

Hyside Projects Subtwo Pty Ltd

5 Powell St & 17-35 Parramatta Rd, Homebush

BASIX Assessment Report

STRATHFIELD COUNCIL RECEIVED

> DA2020/08/01 16 January 2020

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19/12/2019



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Attention	Housein Karnib
Client	Hyside Projects Subtwo Pty Ltd C/O – Omaya Holdings
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Date	19/12/2019
Revision	00
Subject	5 Powell St & 17-35 Parramatta Rd, Homebush – BASIX Assessment Report

1. SITE APPRECIATION

The proposed development is located at 5 Powell St & 17-35 Parramatta Rd, Homebush and consists of:

• 202 new residential units

2. BASIX WATER SECTION

The proposed development will meet the mandatory BASIX water target of 40% as long as the water commitments detailed in Table 1 are installed. For details of the requirements necessary to achieve this target, please refer to the BASIX Certificate No. 1061924M.

Common Areas and Central	Systems
Area of Indigenous or low water	Please refer to Appendix P
<u>species</u>	• Please relet to Appendix B
Rainwater collection	None
Fire Sprinkler	None
Private Dwellings	
	 3-star (Water Rating) showerheads with a flow rate >
	6.0L/min & ≤ 7.5L/min
Fixtures for anartments	4-star (Water Rating) toilets
<u>Fixtures for apartments</u>	 4-star (Water Rating) kitchen taps
	4-star (Water Rating) bathroom taps
	4-star (Water Rating) dishwashers

Table 1: BASIX Water Commitments



3. BASIX THERMAL COMFORT SECTION

The thermal performance of the development has been evaluated using BERS Pro 2nd Generation software. The BERS Pro computer simulation of residential developments forms part of the Nationwide House Energy Rating Scheme, and is used to assess the potential of a residential development to have low heating and cooling energy requirements once operational.

3.1 MODELLING ASSUMPTIONS

The "base-case" building fabric and glazing and associated thermal performance specifications are described in Table 2 below as these assumptions are based on the nominated preferred construction materials indicated by the architect.

Note: <u>Table 2 must be read in conjunction with Table 3</u>. Table 3 outlines additional thermal enhancements / treatments to meet the mandatory thermal load targets to achieve compliance.

Element	Material	Detail
Extornal walls	Tilt concrete lined	Insulation: See Table 3
External walls	The concrete, med	Light colour: Absorptance< 0.475
Internal walls	Plasterboard	
	75mm 44C	Insulation: R1.0 both sides for fire safety
		Common corridors
Party walls	75mm 44C	Insulation: R1.0 both sides for fire safety
Faily walls		Neighbour
	Concrete namel lined	Insulation: None
	concrete panel, inted	Fire stairs & lifts
		Total Window System Properties U-value 6.7 &
		SHGC 0.70 for sliding doors, sliding & fixed
	<u>Type 1</u>	windows
	(Typical Single glazed clear	And
	glass with aluminium	
	<u>trame</u>	Fotal Window System Properties U-value 6.7 &
		windows
Windows		Total Window System Properties U-value 5.6 &
		SHGC 0.41 for sliding doors, sliding & fixed
		windows
	Type 2	
	Performance glazing	And
		Total Window System Properties U-value 5.6 &
		SHGC 0.36 for bifold doors, awning & casement
		windows
	<u>Туре 3</u>	Total Window System Properties U-value 4.3 &

Table 2: Base Case Assumptions on Construction and Fabric



Element	Material	Detail			
	Performance glazing	SHGC 0.53 <u>for sliding doors, sliding & fixed</u>			
		windows			
		And			
		Total Window System Properties U-value 4.3 &			
		SHGC 0.47 for bifold doors, awning & casement			
		<u>windows</u>			
		Total Window System Properties U-value 3.4 &			
		SHGC 0.53 for sliding doors, sliding & fixed			
		windows			
	<u>Type 4</u> <u>Performance glazing</u>	And			
		Total Window System Properties U-value 3.4 &			
		SHGC 0.47 for bifold doors, awning & casement			
		<u>windows</u>			
		Balcony windows: 30 or 45% (i.e. sliding)			
	Window Operability	Bedroom windows: 0% (i.e. fixed)			
		All other non-balcony windows: 0% (i.e. fixed)			
Skylight	None				
Roof	Concrete	Insulation: See Table 3			
		Light colour: Absorptance< 0.475			
Ceilings	Plasterboard	Insulation: See Table 3			
		Insulation: See Table 3			
Floors	Concrete	Tiles: Wet areas only			
		Carpet: Elsewhere			
Common corrid	ors naturally ventilated	No			
Recessed down	lights assessed	No			
Exhaust fans (ki	tchens, bathrooms, laundry)	All assumed to be sealed			

3.2 BERS PRO RESULTS (THERMAL COMFORT)

The simulated heating and cooling loads per dwelling are summarized in Table 3 below. Where the dwellings have failed to meet the thermal load targets additional thermal enhancements / treatments are provided. This is typically in the form of bulk insulation. These additional thermal treatments are required to pass the BASIX Thermal performance requirements. Please refer to BASIX Certificate No. 1061924M & NatHERS Universal Certificate No. 0004489550 for details.

Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
101	 R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 2 windows, South Lounge balcony glazed door to have a minimum 60% ventilation opening, East Bedroom balcony glazed door to have a minimum 60% ventilation opening, East Lounge fixed window to have a minimum 20% ventilation opening 	37.2	23.4	5.4	Pass

Table 3: BERS Pro Thermal Loads



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
102	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 2 windows	22.9	20.1	6.7	Pass
103	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 2 windows	23.5	23.0	6.4	Pass
104	 R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 3 windows, North Lounge balcony glazed door to have a minimum 60% ventilation opening, East Bedroom balcony glazed door to have a minimum 60% ventilation opening, East Lounge fixed window to have a minimum 20% ventilation opening 	28.4	17.7	6.4	Pass
105	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 3 windows, South Lounge balcony glazed door to have a minimum 60% ventilation opening	37.0	23.4	5.4	Pass
106	 R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 3 windows, East Lounge balcony glazed door to have a minimum 60% ventilation opening, South Bedroom glazed door to have a minimum 60% ventilation opening, South Lounge thin window to have a minimum 10% ventilation opening 	34.3	24.5	5.4	Pass
107	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 3 windows, South Lounge balcony glazed door to have a minimum 60% ventilation opening	23.3	22.8	6.4	Pass
108	 R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 4 windows, South Lounge balcony glazed door to have a minimum 60% ventilation opening, West Bedroom balcony glazed door to have a minimum 60% ventilation opening, West Lounge thin window to have a minimum 10% ventilation opening, West Lounge window to have a maximum glazed area 4.4m2 	37.8	24.6	5.3	Pass
109	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 3 windows	19.6	21.3	6.9	Pass
110	R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 2 windows	29.3	20.5	6.2	Pass
111	 R1.5 Bulk Floor Insulation adjacent to elevated areas only, R2.5 Bulk External Wall Insulation, Type 2 windows, North Lounge balcony glazed door to have a minimum 60% ventilation opening, North Bedroom thin windows to have a minimum 10% ventilation opening, North Bedroom 1 window to have a maximum glazed area 4.84m2, North Bedroom 2 window to have a maximum glazed area 4.84m2 	11.6	23.9	7.3	Pass
201	 R2.5 Bulk External Wall Insulation, Type 2 windows, South Lounge balcony glazed door to have a minimum 60% ventilation opening, East Bedroom balcony glazed door to have a minimum 60% ventilation opening, East Lounge fixed window to have a minimum 20% ventilation opening 	30.0	24.8	5.8	Pass
202	R2.5 Bulk External Wall Insulation, Type 2 windows	22.1	19.6	6.8	Pass
203	R2.5 Bulk External Wall Insulation, Type 2 windows	22.7	22.0	6.6	Pass
204	R2.5 Bulk External Wall Insulation, Type 3 windows, North Lounge balcony glazed door to have a minimum 60% ventilation opening, East Bedroom balcony glazed door to have a minimum 60% ventilation opening, East Lounge fixed window to have a minimum 20% ventilation opening	21.4	17.6	7.0	Pass
205	R2.5 Bulk External Wall Insulation, Type 3 windows, South Lounge balcony glazed door to have a minimum 60%	30.0	23.7	5.9	Pass



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
	Lounge balcony glazed door to have a minimum 60%				
206	ventilation opening, South Bedroom glazed door to have a	24.0	23.6	6.3	Pass
	minimum 60% ventilation opening, South Lounge thin				
	window to have a minimum 10% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
207	Lounge balcony glazed door to have a minimum 60%	20.0	22.3	6.8	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, West Bedroom balcony glazed door to				
208	have a minimum 60% ventilation opening, West Lounge	36.2	25.8	5.3	Pass
	thin window to have a minimum 10% ventilation opening,				
	West Lounge window to have a maximum glazed area				
	4.4m2				
209	R2.5 Bulk External Wall Insulation, Type 2 windows	35.2	21.2	5.7	Pass
210	R2.5 Bulk External Wall Insulation, Type 2 windows	25.9	20.1	6.4	Pass
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
211	ventilation opening, North Bedroom thin windows to have				
	a minimum 10% ventilation opening, North Bedroom 1	7.0	25.5	7.4	Pass
	window to have a maximum glazed area 4.84m2, North				
	Bedroom 2 window to have a maximum glazed area				
	4.84m2				
301	R2.5 Bulk External Wall Insulation, Type 2 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	34.7	19.2	5.8	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
302	R2.5 Bulk External Wall Insulation, Type 2 windows	26.2	17.7	6.6	Pass
303	R2.5 Bulk External Wall Insulation, Type 2 windows	27.2	18.8	6.4	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
304	ventilation opening, East Bedroom balcony glazed door to	23.9	13.7	7.1	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
305	R2.5 Bulk External Wall Insulation, Type 3 windows	34.5	20.5	5.8	Pass
306	R2.5 Bulk External Wall Insulation. Type 3 windows	28.0	24.0	5.9	Pass
307	R2.5 Bulk External Wall Insulation. Type 3 windows	23.2	17.4	6.9	Pass
	R2.5 Bulk External Wall Insulation. Type 4 windows. South				
	Lounge balcony glazed door to have a minimum 60%				
308	ventilation opening. West Bedroom balcony glazed door to	34.5	20.4	5.8	Pass
	have a minimum 60% ventilation opening. West Lounge	0 110	2011	0.0	1 400
	thin window to have a minimum 10% ventilation opening				
309	R2.5 Bulk External Wall Insulation. Type 2 windows	39.2	18.9	5.4	Pass
310	R2 5 Bulk External Wall Insulation, Type 2 windows	29.3	18.1	63	Pass
510	R2 5 Bulk External Wall Insulation Type 2 windows North	23.5	10.1	0.5	1 0 3 5
	Lounge halcony glazed door to have a minimum 60%				
311	ventilation opening. North Bedroom thin windows to have	9.0	24.3	7.4	Pass
	a minimum 10% ventilation opening				
	R2 5 Bulk External Wall Insulation Type 2 windows South				
	Lounge balcony glazed door to have a minimum 60%				
401	ventilation opening. East Redroom balcony glazed dear to	32.0	10 7	5.9	Dace
401	have a minimum 60% ventilation opening. East Lounge	33.0	13.2	0.0	rass
	fixed window to have a minimum 20% ventilation opening				
402	R2.5 Bulk External Wall Insulation. Type 2 windows	26.8	175	6.6	Dacc
+02	nz.5 buik external wan insulation, rype z windows	20.0	11.5	0.0	1 0 3 3



