.0	0	0
703	1	47.0	0.0	0	0
707	1	47.0	0.0	0	0
711	2	72.0	0.0	0	0
803	1	48.0	0.0	0	0
807	1	47.0	0.0	0	0
811	2	72.0	0.0	0	0
903	1	48.0	0.0	0	0
907	1	47.0	0.0	0	0
911	2	72.0	0.0	0	0
1003	1	48.0	0.0	0	0
1007	1	47.0	0.0	0	0
1011	2	72.0	0.0	0	0
1103	1	48.0	0.0	0	0
1107	1	47.0	0.0	0	0
1111	2	72.0	0.0	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)
408	2	47.0	0.0	0	0
412	3	95.0	0.0	0	0
504	1	47.0	0.0	0	0
508	2	75.0	0.0	0	0
512	3	95.0	0.0	0	0
604	1	47.0	0.0	0	0
608	2	75.0	0.0	0	0
612	3	95.0	0.0	0	0
704	1	47.0	0.0	0	0
708	2	75.0	0.0	0	0
712	3	95.0	0.0	0	0
804	1	47.0	0.0	0	0
808	2	75.0	0.0	0	0
812	3	95.0	0.0	0	0
904	1	47.0	0.0	0	0
908	2	75.0	0.0	0	0
912	3	95.0	0.0	0	0
1004	1	47.0	0.0	0	0
1008	2	75.0	0.0	0	0
1012	3	95.0	0.0	0	0
1104	1	47.0	0.0	0	0
1108	2	75.0	0.0	0	0
1112	3	95.0	0.0	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)
409	3	97.0	0.0	0	0
501	2	81.0	0.0	0	0
505	1	47.0	0.0	0	0
509	3	97.0	0.0	0	0
601	2	81.0	0.0	0	0
605	1	47.0	0.0	0	0
609	3	97.0	0.0	0	0
701	2	81.0	0.0	0	0
705	1	47.0	0.0	0	0
709	3	97.0	0.0	0	0
801	2	81.0	0.0	0	0
805	1	47.0	0.0	0	0
809	3	97.0	0.0	0	0
901	3	81.0	0.0	0	0
905	1	47.0	0.0	0	0
909	3	97.0	0.0	0	0
1001	2	81.0	0.0	0	0
1005	1	47.0	0.0	0	0
1009	3	97.0	0.0	0	0
1101	2	81.0	0.0	0	0
1105	1	47.0	0.0	0	0
1109	3	97.0	0.0	0	0
1201	2	81.0	0.0	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)
410	2	72.0	0.0	0	0
502	1	48.0	0.0	0	0
506	1	47.0	0.0	0	0
510	2	72.0	0.0	0	0
602	1	48.0	0.0	0	0
606	1	47.0	0.0	0	0
610	2	72.0	0.0	0	0
702	1	48.0	0.0	0	0
706	1	47.0	0.0	0	0
710	2	72.0	0.0	0	0
802	3	48.0	0.0	0	0
806	1	47.0	0.0	0	0
810	2	72.0	0.0	0	0
902	1	48.0	0.0	0	0
906	1	47.0	0.0	0	0
910	2	72.0	0.0	0	0
1002	1	48.0	0.0	0	0
1006	1	47.0	0.0	0	0
1010	2	72.0	0.0	0	0
1102	1	48.0	0.0	0	0
1106	1	47.0	0.0	0	0
1110	2	72.0	0.0	0	0
1202	1	48.0	0.0	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)
1203	1	48.0	0.0	0	0
1207	1	47.0	0.0	0	0
1211	2	72.0	0.0	0	0
1303	1	48.0	0.0	0	0
1308	2	75.0	0.0	0	0
1312	3	95.0	0.0	0	0
1404	1	47.0	0.0	0	0
1409	3	97.0	0.0	0	0
1501	2	81.0	0.0	0	0
1506	1	47.0	0.0	0	0
1510	2	72.0	0.0	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)
1204	1	47.0	0.0	0	0
1208	2	75.0	0.0	0	0
1212	3	95.0	0.0	0	0
1304	1	47.0	0.0	0	0
1309	3	97.0	0.0	0	0
1401	2	81.0	0.0	0	0
1405	1	47.0	0.0	0	0
1410	2	72.0	0.0	0	0
1502	1	48.0	0.0	0	0
1507	3	102.0	0.0	0	0
1511	2	72.0	0.0	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)
1205	1	47.0	0.0	0	0
1209	3	97.0	0.0	0	0
1301	2	81.0	0.0	0	0
1305	1	47.0	0.0	0	0
1310	2	72.0	0.0	0	0
1402	1	48.0	0.0	0	0
1406	3	102.0	0.0	0	0
1411	2	72.0	0.0	0	0
1503	1	48.0	0.0	0	0
1508	2	75.0	0.0	0	0
1512	3	95.0	0.0	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)
1206	1	47.0	0.0	0	0
1210	2	72.0	0.0	0	0
1302	1	48.0	0.0	0	0
1306	3	102.0	0.0	0	0
1311	2	72.0	0.0	0	0
1403	1	48.0	0.0	0	0
1408	2	75.0	0.0	0	0
1412	3	95.0	0.0	0	0
1504	1	47.0	0.0	0	0
1509	3	97.0	0.0	0	0

