

BASIX[®]Certificate

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

Multi Dwelling

Certificate number: 765994M

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 the Department. This document is available at www.basix.nsw.gov.au

Secretary

Date of issue: Tuesday, 11 October 2016

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



Project summary		
Project name	9-13 GOULBURN ST	
Street address	9,11,13 GOULBURN Street WARWICK FARM 2170	
Local Government Area	Liverpool City Council	
Plan type and plan number	deposited 35110	
Lot no.	11,12	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	101	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 24	Target 20

Certificate Prepared by
Name / Company Name: Building & Energy Consultants Australia
ABN (if applicable): 92122407783

Description of project

Project address

Project name	9-13 GOULBURN ST
Street address	9,11,13 GOULBURN Street WARWICK FARM 2170
Local Government Area	Liverpool City Council
Plan type and plan number	deposited 35110
Lot no.	11,12
Section no.	-

Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	101
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Site details

Site area (m ²)	2687
Roof area (m ²)	1200
Non-residential floor area (m ²)	0.0
Residential car spaces	114
Non-residential car spaces	0

Common area landscape

Common area lawn (m ²)	146.0
Common area garden (m ²)	563.0
Area of indigenous or low water use species (m ²)	-

Assessor details

Assessor number	BDAV/12/1456
Certificate number	0000839150
Climate zone	28

Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 24	Target 20

Description of project

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

Residential flat buildings - Building1, 101 dwellings, 9 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)
A1001	2	75.4	0.0	0.0	-
A1005	1	48.8	0.0	0.0	-
A2003	2	82.2	0.0	0.0	-
A3001	2	75.4	0.0	0.0	-
A3005	1	51.7	0.0	0.0	-
A4003	2	82.2	0.0	0.0	-
A5001	2	75.4	0.0	0.0	-
A5005	1	51.7	0.0	0.0	-
A6003	2	82.2	0.0	0.0	-
A7001	2	75.4	0.0	0.0	-
A7005	2	51.7	0.0	0.0	-
A8003	2	95.2	0.0	0.0	-
AG003	3	99.6	0.0	0.0	-
B1003	2	65.6	0.0	0.0	-
B2002	2	75.3	0.0	3.0	-
B2006	3	92.0	0.0	0.0	-
B3004	2	77.2	0.0	0.0	-
B4002	2	75.3	0.0	3.0	-

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)
A1002	2	71.9	0.0	0.0	-
A1006	1	51.7	0.0	0.0	-
A2004	2	72.2	0.0	0.0	-
A3002	2	71.9	0.0	0.0	-
A3006	1	48.8	0.0	0.0	-
A4004	2	72.2	0.0	0.0	-
A5002	2	71.9	0.0	0.0	-
A5006	1	48.8	0.0	0.0	-
A6004	2	72.2	0.0	0.0	-
A7002	2	71.9	0.0	0.0	-
A7006	2	48.8	0.0	0.0	-
A8004	3	99.9	0.0	20.0	-
AG004	3	93.8	0.0	0.0	-
B1004	3	93.9	0.0	0.0	-
B2003	2	65.6	0.0	0.0	-
B3001	2	73.4	0.0	0.0	-
B3005	2	75.4	0.0	0.0	-
B4003	2	65.6	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)
A1003	2	82.2	0.0	0.0	-
A2001	2	75.4	0.0	0.0	-
A2005	1	51.7	0.0	0.0	-
A3003	2	82.2	0.0	0.0	-
A4001	2	75.4	0.0	0.0	-
A4005	1	51.7	0.0	0.0	-
A5003	2	82.2	0.0	0.0	-
A6001	2	75.4	0.0	0.0	-
A6005	1	51.7	0.0	0.0	-
A7003	2	82.2	0.0	0.0	-
A8001	2	75.4	0.0	0.0	-
AG001	2	77.9	0.0	0.0	-
B1001	2	73.4	0.0	0.0	-
B1005	3	94.8	3.3	0.0	-
B2004	2	77.2	0.0	0.0	-
B3002	2	75.6	0.0	3.0	-
B3006	3	92.0	0.0	0.0	-
B4004	2	77.2	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)
A1004	3	98.4	0.0	0.0	-
A2002	2	71.9	0.0	0.0	-
A2006	1	48.8	0.0	0.0	-
A3004	2	72.2	0.0	0.0	-
A4002	2	71.9	0.0	0.0	-
A4006	1	48.8	0.0	0.0	-
A5004	2	72.2	0.0	0.0	-
A6002	2	71.9	0.0	0.0	-
A6006	1	48.8	0.0	0.0	-
A7004	2	72.2	0.0	0.0	-
A8002	2	71.9	0.0	0.0	-
AG002	2	71.9	0.0	0.0	-
B1002	2	75.6	0.0	3.0	-
B2001	2	73.4	0.0	0.0	-
B2005	2	75.4	0.0	0.0	-
B3003	2	65.6	0.0	0.0	-
B4001	2	73.4	0.0	0.0	-
B4005	2	75.4	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)
B4006	3	92.0	0.0	0.0	-
B5004	2	77.2	0.0	0.0	-
B6002	2	75.3	0.0	3.0	-
B6006	3	92.0	0.0	0.0	-
B7004	2	77.2	0.0	0.0	-
B8002	2	70.0	0.0	3.0	-
BG001	2	76.8	0.0	0.0	-
BG005	2	67.4	0.0	9.0	-

