Sustainability Management Plan for Mornington Peninsula Specialist Hospital For SANCC Pty Ltd

Revision	Date	Description	Author	Reviewer
P1	09/12/22	Preliminary Issue	KNR	KP
0	21/12/22	Final Issue	KNR	--
1	28/09/23	Final Issue - Updated	AA	JL

The reader's attention is drawn to the following important information:

Contents

Executive Summary

This Sustainability Management Plan (SMP) has been prepared for the proposed Mornington Peninsula Specialist Hospital at 9-13 Cranbourne Road & 69 Playne Street, Frankston VIC 3199, to summarise the ESD initiatives proposed for the project.

This report covers the following requirements from the Frankston Planning Scheme:

- Clause 15.01 - 2L - 01 Environmentally Sustainable Development
  - Non-residential – Development of non-residential building with a gross floor area of more than 1000m^2:
  - Sustainability Management Plan Example tools include Green Star and BESS
  - STORM / MUSIC Assessment

This SMP shows that the building has the design potential to achieve Best Practice in accordance with BESS, which is in line with the environmental performance outcomes as stipulated in the Frankston Planning Scheme.

Key ESD Initiatives

The design for the commercial development includes ESD initiatives in line with council's objectives. BESS has been used to benchmark performance. The following summarises the ESD initiatives:

- High performance insulation beyond the minimum requirement in National Construction code (NCC);
- High performance HVAC systems and domestic hot water systems beyond the minimum requirement in the National Construction Code (NCC);
- Reduction of potable water consumption through efficient high WELS rated sanitary fixtures and appliances;
- Recycling waste facilities to encourage diversion of waste to landfill;
- Adequate natural daylight to regular occupied interiors of building;
- Best Practice Lighting Comfort as per green star requirements;
- Water-efficient landscape;
- Rainwater collection for reuse in toilets;
- Replacing cement with Supplementary Cement Materials (SCM).

Introduction

This SMP has been developed to demonstrate design potential of the development in line with the ESD requirements of the Frankston Planning Scheme for the proposed Mornington Peninsula Specialist Hospital at 9-13 Cranbourne Road & 69 Playne Street, Frankston VIC 3199.

Building Description

The proposed development includes a 3-storey specialist hospital building. It is comprised of operating rooms, recovery rooms, staff rooms, offices, various storerooms, scrubbing rooms, sterile zones, circulation, waiting areas and amenities.

Reference Documents

This report is based on the following architectural drawings received from Clarke Hopkins Clarke:

Architect: Clarke Hopkins Clarke Architects
L9, Melbourne Connect, 700 Swanston Street
Carlton 3053, Melbourne
VIC 3000

The relevant documents and drawings used in compiling this report are as follows:

Project reference No.	Drawing No.	Revision	Title
220088	TP01	C	NEIGHBOURHOOD CHARACTER & DESCRIPTION
	TP02	C	DESIGN RESPONSE
	TP03	C	EXISTING PLAN
	TP04	E	SITE PLAN AND DEMO
	TP10	D	FLOOR PLAN – GROUND FLOOR
	TP11	C	FLOOR PLAN – LEVEL 01
	TP12	C	FLOOR PLAN – LEVEL 02
	TP13	E	ROOF PLAN
	TP20	C	SECTIONS
	TP30	E	BUILDING ELEVATIONS – SHEET 01
	TP31	C	BUILDING ELEVATIONS – SHEET 02
	TP40 – TP41	C & A	SHADOW DIAGRAMS

Table 1: Reference documents

ESD Initiatives

The BESS categories include Management, Water, Energy, Stormwater, Indoor Environment Quality (IEQ), Transport, Waste, Urban Ecology and Innovation. The development intends to target all the initiatives listed in this section. It has the preliminary design potential to achieve Best Practice with a BESS score of 57%. The disciplines responsible for each initiative during design are also listed below. The Head Contractor will be responsible for incorporating the ESD initiatives during construction and should substitute initiatives if the requirements listed in this report become unfeasible. This ensures that the sustainability requirements of the council are ultimately met.