Residential flat buildings - Building South, 97 dwellings, 11 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)
102	2	72.0	0.0	0	0
106	1	48.0	0.0	0	0
202	2	72.0	0.0	0	0
206	1	48.0	0.0	4	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)
103	2	72.0	0.0	0	0
107	1	48.0	0.0	0	0
203	2	72.0	0.0	0	0
207	1	48.0	0.0	4	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)
104	2	74.0	0.0	0	0
108	2	72.0	0.0	0	0
204	2	74.0	0.0	0	0
208	1	48.0	0.0	5	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)
105	2	72.0	0.0	0	0
201	2	72.0	0.0	0	0
205	2	72.0	0.0	6	0
209	1	48.0	0.0	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)
210	3	106.0	0.0	0	0
304	2	74.0	0.0	0	0
308	2	72.0	0.0	0	0
402	2	72.0	0.0	0	0
406	1	47.0	0.0	0	0
410	3	106.0	0.0	0	0
504	2	74.0	0.0	0	0
508	2	72.0	0.0	0	0
602	2	72.0	0.0	0	0
606	1	47.0	0.0	0	0
610	3	106.0	0.0	0	0
704	2	74.0	0.0	0	0
708	2	72.0	0.0	0	0
802	2	72.0	0.0	0	0
806	1	47.0	0.0	0	0
810	3	106.0	0.0	0	0
904	2	74.0	0.0	0	0
908	2	72.0	0.0	0	0
1002	2	72.0	0.0	0	0
1006	1	47.0	0.0	0	0
1010	3	106.0	0.0	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)
301	2	72.0	0.0	0	0
305	2	72.0	0.0	0	0
309	1	48.0	0.0	0	0
403	2	72.0	0.0	0	0
407	1	48.0	0.0	0	0
501	2	72.0	0.0	0	0
505	2	72.0	0.0	0	0
509	1	48.0	0.0	0	0
603	2	72.0	0.0	0	0
607	1	48.0	0.0	0	0
701	2	72.0	0.0	0	0
705	2	72.0	0.0	0	0
709	1	48.0	0.0	0	0
803	2	72.0	0.0	0	0
807	1	48.0	0.0	0	0
901	2	72.0	0.0	0	0
905	2	72.0	0.0	0	0
909	1	48.0	0.0	0	0
1003	2	72.0	0.0	0	0
1007	1	48.0	0.0	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)
302	2	72.0	0.0	0	0
306	1	47.0	0.0	0	0
310	3	106.0	0.0	0	0
404	2	74.0	0.0	0	0
408	2	72.0	0.0	0	0
502	2	72.0	0.0	0	0
506	1	47.0	0.0	0	0
510	3	106.0	0.0	0	0
604	2	74.0	0.0	0	0
608	2	72.0	0.0	0	0
702	2	72.0	0.0	0	0
706	1	47.0	0.0	0	0
710	3	106.0	0.0	0	0
804	2	74.0	0.0	0	0
808	2	72.0	0.0	0	0
902	2	72.0	0.0	0	0
906	1	47.0	0.0	0	0
910	3	106.0	0.0	0	0
1004	2	74.0	0.0	0	0
1008	2	72.0	0.0	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)
303	2	72.0	0.0	0	0
307	1	48.0	0.0	0	0
401	2	72.0	0.0	0	0
405	2	72.0	0.0	0	0
409	1	48.0	0.0	0	0
503	2	72.0	0.0	0	0
507	1	48.0	0.0	0	0
601	2	72.0	0.0	0	0
605	2	72.0	0.0	0	0
609	1	48.0	0.0	0	0
703	2	72.0	0.0	0	0
707	1	48.0	0.0	0	0
801	2	72.0	0.0	0	0
805	2	72.0	0.0	0	0
809	1	48.0	0.0	0	0
903	2	72.0	0.0	0	0
907	1	48.0	0.0	0	0
1001	2	72.0	0.0	0	0
1005	2	72.0	0.0	0	0
1009	1	48.0	0.0	0	0

