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DOCUMENT CONTROL SHEET

Project Number	210409
Project Name	Forestway Shopping Center
Description	SEPP Report
Key Contact	Eddith Chu

Prepared By

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Revision History

Issued To		Revision and Date							
Revelop	REV	Draft							
	DATE	24/10/23							
	REV	А							
	DATE	7/11/23							



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1 EXECUTIVE SUMMARY

JHA Engineers has been commissioned to provide a report in accordance with the State Environment Protection Policy (SEPP) for the proposed shopping center at 22 Forest Way, Frenchs Forest NSW 2086.

This report has been prepared to summarise the Ecologically Sustainable Design initiatives that will be incorporated into the design of the proposed **NEW FACILITIES** for the project.

The primary goal of ESD is to promote a well-rounded method for efficient use of resources, cost-effective during construction and ongoing operation, and to provide increased sustainability benefits that consider environmental impact and the health and well-being of the occupants. Ultimately, the objective is to deliver excellent facilities that support a positive and constructive experience for all the visitors.

2 INTRODUCTION

2.1 PROJECT DESCRIPTION

The project is a shopping center with rooms proposed for tenancy and potential future expansions. It includes anchor tenants like Woolworths and Aldi. The development also includes office suites, ATMs and kiosks. The development upgrade involves introducing new retailers along with contemporary architectural design principles.

NCC Climate Zone Zone 5

NCC Building Classification & Use Class 6 Shopping center

2.2 SITE LOCATION

The site is located at 22 Forest Way, Frenchs Forest NSW 2086. It is in the Frenchs Forest suburb of northern Sydney adjacent to the Garigal National Park.



2.3 SUSTAINABLE BUILDINGS SEPP

Sustainable Buildings SEPP (State Environmental Planning Policy), made in August 2022, effective from 1 October 2023 is a set of planning policies and guidelines created by the New South Wales government to manage and regulate land use and development in the state. These policies address a wide range of planning and development issues, including environmental conservation, land use, zoning, and development controls.



3 SEPP SUSTAINABILITY TARGETS

SEPP Chapter 3 Standards for Non-Residential Development applies to development, other than development for the purposes of residential accommodation that involves –

- The erection of a new building, if the development has a capital investment value of \$5 million or more, or
- Alterations, enlargement or extension of an existing building, if the development has a capital investment value of \$10 million or more.

Of wich the proposed project falls under the second category, where SEPP compliance required.

The SEPP sustainability measures consist of the following five components:

- General sustainability
- Embodied emissions
- Net zero statement
- Energy performance and offsets (Post-occupancy verification and offsets)
- Water performance (Post-occupancy verification)

4 ESD OPPORTUNITIES

Sustainability is defined as the ability to optimise or balance healthy environmental, economic and social systems within limited resources on different scales.

Buildings produce greenhouse gases and other emissions that contribute to climate change and reduce the air quality of our environment. These happen in the construction phase, as well as during the operation of the building. Incorporation of sustainability initiatives will result in a decrease in both embodied and operational energy, thus reducing the associated emissions.

The development of more sustainable building not only can benefit the environment but often means a reduction in operating cost, added value to the development and enhancement of the building's reputation. JHA recommends the following sustainability strategies for the proposed Forestway Shopping Center at 22 Forest Way Frenchs Forest NSW 2086 to achieve improved energy efficiency and a more sustainable outcome.

4.1 GENERAL SUSTAINABILITY

4.1.1 Minimize waste generated from demolition and construction activities

- Careful selection of materials, based on their sustainability and recycling quotient.
- Develop a 'Waste Management Plan' to outline proper handling, sorting and disposal of waste.
- Regular waste auditing, monitoring and reporting to identify areas where waste can be reduced.
- Concrete and non-recyclable materials to be crushed and used as aggregate on site for future expansions.

4.1.2 Reduction in the peak demand for electricity

- Integration of natural lighting is recommended as this will decrease lighting energy usage. Use of energy efficient technology such as LED lights, high-efficiency appliances with occupancy sensors.
- Well-sealed buildings with required insulation can reduce energy loads.
- Installation of solar panels, and energy storage systems such as batteries.



