# **BASIX**<sup>°</sup>Certificate

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

# Multi Dwelling

Certificate number: 1296858M

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

Secretary

Date of issue: Wednesday, 15 June 2022 To be valid, this certificate must be lodged within 3 months of the date of issue.



Planning, Industry & Environment

Project summary	
Project name	12-20 Berry Road & 11-19 Holdsworth Avenue
Street address	11-19 Holdsworth Avenue St Leonards South 2065
Local Government Area	Lane Cove Municipal Council
Plan type and plan number	deposited 7259
Lot no.	10
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	130
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Project score	_
Water	V 41 Target 40
Thermal Comfort	V Pass Target Pass
Energy	V 25 Target 25

#### Certificate Prepared by

Name / Company Name: Integreco Consulting Pty Ltd

#### ABN (if applicable): 42630013008

Certificate No.: 1296858M

# **Description of project**

### Project address

Project name	12-20 Berry Road & 11-19 Holdsworth Avenue
Street address	11-19 Holdsworth Avenue St Leonards South 2065
Local Government Area	Lane Cove Municipal Council
Plan type and plan number	deposited 7259
Lot no.	10
Section no.	-
Project type	
No. of residential flat buildings	1
No. of units in residential flat buildings	130
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m <sup>2</sup> )	5015
Roof area (m <sup>2</sup> )	1051
Non-residential floor area (m <sup>2</sup> )	451.0
Residential car spaces	161
Non-residential car spaces	19
1	

<b>^</b>		
Common area landscape		
Common area lawn (m <sup>2</sup> )	43.0	
Common area garden (m <sup>2</sup> )	2699.0	
Area of indigenous or low water use species (m <sup>2</sup> )	2024.0	
Assessor details		
Assessor number	DMN/19/1921	
Certificate number	0007796400	
Climate zone	56	
Ceiling fan in at least one bedroom	No	
Ceiling fan in at least one living room or other conditioned area	No	
Project score		
Water	🖌 41 Targe	t 40
Thermal Comfort	V Pass Targe	t Pass
Energy	🖌 25 Targe	t 25

# **Description of project**

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

#### Residential flat buildings - Building1, 130 dwellings, 12 storeys above ground

	Dwelling no. No of hadroome	nditio a (m <sup>3</sup>	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms Conditioned floor	conditioned noor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	<u>No. of hedrooms</u>	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
b	01011	61.0	0.0	0.0	0.0	b0102				0.0	0.0	b010	32	88.0	5.0	0.0	0.0	b01042	91.0	0.0	0.0	0.0	b0105		91.0	0.0	0.0	0.0
	01063			0.0	0.0	b0107		30.0		0.0	0.0	b010		61.0	0.0	0.0	0.0	b02011			0.0	0.0	b0202		88.0	5.0	0.0	0.0
	02032		5.0	0.0	0.0	b0204				0.0	0.0	b020		91.0	0.0	0.0	0.0	b02063			0.0	0.0	b0207		130.0		0.0	0.0
	02081	61.0	0.0	0.0	0.0	b0301				0.0	0.0	b030		88.0	5.0	0.0	0.0	b03032			0.0	0.0	b0304			0.0	0.0	0.0
	03052		0.0	0.0	0.0	b0306		30.0		0.0	0.0	b030		130.0	0.0	0.0	0.0	b03081			0.0	0.0	b0401			0.0	0.0	0.0
	04022		5.0	0.0	0.0	b0403 b0408				0.0	0.0	b040 b050		91.0 95.0	0.0	0.0	0.0	b04052 b05023			0.0	0.0	b0406 b0503		130.0 91.0	0.0	0.0	0.0
	05043			0.0	0.0	b0408		30.0		0.0	0.0	b050		95.0 61.0	0.0	0.0	0.0	b05023			0.0	0.0	b0503			0.0	0.0	0.0
	06031				0.0	b0505				0.0	0.0					0.0	0.0	b00012				0.0			87.0			
	000031	63.0	0.0	0.0	0.0	00604	3 1.	21.0	0.0	0.0	0.0	b060	or ma	163.0 ore droom		0.0	0.0	D07012	88.0	0.0	0.0	0.0	b0702		87.0	0.0	0.0	0.0
b	07032	87.0	0.0	0.0	0.0	b0704	2 9	8.0	0.0	0.0	0.0	b070	or mo	149.0 ore droom		0.0	0.0	b08012	88.0	6.0	0.0	0.0	b0802	22	87.0	0.0	0.0	0.0
b	08032	87.0	0.0	0.0	0.0	b0804	29	8.0	0.0	0.0	0.0	b080	or mo	149.0 ore droom		0.0	0.0	b09012	88.0	6.0	0.0	0.0	b0902	22	87.0	0.0	0.0	0.0