Description of project

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

Common areas of unit building - Building West

Common area	Floor area (m ²)
Lift car (No. 6)	-
Bicycle Storage Area	558

Common area	Floor area (m ²)
Lift car (No. 7)	-

Common area	Floor area (m ²)
Community Room	65

Common areas of unit building - Building North

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

Common areas of unit building - Building East

Common area	Floor area (m ²)
Lift car (No. 2)	-

Common area	Floor area (m ²)
Lift car (No. 3)	-

Common areas of unit building - Building South

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

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

Common areas of the development (non-building specific)

Common area	Floor area (m ²)
Car park area	17822
Plant or service rooms	701

Common area	Floor area (m ²)
Service rooms	267
Ground floor lobbies	213

Common area	Floor area (m ²)
Garbage room	291
Hallways	3281

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building West

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

2. Commitments for Residential flat buildings - Building North

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

3. Commitments for Residential flat buildings - Building East

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

4. Commitments for Residential flat buildings - Building South

(a) Dwellings

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

(b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

5. Commitments for multi-dwelling houses

6. Commitments for single dwelling houses

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

- (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 West

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(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
1005, 1105	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5.5 star	-	-	-	-	-	-	-
303, 304, 403, 407, 703, 806, 907, 1003, 1004, 1007, 1103, 1104, 1107	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	4.5 star	-	-	-	-	-	-	-
211, 310, 410, 509, 609, 612, 710, 802, 1001, 1008, 1009, 1010, 1011, 1012, 1101, 1102, 1108, 1109, 1110, 1111, 1112	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5 star	-	-	-	-	-	-	-

	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
109, 203, 204, 205, 206, 207, 209, 305, 306, 307, 404, 405, 406, 503, 504, 505, 506, 507, 603, 604, 605, 606, 607, 704, 705, 706, 707, 803, 804, 805, 807, 903, 905, 906	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	4.5 star	-	-	-	-	-	-	-

	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
110, 111, 201, 202, 208, 210, 301, 302, 308, 309, 311, 312, 401, 402, 408, 409, 411, 412, 501, 502, 508, 510, 511, 512, 601, 602, 608, 610, 611, 701, 702, 708, 709, 711, 712, 801, 808, 809, 810, 811,	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5 star	-	-	-	-	-	-	-

	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
812, 901, 902, 904, 908, 909, 910, 911, 912, 1002														

	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	reticulated alternative water supply	-	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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 1	individual fan into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1005, 1105	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
109, 203, 204, 205, 206, 207, 209, 303, 304, 305, 306, 307, 403, 404, 405, 406, 407, 503, 504, 505, 506, 507, 603, 604, 605, 606, 607, 703, 704, 705, 706, 707, 803, 804, 805, 806, 807, 903, 905,	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1	0	no	yes	yes	yes	0	no

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
906, 907, 1003, 1004, 1007, 1103, 1104, 1107												

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
110, 111, 201, 202, 208, 210, 211, 301, 302, 308, 309, 310, 311, 312, 401, 402, 408, 409, 410, 411, 412, 501, 502, 508, 509, 510, 511, 512, 601, 602, 608, 609, 610, 611, 612, 701, 702, 708, 709,	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2	0	no	yes	yes	yes	0	no

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
710, 711, 712, 801, 802, 808, 809, 810, 811, 812, 901, 902, 904, 908, 909, 910, 911, 912, 1001, 1002, 1008, 1009, 1010, 1011, 1012, 1101, 1102, 1108, 1109, 1110, 1111, 1112												