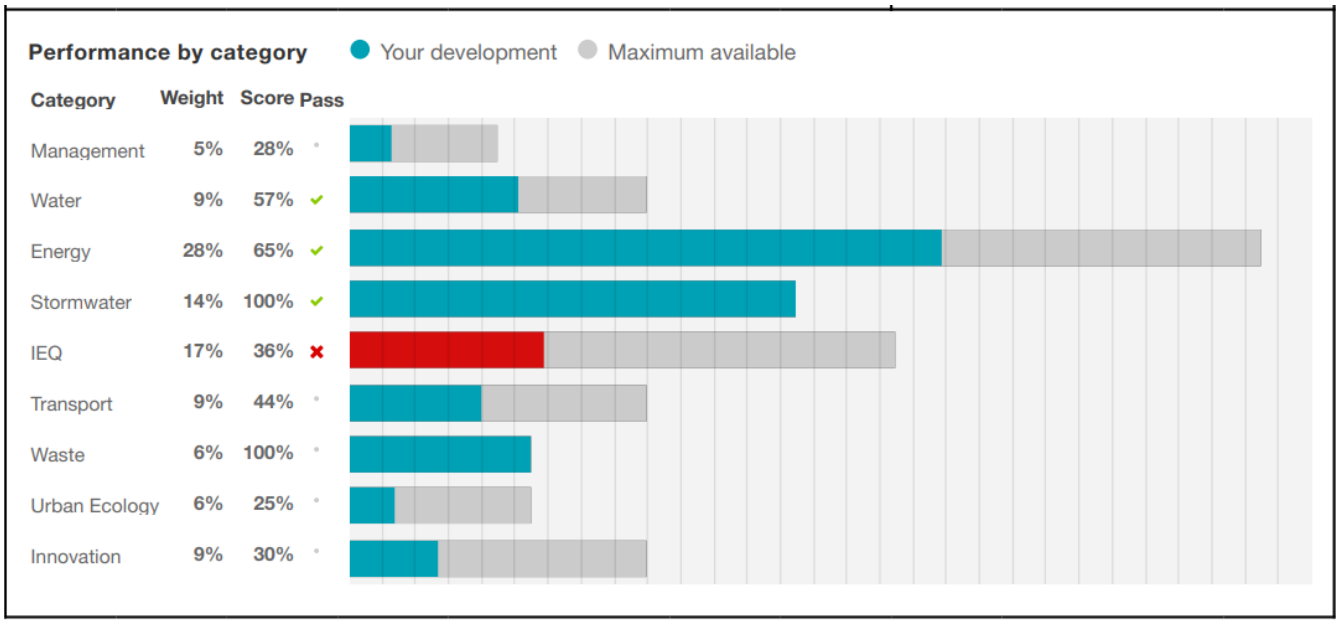


Figure 1: Best Practice has been achieved with a BESS score of 57%

Management

The management category initiatives encourage passive design principles, monitoring of energy and water consumption, and engagement of stakeholders to use the building more effectively. The category is achieving a score of 28%.

Requirement	Requirement details	Design responsibility
2.3 Thermal Performance modelling	Final façade assessment has been undertaken in accordance with NCC 2019 Section J 1.5 requirements with the latest drawings. Refer to Appendix E for Section J DTS report.	ESD consultant
4.1 Building Users Guide	A building users guide be produced and issued to occupants. A Building Users' Guide should use non-technical language and be targeted to building occupants (and building managers where required). The Building Users' Guide may be a simple booklet and/or a combination of interpretative signage throughout the building. Its purpose is to help facilitate more sustainable behavior by building occupants.	Head contractor

Water

The objective of the requirements listed under the water category is to reduce potable water usage, achieving a score of 57%.

Requirement	Requirement details	Design responsibility
1.1 Potable Water Use Reduction	Provision of efficient water fixtures, fittings and connections. Bathrooms and kitchens will install fixtures with the following minimum WELS rating: • Kitchen taps: >= 5 Star WELS rating • Bathroom taps: >= 5 Star WELS rating • Washbasins: >= 5 Star WELS rating • Showers: 4 Star (>= 4.5 but <= 6.0) • WC: >= 5 Star WELS rating • Urinals: >= 5 Star WELS rating • Dishwashers: >= 4 Star WELS rating	Architect
Rainwater reuse	A 30kL rainwater tank is connected to all toilets in the development	Architect / Hydraulic consultant
3.1 Water Efficient Landscaping	Xeriscape garden which does not require irrigation system, will be installed. Landscaping featured on site will use water efficiency principles, including low water use plant selection and use of mulch.	Landscape consultant

Energy

The objective of the requirements listed under the energy category is to minimize energy consumption for the development, achieving a score of 65%.

