

TQMDC

47-49 Percy St, Bankstown

BASIX Assessment Report

ESD Synergy Pty Ltd
Contact No: +61 497 979 868
+61 413 591 688
Email: info@esdsynergy.com
Web: www.esdsynergy.com

Attention	Nathan Tyerman
Client	TQMDC C/O - DWA
Author	Adriana Segovia
Reviewer	Henky Mantophani
Date	01/06/2026
Revision	01 – S4.55 to 2017 DA
Subject	47-49 Percy St, Bankstown – BASIX Assessment Report

1. SITE APPRECIATION

The proposed development is located at 47-49 Percy St, Bankstown and consists of:

- Basement carparking
- 60 apartments

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. 734318M_05.

Table 1: BASIX Water Commitments

Common Areas and Central Systems	
<u>Area of Indigenous or low water species</u>	Please refer to Appendix B
<u>Rainwater collection</u>	- Minimum 5,000L rainwater tank - Roof collection area – minimum 100 m² - Rainwater collected to be used for common area landscape irrigation only
<u>Common Areas Facility</u>	None
<u>Fire Sprinkler</u>	Must be contained in a closed system (means a system where water used to test the fire sprinkler system is stored for reuse during the next test)
<u>Common Area Pool & Spa</u>	No Pool & Spa
Private Dwellings	
<u>Fixtures for apartments</u>	3-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min 4-star (Water Rating) toilets 5-star (Water Rating) kitchen taps 5-star (Water Rating) bathroom taps 4-star (Water Rating) dishwashers

3. BASIX THERMAL PERFORMANCE 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: Table 2 must be read in conjunction with Table 3. Table 3 outlines additional thermal enhancements / treatments to meet the mandatory thermal load targets to achieve compliance.

Table 2: Base Case Assumptions on Construction and Fabric

Element	Material	Detail
External walls	Tilt up concrete, lined	Insulation: See Table 3
		Dark colour: Absorptance > 0.70
		Studs: Metal
Internal walls	Plasterboard	Studs: Metal
Party walls	Concrete, lined	Insulation: None
	Concrete, lined	Common corridors
		Insulation: None
	Concrete	Neighbour
Windows	Type 1	Insulation: None
		Fire stairs & lifts
		Total Window System Properties U-value 6.7 & SHGC 0.70 for sliding doors, sliding & fixed windows
		And
		Total Window System Properties U-value 6.7 & SHGC 0.57 for bifold doors, awning & casement windows
		Note: Only a ±10% SHGC tolerance to the value stated above & U-value can be NO greater than or equal to the value stated above¹
	Window Operability	Balcony windows: As per plans & elevations Bedroom windows: 10% (BCA D3D29) as per plans & elevations All other non-balcony windows: As per plans & elevations
	Vertical shading device	Balcony windows: As per plans & elevations Non-balcony windows: As per plans & elevations
	Horizontal shading device	Eaves: As per plans & elevations
Skylight	Type 1	U-value 4.2 & SHGC 0.72
Roof	Concrete	Insulation: See Table 3
		Light colour: Absorptance < 0.475
		Rafters & Purlins: N/A
Ceilings	Plasterboard	Insulation: See Table 3
		Cavity: Unventilated Cavity
		Joists: Metal
Floors	Concrete	Insulation: See Table 3

¹ As per NSW Guidelines v1.0 May 2015 Section 7.4

Element	Material	Detail
		Tiles: Wet areas only
		Carpet: Bedrooms only
		Timber: Elsewhere
		Joists: N/A
Common corridors naturally ventilated		No
Recessed downlights assessed		No lighting plan provided. Project will be updated once lighting plan is available.
Exhaust fans (kitchens, bathrooms, laundry)		All assumed to be sealed

3.2 BERS PRO RESULTS (THERMAL PERFORMANCE)

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. 734318M_05 & NatHERS Certificate No. 0012980490 for details.

