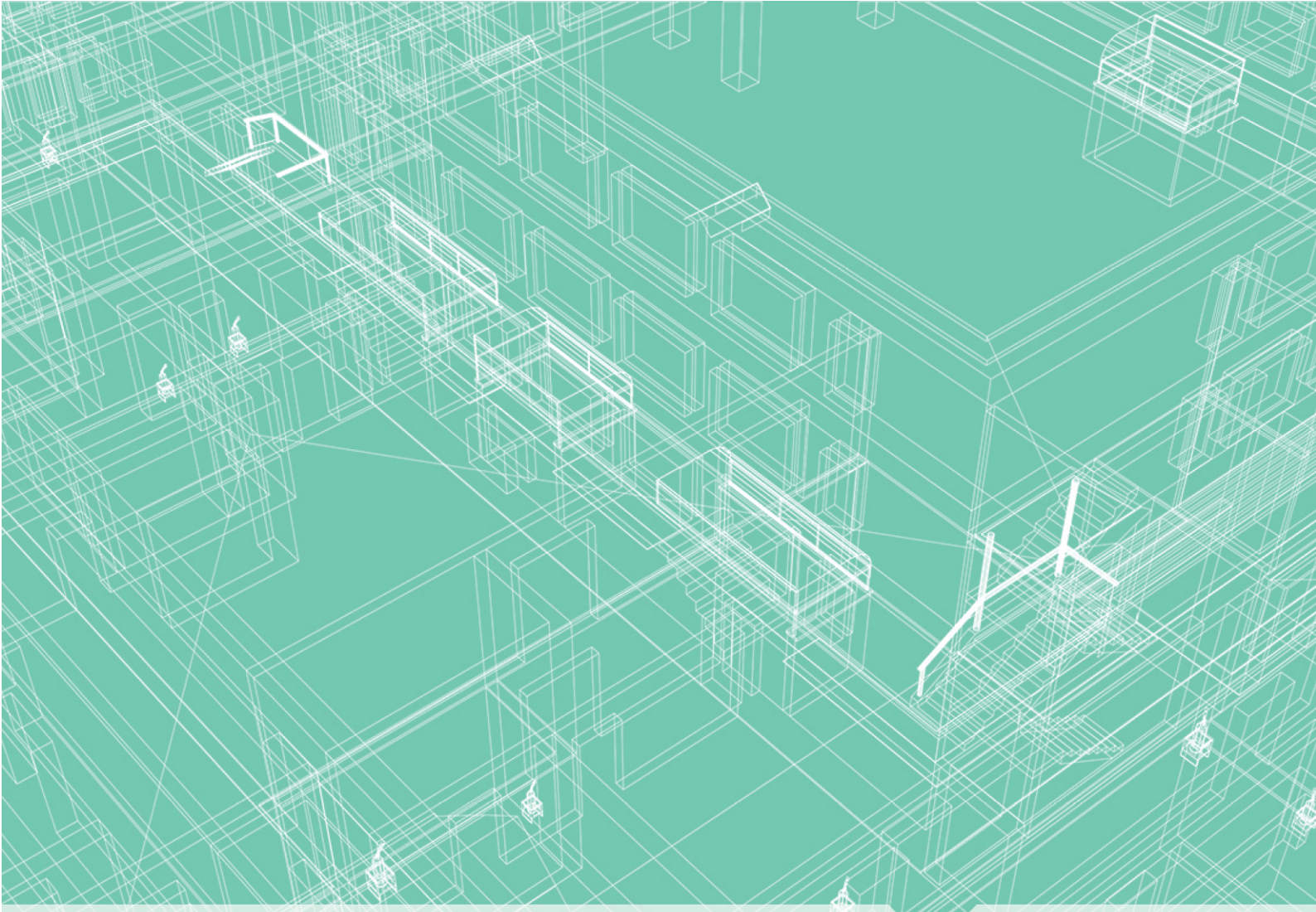


GENERAL SUSTAINABILITY PROVISIONS REPORT

TAREE LARGE FORMAT CENTRE

ESD SERVICES

JHA

JHASERVICES.COM

This report is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

DOCUMENT CONTROL SHEET

Project Number	250453
Project Name	Taree Large Format Centre
Description	General Sustainability Provisions
Key Contact	Adon Murray

Prepared By

Company	JHA
Address	Level 20, 2 Market Street, Sydney NSW 2000
Phone	61-2-9437 1000
Email	Felisa.Garcia@jhaengineers.com.au
Website	www.jhaservices.com
Author	Felisa Garcia
Checked	Eddith Chu
Authorised	Eddith Chu

Revision History

Issued To	Revision and Date								
Murray Consulting Solutions	REV	Draft							
	DATE	29/04/2025							
	REV								
	DATE								
	REV								
	DATE								

EXECUTIVE SUMMARY

In accordance with the Sustainable Buildings SEPP 2022, the purpose of this report is to respond to the *General Sustainability Provisions* section as per the NSW Planning portal for development applications for the proposed Taree Large Format Centre at Taree, NSW.

The following table summarises the project specific ESD (Environmentally Sustainable Design) responses addressing the General Sustainability Provisions requirements:

General Sustainability Provisions	Project Specific Responses
1. The minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials.	▪ Construction Waste Management Plan stating proposed strategies for minimizing waste generation, maximizing material reuse, recycling, and reprocessing, and reducing the volume of materials destined for landfill. Targeting up to 80% of construction and demolition waste generated to be diverted from landfill.
2. A reduction in peak demand for electricity, including through the use of energy efficiency technology.	▪ A high-efficiency air-cooled heat rejection system (surpass the minimum requirements of the NCC 2022 Section J Energy Efficiency Part J6). ▪ Energy efficient LED lighting with suitable timer controls and/or daylight/occupancy sensors as appropriate. ▪ Heat pump technology for domestic hot water
3. A reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design.	▪ Appropriate insulation and a light-coloured roof will be provided. ▪ High thermal performance glazing system. ▪ Appropriate combination of external shading devices (eaves etc.) and glazing location to maximise natural daylight and winter heat gains while minimising unwanted heat gains in summer.
4. The generation and storage of renewable energy.	▪ Provision of a roof-mounted photovoltaic system (PV).
5. The metering and monitoring of energy consumption.	▪ Sub-metering is to be provided to enable individual time-of-use energy data recording of the on-site renewable energy equipment & on-site electric vehicle charging equipment. The sub-meters required will be interlinked by a communication system that collates the time-of-use energy data to a single interface monitoring system where it can be stored, analysed, and reviewed.
6. The minimisation of consumption of potable water.	▪ Installed water-efficient fixtures and fittings meeting the minimum WELS Rating as nominated. ▪ Capturing rainwater for reuse in landscape irrigation and/or toilet flushing. ▪ Stormwater management plan including water-sensitive urban design (WSUD) ▪ Use of air-cooled heat rejection systems as opposed to water-based heat rejection

CONTENTS

1 INTRODUCTION

The purpose of this report is to respond to the ***General Sustainability Provisions*** section as per the NSW Planning portal for development applications for the proposed Homemaker Centre at Taree, NSW.

1.1 PROJECT DESCRIPTION

The proposed development for the Taree Large Format Centre located at 202 Bushland Drive, Taree NSW will result in the construction of 16 new single-storey retail tenancies.

Building type and function: Class 6 Retail

NCC Climate Zone: Climate Zone 5

Aerial photo of site

1.2 STAKEHOLDERS CONSULTATION

The stakeholders consulted and/or contributed to the development of this report are listed below.

Stakeholders	Role
Murray Consulting Solutions	Client
Leffler Simes Architects	Architect
JHA Consulting Engineers	Section J Consultant

2 GENERAL SUSTAINABILITY PROVISIONS

In accordance with Chapter 3.1 of Sustainable Building SEPP 2022, the General Sustainability Provisions is applicable to all non-residential development 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.

Currently, the General Sustainability Provisions requires evidence new development is designed to enable the following:

- The minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials.
- A reduction in peak demand for electricity, including through the use of energy efficiency technology.
- A reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design.
- The generation and storage of renewable energy.
- The metering and monitoring of energy consumption.
- The minimisation of consumption of potable water.

The Sustainable Building SEPP 2022 is applicable to the project, and as such will incorporate practical sustainability measures applicable for the project type. The proposed development is not seeking formal certification to a sustainability rating system. Refer to Sections 3 of this report for details of how the proposed development has considered and addressed the requirements of the General Sustainability Provisions.

3 PROPOSED ESD INITIATIVES

The proposed development is committed to incorporating best practices ESD initiatives that are appropriate to the intended usage of the buildings. In particular, the proposed ESD initiatives that address the General Sustainability Provisions requirements are detailed below.

3.1 CONSTRUCTION WASTE MINIMISATION

3.1.1 CONSTRUCTION WASTE MANAGEMENT PLAN

Effective waste collection and disposal are crucial for safeguarding the environment and public health today. To ensure responsible handling of demolition and construction waste, a comprehensive waste management plan will be devised and implemented. This plan will encompass strategies for minimizing waste generation, maximizing material reuse, recycling, and reprocessing, and reducing the volume of materials destined for landfill. Cut and excavation materials will also be reused for backfilling or for grading purposes to level the site where possible. As part of the project's waste minimization efforts, the aim is to divert up to 80% of construction and demolition waste from ending up in landfills.

3.2 PEAK ELECTRICITY DEMAND REDUCTION

3.2.1 HEATING, COOLING AND VENTILATION SYSTEMS

The air-conditioning and ventilation systems will be designed to surpass the minimum requirements of the NCC 2022 Section J Energy Efficiency Part J6. The NCC Section J requirements for Part J6 includes minimum requirements for the energy efficient design and control of HVAC systems to reduce and recover energy.

A high-efficiency air-cooled heat rejection system is proposed. The control mechanisms for the air-conditioning system will be engineered to minimize energy consumption by ensuring the schedule and setpoints are appropriate to the intended operation of the buildings.

To enhance efficiency further, ductwork systems will be designed to minimize system pressure losses, thereby reducing the power required by fan motors. This includes selecting equipment that minimizes coil and fitting drops, as well as employing appropriately sized ductwork to minimize friction losses.

In spaces such as bathrooms/toilets, laundries, and equipment plant areas, natural ventilation will be prioritized wherever feasible. Mechanical ventilation will be incorporated only where necessary to ensure air quality and temperature levels.

3.2.2 LIGHTING

The lighting design will comply with NCC 2022 Section J Energy Efficiency Part J7. The illumination density will be in accordance with J7D3. To minimize energy consumption and optimize lighting efficiency, the proposed development will be using LED fittings. The energy efficient light fittings will be complemented by an automatic control system featuring timer controls, PIR occupancy sensors and/or microwave occupancy sensors as appropriate to enhance operational efficiency.

To capitalize on natural daylight, where appropriate, lighting in regularly occupied spaces will be provided with a daylight sensor to adjust artificial light output or turn lights off when sufficient natural daylight is available to the space. For larger areas, perimeter lighting will be segregated into distinct zones to maximize natural light utilization.

External luminaires will adhere to AS 4282:1997 to prevent light pollution and maintain compliance with specified benchmarks for night sky illumination. This will ensures that the project's external lighting does not contribute to light pollution in the surrounding environment and wasting energy at the same time.

3.2.3 DOMESTIC HOT WATER

The project will use heat pump based technology for domestic hot water to generate hot water energy efficiently.

3.3 PASSIVE DESIGN

Appropriate building design and material selection will help ensure that thermal comfort can be maintained without overreliance on mechanical systems. Passive design strategies, including the use of performance glazing, shading elements, and effective insulation, will reduce demand for mechanical air conditioning. This will lead to a meaningful reduction in both energy consumption and greenhouse gas emissions.

3.3.1 BUILDING ENVELOPE PERFORMANCE

The building fabric will be designed to meet and/or improve upon the minimum NCC 2022 Section J Part J4 requirements for the building envelope. Thermal breaks will be incorporated into walls, floors, and roofs where appropriate to ensure a continuous thermal barrier on the building envelope, reducing the flow of thermal energy between conductive materials.

3.3.1.1 BUILDING FABRIC

The indicative total construction R-value requirements to comply with NCC 2022 Section J Part J4 are provided below, based on a Climate Zone 4.

Building Elements	Indicative NCC 2022 Requirements
Envelope Roof/Ceiling	Total R-Value of 3.7 K.m^2/W (Downwards, Solar absorptance of the upper surface of a roof must be not more than 0.45)
Envelope Walls	Total R-Value of 1.4 K.m^2/W
Envelope Floors	Total R-Value of 2.0 K.m^2/W (Downwards)

Note: The impact of thermal bridging must be considered within the total R-value calculation under NCC2022.

To achieve the above requirements, insulation will be required for the building's walls and roof/ceilings. Insulation serves to mitigate heat transfer, thereby reducing heat loss during winter and heat gain in summer. By effectively managing thermal flow, insulation significantly decreases the heating and cooling demands placed on air-conditioning systems.

Additionally, employing light-coloured roofing material with low solar absorptance (SA) is recommended. This will help deflect more sunlight, thereby minimising summer heat buildup in the roof space. Furthermore, it contributes to mitigating elevated local temperatures, known as the heat island effect. Notably, this approach will also enhance the efficiency of solar PV panels, as their efficiency improves under cooler conditions.

3.3.1.2 EXTERNAL GLAZING

Glazing is a major source of unwanted heat gain in the summer and can cause significant heat loss in the winter due to its low insulation performance. Therefore, a high thermal performance glazing system is recommended. Performance glazing substantially reduces heat transmission. This reduces conduction heat loss in winter and reduces the amount of direct solar heat gains in summer. This will correspond to a reduction of both heating and cooling loads.