Dwelling no. No. of hedrooms Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no. No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	of hedro	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms	Conditioned floor area (m²)		Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.		Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
b09031 63.0	0.0	0.0	0.0		236.0 ore droom		0.0	0.0	b0905	or mor	270.0 e room		0.0	0.0	bCL0	13	154.0	0.0	0.0	0.0	bCL0	23 1	42.0	0.0	0.0	0.0
bCL033 124.0	0.0	0.0	0.0	bCL043	124.0	0.0	0.0	0.0	bCL05	53 ^	124.0	0.0	0.0	0.0	bUG	011	57.0	0.0	0.0	0.0	bUG0	21 5	57.0	0.0	0.0	0.0
bUG031 61.0	0.0	0.0	0.0	h01011	61.0	0.0	0.0	0.0	h0102	22 8	88.0	5.0	0.0	0.0	h010	32	88.0	5.0	0.0	0.0	h0104	12 9	91.0	0.0	0.0	0.0
h01052 91.0	0.0	0.0	0.0	h01063	130.0	0.0	0.0	0.0	h0107	′3 <sup>′</sup>	130.0	0.0	0.0	0.0	h010	81	61.0	0.0	0.0	0.0	h0201	1 6	61.0	0.0	0.0	0.0
h02022 88.0	5.0	0.0	0.0	h02032	88.0	5.0	0.0	0.0	h0204	2 9	91.0	0.0	0.0	0.0	h020	52	91.0	0.0	0.0	0.0	h0206	63 1	30.0	0.0	0.0	0.0
h02073 130.0	0.0	0.0	0.0	h02081	61.0	0.0	0.0	0.0	h0301	1 6	61.0	0.0	0.0	0.0	h030	22	88.0	5.0	0.0	0.0	h0303	32 8	38.0	5.0	0.0	0.0
h03042 91.0	0.0	0.0	0.0	h03052	91.0	0.0	0.0	0.0	h0306	63 <sup>-</sup>	130.0	0.0	0.0	0.0	h030	73	130.0	0.0	0.0	0.0	h0308	31 6	61.0	0.0	0.0	0.0
h04012 94.0	0.0	0.0	0.0	h04023	116.0	0.0	0.0	0.0	h0403	32 9	91.0	0.0	0.0	0.0	h040	43	130.0	0.0	0.0	0.0	h0405	53 1	30.0	0.0	0.0	0.0
h04061 61.0	0.0	0.0	0.0	h05012	88.0	6.0	0.0	0.0	h0502	22 8	87.0	0.0	0.0	0.0	h050	31	63.0	0.0	0.0	0.0	h0504	13 1	21.0	0.0	0.0	0.0
h05054 163.0 or more bedroom		0.0	0.0	h06012	88.0	6.0	0.0	0.0	h0602	228	87.0	0.0	0.0	0.0	h060	32	87.0	0.0	0.0	0.0	h0604	12 9	98.0	0.0	0.0	0.0
h06054 149.0 or more bedroom		0.0	0.0	h0701 2	88.0	6.0	0.0	0.0	h0702	2 8	87.0	0.0	0.0	0.0	h070	32	87.0	0.0	0.0	0.0	h0704	12 9	98.0	0.0	0.0	0.0
h07054 149.0 or more bedroom		0.0	0.0	h08012	88.0	6.0	0.0	0.0	h0802	22 8	87.0	0.0	0.0	0.0	h080	31	63.0	0.0	0.0	0.0	h0804	or more	236.0 e room:		0.0	0.0
h08054 270.0 or more bedroom		0.0	0.0	hCL013	145.0	0.0	0.0	0.0	hCL02	23	138.0	0.0	0.0	0.0	hCL0	31	50.0	6.0	0.0	0.0	hCL0	41 5	56.0	0.0	0.0	0.0
hCL051 56.0	0.0	0.0	0.0	hCL063	124.0	0.0	0.0	0.0	hCL07	73 <sup>-</sup>	145.0	0.0	0.0	0.0	hLG0	13	124.0	0.0	0.0	0.0	hLG0	23 1	24.0	0.0	0.0	0.0