Requirement	Requirement details	Design responsibility
1.1 Building envelope	All exposed floors and ceilings that are part of the thermal envelope demonstrate a minimum 10% improvement in required NCC2019 insulation levels (total R-value upwards and downwards). All wall and glazing demonstrate meet at least the minimum requirement of the NCC2019 facade calculator. Refer to Appendix E for Section J DTS report.	Architect
2.3 Heating and cooling	Heating and cooling systems are within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available.	Mechanical consultant
2.2 Water heating system	Water heating systems are within one star of the best available, or 85% or better than the most efficient equivalent capacity unit.	Hydraulic consultant
2.4, 2,6 Electrification	No gas connection is used in the building. The development will be all electric.	
3.7 Internal Lighting	Maximum power density in at least 90% of the relevant building area meets the requirements in Table J6.2a of the	Electrical consultant

	NCC 2019 Vol 1. Refer to table no 1.	
4.2 Photovoltaic system	No solar PV renewable energy is installed	Electrical consultant

Table no. 1 – Illumination power density used in the development according to NCC 2019 Vol 1 table J6.2a.

Space	Illumination power density (W/m2)
Kindergarten rooms/Tutorial rooms	4.5
Director room/Offices	4.5
Staff room	3
Corridors	5
Piazza/Community	8
Kitchen	4
Entry lobby	9
Toilets	3
Meeting room	5
Storage/Cleaner's room	1.5

Stormwater

The objective of the stormwater category is to achieve best practice stormwater quality objectives through reduction of pollutant load (suspended solids, nitrogen and phosphorus), achieving a total score of 100%.

Requirement	Requirement details	Design responsibility
1.1 Stormwater Treatment	Treatment of stormwater to reduce the following pollutant loads: total suspended solids, gross pollutants, total nitrogen, and total phosphorus. Rainwater from roof area of approximately 1,632m^2 will be diverted into a 30kL rainwater tank. Rain from impervious roads of approximately 2,110m^2 will be diverted into one rain garden of min. 40sq.m. with 300mm extended detention depth. The STORM assessment achieves a score of 102%, refer to Appendix B for STORM calculator and Appendix C for STORM markup	Architect / Hydraulic consultant / Landscape

Indoor Environment Quality

The indoor environment quality (IEQ) category provides a high level of amenity and energy efficiency by designing for natural lighting, ventilation, and passive cooling opportunities. This category achieves a score of 36%.

Requirement	Requirement details	Design responsibility
1.4 Daylight Access – Non-Residential	36% of the floor area of the main regular used areas achieves a daylight factor of at least 2%. Windows must have VLT equal to or greater than 40%. Refer to Appendix C **Error! Reference source not found.** for daylight mark up.	Architect

	Refer to Appendix C **Error! Reference source not found.** for skylight area markup.	
2.3 Ventilation	– The building is fully mechanically ventilated due to infection spread control. – Outdoor air quantities prescribed for healthcare projects are met and also the project will meet specific pressure differential conditions between rooms. – Outdoor air quantities are based on the room application and different O/A flow rates as per AS1668.2 section 5. Majority of medical procedures related rooms should be greater of 20 l/s per person or 10 a/c per hour. – Outdoor air supply is based on quantities prescribed for healthcare building without targeting any specific CO2 concentration. They don't allow adjustments due to pressure considerations and infection spread control. Increase in outdoor air and CO2 concentrations are not appliable (scoped out) to this project as it is required to meet the healthcare project requirements. As scoping out option is not available in BESS for this credit, special consideration is required for this credit	Mechanical Consultant
4.1 Air Quality	All paints, sealants, adhesives, carpet and engineered wood meet the maximum total indoor pollutant emission limits	Architect
Replacement Credits – **Lighting comfort** as per Green Star DAB v1.3	As the Ventilation 2.3 credit could not be met, we recommend the following credits to improve the Indoor Environmental Quality Minimum Lighting Comfort: The lights in the nominated area will be flicker-free and accurately address the perception of colour in the space. Internal spaces shall be well lit through flicker-free luminaires and a minimum CRI of 80. General illuminance and Glare Reduction: General illuminance and uniformity of maintained illuminance shall meet the appropriate AS/NZS 1680 standards in accordance with the type of activity of the space. All bare light sources shall be fitted with diffusers, baffles, or louvers (or similar) Localised Lighting Control Localised lighting control where individuals or groups of individuals can adjust lighting levels in their immediate environment where appropriate.	Electrical Consultant