The indicative glazing specifications to comply with Section J Part J4 Building Fabric DTS assessment is provided below.

Glazing	Indicative Specifications	Comments
External Vertical Glazing	Total System U <=6.5 W.m^2/K Total System SHGC=0.65	Single Glazed Clear or the like

3.3.2 SHADING AND DAYLIGHTING

Solar access offers significant benefits for indoor environmental quality by providing access to natural daylight and reducing reliance on artificial lighting. However, excessive solar access, particularly direct solar radiation heat, can lead to increased HVAC energy demands and thermal discomfort. To harness the advantages of solar access while mitigating its drawbacks, passive design principles are employed.

Passive solar heating aims to harness solar heat for free heating in winter while preventing excessive heat gain in summer. Similarly, passive cooling strategies aim to block heat entry during summer months. These principles leverage site-specific solar access to optimize indoor environmental quality and reduce HVAC energy consumption through tailored shading solutions.

In the proposed building, appropriate external shading devices in the form of eaves will be strategically utilised to block the intense summer sun while allowing the lower winter sun to penetrate for passive heating. These passive design features not only enhance daylighting and external views for occupants but also reduce the need for artificial lighting, leading to improved alertness, mood, and productivity. Additionally, connecting occupants to nature through external views fosters a positive and constructive experience within the built environment.

3.4 RENEWABLE ENERGY

3.4.1 PHOTOVOLTAICS

To reduce the building's grid electricity consumption and greenhouse gas emissions with an onsite renewable source, a roof-mounted photovoltaic system (PV) is proposed for the project. It is recommended that the PV system should be sized to cover at least 20% of the roof area of a building.

The batteries storage of renewable electricity generated by the solar PV system is not recommended nor is it necessary as this is a daytime building and it will consume the solar electricity as it is generated.

3.5 ENERGY METERING AND MONITORING

3.5.1 ELECTRICITY METERING AND MONITORING

Electricity metering and sub-metering will be provided in accordance with Section J requirements to monitor and manage electricity consumption in the building. Sub-metering is to be provided to enable individual time-of-use energy data recording of the on-site renewable energy equipment. The sub-meters required will be interlinked by a communication system that collates the time-of-use energy data to a single interface monitoring system where it can be stored, analysed and reviewed.

3.6 WATER CONSERVATION

The following water conservation initiatives are proposed to help reduce the use of potable water.

3.6.1 FITTINGS AND FIXTURES

Water-efficient fixtures and fittings will be installed in accordance with the Australian Government's Water Efficiency Labelling Scheme (WELS) to reduce potable water consumption. All fixtures and fittings will meet the minimum WELS Rating as specified in the table below.

Water Fittings / Fixtures	Minimum WELS Rating Proposed for the Buildings	Highest Available Rating (AS/NZS 6400-2016)
Showerheads	4 (>6.0, but <= 7.5L/min)	4
Toilets	4	5

Water Fittings / Fixtures	Minimum WELS Rating Proposed for the Buildings	Highest Available Rating (AS/NZS 6400-2016)
Urinals	5	5
Bathroom Taps	5	6
Dishwashers (excluding commercial equipment)	5	6
Washing Machines (excluding commercial equipment)	4	6

3.6.2 RAINWATER COLLECTION AND REUSE

The project will consider the capturing of rainwater for reuse in landscape irrigation and/or toilet flushing. The nominated rainwater tank sizing will be based on the available catchment area and the predicted monthly demand for rainwater reuse to be determined by the project's hydraulic consultant.

3.6.3 WATER-SENSITIVE URBAN DESIGN

The project will implement best practices of water-sensitive design to manage stormwater runoff and reduce demand for landscape irrigation. A detailed stormwater management plan including water-sensitive urban design (WSUD) will be completed by a civil/stormwater consultant.

3.6.4 HEAT REJECTION SYSTEM

The project will use of air-cooled heat rejection systems as opposed to water-based heat rejection to reduce water demand.

4 CONCLUSION

This General Sustainability Provisions Report has been prepared for the proposed Bourke Integrated Primary Healthcare Centre at Bourke, NSW, confirming that the proposed development has considered and appropriately addressed all the General Sustainability Provisions in accordance with the Sustainable Building SEPP 2022.

ABN 48 612 666 172

Sydney | Brisbane | Melbourne

Level 20, 2 Market St
Sydney NSW 2000

PO Box Q453
Queen Victoria Building
NSW 1230

Ph (02) 9437 1000

29 April 2025

Murray Consulting Solutions

1/6 Muir Street, Medowie

NSW 2318

Attention: A. Murray

Dear Adon,

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

JOB NO.: 250453

REVISION NO.: [DRAFT]

SUBJECT PREMISE: TAREE LARGE FORMAT CENTRE | 202 BUSHLAND DRIVE, TAREE NSW 2430

This NCC Section J Part J4 statement has been prepared to demonstrate design compliance for the new development of Taree Large Format Centre located at 202 Bushland Drive, Taree NSW 2430.

The proposed development is located in climate Zone 5 as defined by the NCC 2022 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	Performance Requirements	Method of Compliance
Retail	6	J1P1	DTS

Compliance with Performance Requirement J1P1 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 — Leffler Simes Architects
Project no. 5360
Issued 03/04/2025

Building	Drawing Title	Drawing No	Revision
TAREE LARGE FORMAT CENTRE	TENANCY 1-4 GROUND FLOOR PLAN	DA101	P4
	TENANCY 5-6, 16 GROUND FLOOR PLAN	DA102	P4
	TENANCY 7-11 GROUND FLOOR PLAN	DA103	P4
	TENANCY 12-15 GROUND FLOOR PLAN	DA104	P6
	TENANCY 1-4 ROOF PLAN	DA111	P4
	TENANCY 5-6, 16 ROOF PLAN	DA112	P4
	TENANCY 7-11 ROOF PLAN	DA113	P5
	TENANCY 12-15 ROOF PLAN	DA114	P6
	ELEVATIONS - SHEET 1	DA151	P5
	ELEVATIONS - SHEET 2	DA152	P4
	ELEVATIONS - SHEET 3	DA153	P6
	ELEVATIONS - SHEET 4	DA154	P4
	SECTIONS - SHEET 1	DA161	P4
	SECTIONS - SHEET 2	DA162	P4
	SECTIONS - SHEET 3	DA163	P4

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
Roofs & Ceilings	R3.7 (Downwards, SA < 0.45)	1. It is a total system performance value and **NOT** the insulation. 2. The impact of **Thermal Bridging** must be included in the building envelope total system R-value calculations. 3. As per J4D7 a slab-on-ground that does not have an in-slab heating or cooling system is considered to achieve a Total R-Value of R2.0.
Envelope Walls	R1.4	
Floors (slab on ground)	R2.0 Note 3	

Required **Total System U-value** and **SHGC**.

Location/Type	Window Assembly (Glass & Frame)		Description
	U-value	SHGC	
External glazing	6.5	0.65	Single glazed clear or the like

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:	Felisa Garcia
Qualifications:	B LArch
Address of Designer:	JHA Level 20, 2 Market Street SYDNEY NSW 2000
Business Telephone No:	(02) 9437 1000
Name of Employer:	JHA

Yours sincerely,

Felisa Garcia

ESD Consultant

Disclaimer

This statement is prepared for the nominated recipient only and relates to the specific scope of work and agreement between JHA and the client (the recipient). It is not to be used or relied upon by any third party for any purpose.

Revision History

REV	DATE	Amendment
Draft	29/04/2025	Preliminary Issue

Attachment A – Facade Calculator

Project Name	Taree Large Format Centre
Project No.	250453
NCC Climate Zone	CZ 5
NCC Building Class	Other
Drawing Azimuth	271

NCC 2022 Volume One - Façade Calculator

by JHA

In accordance with NCC 2022 Volume One *J4D6 Walls and Glazing* and *Specification 37*.

The **total System U-value** of the proposed building is 1.29 , less than the Max. total System U-value of 2.0 .
The **total Representative Air-conditioning Energy Value (Er)** of the proposed building is 0.00 , less than the Max. Er of 0.00 .
Therefore, based on the **Thermal Performance Specifications** used in the tables below, **the proposed building façades comply with Part J4 via *Method 2***

Results

Aspect	J4D6(4)	Method 1	Method 2			
	Wall R-value	Total System U-value				
	Min. R-Value	Achieved R-Value	Max. U-Value	Achieved U-Value	Max. U-Value	Achieved U-Value
N	1.4	1.40	2.0	1.62	2.0	1.29
E	1.4	1.40	2.0	1.15		
S	1.4	1.40	2.0	0.83		
W	1.4	1.40	2.0	1.53		

Aspect	Method 1		Method 2			
	Solar Admittance		Representative Air-conditioning Energy Value			
	Max SA	Achieved SA	Max Er	Achieved Er	Max Er	Achieved Er
N	0.13	0.08	0.00	0.00	0.00	0.00
E	0.13	0.04	0.00	0.00		
S	0.13	0.01	0.00	0.00		
W	0.13	0.08	0.00	0.00		

Areas Summary

Aspect	Total Wall-Glazing Areas Summary				
	Total W-G Areas [m2]	Total Wall [m2]	Total Glazing [m2]	Wall to Total W-G Ratio	
N	2468.5	2083.3	385.2	84.4%	90.0%
E	2248.8	2078.5	170.3	92.4%	
S	2222.4	2178.0	44.4	98.0%	
W	2276.8	1956.4	320.3	85.9%	

Aspect	External Wall-Glazing Areas Summary				
	Total Ext. W-G Areas [m2]	Total External Wall [m2]	Total External Glazing [m2]	Ext Wall to Tot. Ext. W-G Ratio	
N	2468.5	2083.3	385.2	84.4%	90.0%
E	2248.8	2078.5	170.3	92.4%	
S	2222.4	2178.0	44.4	98.0%	
W	2276.8	1956.4	320.3	85.9%	

Façade Inputs & Walls Thermal Specifications

Aspect		Envelope Areas					Walls Thermal Performance	
	Wall Type Reference	External Envelope Areas [m2]	Internal Envelope Areas [m2]	External excluded Areas [m2]	Internal excluded Areas [m2]	Total W-G Areas [m2]	Total R-Value	Area x (1/R-value)
North	1	*2470.7*	*0.0*	*2.2*	*0.0*	2468.5	*1.40*	1488.1
	2					0.0	*1.00*	0.0
	3					0.0	*1.00*	0.0
	4					0.0	*1.00*	0.0
East	5	*2366.6*	*0.0*	*117.9*	*0.0*	2248.8	*1.40*	1484.7
	6					0.0	*1.00*	0.0
	7					0.0	*1.00*	0.0
	8					0.0	*1.00*	0.0
South	9	*2318.2*	*0.0*	*95.8*	*0.0*	2222.4	*1.40*	1555.7
	10					0.0	*1.00*	0.0
	11					0.0	*1.00*	0.0
	12					0.0	*1.00*	0.0
West	13	*2323.6*	*0.0*	*46.8*	*0.0*	2276.8	*1.40*	1397.5
	14					0.0	*1.00*	0.0
	15					0.0	*1.00*	0.0
	16					0.0	*1.00*	0.0

Glazing Thermal Specifications

Aspect	Glazing Thermal Performance			
	Glazing Type Reference	Total U-Value	Total SHGC	Area x U-Value
North	N1	*6.5*	*0.65*	2504.0
	N2			0.0
	N3			0.0
	N4			0.0
East	E1	*6.5*	*0.65*	1106.6
	E2			0.0
	E3			0.0
	E4			0.0
South	S1	*6.5*	*0.65*	288.6
	S2			0.0
	S3			0.0
	S4			0.0
West	W1	*6.5*	*0.65*	2082.2
	W2			0.0
	W3			0.0
	W4			0.0