Table 3: BERS Pro Thermal Loads

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
G01	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	17.7	29.6	5.3	PASS
G02	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	13.1	47.0	4.2	PASS
G03	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	37.8	57.2	2.5	PASS
G04	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	44.7	11.7	4.6	PASS
G05	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	7.7	26.6	6.4	PASS
G06	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	8.5	13.0	7.9	PASS
G07	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	34.8	12.3	5.3	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
G08	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	36.6	25.3	4.1	PASS
G09	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	32.7	17.0	5.1	PASS
G10	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	48.6	34.7	2.9	PASS
G11	- R1.0 Floor Insulation adjacent to carpark (total floor system R-value Rt1.11) - R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	21.4	17.8	5.9	PASS
101	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	5.9	21.1	7.3	PASS
102	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	4.2	14.6	8.2	PASS
103	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	16.3	9.8	7.4	PASS
104	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	17.5	10.8	7.2	PASS
105	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	2.3	27.7	6.9	PASS
106	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	15.3	41.4	4.5	PASS
107	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	24.8	32.2	4.5	PASS
108	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	33.5	24.2	4.4	PASS
109	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	24.4	39.2	3.9	PASS
110	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	43.1	26.9	3.5	PASS
111	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	8.8	36.4	5.4	PASS
201	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	5.4	20.4	7.4	PASS
202	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	4.0	14.8	8.2	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
	R-value Rt2.13) - Type 1 windows				
203	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	15.8	9.9	7.4	PASS
204	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	15.6	10.5	7.4	PASS
205	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	1.4	27.7	7.1	PASS
206	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	16.0	40.2	4.6	PASS
207	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	7.9	32.6	5.8	PASS
208	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	24.2	23.9	5.2	PASS
209	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	23.2	38.5	4.1	PASS
210	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	29.1	27.4	4.5	PASS
211	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	9.6	35.1	5.4	PASS
301	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	12.1	14.2	7.4	PASS
302	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	6.0	11.7	8.3	PASS
303	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	20.1	8.5	7.1	PASS
304	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	14.0	8.4	7.8	PASS
305	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	2.8	23.6	7.4	PASS
306	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	20.4	29.9	5.1	PASS
307	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	20.5	26.2	5.3	PASS
308	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	52.5	21.4	3.3	PASS
309	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	30.8	28.7	4.3	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
310	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R1.0 Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt1.16) - Type 1 windows	42.7	24.5	3.7	PASS
311	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	19.6	22.9	5.6	PASS
401	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	10.3	29.2	5.9	PASS
402	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13)- Type 1 windows	6.0	13.3	8.2	PASS
403	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	4.9	15.9	8.0	PASS
404	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	18.4	17.5	6.3	PASS
405	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	32.8	17.6	5.0	PASS
406	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	32.5	9.8	5.6	PASS
407	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	34.1	11.8	5.4	PASS
408	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - Type 1 windows	35.5	28.0	3.9	PASS
501	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows	20.4	31.2	4.9	PASS
502	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows - Type 1 skylight	17.4	11.5	7.1	PASS
503	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows - Type 1 skylight	14.7	12.9	7.2	PASS
504	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows	29.8	18.1	5.2	PASS
505	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66)	36.0	19.9	4.6	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m².yr)	Stars	Pass/Fail
	- Type 1 windows				
506	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows - Type 1 skylight	39.3	15.2	4.7	PASS
507	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows - Type 1 skylight	39.2	20.0	4.3	PASS
508	- R2.0 External Wall Insulation (total external wall system R-value Rt2.13) - R2.5 Ceiling Insulation (total ceiling/roof system R-value of Rt2.66) - Type 1 windows	50.5	30.7	2.9	PASS

4. BASIX ENERGY SECTION

The proposed development will meet the mandatory BASIX Energy target of 20% as long as the energy commitments detailed in Table 4 are installed.