Dwelling no. No. of hedrooms	Conditioned floor area (m²) Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms	Conditioned noor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no. No of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)	Dwelling no.	No. of hedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
hLG033	124.0 0.0	0.0	0.0	hUG0	12 8	8.0	5.0	0.0	0.0	hUGC	)22	91.0	0.0	0.0	0.0	hUG032	91.0	0.0	0.0	0.0	hUGC	)43	130.0	0.0	0.0	0.0

# **Description of project**

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

#### Common areas of unit building - Building1

Common area	Floor area (m²)	Common area	Floor area (m²)	Common area	Floor area (m²)
Car park area (No. 1)	8129.0	Lift car (No.1)	-	Lift car (No.2)	-
Lift car (No.3)	-	Lift car (No.4)	-	Switch and NBN room (No. 1)	38.0
Substation room (No.1)	19.0	Garbage rooms and chute rooms	439.0	Community rooms	243.0
Plant or service rooms	382.0	Fan rooms lower	169.0	Roof Plant or service rooms	221.0
Roof VRV condenser rooms	60.0	Concierge area (No. 1)	32.0	Store rooms area (No. 1)	135.0
Ground floor lobby type (No. 1)	192.0	Hallway/lobby type (No. 1)	1219.0		

# **Schedule of BASIX commitments**

1. Commitments for Residential flat buildings - Building1

(a) Dwellings

(i) Water

(ii) Energy

(iii) Thermal Comfort

(b) Common areas and central systems/facilities

(i) Water

(ii) Energy

2. Commitments for multi-dwelling houses

3. Commitments for single dwelling houses

4. 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 - Building1

#### (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		<ul> <li>Image: A set of the set of the</li></ul>	~
(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.		<ul> <li>Image: A set of the set of the</li></ul>	~
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	~	<b>~</b>	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		<ul> <li>Image: A set of the set of the</li></ul>	
(g) The pool or spa must be located as specified in the table.	~	<ul> <li>Image: A set of the set of the</li></ul>	
(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.	~	~	~

			Fixtur	es		Appli	ances		Indi	vidual pool		In	dividual	spa
Dwelling no.	All shower- heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish- washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	5 star	no	-	-	-	-	-	-	-	-	-

			Alternative water sou	rce				
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	~	~	~
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		~	~
(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.		<b>~</b>	
(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;		<b>~</b>	
(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		<ul> <li>Image: A set of the set of the</li></ul>	~
(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 ven	tilation system	Kitchen venti	lation system	Laundry ventilation system		
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control	
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	

	Co	oling	Не	ating			Artificial	lighting			Natural lig	phting
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 Iaundry	All hallways	No. of bathrooms &/or toilets	Main kitchei
b0904, b0905, h0804, h0805	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	4 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
b0605, b0705, b0805, h0505, h0605, h0705	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	4 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
b0104, b0105, b0602, b0703, b0704, b0803, b0804, b0802, b0804, b0902, h0502, h0602, h0603, h0604, h0702, h0703, h0704, h0704, h0802	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Co	oling	Hea	ating			Artificial	lighting			Natural lig	hting
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each Iaundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
b0204, b0205, b0304, b0305, b0404, b0501, b0503, h0104, h0105, h0204, h0205, h0304, h0305, h0401, h0403, hUG02, hUG03	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Co	oling	Hea	ating			Artificial	lighting			Natural lig	Ihting
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 Iaundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
b0102, b0103, b0202, b0203, b0302, b0303, b0402, b0403, b0601, b0701, b0801, b0901, h0102, h0102, h0103, h0202, h0303, h0501, h0501, h0601, h0701, h0801, h0801, h0801, h0801,	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	1	no