4.1.3 Reduce the dependence on artificial lighting and mechanical ventilation

- Maximise the use of natural light by adding light-coloured reflective interior surfaces.
- Use of LED lights over incandescent bulbs.
- Optimize building orientation to maximise ventilation and minimise heat gain.
- Use appropriate shading and insulation to block solar heat and glare.
- Install green roofs and walls to provide natural insulation and cooling.

4.1.4 Generation and storage of renewable energy

Installation of PV panels to generate and store power as per the building's energy loads.

4.1.5 Metering and monitoring of energy consumption

Installation of energy meters to track energy consumption and prepare a peak-load management plan.

4.1.6 Minimize the consumption of potable water

- Sanitary fixtures to be within one star of the following WELS rating (where applicable);
 - Taps 6 star
 - Urinals 6 star
 - Toilets 5 star
 - Dishwashers 6 star
- Rainwater tank (if designed) to be installed within the site boundary; and tank size to be based on the collection area.
- Heat rejection The project must be either naturally ventilated or the HVAC system must use a water-less heat rejection method.
- Landscape irrigation If the building has landscaped area >=1% of the site area, the project's
 landscaping system should be planned to reduce the consumption of potable water, achieved by
 installing drip irrigation with moisture sensor controls. Use of low-water plant species is recommended.

4.2 EMBODIED EMISSIONS

 This would involve the use of materials with recycled content, the incorporation of replacement additives, or the application of innovative technologies like parametric design or prefabrication to minimize material waste.

4.3 NET ZERO STATEMENT

- The development is required to limit the use of gas on-site and switch to electrical means to achieve their sustainability targets.
- The development is required to obtain offsets for any onsite fossil fuel consumption, which should be calculated for a minimum 10-year duration. These offsets must be in the form of Australian Carbon Credit Units (ACCUs) or a Climate Active Carbon Neutral Certification.
- The development is required to obtain offsets for any onsite fossil fuel consumption, which should be calculated for a minimum 10-year duration. These offsets must be in the form of Australian Carbon Credit Units (ACCUs) or a Climate Active Carbon Neutral Certification.



4.4 ENERGY PERFORMANCE AND OFFSETS

• Using energy efficient technology, green energy and keeping a regular track of the energy consumption can reduce the energy loads of the project and improve the building's performance.

4.5 WATER PERFROMANCE

 Installation of water-efficieent fixtures, rainwater and greywater recycling, water metering and water management strategies can certainly improve the project's water performance.

Full Name of Designer: Shubhii Khullar

Qualifications: B.Arch, M.Arch.Sc.

Address of Designer: JHA

Level 20, 2 Market Street,

SYDNEY NSW 2000

Business Telephone No: (02) 9437 1000

Name of Employer: JHA

Yours sincerely,

Shubhii Khullar

Sustainability Consultant

Disclaimer

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5 REFERENCE DOCUMENTATION

Following is the Section J report for reference:





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Sydney | Brisbane | Melbourne

Level 20, 2 Market St Sydney NSW 2000

PO Box Q453 Queen Victoria Building NSW 1230

JOB NO.: 210409

REV. NO.: B

Ph (02) 9437 1000

7 November 2023

Revelop

Suite 506, Level 5 55 Philip Street,

Parramatta NSW 2150

Attention:

E. Han

Dear Emily,

RE: National Construction Code (NCC) 2022 Volume One Section J Part J4 Statement of Compliance

SUBJECT PREMISE: FORESTWAY SHOPPING CENTRE | 22 FOREST WAY, FRENCHS FOREST NSW

This NCC Section J Part J4 statement has been prepared to demonstrate design compliance for the new development of Forestway Shopping Centre located at 22 Forest Way, Frenchs Forest.

The proposed development is located in climate **Zone 5** as defined by the NCC2022 Building Code of Australia – Volume One.

In accordance with A2G1, compliance with the NCC is achieved by complying with the Governing Requirements of the NCC and the Performance Requirements. The Performance Requirements are satisfied by Performance Solution, Deemed-to-Satisfy Solution or a combination of both.