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
109	54	23
110	44	20
111	49	20
201	62	20
202	36	26
207	41	29
208	26	26
209	36	27
210	28	23
211	50	35
301	56	14
302	30	17
303	36	10
307	36	19
309	42	13
310	31	14
312	56	11
401	57	13
409	37	13
410	35	14
510	35	15
602	31	16
702	33	16
802	31	15
902	34	16
911	53	18
912	59	10

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1001	61	11
1002	33	13
1003	41	9
1004	42	9
1005	45	7
1007	45	16
1008	27	16
1009	37	11
1010	38	13
1011	54	15
1012	60	9
1101	65	12
1102	46	14
1104	55	9
1105	48	10
1107	54	14
1108	36	15
1111	66	17
1112	66	11
308, 408	24	18
311, 411	50	20
402, 502	32	17
412, 512	57	11
501, 601	58	13
511, 611	51	19
706, 806	42	10
711, 811	52	18

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
808, 908	26	16
809, 909	35	13
906, 1103	44	10
1109, 1110	49	12
304, 305, 306	38	10
403, 503, 603	37	9
406, 506, 606	41	10
407, 507, 607	37	19
508, 608, 708	25	17
509, 609, 709	34	13
612, 712, 812	58	11
701, 801, 901	59	13
703, 803, 903	38	9
707, 807, 907	39	18
203, 204, 205, 206	44	15
610, 710, 810, 910	36	14
404, 405, 504, 505, 604, 605	39	9
All other dwellings	40	9

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 4)	-	-	-

(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 car (No. 6)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No. 7)	-	-	light-emitting diode	connected to lift call button	No
Community Room	air conditioning system	time clock or BMS controlled	compact fluorescent	manual on / manual off	No
Bicycle Storage Area	ventilation supply only	time clock or BMS controlled	fluorescent	motion sensors	No

Central energy systems	Type	Specification
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 14
Lift (No. 7)	gearless traction with V V V F motor	Number of levels (including basement): 14

2. Commitments for Residential flat buildings - Building North

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (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	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	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	reticulated alternative water supply	-	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (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 1	individual fan into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
All dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2	0	no	yes	yes	yes	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must: (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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
101	60	17
102	54	34
103	41	15
104	44	15
106	31	46
107	45	19
201	49	22
202	44	41
203	29	17
204	32	17
206	25	43
207	42	33
301	49	12
302	48	19
306	32	29

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
401	57	13
402	48	18
403	37	11
404	41	11
406	32	31
501	63	15
502	66	13
503	51	10
504	54	11
506	46	32
507	59	13
303, 304	40	12
All other dwellings	44	13

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 5)	-	-	-

(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 car (No. 1)	-	-	light-emitting diode	connected to lift call button	No

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

3. Commitments for Residential flat buildings - Building East

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (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
109, 112, 209, 212, 309, 312, 409, 412, 509, 512, 609, 612, 709, 712, 802, 809, 812, 901, 909, 912, 1009, 1012, 1109, 1112, 1209, 1212, 1306, 1309, 1312, 1406, 1409, 1412, 1507, 1509, 1512	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	4 star	no	-	5.5 star	-	-	-	-	-	-	-

	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
101, 102, 108, 110, 111, 201, 202, 208, 210, 211, 301, 307, 310, 311, 401, 408, 410, 411, 501, 508, 510, 511, 601, 608, 610, 611, 701, 708, 710, 711, 801, 808, 810, 811, 908, 910, 911, 1001, 1008, 1010,	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5 star	-	-	-	-	-	-	-

	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
1011, 1101, 1108, 1110, 1111, 1201, 1208, 1210, 1211, 1301, 1308, 1310, 1311, 1401, 1408, 1410, 1411, 1501, 1508, 1510, 1511														

	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
104, 105, 106, 107, 204, 205, 206, 207, 302, 303, 304, 305, 306, 308, 402, 403, 404, 405, 406, 407, 502, 503, 504, 505, 506, 507, 602, 603, 604, 605, 606, 607, 702, 703, 704, 705, 706, 707, 803, 804,	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	4.5 star	-	-	-	-	-	-	-

	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
805, 806, 807, 902, 903, 904, 905, 906, 907, 1002, 1003, 1004, 1005, 1006, 1007, 1102, 1103, 1104, 1105, 1106, 1107, 1202, 1203, 1204, 1205, 1206, 1207, 1302, 1303, 1304, 1305, 1402, 1403, 1404, 1405, 1502, 1503, 1504, 1506														

