

Republic of Gladys

12-14 Gladys Ave, Frenchs Forest

NatHERS Assessment Report

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1. SITE APPRECIATION

The proposed development is located at 12-14 Gladys Ave, Frenchs Forest and consists of:

- 32 new residential units

2. 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.

2.1 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 1 must be read in conjunction with Table 2. Table 2 outlines additional thermal enhancements / treatments to meet the mandatory thermal load targets to achieve compliance.

Table 1: Base Case Assumptions on Construction and Fabric

<i>Element</i>	<i>Material</i>	<i>Detail</i>
External walls	Brick Veneer	Insulation: See Table 3
		Light colour: Absorptance< 0.475
		Studs: Metal
	Metal cladding	Insulation: See Table 3 Dark colour: Absorptance> 0.70 Studs: Metal
Internal walls	Plasterboard	Studs: Metal
Party walls	Cavity Brick	Insulation: None
		Neighbours, Lifts & Common corridors
Windows	<u>Type 1</u>	Total Window System Properties U-value 5.4 & SHGC 0.58 for sliding doors, sliding & fixed windows
		And Total Window System Properties U-value 5.8 & SHGC 0.49 for bifold doors, awning & casement windows

Element	Material	Detail
	<u>Type 2</u>	Total Window System Properties U-value 3.6 & SHGC 0.54 for sliding doors, sliding & fixed windows And Total Window System Properties U-value 3.6 & SHGC 0.47 for bifold doors, awning & casement windows
	<u>Type 3</u>	Total Window System Properties U-value 3.1 & SHGC 0.49 for sliding doors, sliding & fixed windows And Total Window System Properties U-value 3.1 & SHGC 0.39 for bifold doors, awning & casement windows
	<u>Type 4</u>	Total Window System Properties U-value 2.9 & SHGC 0.51 for sliding doors, sliding & fixed windows And Total Window System Properties U-value 2.9 & SHGC 0.44 for bifold doors, awning & casement windows
	<u>Note: Only a ±5% SHGC tolerance to the value stated above & U-value can be NO greater than or equal to the value stated above¹</u>	
	Window Operability	As per plans & elevations Bedroom windows: 10% (BCA HSP2) as per plans & elevations
	Vertical shading device	Balcony windows: As per plans & elevations Non-balcony windows: As per plans & elevations
	Horizontal shading device	Awning: As per plans & elevations Eaves: As per plans & elevations
Skylight	<u>Clerestory windows</u>	
Roof	Metal cladding	Insulation: See Table 3
		Medium colour: 0.475<absorptance< 0.70
		Rafters & Purlins: Metal
	Concrete	Insulation: See Table 3
		Light colour: Absorptance< 0.475
Rafters & Purlins: None		
Ceilings	Plasterboard	Insulation: See Table 3
		Cavity: Unventilated Cavity, Raked Ceiling
		Joists: Metal
Floors	Concrete	Insulation: See Table 3
		Carpet: Bedrooms
		Tiles: Lounge areas & Wet areas only
		Joists: None
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

2.2 BERS PRO RESULTS (THERMAL COMFORT)

The simulated heating and cooling loads per dwelling are summarized in Table 2 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 NatHERS Universal Certificate No. 0009794210 for details.

¹ As per BASIX Thermal Performance Protocol 4.14.2

Table 2: BERS Pro Thermal Loads

Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m².yr)	Stars	Pass/Fail
C01	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - Type 1 windows	6.4	7.3	8.8	PASS
C11	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	15.9	10.3	7.4	PASS
C12	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	19.7	13.7	6.6	PASS
B03	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - Type 1 windows	21.9	12.2	6.4	PASS
C21	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	18.0	10.1	7.2	PASS
C22	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	16.2	15.0	6.9	PASS
A01	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	31.0	15.7	5.3	PASS
B11	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	21.4	10.8	6.7	PASS
B12	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	19.9	8.6	7.2	PASS
B13	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56)	18.6	19.5	5.9	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
	- Type 1 windows				
C31	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows	25.8	10.8	6.2	PASS
C32	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows - 1 * 900mm ceiling fan to each bedroom - 1 * 1200mm ceiling fan to living area	25.7	18.1	5.5	PASS
B21	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	15.0	13.8	7.1	PASS
B22	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	13.3	10.9	7.6	PASS
B23	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows	17.1	17.1	6.4	PASS
A11	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	21.7	14.9	6.2	PASS
A12	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	22.6	10.0	6.7	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
A13	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	22.0	8.8	6.9	PASS
A14	- R1.0 Bulk Floor Insulation to carpark only (total floor system R-value of Rt1.11) - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	29.2	17.6	5.3	PASS
B31	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - Type 1 windows	26.0	19.4	5.4	PASS
B32	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - Type 1 windows	24.9	14.8	5.9	PASS
A21	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	14.7	20.1	6.4	PASS
A22	- R2.5 Bulk Floor Insulation to carpark driveway only (total floor system R-value of Rt2.61) - R2.7 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt3.16) - R2.7 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.76) - Type 3 windows	30.8	11.5	5.6	PASS
A23	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	12.6	11.5	7.6	PASS
A24	- R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows	13.1	10.2	7.7	PASS