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
403	R2.5 Bulk External Wall Insulation, Type 2 windows	27.9	18.8	6.4	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
404	ventilation opening, East Bedroom balcony glazed door to	24.4	13.5	7.1	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
405	R2.5 Bulk External Wall Insulation, Type 3 windows	35.2	19.9	5.8	Pass
406	R2.5 Bulk External Wall Insulation, Type 3 windows	28.8	23.6	5.9	Pass
407	R2.5 Bulk External Wall Insulation, Type 3 windows	21.1	16.9	7.1	Pass
	R2.5 Bulk External Wall Insulation, Type 4 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
408	ventilation opening, West Bedroom balcony glazed door to	34.0	21.9	5.7	Pass
	have a minimum 60% ventilation opening, West Lounge				
	thin window to have a minimum 10% ventilation opening				
409	R2.5 Bulk External Wall Insulation, Type 2 windows	33.8	19.2	5.9	Pass
410	R2.5 Bulk External Wall Insulation, Type 2 windows	29.5	18.1	6.3	Pass
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
411	Lounge balcony glazed door to have a minimum 60%	6.2	23 5	77	Pass
711	ventilation opening, North Bedroom thin windows to have	0.2	23.5	7.7	1 455
-	a minimum 10% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, South				
501	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	34.9	19.3	5.8	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
502	R2.5 Bulk External Wall Insulation, Type 2 windows	27.3	17.2	6.6	Pass
503	R2.5 Bulk External Wall Insulation, Type 2 windows	28.5	18.5	6.4	Pass
504	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	27.6	14.2	6.8	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening	-			
505	R2.5 Bulk External Wall Insulation, Type 3 windows	35.7	19.9	5.7	Pass
506	R2.5 Bulk External Wall Insulation, Type 3 windows	29.3	23.4	5.9	Pass
507	R2.5 Bulk External Wall Insulation, Type 3 windows	23.8	17.1	6.9	Pass
	R2.5 Bulk External Wall Insulation, Type 4 windows, South				
	Lounge balcony glazed door to have a minimum 60%				_
508	ventilation opening, West Bedroom balcony glazed door to	30.5	25.1	5.7	Pass
	have a minimum 60% ventilation opening, West Lounge				
	thin window to have a minimum 10% ventilation opening				
500	R2.5 Bulk External Wall Insulation, Type 2 Windows, North	26.5	25.2	F 2	Dava
509	Lounge balcony glazed door to have a minimum 75%	30.5	25.3	5.3	Pass
540	P2 5 Dull 5 town Wall broudstien. Time 2 windows	20.7	10.2	6.2	Deve
510	R2.5 Bulk External Wall Insulation, Type 2 Windows	29.7	18.2	6.3	Pass
	R2.5 Bulk External Wall Insulation, Type 2 Windows, North				
511	Lounge balcony glazed door to have a minimum 60%	9.1	24.9	7.4	Pass
	2 minimum 10% vontilation opening				
	B2 E Bulk External Wall Insulation Type 2 windows South				
	Lounge balcony glazed door to bayo a minimum 60%				
601	ventilation enoning. East Redreem balcony glazed door to	25.0	10.2	E 0	Pacc
001	have a minimum 60% ventilation opening. East Lounge	55.0	19.5	5.8	Fass
	fixed window to have a minimum 20% ventilation opening				
602	R2.5 Bulk External Wall Insulation. Type 2 windows	27.7	17.4	64	Dace
602	R2.5 Bulk External Wall Insulation, Type 2 windows	27.7	10 1	6.4	Pace
003	R2.5 Bulk External Wall Insulation, Type 2 Windows North	23.1	10.1	0.4	r ass
604	Lounge halcony glazed door to have a minimum 60%	28.0	14.1	6.8	Pass
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Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	ventilation opening, East Bedroom balcony glazed door to				
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
605	R2.5 Bulk External Wall Insulation, Type 3 windows	36.3	19.6	5.7	Pass
606	R2.5 Bulk External Wall Insulation, Type 3 windows	29.8	22.6	5.9	Pass
607	R2.5 Bulk External Wall Insulation, Type 3 windows	23.9	17.2	6.9	Pass
	R2.5 Bulk External Wall Insulation, Type 4 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, West Bedroom balcony glazed door to				
608	have a minimum 60% ventilation opening, West Lounge	26.7	24.6	5.9	Pass
	thin window to have a minimum 10% ventilation opening,				
	South Bedroom thin window to have a minimum 10%				
	ventilation opening, west Lounge window to have a				
	maximum giazed area 5.28m2				
	R2.5 Bulk External Wall Insulation, Type 2 Windows, North				
	Lounge balcony glazed door to have a minimum 75%				
600	baye a minimum 10% ventilation enoning. West Redroom	247	22.0	5.6	Pace
009	1 thin window to have a minimum 10% ventilation	54.7	22.0	5.0	rass
	opening West Bedroom 2 thin window to have a				
	minimum 10% ventilation opening				
610	R2 5 Bulk External Wall Insulation Type 2 windows	28.3	17.7	64	Pass
010	R2 5 Bulk External Wall Insulation Type 2 windows North	20.5	17.7	0.4	1 0 55
	Lounge balcony glazed door to have a minimum 60%				
611	ventilation opening. North Bedroom thin windows to have	9.2	25.3	7.4	Pass
	a minimum 10% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
701	ventilation opening, East Bedroom balcony glazed door to	35.3	19.3	5.8	Pass
	have a minimum 60% ventilation opening, East Lounge				
701	fixed window to have a minimum 20% ventilation opening				
702	R2.5 Bulk External Wall Insulation, Type 2 windows	28.1	17.4	6.4	Pass
703	R2.5 Bulk External Wall Insulation, Type 2 windows	29.5	17.5	6.4	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
704	ventilation opening, East Bedroom balcony glazed door to	28.3	14.2	6.8	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
705	R2.5 Bulk External Wall Insulation, Type 3 windows, R2.5	39.8	19.0	5.4	Pass
	Bulk Ceiling Insulation to exposed areas only				
706	R2.5 Bulk External Wall Insulation, Type 3 windows, R2.5	35.6	23.6	5.4	Pass
	Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation			_	
707	R2.5 Bulk External Wall Insulation, Type 3 windows, R2.5	31.1	15.9	6.4	Pass
	Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation				
	R2.5 Bulk External Wall Insulation, Type 4 windows, South				
	Lounge balcony glazed door to have a minimum 75%				
	have a minimum 75% ventilation opening. West Lounge				
708	thin window to have a minimum 10% ventilation opening	33.2	25.0	5.4	Pass
700	South Bedroom thin window to have a minimum 10%	55.2	25.0	5.4	1 0 3 5
	ventilation opening. West Lounge window to have a				
	maximum glazed area 5.28m2. R2.5 Bulk Ceiling Insulation.				
	R1.3 Anticon Roof Insulation				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
	Lounge balcony glazed door to have a minimum 75%				
709	ventilation opening, North Bedroom 1 thin window to	36.3	22.5	5.4	Pass
	have a minimum 10% ventilation opening, West Bedroom				
	2 thin window to have a minimum 10% ventilation				