Dwelling no.	Alternative water source							
	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	reticulated alternative water supply	-	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
109, 112, 209, 212, 309, 312, 409, 412, 509, 512, 609, 612, 709, 712, 802, 809, 812, 901, 909, 912, 1009, 1012, 1109, 1112, 1209, 1212, 1306, 1309, 1312, 1406, 1409, 1412, 1507, 1509, 1512	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
101, 102, 108, 110, 111, 201, 202, 208, 210, 211, 301, 307, 310, 311, 401, 408, 410, 411, 501, 508, 510, 511, 601, 608, 610, 611, 701, 708, 710, 711, 801, 808, 810, 811, 908, 910, 911, 1001, 1008,	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1010, 1011, 1101, 1108, 1110, 1111, 1201, 1208, 1210, 1211, 1301, 1308, 1310, 1311, 1401, 1408, 1410, 1411, 1501, 1508, 1510, 1511												

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
104, 105, 106, 107, 204, 205, 206, 207, 302, 303, 304, 305, 306, 308, 402, 403, 404, 405, 406, 407, 502, 503, 504, 505, 506, 507, 602, 603, 604, 605, 606, 607, 702, 703, 704, 705, 706, 707, 803,	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1	0	no	yes	yes	yes	0	no

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
804, 805, 806, 807, 902, 903, 904, 905, 906, 907, 1002, 1003, 1004, 1005, 1006, 1007, 1102, 1103, 1104, 1105, 1106, 1107, 1202, 1203, 1204, 1205, 1206, 1207, 1302, 1303, 1304, 1305, 1402, 1403, 1404, 1405, 1502, 1503, 1504,												

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1506												

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(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.		✓	✓

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
101	41	23
102	33	21
104	38	19
105	41	20
108	22	32
109	32	36
112	55	15
201	28	26
202	27	26
206	36	20
207	34	20
208	24	35
209	36	52
210	58	19
211	50	21
212	47	17
301	32	17

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
303	36	14
309	46	23
312	54	11
402	32	14
409	48	25
410	61	12
411	60	13
412	56	11
509	49	25
510	64	12
512	53	13
610	61	11
611	61	13
704	43	13
708	30	16
804	46	11
805	49	11
808	35	17
809	50	24
811	62	12
904	44	11
908	31	16
912	55	13
1207	48	10
1209	52	12
1308	39	16
1404	47	10

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
1410	36	11
1411	35	11
1503	51	11
1504	59	10
1506	55	10
1509	63	20
1510	66	8
1511	63	9
106, 204	37	20
107, 205	35	20
110, 111	52	19
308, 408	33	18
508, 608	34	17
609, 709	49	24
612, 812	54	14
802, 902	34	13
803, 903	36	13
310, 1512	64	13
909, 1009	50	23
1005, 1105	41	10
1010, 1210	61	8
1011, 1311	60	10
1110, 1310	63	11
1111, 1211	64	10
1408, 1508	33	15
1501, 1502	49	12
302, 801, 901	34	14

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
311, 511, 712	56	13
403, 503, 603	35	13
405, 505, 605	38	11
502, 602, 702	33	13
710, 810, 910	62	11
711, 1012, 1112	57	12
1008, 1108, 1208	37	15
1109, 1309, 1409	52	21
1205, 1305, 1405	42	10
304, 404, 504, 604	42	11
305, 703, 705, 905	39	11
401, 501, 601, 701	33	14
911, 1212, 1312, 1412	58	12
1004, 1104, 1204, 1304	46	10
1001, 1101, 1201, 1301, 1401	35	12
1002, 1102, 1202, 1302, 1402	36	12
1003, 1103, 1203, 1303, 1403	39	13
406, 407, 506, 507, 606, 607, 1507	40	11
306, 307, 706, 707, 806, 807, 906, 907	41	11
All other dwellings	43	10

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 2)	-	-	-

(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 car (No. 2)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No. 3)	-	-	light-emitting diode	connected to lift call button	No

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 18
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 18