Glazing Details

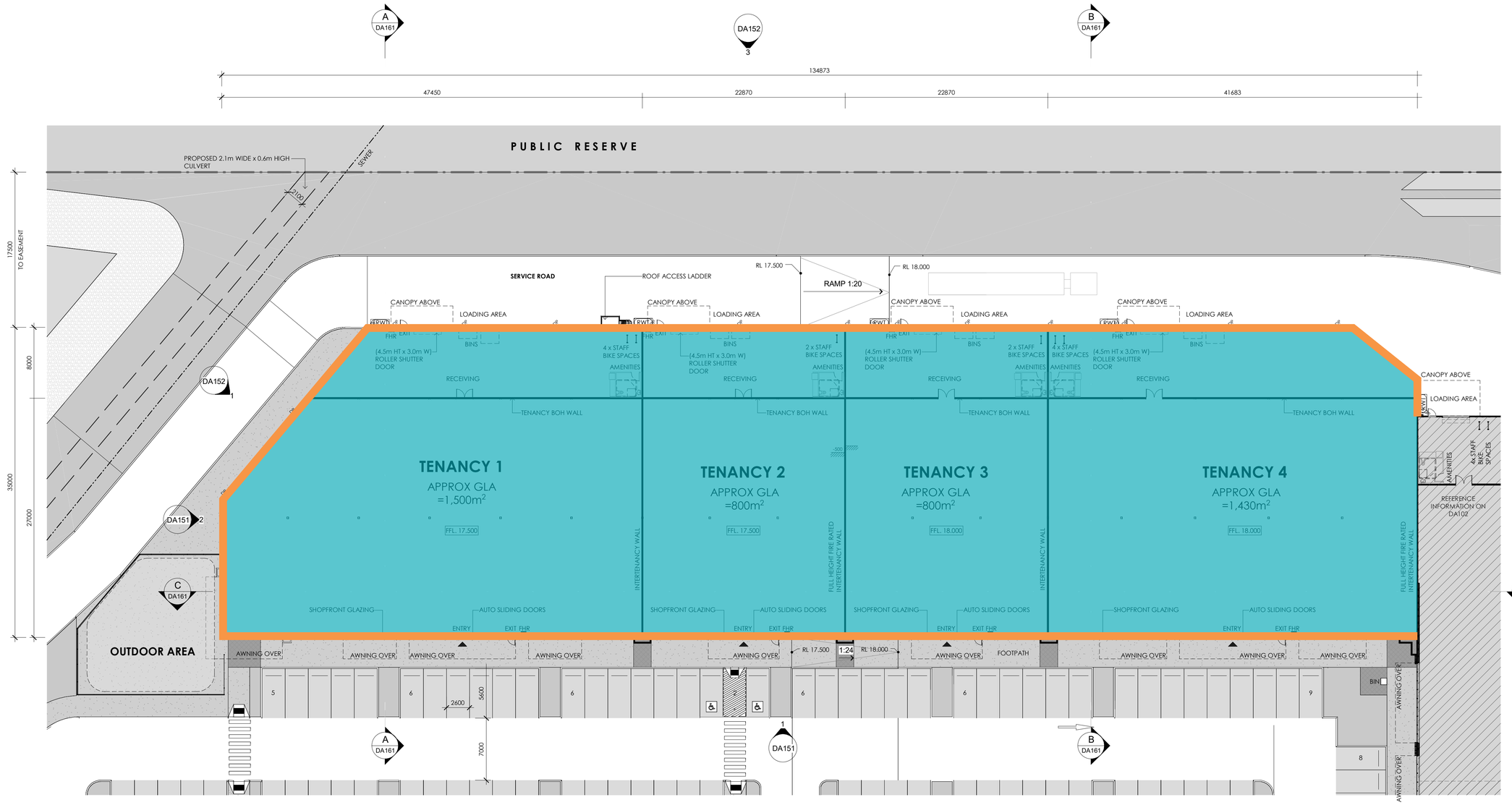
Glazing Identification	External / Internal	Level	Glazing Type Reference	Wall Type Reference	Window			Shading				Shading Multiplier [SM]	Area x SM x SHGC
					Height [m]	Width [m]	Area [m²]	P [m]	H [m]	P/H	G/H		
Tenancy 1-4_N01_1	External	GF	N1	1	3.00	1.80	5.4			-	-	1.00	3.51
Tenancy 1-4_N01_2	External	GF	N1	1	3.00	4.74	14.2	1.80	3.60	0.50	0.17	0.66	6.10
							0.0			-	-	1.00	-
Tenancy 1-4_W01_1	External	GF	W1	13	3.00	42.90	128.7			-	-	1.00	83.66
Tenancy 1-4_W01_2	External	GF	W1	13	3.00	30.88	92.6	2.40	3.60	0.67	0.17	0.59	35.53
							0.0			-	-	1.00	-
Tenancy 16_E01_1	External	GF	E1	5	3.00	3.79	11.4			-	-	1.00	7.39
Tenancy 16_E01_2	External	GF	E1	5	3.00	0.80	2.4	2.00	3.60	0.56	0.17	0.66	1.03
							0.0			-	-	1.00	-
Tenancy 5-6_N01_1	External	GF	N1	1	3.00	19.20	57.6			-	-	1.00	37.44
Tenancy 5-6_N01_2	External	GF	N1	1	3.00	18.82	56.5	2.40	3.60	0.67	0.17	0.59	21.65
							0.0			-	-	1.00	-
Tenancy 7-11_N01_1	External	GF	N1	1	3.00	37.85	113.6			-	-	1.00	73.81
Tenancy 7-11_N01_2	External	GF	N1	1	3.00	38.00	114.0	2.40	3.60	0.67	0.17	0.59	43.72
							0.0			-	-	1.00	-
Tenancy 7-11_E01_1	External	GF	E1	5	3.00	1.80	5.4			-	-	1.00	3.51
Tenancy 7-11_E01_2	External	GF	E1	5	3.00	0.51	1.5	1.80	3.60	0.50	0.17	0.66	0.66
							0.0			-	-	1.00	-
Tenancy 15_S01_1	External	GF	S1	9	3.00	4.00	12.0			-	-	1.00	7.80
Tenancy 15_S01_2	External	GF	S1	9	3.00	2.00	6.0	2.00	3.60	0.56	0.17	0.79	3.08
							0.0			-	-	1.00	-
Tenancy 15_W01_1	External	GF	W1	13	3.00	21.00	63.0			-	-	1.00	40.95
Tenancy 15_W01_2	External	GF	W1	13	3.00	12.00	36.0	2.10	3.60	0.58	0.17	0.66	15.44

Glazing Identification	External / Internal	Level	Glazing Type Reference	Wall Type Reference	Window			Shading				Shading Multiplier [SM]	Area x SM x SHGC
					Height [m]	Width [m]	Area [m^2]	P [m]	H [m]	P/H	G/H		
							0.0			-	-	1.00	-
Tenancy 12-14_N01_1	External	GF	N1	1	3.00	0.14	0.4			-	-	1.00	0.27
Tenancy 12-14_N01_2	External	GF	N1	1	3.00	7.86	23.6	2.00	3.60	0.56	0.17	0.66	10.12
							0.0			-	-	1.00	-
Tenancy 12-14_E01_1	External	GF	E1	5	3.00	27.09	81.3			-	-	1.00	52.83
Tenancy 12-14_E01_2	External	GF	E1	5	3.00	22.76	68.3	2.00	3.60	0.56	0.17	0.66	29.29
							0.0			-	-	1.00	-
Tenancy 12-14_S01_1	External	GF	S1	9	3.00	2.00	6.0			-	-	1.00	3.90
Tenancy 12-14_S01_2	External	GF	S1	9	3.00	6.80	20.4	2.00	3.60	0.56	0.17	0.79	10.48

Attachment B – Building Fabric Requirements Markups

Member Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG



NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal perfomances pursuant to the respective glazing specifications stated in the Section J report.

3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

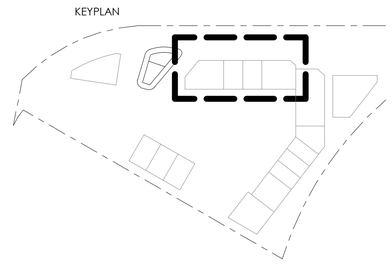
JHA
MARKUP / SKETCH

DOCUMENT No.:	250453
DOCUMENT TITLE:	Taree Large Format Centre Section J DTS Building Fabric Markups
DOCUMENT REV:	Draft
DOCUMENT BY:	FG DATE: 29/04/2025

LEGEND

- PROPERTY BOUNDARIES
- EASEMENTS
- SEWER MAIN
- ELECTRICAL LINE
- PROPOSED CULVERT
- SWALE
- LANDSCAPING
- PROPOSED CARSPACES
- PROPOSED FOOTPATH
- PEDESTRIAN CROSSING
- COL — COLUMN
- DP — DOWNPIPE
- TREE - REFER LANDSCAPE ARCHITECTS DRAWINGS
- FFL — FINISH FLOOR LEVEL SUBJECT TO CIVIL ENGINEERS ADVICE

KEYPLAN



WORK IN PROGRESS

PRELIMINARY

TENANCY 1-4 GROUND FLOOR PLAN

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1

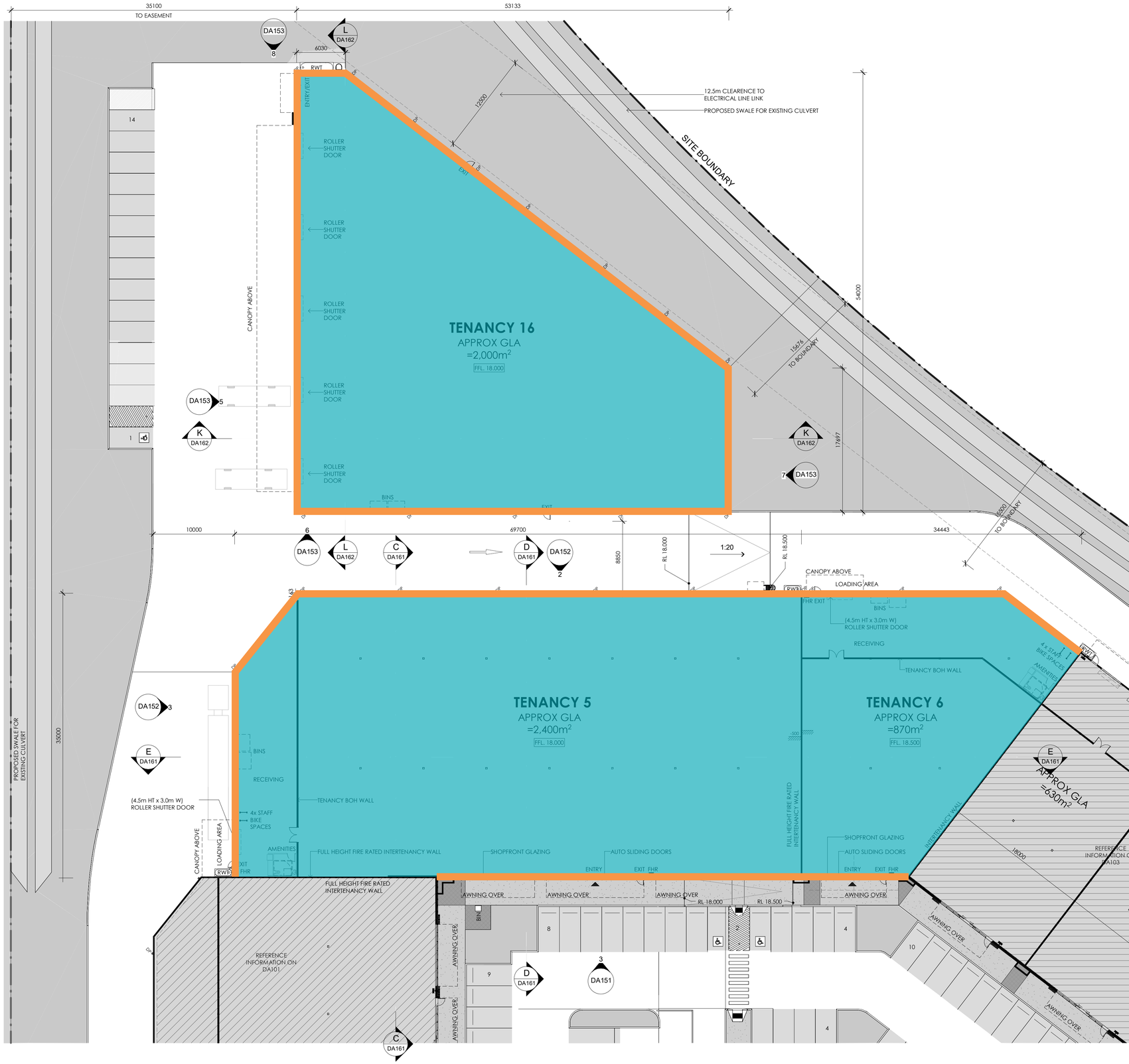
TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360 DWG NO. REV.
DATE: OCT '24 DA101 P4
DRAWN: MS/JAF

LEFFLER SIMES ARCHITECTS

Member
Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG



NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

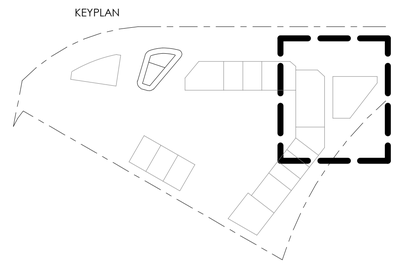
JHA
MARKUP / SKETCH

DOCUMENT No.:	250453
DOCUMENT TITLE:	Taree Large Format Centre
	Section J DTS Building Fabric Markups
DOCUMENT REV:	Draft
DOCUMENT BY:	FG DATE: 29/04/2025

LEGEND

- PROPERTY BOUNDARIES
- EASEMENTS
- SEWER MAIN
- ELECTRICAL LINE
- PROPOSED CULVERT
- SWALE
- LANDSCAPING
- PROPOSED CARSPACES
- PROPOSED FOOTPATH
- PEDESTRIAN CROSSING
- COLUMN
- DOWNPIPE
- TREE - REFER LANDSCAPE ARCHITECTS DRAWINGS
- FFL — FINISH FLOOR LEVEL SUBJECT TO CIVIL ENGINEERS ADVICE