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	opening, R2.5 Bulk Ceiling Insulation, R1.3 Anticon Roof				
	Insulation, West Bedroom 1 window to be removed				
710	R2.5 Bulk External Wall Insulation, Type 2 windows, R2.5	20 /	10 E	ΓC	Dace
/10	Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation	50.4	10.5	5.0	Pass
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
711	Lounge balcony glazed door to have a minimum 60%	0.2	25.1	74	Pacc
/11	ventilation opening, North Bedroom thin windows to have	9.5	25.1	7.4	Fass
	a minimum 10% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
801	ventilation opening, East Bedroom balcony glazed door to	19.2	23.5	6.7	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
802	R2.5 Bulk External Wall Insulation, Type 3 windows	13.6	18.1	7.6	Pass
803	R2.5 Bulk External Wall Insulation, Type 3 windows	13.7	19.3	7.4	Pass
	R2.5 Bulk External Wall Insulation, Type 4 windows, North				
804	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	30.7	17.4	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
805	Lounge balcony glazed door to have a minimum 60%	12.8	17.6	77	Pass
	ventilation opening, North Bedroom 1 window to have a	12.0	17.0		1 435
	minimum 10% ventilation opening				
901	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	15.6	19.2	7.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
902	R2.5 Bulk External Wall Insulation, Type 2 windows	29.0	17.0	6.4	Pass
903	R2.5 Bulk External Wall Insulation, Type 2 windows	30.4	17.2	6.3	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				_
904	ventilation opening, East Bedroom balcony glazed door to	31.5	15.7	6.4	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
905	R1.5 Bulk Floor Insulation adjacent to elevated areas only,	33.4	19.4	5.9	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows				
	R2.5 Bulk Floor Insulation adjacent to elevated areas only,				
	R2.0 Internal Wall Insulation adjacent to common corridor				
906	only, Type 4 windows, RU.5 Celling Insulation, South	39.9	16.6	5.7	Pass
	Lounge window to have a maximum glazed area 5.4112,				
	11.2112 P1 5 Pulk Elect Insulation adjacent to elevated areas only				
907	P2 5 Bulk External Wall Insulation Type 2 windows	37.4	24.9	5.3	Pass
	P2.5 Bulk External Wall Insulation, Type 5 windows				
000	Loungo balcony glazod door to bayo a minimum 60%	10.7	24.6	72	Pacc
508	ventilation opening	10.7	24.0	7.5	Fass
	R2 5 Bulk External Wall Insulation Type 3 windows South				
	Lourse halcony slazed door to have a minimum 60%				
1001	ventilation opening East Redroom balcony glazed door to	17 0	17 2	74	Pass
1001	have a minimum 60% ventilation opening. East Lounge	17.0	17.2	· · ·	1 0 3 5
	fixed window to have a minimum 20% ventilation opening				
1002	B2 5 Bulk External Wall Insulation Type 2 windows	31.2	15 5	64	Pass
1003	B2.5 Bulk External Wall Insulation Type 2 windows	32.9	17.7	61	Pass
1004	R2.5 Bulk External Wall Insulation. Type 3 windows. North	33.2	14.0	6.4	Pass