4. Commitments for Residential flat buildings - Building South

(a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install: (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
210, 310, 410, 510, 610, 710, 810, 910, 1010	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5.5 star	-	-	-	-	-	-	-
106, 107, 206, 207, 208, 209, 306, 307, 309, 406, 407, 409, 506, 507, 509, 606, 607, 609, 706, 707, 709, 806, 807, 809, 906, 907, 909, 1006, 1007, 1009	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	4.5 star	-	-	-	-	-	-	-

	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
102, 103, 104, 105, 108, 201, 202, 203, 204, 205, 301, 302, 303, 304, 305, 308, 401, 402, 403, 404, 405, 408, 501, 502, 503, 504, 505, 508, 601, 602, 603, 604, 605, 608, 701, 702, 703, 704, 705, 708,	3 star (> 7.5 but <= 9 L/min)	4 star	4 star	5 star	no	-	5 star	-	-	-	-	-	-	-

	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
801, 802, 803, 804, 805, 808, 901, 902, 903, 904, 905, 908, 1001, 1002, 1003, 1004, 1005, 1008														

	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	reticulated alternative water supply	-	See central systems	no	yes	yes	no	no
None	-	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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; (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 1	individual fan into central duct + VSD	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
210, 310, 410, 510, 610, 710, 810, 910, 1010	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	3	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
106, 107, 206, 207, 208, 209, 306, 307, 309, 406, 407, 409, 506, 507, 509, 606, 607, 609, 706, 707, 709, 806, 807, 809, 906, 907, 909, 1006, 1007, 1009	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
102, 103, 104, 105, 108, 201, 202, 203, 204, 205, 301, 302, 303, 304, 305, 308, 401, 402, 403, 404, 405, 408, 501, 502, 503, 504, 505, 508, 601, 602, 603, 604, 605, 608, 701, 702, 703, 704, 705,	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	2	0	no	yes	yes	yes	0	no

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
708, 801, 802, 803, 804, 805, 808, 901, 902, 903, 904, 905, 908, 1001, 1002, 1003, 1004, 1005, 1008												

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	-	2 star	no	no

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(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.	✓	✓	✓

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
102	53	20
103	65	15
105	38	17
106	47	21
107	47	20

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
108	44	14
202	46	23
203	59	22
204	49	29
205	27	21
206	29	22
207	36	25
208	50	27
209	49	24
210	46	13
301	57	16
302	52	25
303	65	13
306	30	16
308	48	10
401	53	18
403	66	16
503	64	13
802	57	14
805	32	13
901	55	17
905	31	13
1001	61	15
1002	62	13
1003	65	12
1004	66	19
1005	38	13

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
1006	44	15
1007	54	14
1008	59	11
1010	37	15
104, 201	63	24
305, 405	32	12
402, 502	53	16
501, 801	58	15
504, 604	57	19
601, 701	54	17
702, 902	55	14
807, 907	42	15
808, 908	48	11
810, 910	28	15
602, 1009	56	14
309, 409, 509	39	17
406, 506, 606	30	15
505, 605, 705	33	13
706, 806, 906	31	16
407, 507, 607, 707	41	15
408, 508, 608, 708	49	10
603, 703, 803, 903	66	14
304, 404, 704, 804, 904	56	19
307, 609, 709, 809, 909	40	16
All other dwellings	29	15

(b) Common areas and central systems/facilities

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 3)	-	-	-

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

Central energy systems	Type	Specification
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 13
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 13

7. 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	no common facility	4 star	4 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	10000	To collect run-off from at least: - 500 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 3545 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site

Central systems	Size	Configuration	Connection (to allow for...)
Reticulated alternative water supply	-	Installation of plumbing to make provision for connection to Sydney Olympic Park Authority reticulated alternative water supply.	- irrigation of 0 square metres of common landscaped area on the site - car washing in 1 car washing bays on the site
Fire sprinkler system (No. 1)	-	-	-

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

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	zoned switching with motion sensor	No
Service rooms	ventilation supply only	thermostatically controlled	fluorescent	manual on / manual off	No
Garbage room	ventilation exhaust only	-	fluorescent	motion sensors	No
Plant or service rooms	ventilation supply only	none ie. continuous	fluorescent	manual on / manual off	No
Ground floor lobbies	no mechanical ventilation	-	light-emitting diode	none	No
Hallways	no mechanical ventilation	-	light-emitting diode	zoned switching with motion sensor	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas instantaneous	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.75 (~32 mm); (b) Piping internal to building: R0.75 (~32 mm)

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).