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)
B5001	2	73.4	0.0	0.0	-
B5005	2	75.4	0.0	0.0	-
B6003	2	65.6	0.0	0.0	-
B7001	2	73.4	0.0	0.0	-
B7005	2	75.4	0.0	0.0	-
B8003	2	72.5	0.0	0.0	-
BG002	2	75.3	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)
B5002	2	75.6	0.0	3.0	-
B5006	3	92.0	0.0	0.0	-
B6004	2	77.2	0.0	0.0	-
B7002	2	75.6	0.0	3.0	-
B7006	3	91.6	0.0	0.0	-
B8004	2	71.0	0.0	29.0	-
BG003	2	65.6	0.0	6.0	-

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)
B5003	2	65.6	0.0	0.0	-
B6001	2	73.4	0.0	0.0	-
B6005	2	75.4	0.0	0.0	-
B7003	2	65.6	0.0	0.0	-
B8001	2	73.4	0.0	0.0	-
B8005	2	71.8	0.0	5.0	-
BG004	2	75.0	0.0	9.0	-

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)
Car park area	4011.0
Garbage room	37.0
Hallway/lobby type G-L8	840.0

Common area	Floor area (m²)
Lift car (No.1)	-
Garbage room (No. 2)	29.0

Common area	Floor area (m²)
Lift car (No.2)	-
Garbage room (No. 3)	21.0

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		✓	✓
(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 (> 6 but <= 7.5 L/min)	4 star	4 star	4 star	-	-	4.5 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
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, 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

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
B1005	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	0	0	-	-	-	-	1	no
A1004, A1005, A2006, A3006, A4006, A5006, A6006, A7006, A8004, AG004, B2005, B3005, B4005, B5005, B6005, B7005	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	0	0	-	-	-	-	0	yes

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
A1001, A1002, A1003, A1006, A2001, A2002, A2003, A2004, A2005, A3001, A3002, A3003, A3004, A3005, A4001, A4002, A4003, A4004, A4005, A5001, A5002, A5003, A5004, A5005, A6001, A6002, A6003, A6004, A6005, A7001, A7002, A7003, A7004, A7005, A8001, A8002, A8003, AG001, AG002,	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	1-phase airconditioning EER 2.5 - 3.0 (zoned)	0	0	-	-	-	-	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
AG003, B1001, B1002, B1003, B1004, B2001, B2002, B2003, B2004, B2006, B3001, B3002, B3003, B3004, B3006, B4001, B4002, B4003, B4004, B4006, B5001, B5002, B5003, B5004, B5006, B6001, B6002, B6003, B6004, B6006, B7001, B7002, B7003, B7004, B7006, B8001, B8002, B8003, B8004,												

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
B8005, BG001, BG002, BG003, BG004, BG005												

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	-	-	3.5 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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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)
A1001	62.8	27.8
A1002	47.6	25.6
A1003	70.7	15.5
A1004	63.1	25.9
A1005	80.7	55.1
A1006	56.5	49.6
A2001	62.6	27.9
A2002	48.7	24.7
A2003	58.2	16.5
A2004	51.4	25.1
A2005	51.5	47.9
A2006	60.5	67.5
A3001	67.1	25.5