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to				
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1005	R2.5 Bulk External Wall Insulation, Type 3 windows	32.0	18.4	6.1	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				
1006	windows, R0.5 Ceiling Insulation, South Lounge window to	35.1	15.6	6.0	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
1007	Bedroom balcony glazed door to have a minimum 75%	26.4	24.6	5.9	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
1008	Lounge balcony glazed door to have a minimum 60%	11.4	23.6	7.3	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
1101	ventilation opening, East Bedroom balcony glazed door to	17.3	16.9	7.4	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1102	R2.5 Bulk External Wall Insulation, Type 2 windows	31.5	15.4	6.4	Pass
1103	R2.5 Bulk External Wall Insulation, Type 2 windows	33.2	17.4	6.1	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
1104	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, East Bedroom balcony glazed door to	33.5	13.9	6.3	Pass
	have a minimum 60% ventilation opening. East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1105	R2.5 Bulk External Wall Insulation. Type 3 windows	32.3	18.1	6.1	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall			-	
	Insulation adjacent to common corridor only. Type 4				
1106	windows, R0.5 Ceiling Insulation. South Lounge window to	35.4	15.4	6.0	Pass
	have a maximum glazed area 5.4m2. West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation. Type 3 windows. East				
1107	Bedroom balcony glazed door to have a minimum 75%	26.6	24.2	6.0	Pass
	ventilation opening	20.0		0.0	1 000
	R2 5 Bulk External Wall Insulation Type 2 windows North				
1108	Lounge balcony glazed door to have a minimum 60%	11 7	23.3	73	Pass
1100	ventilation opening	11.7	20.0	7.5	1 435
	R2 5 Bulk External Wall Insulation Type 3 windows South				
	Lounge balcony glazed door to have a minimum 60%				
1201	ventilation opening. East Bedroom balcony glazed door to	17.4	16.7	7.4	Pass
1201	have a minimum 60% ventilation opening. East Lourge	27.1	10.7		1 435
	fixed window to have a minimum 20% ventilation opening				
1202	B2 5 Bulk External Wall Insulation Type 2 windows	31.7	15.6	64	Pass
1202	R2 5 Bulk External Wall Insulation, Type 2 windows	33.4	16.9	6.1	Pass
1200	R2 5 Bulk External Wall Insulation Type 2 windows North	55.1	10.5	0.1	1 435
	Lounge halcony glazed door to have a minimum 60%				
1204	ventilation opening. East Bedroom balcony glazed door to	33.6	13.8	63	Pass
1204	have a minimum 60% ventilation opening. East Lounge	55.0	15.8	0.5	F 033
	fixed window to have a minimum 20% ventilation opening				
1205	P2 5 Bulk External Wall Insulation Type 2 windows	22 5	10 /	6.0	Dace
1205	R2.5 Durk External Wall Insulation, Type 3 Windows	32.3	10.4	0.0	Pd55
	K2.5 Bulk External Wall Insulation, K2.0 Internal Wall				
1206	insulation adjacent to common corridor only, Type 4	35.6	15.2	6.0	Pass
	windows, KU.5 Ceiling Insulation, South Lounge Window to				
	nave a maximum glazed area 5.4m2, West Dining glazed			1	



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
1207	Bedroom balcony glazed door to have a minimum 75%	26.8	24.1	6.0	Pass
Unit No. 1207 1208 1301 1302 1303 1304 1305 1306 1307 1308 1401 1402 1404 1405 1406 1407 1408	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
1208	Lounge balcony glazed door to have a minimum 60%	11.8	23.2	7.3	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
1301	ventilation opening, East Bedroom balcony glazed door to	17.6	16.6	7.4	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1302	R2.5 Bulk External Wall Insulation, Type 2 windows	32.1	15.3	6.3	Pass
1303	R2.5 Bulk External Wall Insulation, Type 2 windows	33.8	16.6	6.1	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
1304 1305 1306 1307 1308	ventilation opening, East Bedroom balcony glazed door to	33.9	13.8	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1305	R2.5 Bulk External Wall Insulation, Type 3 windows	32.8	18.1	6.0	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
1306	Insulation adjacent to common corridor only, Type 4				
	windows, R0.5 Ceiling Insulation, South Lounge window to	35.8	15.1	6.0	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
1307	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
	Bedroom balcony glazed door to have a minimum 75%	27.0	23.8	6.0	Pass
	ventilation opening				
1200	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
1308	Lounge balcony glazed door to have a minimum 60%	12.0	23.5	7.3	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
1401	ventilation opening, East Bedroom balcony glazed door to	17.7	16.5	7.4	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1402	R2.5 Bulk External Wall Insulation, Type 2 windows	32.3	15.3	6.3	Pass
1403	R2.5 Bulk External Wall Insulation, Type 2 windows	34.0	16.7	6.1	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
1404	ventilation opening, East Bedroom balcony glazed door to	34.1	13.8	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1405	R2.5 Bulk External Wall Insulation, Type 3 windows	33.0	18.0	6.0	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				_
1406	windows, R0.5 Ceiling Insulation, South Lounge window to	35.9	15.1	5.9	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
4.407	R2.5 Bulk External Wall Insulation, Type 3 windows, East	27.4	22.4	6.4	
1407	Bedroom balcony glazed door to have a minimum 75%	27.1	23.4	6.1	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North	1.8 -	o		
1408	Lounge balcony glazed door to have a minimum 60%	12.2	23.1	7.3	Pass
	ventilation opening				
1501	R2.5 Bulk External Wall Insulation, Type 3 windows, South	17.8	16.6	7.4	Pass
	Lounge balcony glazed door to have a minimum 60%	-			