KEYPLAN



WORK IN PROGRESS

TENANCY 5-6, 16 GROUND FLOOR PLAN

PRELIMINARY

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1

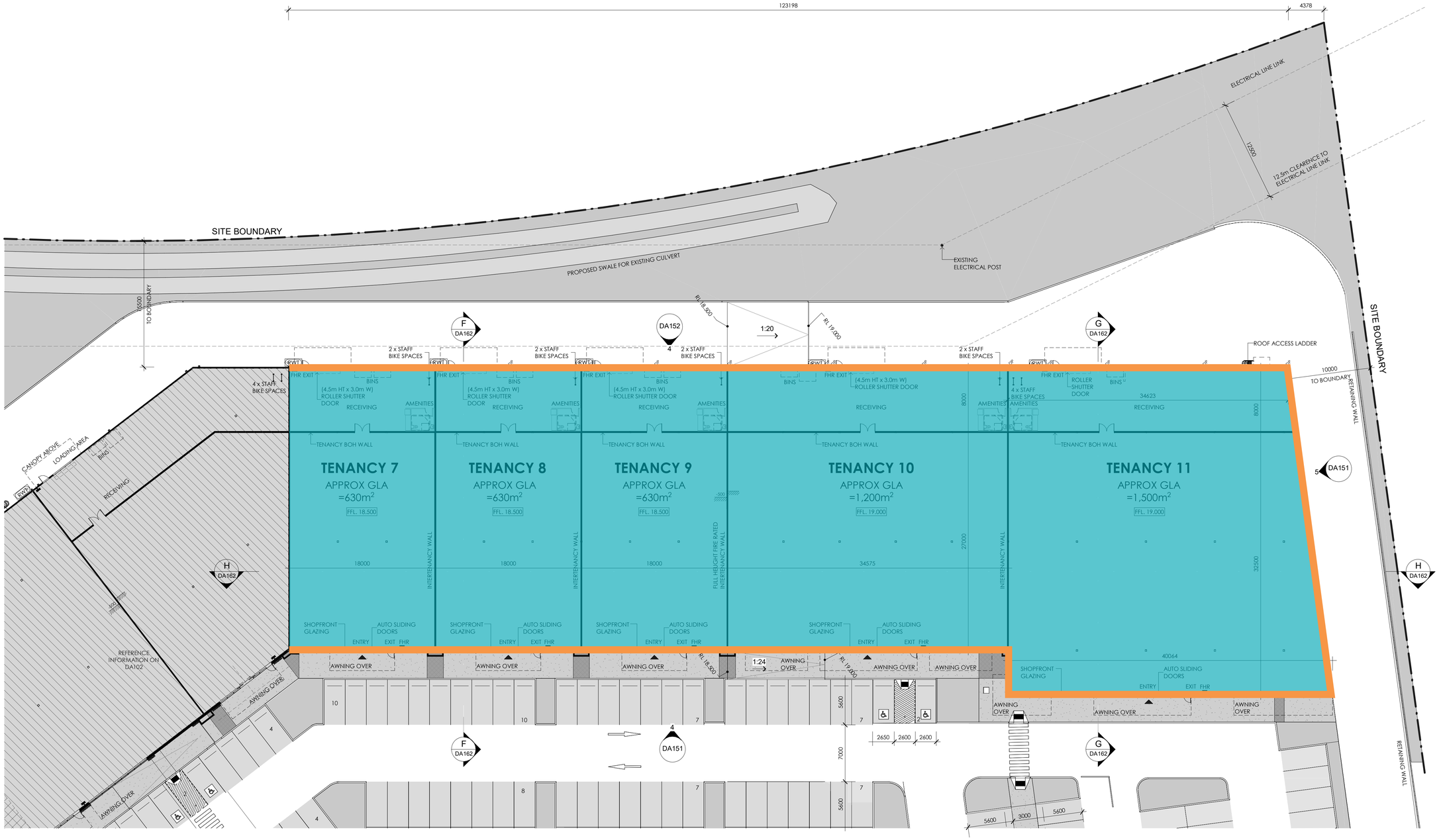
TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF
DWG NO. DA102
REV. P4

LEFFLER SIMES ARCHITECTS

Member Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG



NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)

ENVELOPE WALLS - R1.4

ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

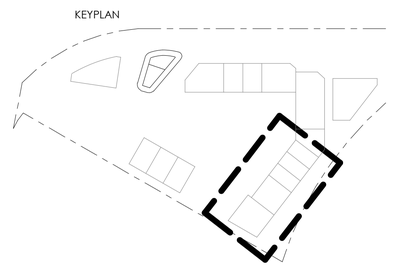
JHA
MARKUP / SKETCH

DOCUMENT No.: 250453
DOCUMENT TITLE: Taree Large Format Centre
Section J DTS Building Fabric Markups
DOCUMENT REV.: Draft
DOCUMENT BY: FG DATE: 29/04/2025

LEGEND

- PROPERTY BOUNDARIES
- EASEMENTS
- SEWER MAIN
- ELECTRICAL LINE
- PROPOSED CULVERT
- SWALE
- LANDSCAPING
- PROPOSED CARSPACES
- PROPOSED FOOTPATH
- PEDESTRIAN CROSSING
- COL — COLUMN
- DP — DOWNPIPE
- TREE - REFER LANDSCAPE ARCHITECTS DRAWINGS
- FFL — FINISH FLOOR LEVEL SUBJECT TO CIVIL ENGINEERS ADVICE

KEYPLAN



TENANCY 7-11 GROUND FLOOR PLAN

WORK IN PROGRESS

PRELIMINARY

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1

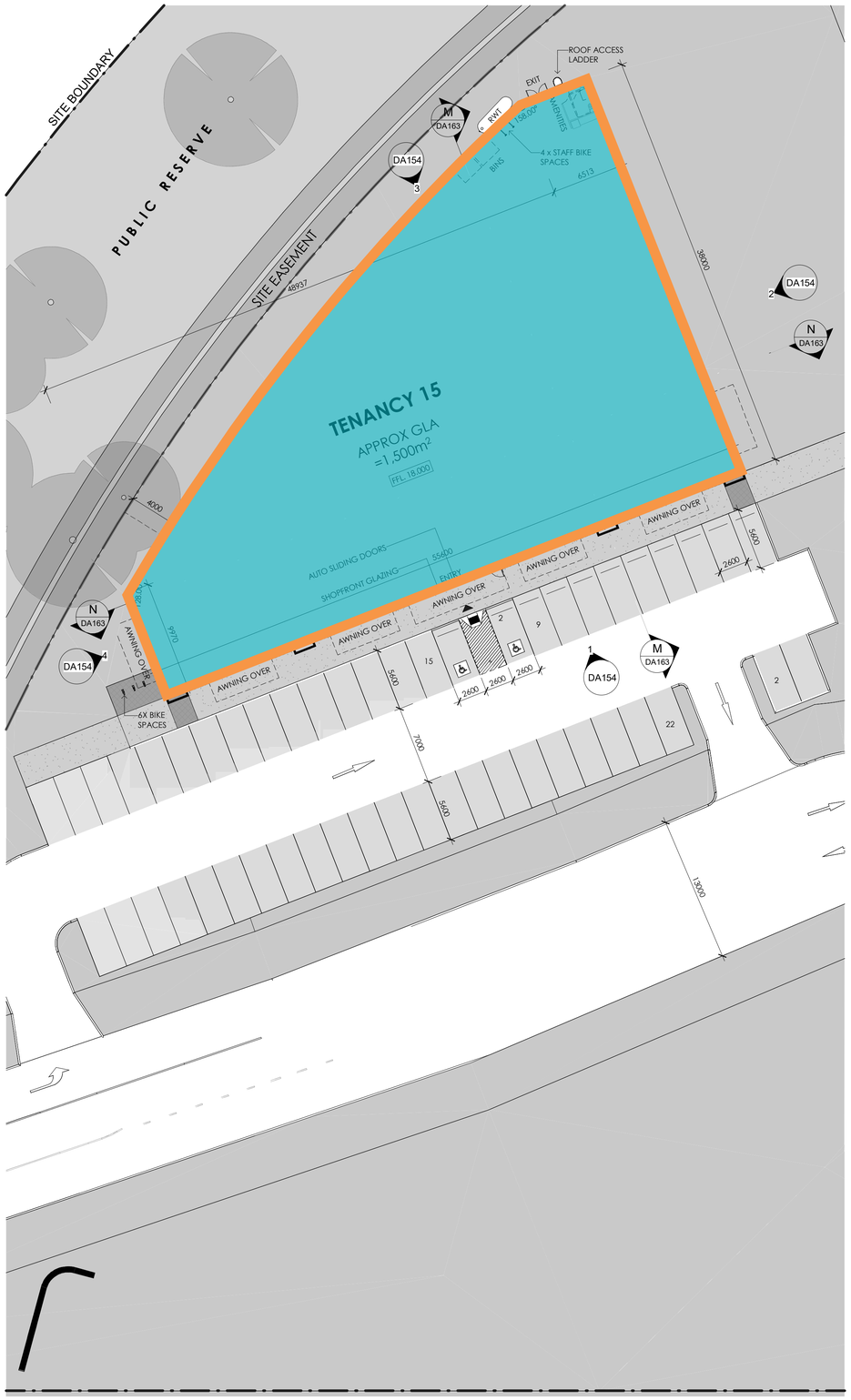
TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

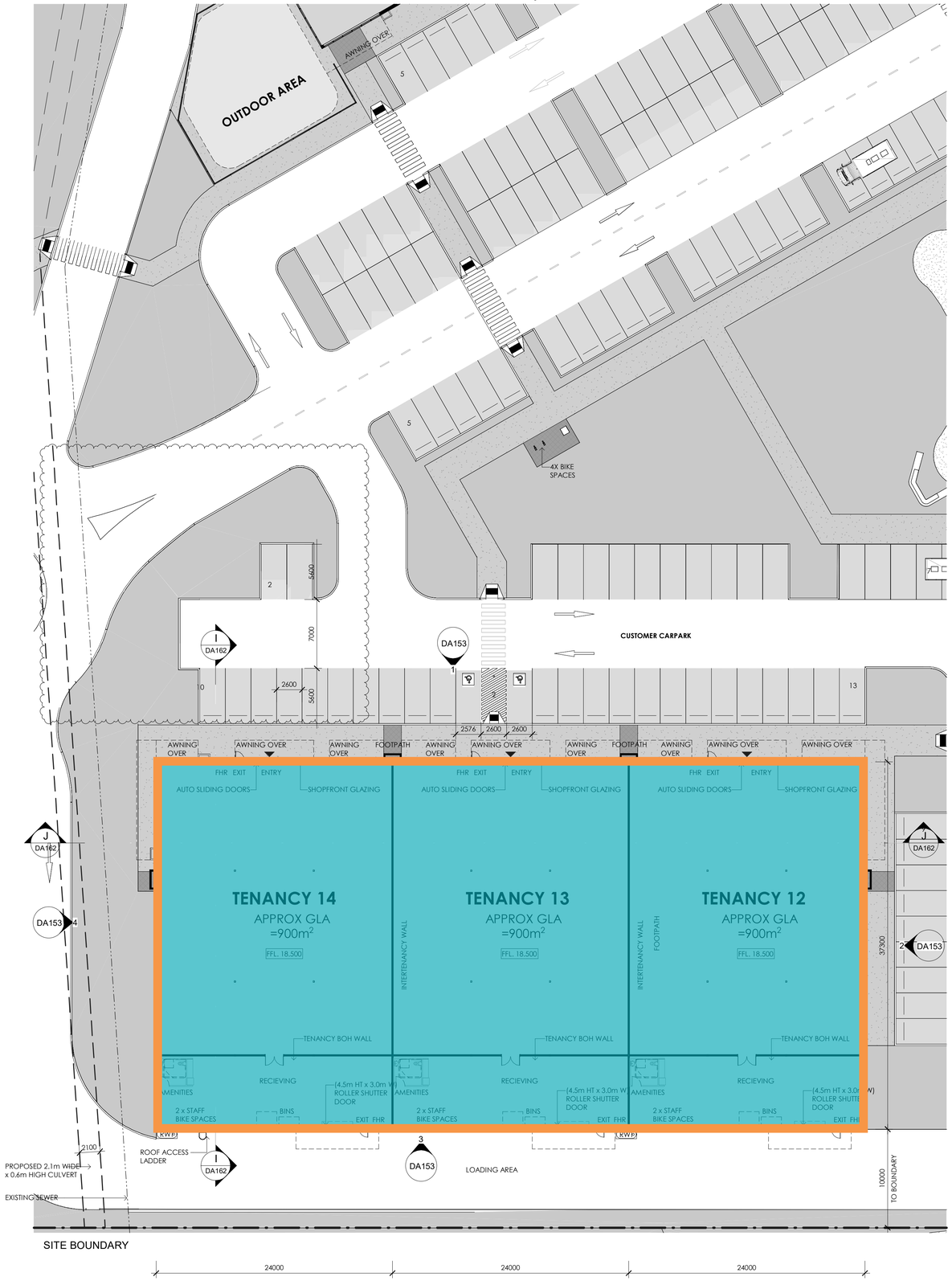
JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF
DWG NO. DA103
REV. P4

LEFFLER SIMES ARCHITECTS

Member Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG
P 5	CARPARK UPDATED, FEATURE WALLS REMOVED	01.04.25	WG
P 6	ROAD AND CARPARK UPDATED	03.04.25	WG





NCC 2022 Volume One Section J4 DtS Requirements Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

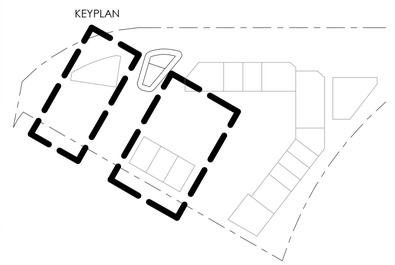
JHA
MARKUP / SKETCH

DOCUMENT No.: 250453
DOCUMENT TITLE: Taree Large Format Centre
Section J DTS Building Fabric Markups
DOCUMENT REV: Draft
DOCUMENT BY: FG DATE: 29/04/2025

LEGEND

- PROPERTY BOUNDARIES
- EASEMENTS
- SEWER MAIN
- ELECTRICAL LINE
- PROPOSED CULVERT
- SWALE
- LANDSCAPING
- PROPOSED CARSPACES
- PROPOSED FOOTPATH
- PEDESTRIAN CROSSING
- COL — COLUMN
- DP — DOWNPIPE
- TREE - REFER LANDSCAPE ARCHITECTS DRAWINGS
- FFL — FINISH FLOOR LEVEL SUBJECT TO CIVIL ENGINEERS ADVICE