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A3002	50.3	24.0
A3003	60.2	15.7
A3004	38.0	23.7
A3005	55.1	45.1
A3006	64.9	62.6
A4001	67.0	25.8
A4002	47.9	24.0
A4003	59.2	15.9
A4004	38.5	23.3
A4005	55.7	45.1
A4006	65.4	61.8
A5001	65.2	25.9
A5002	41.3	24.4
A5003	55.1	16.3
A5004	39.0	24.5
A5005	56.3	45.4
A5006	66.2	61.6
A6001	56.3	26.4
A6002	28.2	25.0
A6003	43.0	16.5
A6004	39.3	23.5
A6005	56.5	44.5
A6006	66.6	61.5
A7001	50.1	26.8
A7002	21.6	26.4
A7003	36.9	16.6
A7004	39.7	24.1

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A7005	71.9	55.6
A7006	77.1	72.1
A8001	60.8	36.6
A8002	37.4	32.8
A8003	47.2	24.8
A8004	62.0	54.4
AG001	70.9	26.5
AG002	68.3	23.2
AG003	61.8	30.3
AG004	55.7	33.7
B1001	36.6	30.1
B1002	38.5	39.4
B1003	16.3	29.3
B1004	10.4	25.6
B1005	37.9	23.9
B2001	37.6	29.8
B2002	48.0	36.9
B2003	17.1	28.9
B2004	14.9	24.0
B2005	24.3	57.7
B2006	61.6	34.0
B3001	40.7	27.7
B3002	41.9	34.6
B3003	19.0	27.2
B3004	16.7	22.8
B3005	27.0	51.7
B3006	43.4	31.9

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B4001	41.3	27.5
B4002	51.0	33.3
B4003	19.4	26.6
B4004	17.0	22.7
B4005	27.5	51.4
B4006	43.8	31.1
B5001	41.8	27.2
B5002	42.9	33.7
B5003	19.9	26.5
B5004	17.3	22.7
B5005	27.9	50.2
B5006	44.2	30.9
B6001	42.1	27.2
B6002	51.7	32.7
B6003	20.1	26.1
B6004	17.4	22.7
B6005	28.3	49.8
B6006	44.5	30.9
B7001	42.6	27.0
B7002	43.7	32.8
B7003	31.0	35.1
B7004	18.4	23.5
B7005	43.4	62.9
B7006	72.9	46.6
B8001	62.5	36.1
B8002	45.5	39.2
B8003	47.8	37.9

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m ² /yr)	Area adjusted cooling load (in mJ/m ² /yr)
B8004	48.8	45.6
B8005	65.9	66.9
BG001	44.1	23.2
BG002	36.0	40.7
BG003	32.1	37.3
BG004	26.4	32.8
All other dwellings	33.4	82.1

(b) Common areas and central systems/facilities

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

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

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.	-

(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
Car park area	ventilation exhaust only	carbon monoxide monitor + VSD fan	fluorescent	motion sensors	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
Garbage room	ventilation exhaust only	-	fluorescent	motion sensors	No
Garbage room (No. 2)	ventilation exhaust only	-	fluorescent	motion sensors	No
Garbage room (No. 3)	ventilation exhaust only	-	fluorescent	motion sensors	No
Hallway/lobby type G-L8	no mechanical ventilation	-	fluorescent	motion sensors	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifolded)	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 11
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 11

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.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

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

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).