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	ventilation opening, East Bedroom balcony glazed door to				
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1502	R2.5 Bulk External Wall Insulation, Type 2 windows	32.5	15.1	6.3	Pass
1503	R2.5 Bulk External Wall Insulation, Type 2 windows	34.2	16.7	6.0	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
1504	ventilation opening, East Bedroom balcony glazed door to	34.2	13.9	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1505	R2.5 Bulk External Wall Insulation, Type 3 windows	33.1	18.0	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				
1506	windows, R0.5 Ceiling Insulation, South Lounge window to	36.1	15.0	5.9	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
1507	Bedroom balcony glazed door to have a minimum 75%	27.3	23.3	6.1	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
1508	Lounge balcony glazed door to have a minimum 60%	12.3	23.1	7.3	Pass
	ventilation opening	_	-		
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
1601	ventilation opening. East Bedroom balcony glazed door to	17.9	16.6	7.4	Pass
	have a minimum 60% ventilation opening. East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1602	R2.5 Bulk External Wall Insulation. Type 2 windows	32.7	15.0	6.3	Pass
1603	R2.5 Bulk External Wall Insulation, Type 2 windows	34.3	16.6	6.0	Pass
1000	R2 5 Bulk External Wall Insulation Type 3 windows North	0.110	2010	0.0	1 400
	Lounge balcony glazed door to have a minimum 60%				
1604	ventilation opening. Fast Bedroom balcony glazed door to	34.3	13.9	6.3	Pass
1001	have a minimum 60% ventilation opening. East Lourge				
	fixed window to have a minimum 20% ventilation opening				
1605	R2 5 Bulk External Wall Insulation Type 3 windows	33.3	17 9	59	Pass
1005	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall	55.5	17.5	5.5	1 0 3 5
	Insulation adjacent to common corridor only. Type 4				
1606	windows R0.5 Ceiling Insulation South Lounge window to	36.2	15.0	5.9	Pass
1000	have a maximum glazed area 5 4m2 West Dining glazed	50.2			
	door to have a maximum glazed area 11 2m2				
	R2 5 Bulk External Wall Insulation Type 3 windows East				
1607	Bedroom balcony glazed door to have a minimum 75%	27.2	22.8	61	Pass
1007	ventilation opening	27.5 22.0		0.1	Fass
	R2 5 Bulk External Wall Insulation Type 2 windows North				
1609	Loungo balcony glazod door to have a minimum 60%	12 5	22.2	72	Pacc
1008	ventilation opening	12.5	23.5	7.5	F 833
	P2 5 Bulk External Wall Insulation Type 2 windows South				
	Loungo balcony glazed door to have a minimum 60%				
1701	ventilation opening. East Redreem balcony glazed door to	10 1	16.5	7.4	Pacc
	have a minimum 60% ventilation enoning. East Lounge	10.1			Pass
	fixed window to have a minimum 20% ventilation enoning				
1700	Inced window to have a minimum 20% ventilation opening	22.0	15.2	6.2	Dava
1702	R2.5 Bulk External Wall Insulation, Type 2 Windows	32.8	10.2	0.3 F 0	Pass
1703	R2.5 Bulk External Wall Insulation, Type 2 Windows	34.5	10.5	5.9	Pass
	K2.5 Bulk External Wall Insulation, Type 3 windows, North				
1704	Lourige balcony glazed door to have a minimum 60%	34.5	13.9	6.3	Pass
	ventilation opening, East Bedroom balcony glazed door to				
L	nave a minimum 60% ventilation opening, East Lounge	l			



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	fixed window to have a minimum 20% ventilation opening				
1705	R2.5 Bulk External Wall Insulation, Type 3 windows	33.4	17.6	6.0	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				
1706	windows, R0.5 Ceiling Insulation, South Lounge window to	36.3	14.9	5.9	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
1707	Bedroom balcony glazed door to have a minimum 75%	27.4	22.6	6.1	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
1708	Lounge balcony glazed door to have a minimum 60%	12.5	23.0	7.3	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%				
1801	ventilation opening, East Bedroom balcony glazed door to	18.2	16.4	7.4	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1802	R2.5 Bulk External Wall Insulation, Type 2 windows	33.0	15.0	6.3	Pass
1803	R2.5 Bulk External Wall Insulation, Type 2 windows	34.7	16.8	5.9	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
1804	ventilation opening, East Bedroom balcony glazed door to	34.6	13.9	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
1805	R2.5 Bulk External Wall Insulation, Type 3 windows	33.6	17.8	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				-
1806	windows, R0.5 Ceiling Insulation, South Lounge window to	36.4	14.4	6.0	Pass
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
1007	R2.5 Bulk External Wall Insulation, Type 3 Windows, East	27.0	22.5	C 1	Dese
1807	Bedroom balcony glazed door to have a minimum 75%	27.6	22.5	6.1	Pass
	Ventriation opening				
1000	R2.5 Bulk External Wall Insulation, Type 2 Windows, North	10.7	22.7	7.2	Dass
1908	Lounge balcony glazed door to have a minimum 60%	12.7	22.7	7.5	Pass
	P2 F Bulk External Wall Insulation Type 2 windows South				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
1901	ventilation opening. East Bedroom halcony glazed door to	18.3	16.4	74	Pass
1501	have a minimum 60% ventilation opening. East Lounge	10.5	10.4	7.4	1 0 3 3
	fixed window to have a minimum 20% ventilation opening				
1902	R2 5 Bulk External Wall Insulation Type 2 windows	33.1	14.8	63	Pass
1902	R2.5 Bulk External Wall Insulation, Type 2 windows	34.9	16.9	5.9	Pass
1505	R2 5 Bulk External Wall Insulation Type 2 windows North	54.5	10.5	5.5	1 435
	Lounge balcony glazed door to have a minimum 60%				
1904	ventilation opening. Fast Bedroom halcony glazed door to	34.7	13.8	63	Pass
1504	have a minimum 60% ventilation opening. East Lourge	54.7	15.0	0.5	1 0 5 5
	fixed window to have a minimum 20% ventilation opening				
1905	R2.5 Bulk External Wall Insulation. Type 3 windows	33.7	17.5	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall		17.5	5.5	
	Insulation adjacent to common corridor only. Type 4				
1906	windows, R0.5 Ceiling Insulation. South Lounge window to	36.5	13.9	6.1	Pass
	have a maximum glazed area 5.4m ² . West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East			_	
1907	Bedroom balcony glazed door to have a minimum 75%	27.7	22.6	6.1	Pass