KEYPLAN



TENANCY 12-15 GROUND FLOOR PLAN

WORK IN PROGRESS

PRELIMINARY

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1 (0 5 10 15 20 25)

TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF
DWG NO. DA104
REV. P6

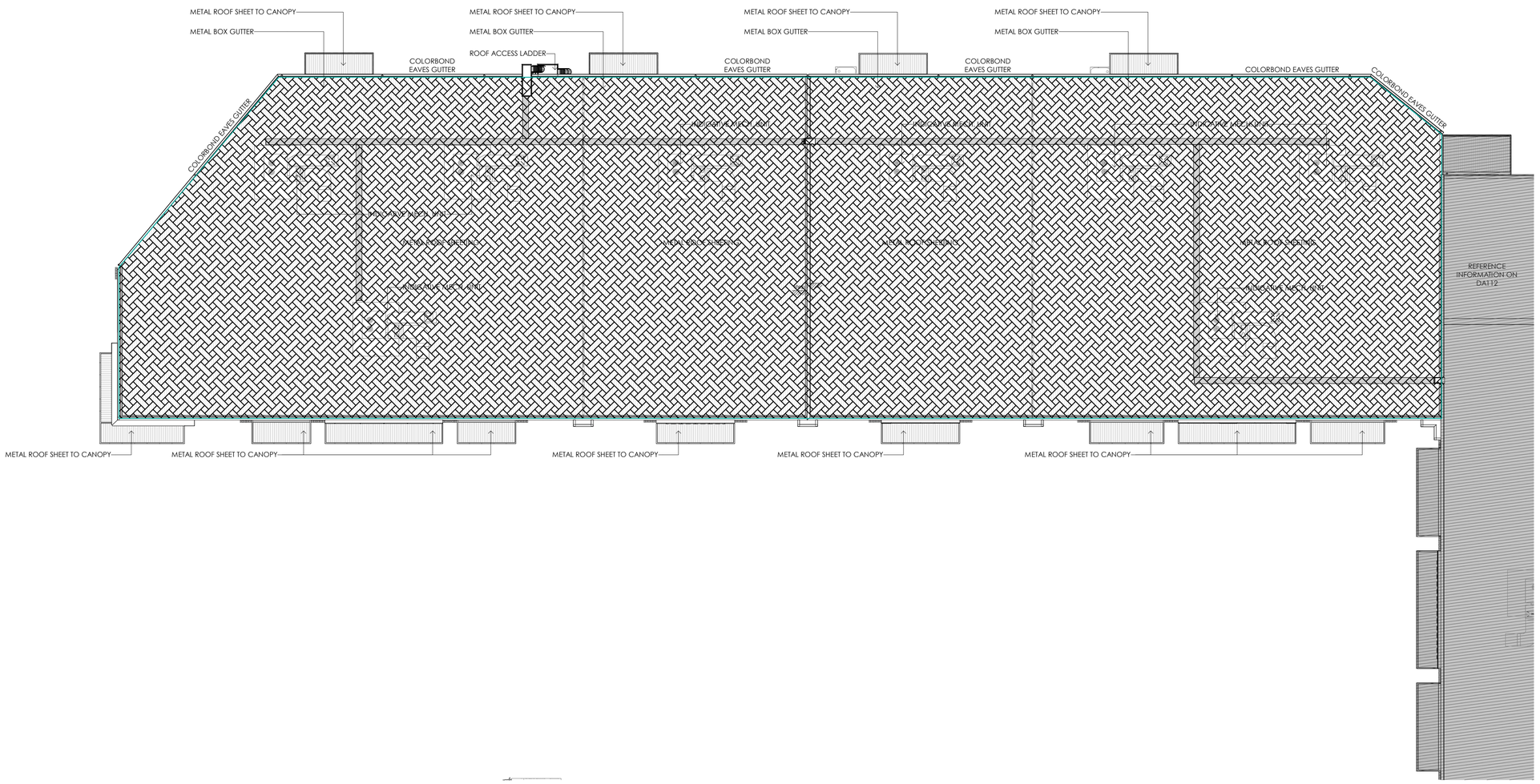
LEFFLER SIMES ARCHITECTS

Member Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG

PUBLIC RESERVE

SITE EASEMENT



NCC 2022 Volume One Section J4 DtS Requirements Building Fabric Required total system R-Values

LEGEND

ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)

ENVELOPE WALLS - R1.4

ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

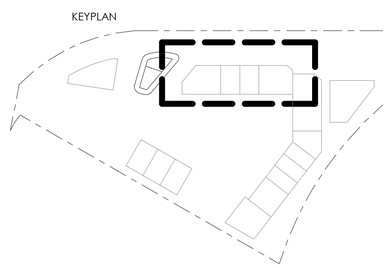
3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

JHA
MARKUP / SKETCH

DOCUMENT No.: 250453
DOCUMENT TITLE: Taree Large Format Centre
Section J DTS Building Fabric Markups
DOCUMENT REV: Draft
DOCUMENT BY: FG DATE: 29/04/2025

KEYPLAN



WORK IN PROGRESS

PRELIMINARY

TENANCY 1-4 ROOF PLAN

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

0 5 10 15 20 25 SCALE 1:250 @ A1

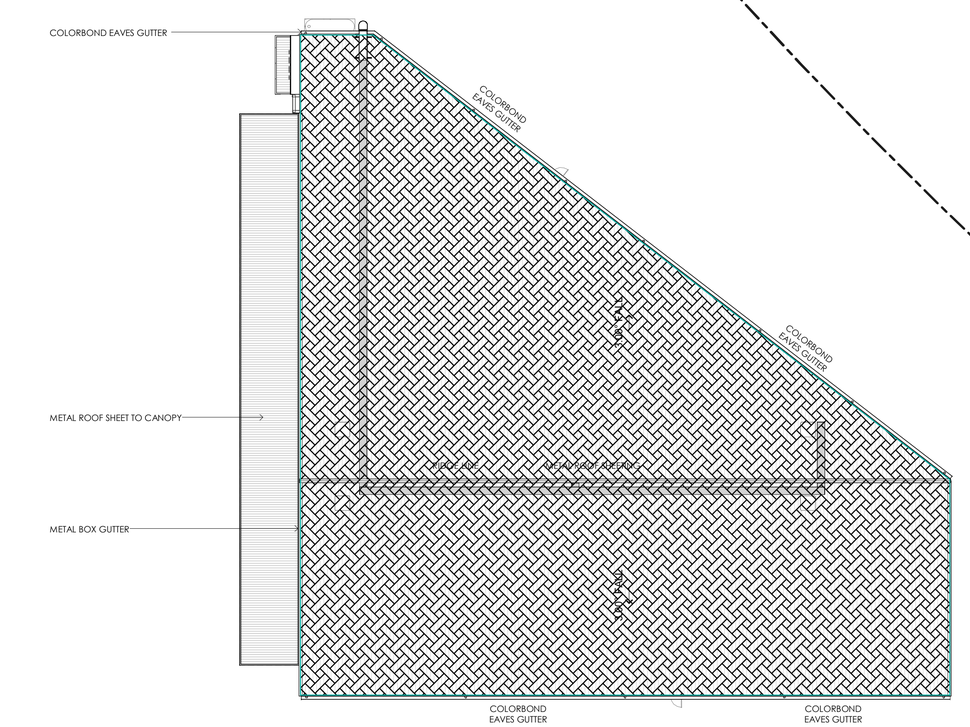
TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF
DWG NO. DA111
REV. P4

LEFFLER SIMES ARCHITECTS

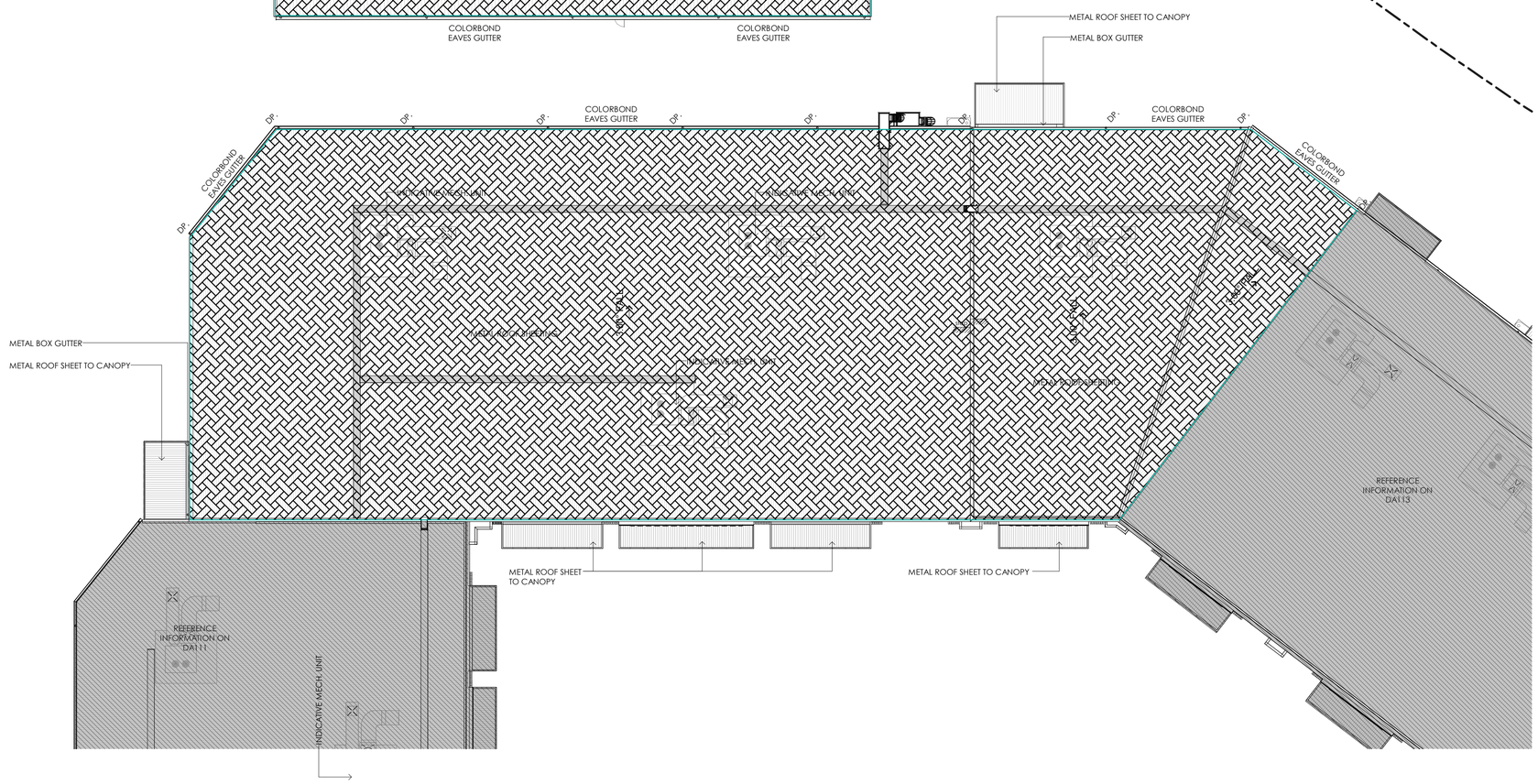
Member
Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG



SITE BOUNDARY

SITE EASEMENT



NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

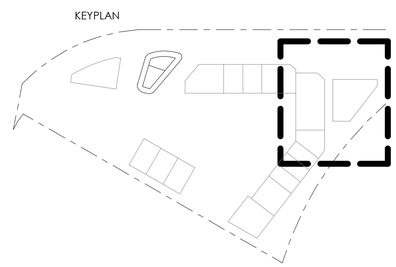
3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

JHA
MARKUP / SKETCH

DOCUMENT No.:	250453
DOCUMENT TITLE:	Taree Large Format Centre
	Section J DTS Building Fabric Markups
DOCUMENT REV:	Draft
DOCUMENT BY:	FG DATE: 29/04/2025