NatHERS - THERMAL COMFORT SUMMARY

Project Address: 9-13 Goulburn St, Warwick Farm NSW 2170 Certificate # 0000839150		
Building Elements	Material	Detail
External walls	- Brick Veneer - Hebel + Furring Channel + Plasterboard	R1.5 Bulk Insulation
Internal walls within units	Plasterboard on studs	-
Common walls between Units	Hebel + Furring Channel + Plasterboard	-
Common walls between Units & Fire Stairs/lift Shaft	162mm Concrete+ Furring Channel + Insulation + Plasterboard	R1.5 Bulk Insulation
Ceilings	Plasterboard	-
Roof	Concrete – insulation to concrete exposed to external environment for units A7005, A7006, B7005	R2.0 Bulk Insulation
Top Floor Roof	Concrete	R2.5 Bulk Insulation
Floors	Concrete	R1.0 Bulk Insulation to suspended floors exposed to the external environment for Units A1003, A1004, A1005, A2004
Windows	Aluminium framed, single glazed clear – Sliding Windows / Doors / Fixed Glazing	U value 6.70 or less and a SHGC of 0.70 +/- 5%
	Aluminium framed, single glazed clear – Awning Windows	U value 6.70 or less and a SHGC of 0.57 +/- 5%
Skylights	Double Glazed Clear	-
<i>Lighting: These Units must use non ventilated LED downlights as per Individual NatHERS Certificates if proposed</i>		
<i>Bathroom / Ensuite / Laundry exhaust fans to have self-closing dampers</i>		

Note: If any of the elements nominated above change after the DA (Development Application) has been issued, a revised assessment should be undertaken prior to the Construction Certificate being issued with Construction drawings and specifications

Nationwide House Energy Rating Scheme* — Class 2 summary

Certificate number: **0000839150**

Certificate Date: **11 Oct 2016**

★ Average Star rating: **6.4**



Assessor details

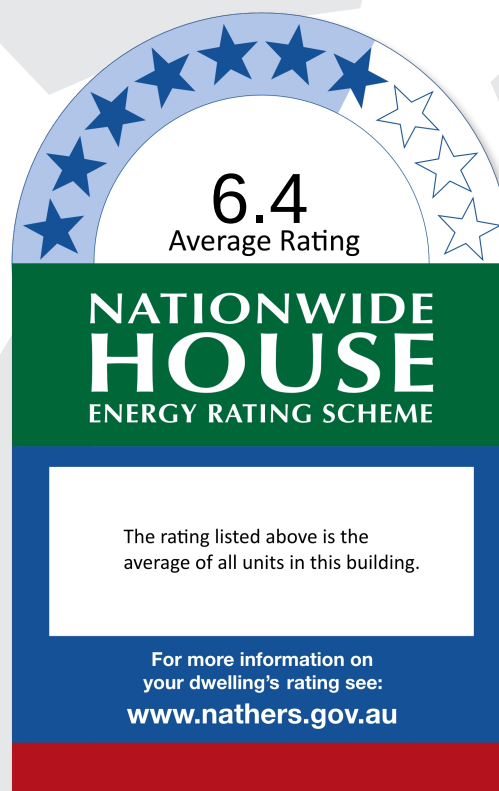
Accreditation number: **VIC/BDAV/12/1456**
Name: **Thomas Ruck**
Organisation: **Building energy Consultants Australia**
Email: **thomas@beca.net.au**
Phone: **02 9533 2388**
Declaration of interest: **None**
Software: **BERS Pro v4.3.0.1 (3.13)**

AAO: **BDAV**

Dwelling details

Street: **9-13 Goulburn St**
Suburb: **Warwick Farm**
State: **NSW**
Postcode: **2170**

Scan to access this certificate online and confirm this is valid.



Summary of all dwellings

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000838094	A1001	63	28	91	5.9
0000838078	A1002	48	26	73	6.7
0000838086	A1003	71	15	86	6.1
0000838110	A1004	63	26	89	5.9
0000838128	A1005	81	55	136	4.3
0000838102	A1006	56	50	106	5.3
0000838136	A2001	63	28	90	5.9
0000838151	A2002	49	25	73	6.7
0000838177	A2003	58	17	75	6.7
0000838144	A2004	51	25	76	6.5
0000838169	A2005	52	48	99	5.4
0000838185	A2006	60	67	128	4.4
0000838201	A3001	67	25	93	5.8
0000838193	A3002	50	24	74	6.7
0000838235	A3003	60	16	76	6.6

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: **0000839150**

Certificate Date:

11 Oct 2016

★ Average Star rating: **6.4**



Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000838227	A3004	38	24	62	7.2
0000838219	A3005	55	45	100	5.4
0000838250	A3006	65	63	128	4.4
0000838268	A4001	67	26	93	5.8
0000838243	A4002	48	24	72	6.8
0000838284	A4003	59	16	75	6.6
0000838276	A4004	39	23	62	7.2
0000838292	A4005	56	45	101	5.4
0000838318	A4006	65	62	127	4.4
0000838334	A5001	65	26	91	5.9
0000838326	A5002	41	24	66	7
0000838367	A5003	55	16	71	6.8
0000838359	A5004	39	25	63	7.2
0000838342	A5005	56	45	102	5.4
0000838375	A5006	66	62	128	4.4
0000838391	A6001	56	26	83	6.3
0000838383	A6002	28	25	53	7.6
0000838417	A6003	43	16	59	7.3
0000838409	A6004	39	23	63	7.2
0000838425	A6005	56	45	101	5.4
0000838441	A6006	67	61	128	4.4
0000838466	A7001	50	27	77	6.5
0000838458	A7002	22	26	48	7.9
0000838474	A7003	37	17	54	7.6
0000838482	A7004	40	24	64	7.2
0000838490	A7005	72	56	127	4.4
0000838508	A7006	77	72	149	3.9
0000838524	A8001	61	37	97	5.6
0000838516	A8002	37	33	70	6.9
0000838557	A8003	47	25	72	6.8
0000838540	A8004	62	54	116	4.9
0000838532	AG001	71	26	97	5.6
0000838565	AG002	68	23	91	5.9
0000838581	AG003	62	30	92	5.8
0000838573	AG004	56	34	89	5.9
0000838599	B1001	37	30	67	6.9
0000838607	B1002	39	39	78	6.4
0000838615	B1003	16	29	46	7.9
0000838631	B1004	10	26	36	8.4
0000838649	B1005	38	24	62	7.2
0000838623	B2001	38	30	67	6.9
0000838656	B2002	48	37	85	6.2
0000838672	B2003	17	29	46	7.9

Nationwide House Energy Rating Scheme* - Class 2 summary

Certificate number: **0000839150**

Certificate Date:

11 Oct 2016

★ Average Star rating: **6.4**



Summary of all dwellings continued

Certificate Details

Certificate number	Unit number	Heating load	Cooling load	Total load	Star Rating
0000838664	B2004	15	24	39	8.3
0000838706	B2005	24	58	82	6.3
0000838722	B2006	62	34	96	5.7
0000838714	B3001	41	28	68	6.9
0000838748	B3002	42	35	76	6.5
0000838730	B3003	19	27	46	7.9
0000838771	B3004	17	23	40	8.3
0000838755	B3005	27	52	79	6.4
0000838763	B3006	43	32	75	6.6
0000838797	B4001	41	28	69	6.9
0000838805	B4002	51	33	84	6.2
0000838789	B4003	19	27	46	7.9
0000838813	B4004	17	23	40	8.3
0000838839	B4005	27	51	79	6.4
0000838821	B4006	44	31	75	6.6
0000838854	B5001	42	27	69	6.9
0000838847	B5002	43	34	77	6.5
0000838862	B5003	20	26	46	7.9
0000838888	B5004	17	23	40	8.2
0000838870	B5005	28	50	78	6.4
0000838912	B5006	44	31	75	6.6
0000838904	B6001	42	27	69	6.9
0000838896	B6002	52	33	84	6.2
0000838920	B6003	20	26	46	7.9
0000838938	B6004	17	23	40	8.2
0000838946	B6005	28	50	78	6.4
0000838979	B6006	44	31	75	6.6
0000838961	B7001	43	27	70	6.9
0000839001	B7002	44	33	76	6.6
0000838995	B7003	31	35	66	6.9
0000838987	B7004	18	23	42	8.2
0000839035	B7005	43	63	106	5.3
0000839027	B7006	73	46	119	4.8
0000839019	B8001	62	36	99	5.5
0000839050	B8002	46	39	85	6.2
0000839043	B8003	48	38	86	6.1
0000839068	B8004	49	46	94	5.7
0000839076	B8005	66	67	133	4.4
0000839092	BG001	44	23	67	6.9
0000839084	BG002	36	41	77	6.5
0000839100	BG003	32	37	69	6.9
0000839126	BG004	26	33	59	7.4
0000839118	BG005	33	82	115	4.9