Transport

The objective of the transport category is to minimise the usage of private passenger cars. This category achieves a score of 44%.

Requirement	Requirement details	Design responsibility
1.4 Bicycle Parking – Non-Residential	The development exceeds the planning scheme requirements for employee and visitors bicycle parking by at least 50%, as required by BESS. The development is to have total of18 bicycle spaces.	Architect

<table>
<tr><td></td><td>Bicycle space requirements:<table><tr><th></th><th>BESS requirement</th><th>Total for development</th></tr><tr><td>Employees</td><td>3</td><td>10</td></tr><tr><td>Visitors</td><td>2</td><td>8</td></tr></table></td><td></td></tr>
<tr><td>1.6 End of Trip Facilities</td><td>Lockers and showers provided as per the minimum requirement of lockers and showers.
Showers – min. required = 1
Lockers – min. required = 10</td><td>Architect</td></tr>
</table>

Waste

Requirements listed under the waste category aim to minimise organic waste and recyclable material going to landfill. This category achieves a score of 100%.

Requirement	Requirement details	Design responsibility
2.1 Operational Waste – Food and Waste	Green waste bins are available for on-site management of food and garden waste.	Architect/Waste consultant
2.2 Operational Waste - Convenience of Recycling	Recycling and general waste bin facilities are available and accessible equally.	Architect/Waste consultant

Urban Ecology

Requirements listed under the urban ecology category aim to encourage green spaces for the development. This category achieves a score of 37%.

Requirement	Requirement details	Design responsibility
2.1 Vegetation	Approximately 18% of the site area is covered with vegetation.	Architect/ Landscape

Other / Innovation

Requirements listed below are not exhaustive but is recommended to be integrated into the design. These initiatives do not fit into the above categories.

Requirement	Requirement details	Design responsibility
Urban heat island effect	Light colour roof materials are nominated for the roof.	Architect
Sustainable construction materials	For concrete used as part of the development, approximately 25% of cement is replaced with Supplementary Cement Materials (SCM); e.g., fly ash or ground granulated blast furnace slag (GGBFS)	Head Contractor
Construction waste	At least 70% of construction and demolition waste to be diverted from landfill by recycling and reuse	

Appendix A – BESS report

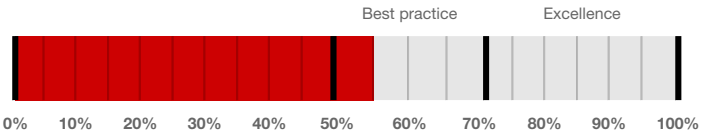
BESS Report

Built Environment Sustainability Scorecard

This BESS report outlines the sustainable design commitments of the proposed development at 9 - 17 Cranbourne Rd Frankston Victoria 3199. The BESS report and accompanying documents and evidence are submitted in response to the requirement for a Sustainable Design Assessment or Sustainability Management Plan at Frankston City Council.

Note that where a Sustainability Management Plan is required, the BESS report must be accompanied by a report that further demonstrates the development's potential to achieve the relevant environmental performance outcomes and documents the means by which the performance outcomes can be achieved.