Table 4: BASIX Energy Commitments

<i>Component</i>		<i>Commitment</i>
Common Areas and Central Systems	<u>Hot Water System</u>	No Central HWS
	<u>Lifts</u>	All lifts to use Geared traction with VVAC motor servicing all levels
	<u>Alternative Energy Supply</u>	Not Required
	<u>Ventilation</u>	- Car park: Ventilation (supply + exhaust) with a CO monoxide monitor & VSD fan - Plant Rooms: Ventilation (exhaust only), continuous - Garbage Rooms: No Mechanical Ventilation - Hallways & lobbies: Ventilation (supply + exhaust), continuous
	<u>Lighting</u>	- Car park: LED lighting with time clocks and motion sensors - Lift Cars: LED lighting, connected to lift call button - Plant Room: Fluorescent lighting with manual on/off switch - Garbage Room: Fluorescent lighting with motion sensors - All Hallways & lobbies: LED lighting with motion sensors + time clock
Private Dwellings	<u>Hot Water System</u>	Individual Gas Instantaneous 5 Stars HWS for each apartment
	<u>Ventilation</u>	- Kitchen Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch - Bathroom Exhaust: Individual fan, ducted to roof or façade, interlocked to light switch - Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/timer off
	<u>Heating & Cooling</u>	- Heating: Living & Beds to have individual 1-phase air-conditioning with EER 3.5-4.0 - Cooling: Living & Beds to have individual 1-phase air-conditioning with EER 3.0-3.5
	<u>Lighting</u>	At least 80% of light fittings (including the main light fittings) in all bedrooms, hallways, laundries, bathrooms & kitchens must use Fluorescent/LED lights with dedicated fittings²
	<u>Appliances</u>	- Gas cook top and electric oven in all units - Install a 3.5-star (energy rating) dishwashers in all units - Install a 1.5-star (energy rating) dryers in all units

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.

² 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.

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. 734318M_05 provided.

APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by DWA received on 5th May 2026.

DRAWING LIST		
SHEET NO.	SHEET NAME	REV.
000	COVERSHEET	P
001	DCP + LEP ANALYSIS	P
002	REGIONAL CONTEXT ANALYSIS	P
003	LOCAL CONTEXT ANALYSIS	P
004	DETAILED CONTEXT ANALYSIS	P
005	SITE PLAN	P
006	SITE SURVEY	P
010	APPROVED + PROPOSED FLOOR PLAN - BASEMENT LEVEL 2	P
011	APPROVED + PROPOSED FLOOR PLAN - BASEMENT LEVEL 1	P
012	APPROVED + PROPOSED FLOOR PLAN - GROUND LEVEL	P
013	APPROVED + PROPOSED FLOOR PLAN - LEVEL 1 - 3	P
014	APPROVED + PROPOSED FLOOR PLAN - LEVEL 4 - 5	P
015	APPROVED + PROPOSED FLOOR PLAN - ROOF LEVEL	P
016	PROPOSED - GFA PLANS	P
017	PROPOSED - KEY PLANS	P
018	PROPOSED - CROSS VENTILATION ANALYSIS	P
019	PROPOSED - AFFORDABLE HOUSING KEY PLANS	P
020	APPROVED + PROPOSED ELEVATION - NORTH	P
021	APPROVED + PROPOSED ELEVATION - SOUTH	P
022	APPROVED + PROPOSED ELEVATION - EAST	P
023	APPROVED + PROPOSED ELEVATION - WEST	P
030	APPROVED + PROPOSED - SECTION A-A	P
031	APPROVED + PROPOSED - SECTION B-B	P
040	PROPOSED - 3D VIEWS	P
050	APPROVED + PROPOSED - SHADOWS	P
051	APPROVED + PROPOSED - SHADOWS	P
052	APPROVED + PROPOSED - SHADOWS	P
053	APPROVED + PROPOSED - SHADOWS	P
060	PROPOSED - VIEW FROM THE SUN	P
061	PROPOSED - VIEW FROM THE SUN	P
062	PROPOSED - SOLAR COMPLIANCE ANALYSIS	P
063	PROPOSED - SOLAR ANALYSIS	P
080	PROPOSED - LANDSCAPE CALCULATIONS	P

APPENDIX B – LANDSCAPING AREAS

	Common area of garden (m2) (Excluding lawn)	Common area of lawn (m2)	Common area of indigenous species (m2)
	276.71 m2	21.63 m2	>50%
	Total area of private garden (m2) (Excluding lawn)	Total area of private lawn (m2)	
	46.92 m2	0	>50%

Unit No.	Total area of private garden (m2)	Total area of private lawn (m2)	Total area of indigenous species (m2)
G1	4.41	0	
G2	1.80	0	
G3	7.16	0	
G4	4.75	0	
G5	0	0	
G6	5.18	0	
G7	6.66	0	
G8	0	0	
G9	0	0	
G10	16.96	0	
G11	0	0	