KEYPLAN



WORK IN PROGRESS

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1
0 5 10 15 20 25

PRELIMINARY

TENANCY 5-6, 16 ROOF PLAN

TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

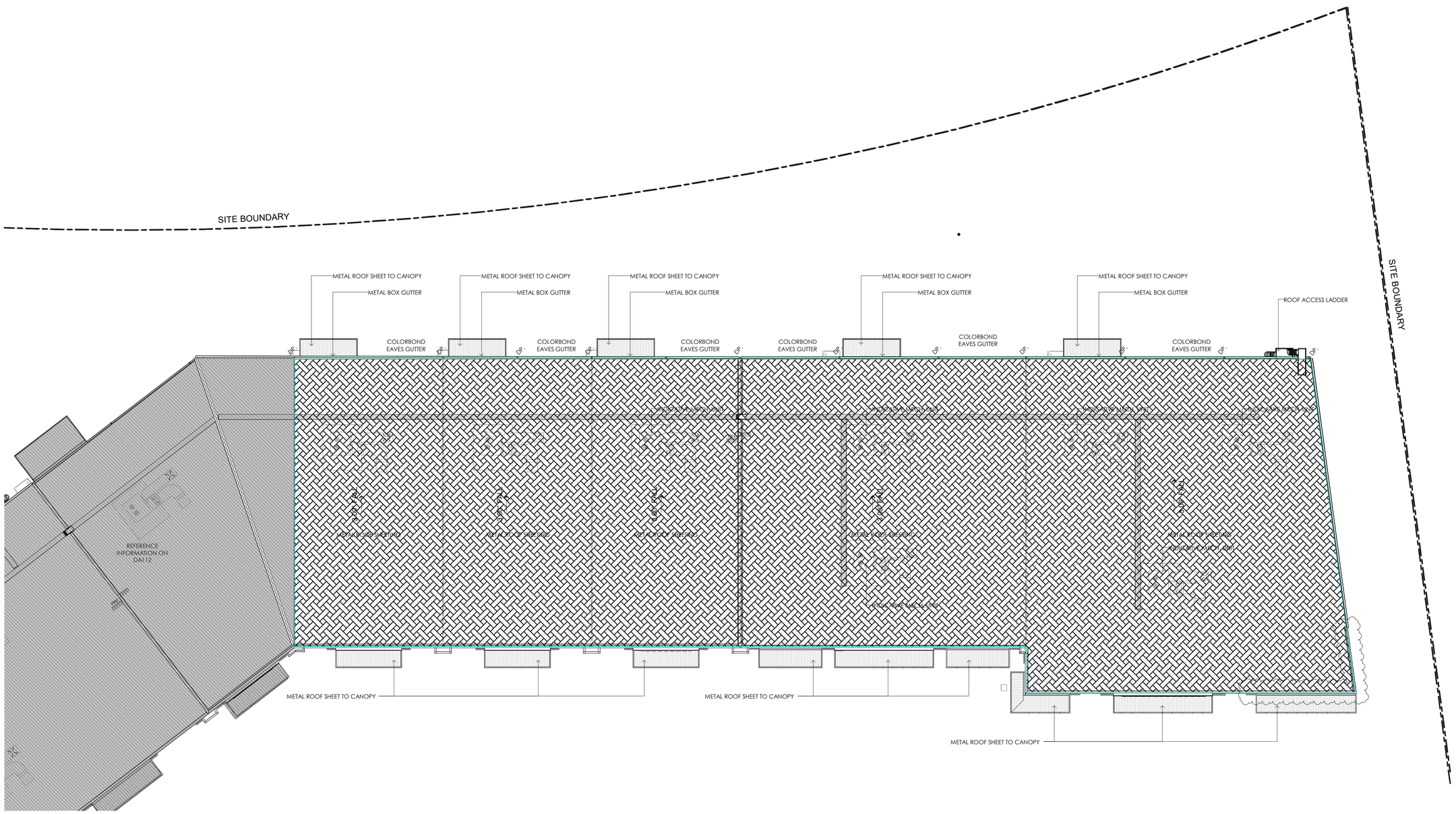
JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF

DWG NO. DA112 REV. P4

LEFFLER SIMES ARCHITECTS

Member
Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG
P 5	TENANCY SIGNAGE UPDATE	03.04.25	WG



NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

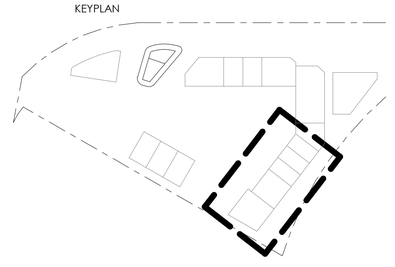
3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

JHA
MARKUP / SKETCH

DOCUMENT No.:	250453
DOCUMENT TITLE:	Taree Large Format Centre Section J DTS Building Fabric Markups
DOCUMENT REV:	Draft
DOCUMENT BY:	FG
DATE:	29/04/2025

KEYPLAN



WORK IN PROGRESS

PRELIMINARY

TENANCY 7-11 ROOF PLAN

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1

TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360
DATE: OCT '24
DRAWN: MS/JAF
DWG NO. DA113
REV. P5

LEFFLER SIMES ARCHITECTS

Member
Australian Institute of Architects

ISSUE	AMENDMENT	DATE	CHK'D
P 1	FOR INFORMATION	19.12.24	WG
P 2	FOR INFORMATION	29.01.25	WG
P 3	FOR INFORMATION	20.02.25	WG
P 4	SITE & TENANCY UPDATE	21.03.25	WG
P 5	TENANCY UPDATE	01.04.25	WG
P 6	TENANCY SIGNAGE UPDATE	03.04.25	WG

NCC 2022 Volume One Section J4 DtS Requirements
Building Fabric Required total system R-Values

LEGEND

- ROOF/CEILING - R3.7 (DOWNWARDS, SOLAR ABSORPTANCE OF THE UPPER SURFACE OF A ROOF MUST NOT BE MORE THAN 0.45)
- ENVELOPE WALLS - R1.4
- ENVELOPE FLOORS - R2.0

GLAZING SPECIFICATION

Glazing (Glass + Frame) requirements:
U-value 6.5 SHGC 0.65

STANDARD NOTES

1) The R-values s a total system performance value and NOT insulation.

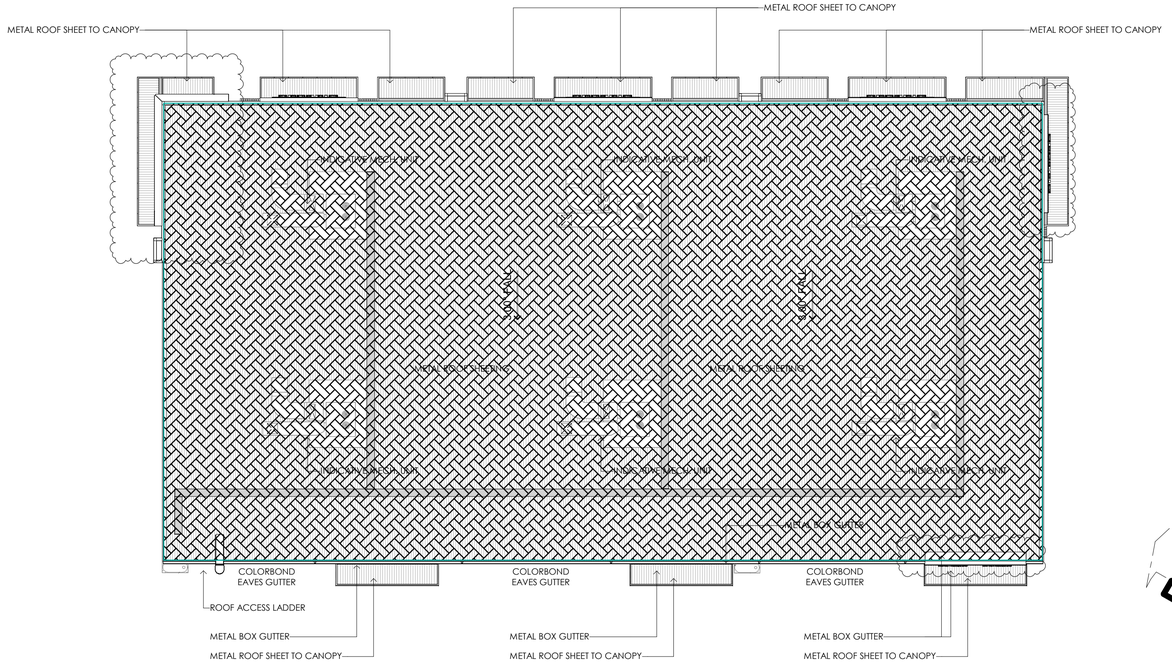
2) The above construction are only to be applied to non-glazed portions of the envelope and spandrel panels; glazing must be installed as per the architectural layouts with its thermal performances pursuant to the respective glazing specifications stated in the Section J report.

3) The above requirements are applied to the proposed NEW WORKS only, existing building fabric does not need to be upgraded.

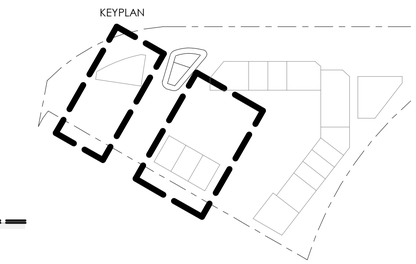
4) For Climate Zone 5, a slab-on-ground floor that does not have an in-slab heating or cooling system is considered to achieve a total R-Value of R2.0.

JHA
MARKUP / SKETCH

DOCUMENT No.:	250453
DOCUMENT TITLE:	Taree Large Format Centre Section J DTS Building Fabric Markups
DOCUMENT REV:	Draft
DOCUMENT BY:	FG DATE: 29/04/2025



KEYPLAN



WORK IN PROGRESS

PRELIMINARY

TENANCY 12-15 ROOF PLAN

LEFFLER SIMES PTY LTD
ABN 39 001 043 992
WEB: www.lefflersimes.com.au
SYDNEY S8.01, 140 ARTHUR ST NORTH SYDNEY, NSW 2060 T:+61 2 99093344
MELBOURNE LEVEL 2 - 370 LT BOURKE ST, VIC 3000 T:+61 3 96546344

SCALE 1:250 @ A1 (0 5 10 15 20 25)

TAREE LARGE FORMAT CENTRE
202 BUSHLAND DRIVE, TAREE, NSW

JOB NO: 5360 DATE: OCT '24 DRAWN: MS/JAF
DWG NO. DA114 REV. P6

LEFFLER SIMES ARCHITECTS

NSW Government
4 Parramatta Square
Parramatta NSW 2150
nabers.gov.au

NABERS Embodied emissions materials form

New non-residential developments must complete this form

From 1 October 2023, all new non-residential developments must report on embodied emissions using this form in NSW, where the NSW government's State Environmental Planning Policy (Sustainable Buildings SEPP) 2022 applies. You must disclose the amounts of key materials at the development application and construction certificate stages.

More on the Sustainable Buildings SEPP

Embodied carbon emissions are generated across the full life cycle of a building from "cradle to grave". Embodied carbon made up 16% of the whole-of-life carbon footprint of Australia's buildings in 2019 [1]. The purpose of this form is to report on material quantities only, to support project team discussions about potential reduction in emissions from key materials. The form does not include embodied emissions factors. This reporting form will be updated to reflect the NABERS Embodied Carbon tool when it's available in 2024.

Step 1: About the building

In the 'About the building' tab, you will add the location, function, and type of building you are planning to construct. You will also need to add information that describes the building, including gross floor area, number of floors, area of carpark, and more. Collecting this information will allow the NSW Government to compare similar buildings.

Step 2: Quantity of materials

In the 'Quantity of materials' tab, you will add the amounts of materials that you will use to construct your building. You only need to complete those fields relevant to your building. Leave fields that aren't relevant to your building blank. We recognise that there will be uncertainty, particularly at DA stage, so please use your best estimates where information is unknown (e.g., based on past projects).

How much do I need to include?

You must include all parts of the building delivered by the main contractor, covering at least 80% of the total materials bill. For example, if you spent $100,000 on materials, you need to include the material amounts of at least $80,000 of those materials in this form.

Wherever possible, consider materials costs only, not labour, plant or equipment. However, where you cannot split out the materials costs, please simply be consistent in the way the costs are reported throughout the spreadsheet.

Enter the **quantity of materials** (excluding labour, plant, equipment, margins and taxes) for:

(1) Structure (substructure and superstructure) within the envelope of the building. Also include any ancillary buildings that are necessary for the main building to function (for example, plant that is in a separate building).

(2) Envelope (cladding, curtain walls, roofing, windows, doors etc.)

(3) Permanent internal walls and doors. At minimum, this should include all structural walls.

(4) External works (hard landscaping, carparks, etc.) outside of the building envelope.

Enter the **cost of materials** (excluding labour, plant, equipment, margins and taxes) for:

(5) Building services (mechanical, electrical, plumbing, vertical transport, etc.) required to run the core of the building. Exclude special equipment required by a particular tenant.

You must enter the amounts of materials in SI units (commonly known as the metric system). These are generally consistent across the various products on the market. However, you might need to convert the units of some materials (for example, convert volume to kg).

Step 3: Certifier details

In the 'Certifier' tab you will add the details of the person who has entered data, and the person who has certified the accuracy of the data. The certifier must be a quantity surveyor, designer, engineer or NABERS assessor.

Step 4: Attach to approval

Attach this Excel spreadsheet to your development application or construction certificate application.

The data collected in this form will be used by the NSW Government to inform future policy development.

Help!

If you have general questions about reporting on the embodied emissions of your building, you should contact your local council or consent authority.