	Co	oling	Неа	ating			Artificial	lighting			Natural lig	hting
Dwelling no.	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/ toilets	Each Iaundry	All hallways	No. of bathrooms &/or toilets	Main kitcher
b0101, b0108, b0201, b0208, b0301, b0308, b0401, b0408, b0506, b0603, b0903, b0903, b0G01, bUG02, bUG02, bUG03, h0101, h0108, h0201, h0208, h0301, h0208, h0301, b0308, h0406, h0503, h0803, hCL03, hCL04, hCL05	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	1 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no
All other dwellings	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	3 (dedicated)	2 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	no

	Individual po	ool	Individual s	ра			Appliance	es & other effic	iency meas	ures		
Dwelling no.	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	induction cooktop & electric oven	-	no	4 star	-	8 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, the applicant is applying for a complying development certificate for the proposed development, to that application). The applican 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 propose development which were used to calculate those specifications.	d	~	
(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.		<b>_</b>	~

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
b0101	40.8	19.6
b0102	39.4	18.3
b0103	43.6	17.8
b0104	44.9	24.3
b0105	44.8	20.9
b0106	30.3	15.6
b0107	27.8	19.5
b0108	19.5	18.1
b0201	43.3	19.0
b0202	42.8	14.6
b0203	43.0	17.2
b0204	41.9	12.0
b0205	42.5	9.5
b0206	29.0	16.0
b0207	30.5	17.2
b0208	22.7	17.6
b0301	43.0	20.5
b0302	42.3	15.0
b0303	42.5	18.0
b0304	41.7	12.2
b0305	42.3	10.0
b0306	32.9	13.6
b0307	30.9	17.2
b0308	22.9	19.0
b0401	42.6	21.4
b0402	39.1	14.3
b0403	39.8	18.5

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
b0404	45.2	18.9
b0405	42.4	10.4
b0406	32.5	13.5
b0407	30.8	17.5
b0408	23.1	19.7
b0501	34.4	22.7
b0502	32.9	13.1
b0503	45.2	17.2
b0504	34.4	15.1
b0505	33.6	19.2
b0506	22.0	23.9
b0601	36.2	15.4
b0602	26.0	27.8
b0603	26.7	26.3
b0604	22.9	14.8
b0605	23.3	26.0
b0701	35.6	15.5
b0702	26.4	27.5
b0703	23.7	28.4
b0704	15.3	27.4
b0705	26.2	16.3
b0801	34.2	15.6
b0802	26.6	27.2
b0803	24.0	28.4
b0804	15.5	26.7
b0805	26.1	16.7
b0901	42.1	17.0

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
b0902	32.2	27.1
b0903	17.7	29.1
b0904	17.0	22.2
b0905	25.2	28.9
bCL01	42.2	21.9
bCL02	34.5	10.4
bCL03	34.6	13.1
bCL04	21.8	10.7
bCL05	24.1	11.1
bUG01	43.3	16.9
bUG02	35.5	15.4
bUG03	18.9	18.0
h0101	42.9	19.9
h0102	30.0	21.4
h0103	33.4	13.2
h0104	44.5	10.9
h0105	43.8	8.9
h0106	26.4	19.8
h0107	28.7	15.3
h0108	23.1	17.0
h0201	44.6	18.6
h0202	32.5	16.5
h0203	31.9	13.2
h0204	43.3	11.2
h0205	43.8	9.6
h0206	30.2	17.6
h0207	31.3	13.1

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
h0208	25.1	16.1
h0301	41.6	22.4
h0302	38.5	20.1
h0303	39.0	15.6
h0304	45.2	14.8
h0305	43.5	9.8
h0306	30.4	17.6
h0307	31.7	12.9
h0308	25.2	16.4
h0401	36.8	19.4
h0402	41.2	11.6
h0403	44.9	21.0
h0404	34.9	19.6
h0405	33.7	13.7
h0406	23.6	20.0
h0501	37.5	14.3
h0502	36.8	23.5
h0503	9.2	19.6
h0504	24.4	20.5
h0505	22.4	20.8
h0601	37.0	14.7
h0602	34.9	24.1
h0603	27.3	22.2
h0604	15.9	29.5
h0605	27.3	12.0
h0701	36.1	15.0
h0702	34.6	24.2