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	ventilation opening				
1908	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
	Lounge balcony glazed door to have a minimum 60%	12.8	22.7	7.3	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, South				
	Lounge balcony glazed door to have a minimum 60%	22.2			
2001	ventilation opening, East Bedroom balcony glazed door to		171	69	Pass
2001	have a minimum 60% ventilation opening, East Lounge	ninimum 60% ventilation opening, East Lounge		0.5	1 4 5 5
	fixed window to have a minimum 20% ventilation opening,				
	R2.5 Bulk Ceiling Insulation to exposed areas only				
2002	R2.5 Bulk External Wall Insulation, Type 2 windows, R2.5	36.8	15.0	5.9	Pass
	Bulk Ceiling Insulation to exposed areas only	0010		0.0	
2003	R2.5 Bulk External Wall Insulation, Type 2 windows, R2.5	38.2	16.3	5.8	Pass
	Bulk Ceiling Insulation to exposed areas only	0012	2010	0.0	
	R2.5 Bulk External Wall Insulation, Type 3 windows, North				
	Lounge balcony glazed door to have a minimum 60%				
2004	ventilation opening, East Bedroom balcony glazed door to	34.8	13.7	6.3	Pass
	have a minimum 60% ventilation opening, East Lounge				
	fixed window to have a minimum 20% ventilation opening				
2005	R2.5 Bulk External Wall Insulation, Type 3 windows	33.9	17.4	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				Pass
2006	windows, R0.5 Ceiling Insulation, South Lounge window to	36.6	14.3	6.0	
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
_	R2.5 Bulk External Wall Insulation, Type 3 windows, East		aa -		_
2007	Bedroom balcony glazed door to have a minimum 75%	27.8	22.5	6.1	Pass
	ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 2 windows, North				
2008	Lounge balcony glazed door to have a minimum 60%	15.6	23.3	7.0	Pass
	ventilation opening, R2.5 Bulk Celling Insulation to				
	exposed areas only				
2101	R2.5 Bulk External Wall Insulation, Type 3 windows, East	16 5	17.0	74	Dass
2101	Lounge fixed window to have a minimum 20% ventilation	16.5	17.9	7.4	Pass
2102	Opening D2 5 Dully External Wall Insulation. Turce 2 windows	15.0	17 5	7.4	Dava
2102	R2.5 Bulk External Wall Insulation, Type 3 windows	15.8	17.5	7.4	Pass
2103	R2.5 Bulk External Wall Insulation, Type 3 windows	20.6	12.5	7.4	Pass
2104	R2.5 Bulk External Wall Insulation, Type 3 windows	34.0	17.6	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
2105	insulation adjacent to common corridor only, Type 4	267	14.2 6	6.0	Pace
2105	have a maximum glazed area E 4m2. West Dining glazed	50.7	14.2	0.0	Pass
	door to have a maximum glazed area 11 2m2				
	P2 5 Bulk External Wall Insulation Type 2 windows East				
	Loungo balcony glazod door to bayo a minimum 60%				
	ventilation opening. North Bedroom 1 halcony glazed door				
2106	to have a minimum 60% ventilation opening. North	22.8	24.6	64	Pass
	Bedroom 2 balcony glazed door to have a minimum 60%	22.0	24.0	0.4	1 455
	ventilation opening. West Bedroom 3 window to have a				
	minimum 10% ventilation opening				
	R2 5 Bulk External Wall Insulation Type 3 windows East				
2201	Lounge fixed window to have a minimum 20% ventilation	11.6	177	78	Pass
2201	onening	11.0	1/./	7.8	1 0 3 5
2202	R2 5 Bulk External Wall Insulation Type 3 windows	10 1	17.8	79	Pace
2202	R2 5 Bulk External Wall Insulation, Type 3 windows	18 /	17.5	7.5	Pace
2203	R2.5 Bulk External Wall Insulation, Type 3 windows	24 1	17.5	5.0	Pace
2204	R2.5 Bulk External Wall Insulation, Pype 5 windows	36.8	1/1 1	6.0	Dacc
2205	NZ.J Duik External Wall Insulation, NZ.U Internal Wall	50.0	14.1	0.0	1 0 3 3



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m²·yr)	Stars	Pass/Fail
	Insulation adjacent to common corridor only, Type 4				
	windows, R0.5 Ceiling Insulation, South Lounge window to				
	have a maximum glazed area 5.4m2, West Dining glazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
	Lounge balcony glazed door to have a minimum 60%				
	ventilation opening, North Bedroom 1 balcony glazed door				
2206	to have a minimum 60% ventilation opening, North	19.4	24.4	6.7	Pass
	Bedroom 2 balcony glazed door to have a minimum 60%				
	ventilation opening, West Bedroom 3 window to have a				
	minimum 10% ventilation opening				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
2301	Lounge fixed window to have a minimum 20% ventilation	11.7	17.7	7.8	Pass
	opening				
2302	R2.5 Bulk External Wall Insulation, Type 3 windows	10.2	17.5	7.9	Pass
2303	R2.5 Bulk External Wall Insulation, Type 3 windows	18.5	12.4	7.6	Pass
2304	R2.5 Bulk External Wall Insulation, Type 3 windows	34.3	17.5	5.9	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				Pass
2305	windows, RU.5 Ceiling Insulation, South Lounge window to	36.9	14.0	6.0	
	nave a maximum giazed area 5.4m2, West Dining giazed				
	door to have a maximum glazed area 11.2m2				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
	Lounge balcony glazed door to have a minimum 60%				
2206	to have a minimum 60% ventilation enoning. North	10 5	247	66	Pace
2300	Bedroom 2 balcony glazed door to have a minimum 60%	19.5	24.7	0.0	Fass
	ventilation opening. West Bedroom 3 window to have a				
	minimum 10% ventilation opening				
	R2 5 Bulk External Wall Insulation Type 3 windows East				
	Lounge fixed window to have a minimum 20% ventilation				
2401	opening, R4.0 Bulk Ceiling Insulation, R2.3 Anticon Roof	17.3	19.9	7.2	Pass
	Insulation				
	R2.5 Bulk External Wall Insulation. Type 3 windows. R4.0		_		
2402	Bulk Ceiling Insulation. R2.3 Anticon Roof Insulation	15.1	16.4	7.6	Pass
	R2.5 Bulk External Wall Insulation, Type 3 windows, R4.0		11.9	7.2	Pass
2403	Bulk Ceiling Insulation, R2.3 Anticon Roof Insulation	24.5			
	R2.5 Bulk External Wall Insulation, Type 3 windows, R4.0				
2404	Bulk Ceiling Insulation, R2.3 Anticon Roof Insulation	38.6	18.3	5.6	Pass
	R2.5 Bulk External Wall Insulation, R2.0 Internal Wall				
	Insulation adjacent to common corridor only, Type 4				
	windows, South Ground Lounge window to have a				
	maximum glazed area 5.4m2, West Ground Dining glazed				
2405	door to have a maximum glazed area 11.2m2, West First	20.4	20.8	5.4	Pace
2405	floor Lounge glazed door to have a maximum glazed area	59.4	20.8	5.4	Fass
	11.2m2, South First floor Lounge glazed door to have a				
	maximum glazed area 14m2, R4.0 Bulk Ceiling Insulation				
	to all exposed areas, R2.3 Anticon Roof Insulation to all				
	exposed areas, Wall colour to be medium				
	R2.5 Bulk External Wall Insulation, Type 3 windows, East				
2406	Ground Lounge balcony glazed door to have a minimum				
	60% ventilation opening, North Ground Lounge window to				
	nave a minimum 10% ventilation opening, West Ground	25.0	26.0		F
	Bearoom 2 balcony glazed door to have a minimum 60%	35.0	26.0	5.4	Pass
	ventilation opening, North Ground Bedroom 3 balcony				
	grazed door to have a minimum 60% Ventilation opening,				
	west Ground Study window to have a minimum 10%				
	ventilation opening, west First floor Lounge glazed door to				



Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m ^{2.} yr)	Stars	Pass/Fail
	have a minimum 75% ventilation opening, North First floor Lounge glazed door to have a minimum 60% ventilation opening, North Bedroom 1 glazed door to have a minimum 60% ventilation opening, West First floor Lounge glazed door to have a maximum glazed area 14m2, R4.0 Bulk Ceiling Insulation to all exposed areas, R2.3 Anticon Roof Insulation to all exposed areas				

4. BASIX ENERGY SECTION

The proposed development will meet the mandatory BASIX Energy target of 25% as long as the energy commitments detailed in Table 4 are installed.

	Component	Commitment
Common Areas and Central Systems	Hot Water System	 Centralised Gas-fired boiler with internal piping insulation of R0.6 (~25mm)
	<u>Lifts</u>	 All lifts to use Gearless traction with VVVF motor servicing all levels
	<u>Ventilation</u>	 Community room: Air conditioning system connected to time clock or BMS Switch Room: Ventilation (supply only), continuous Garbage Rooms: Ventilation (exhaust only), continuous Plant/Service Rooms: Ventilation (supply only), thermostatically controlled Hallways & lobbies: Ventilation (supply + exhaust only) connected to time clock or BMS
	<u>Lighting</u>	 Lift Cars: LED lighting connected to lift call button Community room: LED lighting with manual on/off switch Switch Room: LED lighting with manual on/off switch Lift motor rooms: Fluorescent lighting with manual on/off switch Garbage Rooms: LED lighting with motion sensors Plant/Service Room: LED lighting with manual on/off switch Hallways & lobbies: LED lighting with motion sensors + time clock
st	Hot Water System	See Central Systems
Private Dwelling	Ventilation	 Kitchen, Bathroom & Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch
	Heating & Cooling	 Heating: Living & Beds to have individual 2.5 star (old label), 1-phase air-conditioning Cooling: Living & Beds to have individual 2.5 star (old label), 1-phase air-conditioning

Table 4: BASIX Energy Commitments



Component		Commitment
	<u>Lighting</u>	 At least 80% of light fittings (including the main light fitting) in all hallways, laundries, bathrooms, kitchens, bedrooms and living areas to use Fluorescent or LED lights with dedicated fittings¹
	<u>Other</u>	 Gas cook top and electric oven Install a 3.5-star (Energy Rating) dishwashers Install a 2-star (Energy Rating) dryers

5. CONCLUSION

The proposed development has been assessed to optimise its thermal performance (passive and fabric design) using the Nationwide House Energy Rating scheme (NatHERS) and also been assessed in terms of its ability to conserve water and minimise energy consumption through BASIX Tool.

With the commitment recommendations contained within this report the proposed development is able to meet BASIX requirements and is BASIX compliant.

For further details, please refer to the BASIX Certificate No. 1061924M provided.

¹ Definition of dedicated fittings is a light fitting that is only capable of accepting fluorescent or LED (Light Emitting Diode) lamps. It will not accept incandescent, halogen or any other non-fluorescent or non-LED lamps.



APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by SJB Architects received on 17th December 2019.

Sheet No	Sheet Name	Rev
0001	Cover	3
0101	Site Location	4
0102	Site Plan and Analysis	5
0103	Survey Plan	3
0201	Basement 4	6
0202	Basement 3	6
0203	Basement 2	6
0204	Basement 1	6
0205	Ground	8
0206	Level 1 - Level 4	8
0207	Level 5 - Level 7	4
0208	Level 8	9
0209	Level 9 - Level 20	8
0210	Level 21 - Level 23	8
0211	Level 24	2
0212	Roof	6
0501	Elevation - South (Parramatta Road)	6
0502	Elevation - East (Ismay Reserve)	6
0503	Elevation - North	6
0504	Elevation - West	6
0601	Section A	7
0602	Section B	6
0710	Facade Detail 1	1
0711	Facade Detail 2	1
0712	Facade Detail 3	1
1401	Apartment Types - Adaptable and Accessible Apartments	4
2901	Area Calculations - GFA	4
3101	Shadow Diagrams	4
3201	Analysis - Solar and Cross Ventilation	5
3301	3D Views	3
3401	External Material and Finishes	2
4001	Visualisation - View from Parramatta Road	3
4002	Visualisation - View from Ismay Reserve	3



APPENDIX B – Landscaping Areas

For BASIX, Garden Bed Area now is 400sqm, 0sqm for Turf and 0% Low Water Use Native Plants.