Unit No.	Additional Treatments Required	Heating Load (MJ/m ² .yr)	Cooling Load (MJ/m ² .yr)	Stars	Pass/Fail
A25	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows 	24.8	14.4	5.9	PASS
A31	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 1 windows 	15.5	19.4	6.4	PASS
A32	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - Type 3 windows 	25.0	13.0	6.0	PASS
A33	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - Type 1 windows 	24.1	12.9	6.1	PASS
A34	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - Type 1 windows 	22.4	11.5	6.5	PASS
A41	<ul style="list-style-type: none"> - R2.5 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt2.96) - R2.5 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.56) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows 	19.4	15.4	6.4	PASS
A42	<ul style="list-style-type: none"> - R2.7 Bulk External Wall Insulation to brick walls only (total external wall system R-value of Rt3.16) - R2.7 Bulk External Wall Insulation to metal cladded walls only (total external wall system R-value of Rt2.76) - R3.5 Bulk Ceiling Insulation to exposed areas only (total ceiling/roof system R-value of Rt3.66) - R1.3 Anticon Roof Insulation to metal roofs - Type 2 windows 	31.2	16.7	5.2	PASS

3. 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.

APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by Smith & Tzannes received on 20th of August 2025.

DRAWING SCHEDULE

DRAWING No.	DESCRIPTION	REV & DATE	Status
DA-A-000	TITLE	A 31/07/25	FOR DA
DA-A-001	NOTES	A 31/07/25	FOR DA
DA-A-010	SURVEY PLAN	A 31/07/25	FOR DA
DA-A-011	SITE LOCALITY	A 31/07/25	FOR DA
DA-A-012	SITE ANALYSIS	A 31/07/25	FOR DA
DA-A-013	PROPOSED SITE PLAN	A 31/07/25	FOR DA
DA-A-014	DEMOLITION PLAN	A 31/07/25	FOR DA
DA-A-015	EXCAVATION & FILL PLAN	A 31/07/25	FOR DA
DA-A-100	ROOF	A 31/07/25	FOR DA
DA-A-101	LEVEL 6	A 31/07/25	FOR DA
DA-A-102	LEVEL 5	A 31/07/25	FOR DA
DA-A-103	LEVEL 4	A 31/07/25	FOR DA
DA-A-104	LEVEL 3	A 31/07/25	FOR DA
DA-A-105	LEVEL 2	A 31/07/25	FOR DA
DA-A-106	LEVEL 1	A 31/07/25	FOR DA
DA-A-107	LEVEL 0	A 31/07/25	FOR DA
DA-A-200	ELEVATIONS - EAST AND SOUTH	A 31/07/25	FOR DA
DA-A-201	PAVILION A - WEST	A 31/07/25	FOR DA
DA-A-202	LOWER PAVILION B & C ELEVATIONS	A 31/07/25	FOR DA
DA-A-203	LOWER PAVILION B & C ELEVATIONS	A 31/07/25	FOR DA
DA-A-204	LOWER PAVILION B & C ELEVATIONS	A 31/07/25	FOR DA
DA-A-205	ENTRY DETAIL ELEVATION	A 31/07/25	FOR DA
DA-A-206	SECTIONS	A 31/07/25	FOR DA
DA-A-207	SECTIONS	A 31/07/25	FOR DA
DA-A-208	SECTIONS	A 31/07/25	FOR DA
DA-A-209	SECTIONS	A 31/07/25	FOR DA
DA-A-800	AREA CALCULATIONS		
DA-A-801	GROSS FLOOR AREA		
DA-A-802	SOLAR ACCESS		
DA-A-803	CROSS VENTILATION		
DA-A-804	STORAGE		
DA-A-805	ACCESSIBILITY TO TRANSPORT & TOWN CENTRE	16/07/2025	SOF&C COORDINATION
DA-A-806	ACCESSIBILITY COMMON OPEN SPACES	14.05.25	SOF&C COORDINATION
DA-A-807	ACCESSIBILITY TYPICAL FLOOR PLATES	14.05.25	SOF&C COORDINATION
DA-A-808	SITE AREAS	16/07/2025	COORDINATION
DA-A-850	SHADOWS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-851	SHADOWS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-852	SHADOWS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-853	SHADOWS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-854	SUN EYE DIAGRAMS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-855	SUN EYE DIAGRAMS - WINTER SOLSTICE	14.05.25	SOF&C COORDINATION
DA-A-900	PHOTOMONTAGE	14.05.25	SOF&C COORDINATION
DA-A-901	BUILDING MATERIALS	14.05.25	SOF&C COORDINATION
DA-A-990	NOTIFICATION PLAN	14.05.25	SOF&C COORDINATION
DA-A-991	NOTIFICATION PLAN	14.05.25	SOF&C COORDINATION

APPENDIX B – AREA SCHEDULE

<i>Unit No.</i>	<i>Conditioned Area (m²)</i>	<i>Unconditioned Area (m²)</i>
C01	140.6	0.0
C11	117.8	0.0
C12	121.4	0.0
B03	95.3	0.0
C21	117.8	0.0
C22	121.4	0.0
A01	89.1	0.0
B11	120.7	0.0
B12	114.7	0.0
B13	95.3	0.0
C31	118.9	0.0
C32	110.0	0.0
B21	120.7	0.0
B22	114.7	0.0
B23	95.3	0.0
A11	83.8	0.0
A12	109.3	0.0
A13	109.7	0.0
A14	84.9	0.0
B31	120.7	0.0
B32	114.7	0.0
A21	83.8	0.0
A22	84.0	0.0
A23	109.3	0.0
A24	109.7	0.0
A25	84.9	0.0
A31	83.8	0.0
A32	84.0	0.0
A33	109.3	0.0
A34	109.7	0.0
A41	83.8	0.0
A42	84.0	0.0