The table below shows the areas assessed, NCC 2022 Building Classification the Performance Requirements, the Method of Compliance, and the DTS Provisions subjected to Performance Solution.

Building Area Description	NCC Classification	Method of Compliance
Shopping Centre	6	DTS

Compliance with Performance Requirement JP1 will be achieved subject to this report and compliance with J4D3 (1-5), J3, J5, J6, J7, J8 & J9 being met by the relevant designers / contractors.



The assessment is based on the architectural drawings listed below.

Architectural Drawings Nettletontribe

Project no. 11993 Issued 07/08/2023

Building	Title	Drawing No	Revision
	COVER PAGE	DA-000	P3
	SITE ANALYSIS	DA-010	P2
	SITE PLAN	DA-011	P3
	DEMOLITION PLANS	DA-031	P3
	PROPOSED GA PLAN (BASEMENT 2)	DA-111	P3
	PROPOSED GA PLAN (BASEMSENT 1)	DA-113	P5
	PROPOSED GA PLAN (GROUND FLOOR)	DA-115	P5
Forestway Shopping Centre	PROPOSED GA PLAN (LEVEL 1)	DA-117	P4
, 11 3	PROPOSED ROOF PLAN	DA-161	P4
	BUILDING ELEVATIONS SHEET 1	DA-201	P4
	BYUKDUBG ELEVATIONS SHEET 2	DA-202	P5
	FOREST WAY STREET ELEVATION	DA-203	P3
	MATERIAL SCHEDULE	DA-211	P2
	SIGNAGE ELEVATIONS	DA-251	P2
	SECTIONS	DA-301	P2

As per the Deemed-to-Satisfy Provisions of **NCC 2022 Volume One**, design compliance with Part J4 can be met subject to the following specifications:

Part J4 Building Fabric.

Required total R-value including allowance for thermal bridging:

Elements	Total Construction R-value	Notes
All Roof	R3.2	It is a total system performance value and NOT the
All ROOI	(Downward, SA < 0.45)	insulation.
Envelope Walls	R1.4	The impact of Thermal Bridging must be included in the
Envelope Floors		building envelope total system R-value calculations.
(including slab on	R2.0 (Downward)	Fabric requirements only applies to proposed new works.
Ground)		No requirements to update existing elements.

Required total system **U-value** and **SHGC**:

Location	Azimuth		Assembly (Frame)	Description	
		U-value	SHGC		
All proposed windows	All	6.70	0.45	Single Tinted Glazing	

Please refer to Attachment A for the facade calculator demonstrating compliance, and Attachment B for the mark-ups of the building fabrics thermal construction requirements.

Additional Section J Compliance Notes

Note project needs to adhere to the following NCC 2022 Section J construction requirements as applicable:

• J4D3 (1-4) Thermal Construction – general installation requirements for insulations



J4D3 (5) The required total R-value and total system U-value, including thermal bridging calculation.

JHA recommend the following general construction requirements from Section J of the NCC 2022 be included in the architectural specification and drawings to ensure compliance.

- Part J5 Building Sealing
 - J5D3 Chimneys and flues
 - J5D4 Roof lights
 - J5D5 Windows and doors
 - J5D6 Exhaust fans
 - J5D7 Construction of ceilings, walls and floors
 - J5D8 Evaporative coolers

Full Name of Designer: Eddith Chu

Qualifications:

B. Electrical Eng(Renewable Energy), M. Engineering Management Eng

Address of Designer: JHA

Level 20, 2 Market Street SYDNEY NSW 2000

Business Telephone No: (02) 9437 1000

Name of Employer: JHA

Yours sincerely,

Eddith Chu

Senior Sustainability Engineer

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Revision History

REV	DATE	Amendment
Draft V1	29/09/21	
Α	20/09/23	
Α	11/10/23	Updated to NCC 2022
В	07/11/23	Issue for DA



Attachment A – Facade Calculator:



210409 Forestway Shopping Centre

Climate Zone	CZ 5
Class	Other
Azimuth	122

5		Tota	l Wall-Glazing	g Area		W	alls	Windows			
Exposure	Reference Wall Type	B1+B2+L1	L2+HL	Excluded Area	Sum	R-Value	A*U-Value	Exposure	U-Value	SHGC	A*U-Value
North	1	909.5	269.7	0.0	1179.2	1.40	724.2	N1	6.7	0.45	1107.9
	1				0.0		0.0	N2			0.0
	1				0.0		0.0	N3			0.0
	1				0.0		0.0	N4			0.0
East	1	1468.7	588.9	0.0	2057.6	1.40	959.6	E1	6.7	0.45	4784.5
	1				0.0		0.0	E2			0.0
East	1				0.0		0.0	E3			0.0
ŀ	1				0.0		0.0	E4			0.0
	1	1152.4	454.5	0.0	1606.9	1.40	1130.6	S1	6.7	0.45	161.6
Carrella	1				0.0		0.0	S2			0.0
South	1				0.0		0.0	S3			0.0
	1				0.0		0.0	S4			0.0
	1	870.7	369.7	0.0	1240.4	1.40	612.7	W1	6.7	0.45	2563.3
West	1				0.0		0.0	W2			0.0
west	1				0.0		0.0	W3			0.0
	1				0.0		0.0	W4			0.0

					Meth	nod 1	Method 2		U-value		R-value	
		Façad	le Area			Solar Ad	mittance		Total :	System	Total System	
Exposure	Total [m²]	Wall [m²]	Window [m²]	Wall Glazing Ratio	Max SA	Achieved SA	Max Er	Achieved Er	Max. U-Value	Achieved U-Value	Min. R-Value	Achieved R-Value
N	1179.2	1013.8	165.4	86%	0.13	0.06	0.00	0.00	2.0	1.55	1.4	1.40
E	2057.6	1343.5	714.1	65%	0.13	0.13	460.07	458.37	2.0	2.79	1.0	1.40
S	1606.9	1582.8	24.1	98%	0.13	0.01	0.00	0.00	2.0	0.80	1.4	1.40
W	1240.4	857.8	382.6	69%	0.13	0.13	282.18	282.01	2.0	2.56	1.0	1.40
						SUM	742.26	740.37	2.0	1.98		