		Thermal loads
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
h0703	27.0	22.4
h0704	15.8	29.4
h0705	27.1	12.4
h0801	43.3	16.4
h0802	44.8	27.4
h0803	19.2	25.0
h0804	22.0	29.5
h0805	20.1	22.5
hCL01	25.6	5.3
hCL02	37.6	4.7
hCL03	40.9	15.6
hCL04	37.6	14.3
hCL05	36.1	16.7
hCL06	16.9	10.9
hCL07	34.4	6.4
hLG01	33.7	11.1
hLG02	24.2	10.6
hLG03	28.1	10.7
hUG01	41.7	20.2
hUG02	40.8	12.3
hUG03	39.8	10.0
All other dwellings	29.6	19.6

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

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for)
Central water tank - rainwater or stormwater (No. 1)	20000.0	To collect run-off from at least: - 500.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 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).	<ul> <li>irrigation of 2742.0 square metres of common landscaped area on the site</li> <li>car washing in 1 car washing bays on the site</li> </ul>
Pool (No. 1)	Volume: 60.0 kLs	Location: Building1 Pool shaded: no	-

Central systems	Size	Configuration	Connection (to allow for)
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Fire sprinkler system (No. 2)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-
Central cooling system (No. 1)	-	Private water meter on make-up line connected to building management system. Conductivity controller installed in the cooling tower.	-

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area (No. 1)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	light-emitting diode	zoned switching with motion sensor	No
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.3)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.4)	-	-	light-emitting diode	connected to lift call button	No
Switch and NBN room (No. 1)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	No
Substation room (No.1)	ventilation supply only	thermostatically controlled	light-emitting diode	motion sensors	No

	Common area	ventilation system	Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Garbage rooms and chute rooms	ventilation exhaust only	-	light-emitting diode	motion sensors	No
Community rooms	air conditioning system	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	No
Plant or service rooms	ventilation supply only	interlocked to light	light-emitting diode	motion sensors	No
Fan rooms lower	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Roof Plant or service rooms	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Roof VRV condenser rooms	no mechanical ventilation	-	light-emitting diode	motion sensors	No
Concierge area (No. 1)	air conditioning system	time clock or BMS controlled	light-emitting diode	manual on / manual off	No
Store rooms area (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	motion sensors	No
Ground floor lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	No
Hallway/lobby type (No. 1)	ventilation supply only	time clock or BMS controlled	light-emitting diode	zoned switching with motion sensor	No

Central energy systems	Туре	Specification	
Central hot water system (No. 1)	electric heat pump - air sourced	Piping insulation (ringmain & supply risers): (a) Piping external to building: R1.0 (~38 mm); (b) Piping internal to building: R1.0 (~38 mm)	
Central cooling system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor Heat rejection method: air cooled condenser Unit efficiency (min): medium - COP 3.5 - 5.5	
Central heating system (No. 1)	variable refrigerant volume units	Energy source: electric driven compressor + air sourced evaporator Unit efficiency: medium - COP 3.5 - 5.5	
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 16	
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 16	
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 15	

Central energy systems	Туре	Specification
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 15
Pool (No. 1)	Heating source: no heating	Pump controlled by timer: yes

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	4 star (> 4.5 but <= 6 L/min)	4 star	5 star	no common laundry facility

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

page 25/27

, <u></u>		
Central energy systems	Туре	Specification
Other	Building management system installed?: yes	-

<ul> <li>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.</li> <li>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 (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.</li> <li>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).</li> <li>If a star or other rating is specified in a commitment, this is a minimum rating.</li> <li>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</li> </ul>	1. In these commitments, "applicant" means the person carrying out the development.	
<ul> <li>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.</li> <li>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).</li> <li>If a star or other rating is specified in a commitment, this is a minimum rating.</li> <li>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</li> </ul>	<ol> <li>The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any d specifications accompanying the application for a construction certificate / complying development certificate, for the proposed</li> </ol>	
system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building). If a star or other rating is specified in a commitment, this is a minimum rating. 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	residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a	
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		relling or building within the development, then that
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	5. If a star or other rating is specified in a commitment, this is a minimum rating.	
human consumption in areas with potable water supply.		

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).