If you have technical questions about this spreadsheet, please contact NABERS:
nabers@environment.nsw.gov.au

---

[1] Green Building Council of Australia, 2021, https://new.gbca.org.au/news/gbca-news/gbca-and-thinkstep-release-embodied-carbon-report/

Step 1: About the building

Fill out b

Building location and site data	Value
Building address	202 Bushland Drive
Postcode	2430
Town/city	BLACK HEAD + 43 other loca
Distance to nearest major city/town	
Project stage	Development Application
New build or major renovation?	New build
Brownfield or greenfield site?	Greenfield

Floor area by NCC building classification	Gross (GFA)
Please enter all floor areas relevant to your building. Leave areas blank if not applicable. I building classifications. Please also enter the corresponding net area (Net Lettable Area, where it is commonly used for that building classification.	
Class 1a: Detached residential buildings	
Class 1b: Boarding houses and hostels	
Class 2: Multi-unit residential buildings	
Class 3: Other residential buildings	
Class 4: Residential inside non-residential	
Class 5: Office buildings	
Class 6: Retail buildings	18,590
Class 7a: Carparks	
Class 7b: Warehouse-type buildings	
Class 8: Industrial buildings	
Class 9a: Healthcare buildings	
Class 9b: Civic buildings	
Class 9c: Aged care and personal care buildings	
Class 10a: Non-habitable buildings	
Class 10b: Miscellaneous structures	
Class 10c: Bushfire shelters	
Total	18,590

Project information	Value
Total cost of project	
Building design life	
Estimated envelope life	
Estimated replacement cycle for mechanical services	

Estimated replacement cycle for vertical transportation	

Dimensions of the building and the site	**Value**
Site area	
Shared services or infrastructure	No
Building footprint area	
Typical floor area (if different to building footprint area)	
Typical floor perimeter	
Area of external carpark (not included in GFA)	
Area of external hardstand (not included in GFA)	
Area of other hard landscaping (not included in GFA)	
Number of floors/storeys above ground, including ground floor	
Number of floors/storeys below ground	
Number of floors/storeys of car parking	
Total height above ground	

Structural material choices	**Value**
Foundation type	Slab-on-ground
Frame type (dominant)	Steel
Suspended floor type (typical)	Please select
Describe low carbon materials specified in your building (e.g. green concrete, low carbon bricks)	
Describe recycled content specified in your building (e.g. recycled steel)	

lue cells

	Unit
lities	
	km

Net (NLA/NSA/UFA)	Unit
Please enter Gross Floor Area (GFA) for all Net Sellable Area or Usable Floor Area)	
	m²
	m²
	m²
	m²
	m²
	m²
18,590	m²
	m²
	m²
	m²
	m²
	m²
	m²
	m²
	m²
	m²
18,590	m²

	Unit
	AUD excl. GST
50	years
	years
	years

	years

	Unit
85,217	m²
18,590	m²
	m²
1,366	m
15,696	m^2
0	m^2
2,969	m^2
1	no.
0	no.
0	no.
8	m

	Unit

Note
Required
Town/city/suburb/region automated from postcode (may not give exact town name)
Enter for rural/regional locations only
Required
Required
Required

Note
Required for Class 1a: Detached residential houses, townhouses
Required for Class 1b: Boarding house, guest house, hostel
Required for Class 2: Multi-unit residential, including apartment buildings
Required for Class 3: Other residential buildings
Required for Class 4: Residential building inside a non-residential building, e.g., caretaker resi
Required for Class 5: Office building
Required for Class 6: Retail building, e.g., shop, restaurant, café
Required for Class 7a: Carparks
Required for Class 7b: Warehouses, wholesalers and storage facilities
Required for Class 8: Industrial buildings, e.g., factories and workshops
Required for Class 9a: Healthcare, e.g., hospitals, clinics, day surgeries
Required for Class 9b: Civic buildings, e.g., theatres, civic centres, train stations
Required for Class 9c: Aged care and personal care
Required for Class 10a: Non-habitable buildings including sheds, carports and private garages
Required for Class 10b: Miscellaneous structures, including fences, masts, antennas, retainin
Required for Class 10c: Bushfire shelters not attached to a Class 1a building
Required: Sum of m² inputs must be more than 0.

Note
Required
Required
Optional
Optional

Optional

Note
Required
Required
Required
Only needed if different to row above
Required
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required
Required. Enter 0 if not applicable.
Required. Enter 0 if not applicable.
Required

Note
Required
Required
Only needed for multi-storey buildings
Required
Required

Comment
Postcode of building
Town/city/suburb/region of the building site.
Declare the shortest route by road to your site from the centre of your nearest major city (>100,000 people). The route must be traversable by a semitrailer truck.
Stage of development

Gross Floor Area (GFA), as defined by the AIQS Australian Cost Management Manual
Net area (Net Lettable Area, Net Sellable Area, Usable Floor Area), as defined by the PCA's Method of Measurement

dence

s

g walls and swimming pools

Include labour, materials, transport, plant, equipment and professional fees. Exclude GST, land, finance, escalation a
If uncertain, enter 50 years

Total area of site to external boundary.
Indicate if there are shared services that the building utilises, or shared foundations, basement or podium
Total floor area of the ground floor measured to the outside edge of the floorplate.
Include all other impervious areas. For example, patios, paths and driveways (not already included in carparks and ha
Measured from the average finished grade to the highest point of the building, excluding protrusions (lighting rods, ma

nd other costs.

ırdstands above).

ısts, chimneys, etc.)

Step 2: Quantity of materials

Complete all blue cells that are applicable to the building. Leave items that aren't applicable blank.

Material category	Sub-category 1	Sub-category 2
Structure		
The structural parts of the building that are below ground (substructure) and above ground (superstruct This includes fill below the substructure, foundations, basement levels, suspended floors, wall structur It excludes external areas such as hardstands, carparks, patios, etc.		
Coverage of structural material spend	-	-
Concrete in-situ	≤10 MPa	-
Concrete in-situ	>10 MPa to ≤20 MPa	-
Concrete in-situ	>20 MPa to ≤32 MPa	-
Concrete in-situ	>32 MPa to ≤40 MPa	-
Concrete in-situ	>40 MPa to ≤50 MPa	-
Concrete in-situ	>50 MPa to ≤60 MPa	-
Concrete in-situ	>60 MPa to ≤80 MPa	-
Concrete in-situ	>80 MPa to ≤100 MPa	-
Concrete in-situ	>100 MPa	-
Concrete pre-cast panel	-	-
Concrete block	Hollow core	-
Concrete block/brick	Solid	-
Concrete block/brick	Solid AAC	-
Mortar	-	-
Reinforcing steel	Bar & mesh	-
Reinforcing steel	Fibre & strand	-
Structural steel	Hot rolled structural	-
Structural steel	Cold formed structural	-
Structural steel	Other welded structural	-
Structural steel	Plate	-
Structural steel	Sheet	-
Stainless steel	-	-
Reinforced concrete piles	Concrete	-
Reinforced concrete piles	Steel reinforcing	
Steel piles	-	-
Timber poles/piles	-	-
Timber (solid)	Sawn softwood	-

Timber (solid)	Sawn hardwood	-
Timber (engineered)	CLT	-
Timber (engineered)	Glulam	-
Timber (engineered)	LVL	-
Timber (engineered)	OSB	-
Brick	Heat cured	-
Structural Insulated Panel (SIP)	Steel outer	-
Structural Insulated Panel (SIP)	Aluminium outer	-
Structural Insulated Panel (SIP)	Engineered timber outer	-
Fill	-	-
Sand & gravel	-	-
Waterproofing membrane	Bituminous	-
Waterproofing membrane	Polyethylene	-
Other structural (Describe and add unit >>)		-
Other structural (Describe and add unit >>)		-
Other structural (Describe and add unit >>)		-

Envelope

The skin of the building that separates the internal building from the external environment.
This includes the roof cladding, wall cladding, windows, doors and internal/external shading. It also incl

Coverage of envelope material spend	-	-
Roof cladding	Profiled steel	-
Roof cladding	Profiled aluminium	-
Roof cladding	Profiled zinc	-
Roof cladding	Membrane	-
Roof cladding	Tiles (traditional clay)	-
Roof cladding	Tiles (concrete)	-
Roof cladding	Other (Please describe >>)	
Wall cladding	Bricks (heat cured)	-
Wall cladding	Bricks (air dried)	-
Wall cladding	Bricks (under fired)	-
Wall cladding	Bricks (concrete)	-
Wall cladding	Mortar and render	-
Wall cladding	Profiled steel	-

Wall cladding	Profiled aluminium	-
Wall cladding	Profiled zinc	-
Wall cladding	GRC cladding	-
Wall cladding	Timber weatherboards	-
Wall cladding	Fibre cement board	-
Wall cladding	Terracotta	-
Wall cladding	Brick tiles / veneers	-
Wall cladding	Plasterboard	-
Wall cladding	Plywood	-
Wall cladding	Other (Please describe >>)	
Windows & doors	Aluminium frame	Single glazed
Windows & doors	Aluminium frame	Double glazed
Windows & doors	Aluminium frame	Triple glazed
Windows & doors	Timber frame	Single glazed
Windows & doors	Timber frame	Double glazed
Windows & doors	Timber frame	Triple glazed
Windows & doors	uPVC frame	Single glazed
Windows & doors	uPVC frame	Double glazed
Windows & doors	uPVC frame	Triple glazed
Windows & doors	Frameless	Single glazed
Windows & doors	Frameless	Double glazed
Windows & doors	Frameless	Triple glazed
Windows & doors	Other (Please describe >>)	
Curtain wall	Single skin façade	Glazed panel
Curtain wall	Single skin façade	Glazed panel
Curtain wall	Single skin façade	Glazed panel
Curtain wall	Single skin façade	Opaque panel
Curtain wall	Single skin façade	Opaque panel
Curtain wall	Single skin façade	Opaque panel
Curtain wall	Single skin façade	Opaque panel
Curtain wall	Single skin façade	Opaque panel
Curtain wall	Double skin façade	Glazed panel
Curtain wall	Double skin façade	Glazed panel
Curtain wall	Double skin façade	Glazed panel
Curtain wall	Double skin façade	Opaque panel
Curtain wall	Double skin façade	Opaque panel

Curtain wall	Double skin façade	Opaque panel
Curtain wall	Double skin façade	Opaque panel
Curtain wall	Double skin façade	Opaque panel
Curtain wall	Other (Please describe >>)	
Stick-framed wall system	Aluminium frame	Glazed section
Stick-framed wall system	Aluminium frame	Glazed section
Stick-framed wall system	Aluminium frame	Glazed section
Stick-framed wall system	Aluminium frame	Opaque section
Stick-framed wall system	Aluminium frame	Opaque section
Stick-framed wall system	Aluminium frame	Opaque section
Stick-framed wall system	Aluminium frame	Opaque section
Stick-framed wall system	Aluminium frame	Opaque section
Stick-framed wall system	Steel frame	Glazed section
Stick-framed wall system	Steel frame	Glazed section
Stick-framed wall system	Steel frame	Glazed section
Stick-framed wall system	Steel frame	Opaque section
Stick-framed wall system	Steel frame	Opaque section
Stick-framed wall system	Steel frame	Opaque section
Stick-framed wall system	Steel frame	Opaque section
Stick-framed wall system	Steel frame	Opaque section
Stick-framed wall system	Other (Please describe >>)	
Wall louvre system	Aluminium	-
External shading system	Aluminium frame	Aluminium cladding
External shading system	Aluminium frame	GRC cladding
External shading system	Aluminium frame	Terracotta cladding
External shading system	Aluminium frame	Stone cladding
External shading system	Aluminium frame	Pre-cast concrete
External shading system	Aluminium frame	Timber
External shading system	Aluminium frame	Glass (opague)
External shading system	Aluminium frame	Steel
External shading system	Other (Please describe >>)	
Roller doors	Steel profile	-
Roller doors	Hardwood over steel	-
Roller doors	Softwood over steel	-
Revolving doors	Glass/aluminium/steel	-
Fire-rated doors	Engineered timber	-
Fire-rated doors	Steel	-
Fire-rated doors	Aluminium/glass	-
Insulation	Glass wool / fibreglass	-
Insulation	Stone wool	-
Insulation	Polyester	-

Insulation	Expanded polystyrene	-
Insulation	Other (Please describe >>)	
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-

Permanent internal walls and doors

Walls and doors within the building that are either structural or designed to be permanent.

Coverage of material spend on permanent internal walls and doors

Interior wall (permanent)	Steel (light framing)	-
Interior wall (permanent)	Timber framing	-
Interior wall (permanent)	AAC panel (reinforced)	-
Interior wall (permanent)	Concrete-filled steel panel	-
Interior wall (permanent)	Plasterboard	-
Interior wall (permanent)	Plywood	-
Interior wall (permanent)	Fibre cement sheet	-
Interior wall (permanent)	Insulation	-
Interior wall (permanent)	Glass	-
Interior wall (permanent)	Other (Please describe >>)	
Internal door (permanent)	Aluminium/glass	-
Internal door (permanent)	Timber/glass	-
Internal door (permanent)	Timber solid lightweight	-
Internal door (permanent)	Fire resistant	-
Internal door (permanent)	Steel	-
Internal door (permanent)	Other (Please describe >>)	
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-

Services

Building services included within the main building contract. If the building components that are the sul are base building only, then only enter these items. If you cannot split services by type, please enter the values as material costs in dollars.

Mechanical services	-	-
Vertical transportation	-	-
Electrical services	-	-
Solar photovoltaic installations	-	-
Plumbing/hydraulic services	-	-
Fire services		

Other services (Please describe)		-

External works

The materials associated with hard landscaping and outbuildings on the site but outside the building en
This includes hardstands, carparks, driveways, covered walkways, decks, patios, awnings, fences, gate

Coverage of spend on external works	-	-
Asphalt	-	-
Concrete in-situ	≤10 MPa	-
Concrete in-situ	>10 MPa to ≤20 MPa	-
Concrete in-situ	>20 MPa to ≤32 MPa	-
Concrete in-situ	>32 MPa to ≤40 MPa	-
Concrete in-situ	>40 MPa to ≤50 MPa	-
Concrete in-situ	>50 MPa	-
Pavers, bricks and blocks	Concrete	-
Pavers, bricks and blocks	Clay	-
Reinforcing steel	Bar & mesh	-
Reinforcing steel	Fibre & strand	-
Structural steel	-	-
Structural aluminium	-	-
External roof/wall cladding	Polycarbonate	-
External roof/wall cladding	PVC	-
External roof/wall cladding	Bitumen sheet	-
External roof/wall cladding	Steel profile	-
Fill	-	-
Sand & gravel	-	-
Timber (solid)	Sawn softwood	-
Timber (solid)	Sawn hardwood	-
Timber (engineered)	CLT	-
Timber (engineered)	Glulam	-
Timber (engineered)	LVL	-
Timber (engineered)	OSB	-
Fabric (awning/sunshade)		
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-
Other (Please describe and add unit >>)		-

Fill out blue cells

Sub-category 3	Value	Unit of measure
ture).		
e, roof structure, stairs, lift shafts and balconies.		
-		%
-		m³
-		m³
-		m³
-		m³
-	5,613.8	m³
-		m³
-		m³
-		m³
-		m³
-		m³
-		m³
-		m³
-		m³
-		kg
-	561,382	kg
-		kg
-		t
-		t
-		t
-		t
-		t
-		t
-		m³
		kg
-		t
-		m³
-		m³

-		m³
-		m³
-		m³
-		m³
-		m³
-		m³
-		m²
-		m²
-		m²
-		t
-		t
-		m²
-		m²
-		
-		
-		

ludes insulation and the internal wall lining of envelope walls.