Description	Level	Window Exposure	Reference Wall Type	Window							Chadina	
				Height [m]	Width [m]	Area [m²]	P [m]	H [m]	P/H	G/H	Shading Multiplier	A*S*SHGC
1	1	N1	1	6.00	15.00	90.0			-	-	1.00	40.50
2	1	W1	1	6.00	4.00	24.0			-	-	1.00	10.80
3	1	N1	1	2.90	5.00	14.5			-	-	1.00	6.53
4	1	N1	1	2.90	6.40	18.6			-	-	1.00	8.35
5	1	E1	1	2.90	7.40	21.5			-	-	1.00	9.66
6	1	N1	1	4.70	9.00	42.3			-	-	1.00	19.04
7	1	E1	1	8.30	9.00	74.7			-	-	1.00	33.62
8	1	E1	1	3.00	6.60	19.8	7.50	4.50	1.67	0.33	0.57	5.08
9	1	E1	1	3.00	5.70	17.1	7.50	4.50	1.67	0.33	0.57	4.39
10	1	E1	1	3.00	5.30	15.9	7.50	4.50	1.67	0.33	0.57	4.08
11	1	E1	1	3.00	5.50	16.5	7.50	4.50	1.67	0.33	0.57	4.23
12	1	E1	1	3.00	5.40	16.2	7.50	4.50	1.67	0.33	0.57	4.16
13	1	E1	1	3.00	6.50	19.5	7.50	4.50	1.67	0.33	0.57	5.00
14	1	E1	1	3.00	5.70	17.1	7.50	4.50	1.67	0.33	0.57	4.39
15	1	E1	1	3.00	3.90	11.7	7.50	4.50	1.67	0.33	0.57	3.00
16	1	E1	1	9.00	12.40	111.6			-	-	1.00	50.22
17	1	W1	1	3.00	7.40	22.2	1.50	4.50	0.33	0.33	0.94	9.39
18	1	E1	1	3.00	4.30	12.9	7.50	4.50	1.67	0.33	0.57	3.31
19	1	E1	1	3.00	5.70	17.1	7.50	4.50	1.67	0.33	0.57	4.39
20	1	E1	1	3.00	5.10	15.3	7.50	4.50	1.67	0.33	0.57	3.92
21	1	E1	1	3.00	5.80	17.4	7.50	4.50	1.67	0.33	0.57	4.46
22	1	E1	1	3.00	5.80	17.4	7.50	4.50	1.67	0.33	0.57	4.46
23	1	E1	1	3.00	5.60	16.8	7.50	4.50	1.67	0.33	0.57	4.31
24	1	W1	1	2.20	1.60	3.5	7.20	3.80	1.89	0.42	0.68	1.08
25	1	S1	1	1.80	3.80	6.8	2.40	3.00	0.80	0.40	0.86	2.65
26	1	W1	1	2.90	5.10	14.8	2.40	4.10	0.59	0.29	0.75	4.99
27	1	W1	1	1.90	3.10	5.9			-	-	1.00	2.65
28	1	W1	1	6.40	5.00	32.0			-	-	1.00	14.40
29	1	W1	1	2.70	2.70	7.3	2.40	3.80	0.63	0.29	0.68	2.23
30	1	W1	1	2.60	5.40	14.0	2.40	3.80	0.63	0.32	0.78	4.93
31	1	W1	1	1.80	4.40	7.9	0.60	1.80	0.33	0.00	0.72	2.57
32	1	W1	1	1.80	4.40	7.9	0.60	1.80	0.33	0.00	0.72	2.57
33	1	W1	1	1.80	4.40	7.9	0.60	1.80	0.33	0.00	0.72	2.57
34	1	W1	1	6.00	5.90	35.4			-	-	1.00	15.93
35	2	E1	1	2.10	4.00	8.4	0.60	2.10	0.29	0.00	0.80	3.02
36	2	E1	1	2.10	4.00	8.4	0.60	2.10	0.29	0.00	0.80	3.02
37	2	E1	1	2.10	4.00	8.4	0.60	2.10	0.29	0.00	0.80	3.02
38	2	E1	1	2.10	7.00	14.7	0.60	2.10	0.29	0.00	0.80	5.29
39	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08
40	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08

Description	Level	Window Exposure	Reference Wall Type	Window					Chading			
				Height [m]	Width [m]	Area [m²]	P [m]	Н [m]	P/H	G/H	Shading Multiplier	A*S*SHGC
41	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08
42	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08
43	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08
44	2	S1	1	1.20	2.00	2.4			-	-	1.00	1.08
45	2	S1	1	0.80	3.60	2.9			-	-	1.00	1.30
46	2	W1	1	2.60	3.40	8.8	0.60	2.60	0.23	0.00	0.80	3.18
47	2	W1	1	3.20	3.50	11.2	0.60	3.20	0.19	0.00	0.90	4.54
48	2	W1	1	3.20	3.50	11.2	0.60	3.20	0.19	0.00	0.90	4.54
49	2	W1	1	3.20	3.50	11.2	0.60	3.20	0.19	0.00	0.90	4.54
50	2	W1	1	3.20	3.50	11.2	0.60	3.20	0.19	0.00	0.90	4.54
Highlevel 1	HL	E1	1	2.30	32.00	73.6	0.60	2.30	0.26	0.00	0.80	26.50
Highlevel 2	HL	E1	1	2.30	61.60	141.7			-	-	1.00	63.76
Highlevel 3	HL	E1	1	2.30	8.90	20.5			-	-	1.00	9.21
Highlevel 4	HL	W1	1	2.30	63.50	146.1			-	-	1.00	65.72

^{*}The total Solar Admittance value of the proposed building is 740.37 (lequal to 742.26) and total System U-value is 1.98 (less than 2.00). Therefore, the proposed building façade complies with Part J1 via Method 2.

Attachment B – Building Fabric Requirements