-		%
-	18,590	m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-	1,660	m²
-		kg
-	3,732	m²

-		m²
-		m²
-		m²
-		m²
-	4,087	m²
-		m²
-		m²
-		m²
-		m²
-		m²
-	920	m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
		m²
		m²
		m²
-		m²
Single glazed		m²
Double glazed		m²
Triple glazed		m²
Aluminium cladding		m²
GRC cladding		m²
Insulated shadow box		m²
Brick cladding		m²
Stone cladding		m²
Single glazed		m²
Double glazed		m²
Triple glazed		m²
Aluminium cladding		m²
GRC cladding		m²

Insulated shadow box		m²
Brick cladding		m²
Stone cladding		m²
-		m²
Single glazed		m²
Double glazed		m²
Triple glazed		m²
Aluminium cladding		m²
GRC cladding		m²
Insulated shadow box		m²
Brick cladding		m²
Stone cladding		m²
Single glazed		m²
Double glazed		m²
Triple glazed		m²
Aluminium cladding		m²
GRC cladding		m²
Insulated shadow box		m²
Brick cladding		m²
Stone cladding		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		m²
-	225	m²
-		m²
-		m²
-		no.
-		no.
-		no.
-		no.
-	8,296.2	m²
-		m²
-		m²

-		m²
-		m²
-		
-		
-		

		%
-		t
-		m³
-		m²
-		m²
-	11,288	m²
-		m²
-		m²
-		m²
-		m²
-		m²
-		no.
-		no.
-	28	no.
-		no.
-		no.
-		no.
-		
-		
-		

		Unit of measure
bject of the development application or the construction certificate m all in the "Other services" category at the bottom. Enter all		
-		AUD excl. GST
-		AUD excl. GST
-		AUD excl. GST
-		AUD excl. GST
-		AUD excl. GST
		AUD excl. GST

-		AUD excl. GST

ıvelope.
s, etc. Soft landscaping should be excluded.

-		%
-		t
-		m³
-		m³
-		m³
-		m³
-	2,969.0	m³
-		m³
-		m²
-		m²
-	296,900	kg
-		kg
-		t
-		t
-		m²
-		m²
-		m²
-		m²
-		t
-		t
-		m³
-		m³
-		m³
-		m³
-		m³
-		m³
		m²
-		
-		
-		

Comment
Required. Coverage of spend for structural elements entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel as part of "Reinforcing steel" below
Please enter reinforcing steel in relevant line items below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.
Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000). Please include all block fill concrete and all reinforcing steel in relevant line items above/below.
Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000)
Solid Aerated Autoclaved Concrete (AAC) block. Enter as cubic metres, calculated as (area in m²) * (thickness in mm / 1000).
Include all reinforcing steel bar/mesh in the building's structure in this row. Usually this is calculated as kg/m³ per concrete element and then summed. Example: 10 m³ of 40 MPa concrete @ 100 kg/m³ + 5 m³ of 50 MPa concrete @ 150 kg/m³ = 1,750 kg reinforcing steel.
Include all steel fibre reinforcing and steel strand in the building's structure in this row.
Examples include universal beams, universal columns and welded beams
Examples include C purlins, Z purlins and all light gauge steel framing
Include any allowance for connections here
Primarily for engineered timber structure connections
Please enter reinforcing steel in the line below. If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.
If not known at DA stage, please make your best estimate. If not known at CC stage, please ask your supplier.
Where concrete and reinforcing steel are also used, enter these in the rows above.
Where concrete and reinforcing steel are also used, enter these in the rows above.

Enter as cubic metres, calculated as (area of wall in m²) * (thickness in mm / 1000)

Enter as cubic metres, calculated as (area of wall in m²) * (thickness in mm / 1000)

Include purchased material only. Exclude site-won material.

Include purchased material only. Exclude site-won material and sand/gravel in concrete.

Please enter a description for any structural material that does not fit a predefined classification

Please enter a description for any structural material that does not fit a predefined classification

Please enter a description for any structural material that does not fit a predefined classification

Required. Coverage of spend for the envelope items you have entered below.
Minimum requirement = 80%. Exclude head contractor preliminaries and margins.

Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.

Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted aluminium sheets.

Enter as m² of roof area. Exclude allowances for overlap in the roofing sheets. This row also includes pre-painted zinc sheets.

Enter as m² of roof area. Exclude allowances for overlap in the membrane sheets.

Enter as m² of roof area. Exclude allowances for overlap between the tiles.

Enter as m² of roof area. Exclude allowances for overlap between the tiles.

Please enter a description for any roofing that does not fit a predefined classification

Enter as m² of wall area. Heat-cured bricks use a kiln or furnace to raise the brick temperature above ambient temperature during curing process.

Enter as m² of wall area. Air-dried bricks are cured using ambient temperature.

Enter as m² of wall area.

Enter as m² of wall area

Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row includes all metal-coated and pre-painted steel sheets where steel is the base metal. Examples include: galvanised steel, zinc-aluminium (zincalume) coated steel and zinc-aluminium-magnesium (ZAM) coated steel, whether painted or unpainted.

Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted aluminium sheets.

Enter as m² of wall area. Exclude allowances for overlap in the cladding sheets, offcuts, etc. This row also includes pre-painted zinc sheets.

Enter as m² of wall area. GRC = Glass Reinforced Concrete.

Enter as m² of wall area. Exclude allowances for overlap between weatherboards, offcuts, etc.

Enter as m² of wall area. Exclude allowances for offcuts, etc.

Enter as m² of wall area. Exclude allowances for offcuts, etc.

Enter as m² of wall area. Exclude allowances for offcuts, etc.

Enter as m² of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.

Enter as m² of wall area. Exclude allowances for offcuts, etc. Include both external wall linings and internal wall linings for envelope walls.

Please enter a description for any wall cladding that does not fit a predefined classification

Include all single glazing, including standard, toughened, laminated and low-E

Include all double glazing, including standard, toughened, laminated and low-E

Include all triple glazing, including standard, toughened, laminated and low-E

Include all single glazing, including standard, toughened, laminated and low-E

Include all double glazing, including standard, toughened, laminated and low-E

Include all triple glazing, including standard, toughened, laminated and low-E

Include all single glazing, including standard, toughened, laminated and low-E

Include all double glazing, including standard, toughened, laminated and low-E

Include all triple glazing, including standard, toughened, laminated and low-E

Include all single glazing, including standard, toughened, laminated and low-E

Include all double glazing, including standard, toughened, laminated and low-E

Include all triple glazing, including standard, toughened, laminated and low-E

Please enter a description for any windows or doors that do not fit a predefined classification

Please declare all single-skin façade area in this section. All double-skin façade area should be entered in the next section. Include all single glazing, including standard, toughened, laminated and low-E

Include all double glazing, including standard, toughened, laminated and low-E

Include all triple glazing, including standard, toughened, laminated and low-E

GRC = Glass-fibre Reinforced Concrete

Please declare all double-skin façade area in this section. Please declare as the area of the curtain wall and do not enter the inner and outer skins twice.
Include all single glazing, including standard, toughened, laminated and low-E.

The type of glazing refers to the building's envelope wall, not including the outer skin

The type of glazing refers to the building's envelope wall, not including the outer skin

GRC = Glass-fibre Reinforced Concrete

Please enter a description for any curtain wall that does not fit a predefined classification
Include all single glazing, including standard, toughened, laminated and low-E
Include all double glazing, including standard, toughened, laminated and low-E
Include all triple glazing, including standard, toughened, laminated and low-E

GRC = Glass-fibre Reinforced Concrete

Include all single glazing, including standard, toughened, laminated and low-E
Include all double glazing, including standard, toughened, laminated and low-E
Include all triple glazing, including standard, toughened, laminated and low-E

GRC = Glass-fibre Reinforced Concrete

Please enter a description for any wall system that does not fit a predefined classification

Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000).
GRC = Glass-fibre Reinforced Concrete.
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please enter as m² of shaded area = linear metres * (width in mm / 1000)
Please note unit is square metres, not quantity
Please note unit is square metres, not quantity
Please note unit is square metres, not quantity

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.
Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.
Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.
Please include both wall and ceiling insulation
Please include both wall and ceiling insulation
Please include both wall and ceiling insulation

Please include both wall and ceiling insulation

Please include both wall and ceiling insulation

Please enter a description for any envelope material that does not fit a predefined classification

Please enter a description for any envelope material that does not fit a predefined classification

Please enter a description for any envelope material that does not fit a predefined classification

Enter the % coverage of spend for the items you have entered below. There is no minimum requirement: enter what you know. This should include all structural walls. Exclude head contractor preliminaries and margins.

Panels of autoclaved aerated concrete (AAC) with reinforcing steel. E.g., Hebel.

Panels made from a steel sheet outer with an aerated concrete core. E.g., Speedpanel.

Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.

Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.

Enter as single-layer equivalent. If using 2 layers, multiply the area by 2.

Please enter a description for any internal wall that does not fit a predefined classification

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.

Please enter as single-leaf equivalent. For double-leaf doors, multiply the quantity by 2.

Please enter a description for any internal door that does not fit a predefined classification

Please enter a description for any material that does not fit a predefined classification

Please enter a description for any material that does not fit a predefined classification

Please enter a description for any material that does not fit a predefined classification

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes

Electrical services including the main power supply, backup generators, security and communications. Excluding solar installations.

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes.

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes

Where possible, enter material costs excluding labour, plant, equipment, margins and taxes

Please group all other services here, meaning that coverage will always be 100% for services. Enter only the material costs (excluding labour, plant, equipment, margins and taxes).

Required. Coverage of spend for external works (excluding soft landscaping) entered below. Minimum requirement = 80%. Exclude head contractor preliminaries and margins.

Please enter reinforcing steel as part of "Reinforcing steel" below

Please enter reinforcing steel as part of "Reinforcing steel" below

Please enter reinforcing steel as part of "Reinforcing steel" below

Please enter reinforcing steel as part of "Reinforcing steel" below

Please enter reinforcing steel as part of "Reinforcing steel" below

Please enter reinforcing steel as part of "Reinforcing steel" below

Include all reinforcing steel bar/mesh in the external works in this row. Usually this is calculated as kg/m³ per concrete element and then summed. Example: 10 m³ of 40 MPa concrete @ 100 kg/m³ + 5 m³ of 50 MPa concrete @ 150 kg/m³ = 1,750 kg reinforcing steel.
Include all steel fibre reinforcing and steel strand in the external works in this row.

Includes structures, louvre systems, etc.

Enter as profiled polycarbonate sheet that would ordered, including allowance for overlap

Enter as profiled PVC sheet that would ordered, including allowance for overlap

Enter as bituminous sheet that would ordered, including allowance for overlap

Enter as profiled steel sheet that would ordered, including allowance for overlap

Include purchased material only. Exclude site-won material.

Include purchased material only. Exclude site-won material and sand/gravel in concrete.

Please enter a description for any external works that does not fit a predefined classification

Please enter a description for any external works that does not fit a predefined classification

Please enter a description for any external works that does not fit a predefined classification

05_RF or 06_EW	03 or 04
05_RF or 06_EW	03 or 04

09_NW	03 or 04
09_NW	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
09_NW or 12_WF	03 or 04
11_ND	03 or 04
11_ND	03 or 04
11_ND	03 or 04
11_ND	03 or 04
11_ND	03 or 04
11_ND	03 or 04

28_SS	05
28_SS	05
26_LP	05
26_LP_LPGP	05
18_PD and 19_WS	05 or 06
25_FPSS04 or 39 XWAW_03 or 41_XF	05

29_SS or multiple

33_XR	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR	07
33_XR	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
02_11	07
35_XB	07
35_XB	07
35_XB	07
35_XB	07
35_XB	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
33_XR or 34_XN or 35_XB or 36_XL	07
35_XB or 36_XL	07

Step 3: Certifier details

The material quantities must be determined through an itemised l
quantities) and certified by a quantity surveyor, designer, enginee

Person that completed this form
Name
Company
ABN
Profession
Qualification or registration

Person that certified the details in this form
Name
Company
ABN
Profession
Qualification or registration

Confirmation of certification
Are 80% of material costs captured for the building's structure, envelope and external works?
If no - why not?

Additional comments from data provider
Quantity bsed on assumption and measurements

Additional comments of certifier
Form certified as the project didn't have QS engaged at this proje

Attach this Excel spreadsheet to your development application or

Fill out blue cells

ist of building materials (such as a bill of
r or NABERS Assessor.

Value	Note
Felisa Garcia	Required
JHA	Required
48612666172	
ESD consultant	Required
Bachelor of Architect	Required

Value	Note
Eddith Chu	Required
JHA	Required
48612666172	
Senior Sustainablity Engineer	Required
NABERS Assessor 91007	Required

Value	Note
Please select	Required

ct stage

construction certificate application.