Your BESS Score

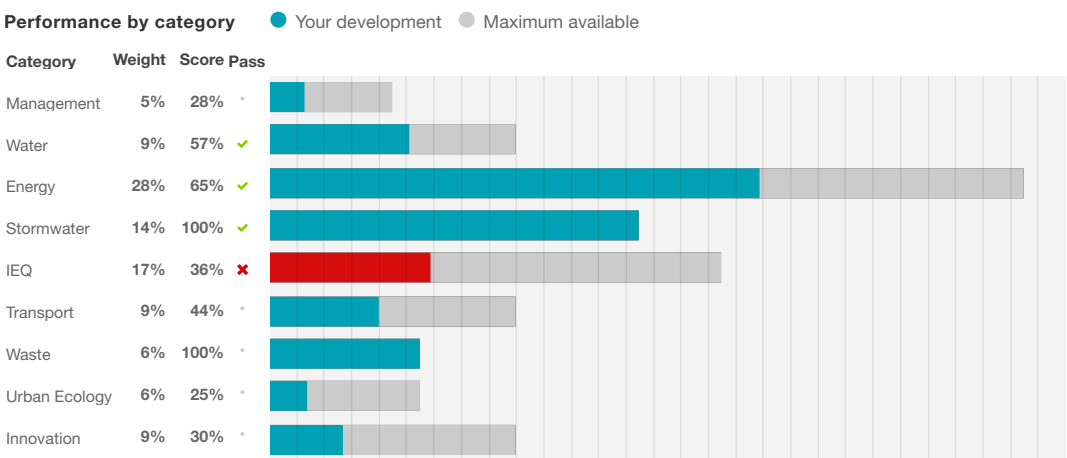


57%

Project details

Address	9 - 17 Cranbourne Rd Frankston Victoria 3199
Project no	5CA0EDCE-R2
BESS Version	BESS-7
Site type	Non-residential development
Account	bess@erbas.com.au
Application no.	
Site area	6,000.00 m²
Building floor area	4,030.00 m²
Date	28 September 2023
Software version	1.8.0-B.402

Performance by category



Buildings

Name	Height	Footprint	% of total footprint
Specialist Hospital	3	845 m²	100%

Dwellings & Non Res Spaces

Non-Res Spaces

Name	Quantity	Area	Building	% of total area
Public building				
Medical Tenancy	1	4,030 m²	Specialist Hospital	100%
Total	**1**	**4,030 m²**	**100%**	

Supporting information

Floorplans & elevation notes

Credit	Requirement	Response	Status
Water 3.1	Annotation: Water efficient garden details	To be printed See Landscape Architects documentation	✔
Stormwater 1.1	Location of any stormwater management systems (rainwater tanks, raingardens, buffer strips)	To be printed See Appendix B - Storm Report Appendix C - Storm markup Page 7 in SMP - for stormwater management systems explanation	✔
Transport 1.4	Location of non-residential bicycle parking spaces	To be printed See Site plan - TP 04	✔
Transport 1.5	Location of non-residential visitor bicycle parking spaces	To be printed See Site plan - TP 04	✔
Transport 1.6	Location of showers, change rooms and lockers as nominated	To be printed See Floor plan - TP 10	✔
Waste 2.1	Location of food and garden waste facilities	To be printed See See Floor plan - TP 10	✔
Waste 2.2	Location of recycling facilities	To be printed See Floor plan - TP 10	✔
Urban Ecology 2.1	Location and size of vegetated areas	To be printed See Landscape architect's drawings, Site plan - TP 04, and Floor plan - TP 10 for vegetated areas	✔

Supporting evidence

Credit	Requirement	Response	Status
Management 2.3a	Section J glazing assessment	To be printed See Appendix E - Section J report See Section J Appendix A - Facade Calculator	✔

Credit	Requirement	Response	Status
Energy 1.1	Energy Report showing calculations of reference case and proposed buildings	To be printed Appendix E - Section J report Appendix E - Section J report	✔
Energy 3.7	Average lighting power density and lighting type(s) to be used	To be printed Page 7 in SMP Page 7 in SMP	✔
Stormwater 1.1	STORM report or MUSIC model	To be printed Appendix B - Storm Report See Appendix B - Storm Report Appendix C - Storm markup Page 7 in SMP - for stormwater management systems explanation	✔
IEQ 1.4	A short report detailing assumptions used and results achieved.	To be printed SMP and Appendix D SMP - Page 7 - Indoor Environment Quality section Appendix D – Daylight Compliance	✔

Credit summary

Management Overall contribution 4.5%

28%

1.1 Pre-Application Meeting	0%
2.3 Thermal Performance Modelling - Non-Residential	50%
3.2 Metering - Non-Residential	N/A ✣ Scoped Out
The development is a medical building and the separate floors are not treated as individual tenancies and so it is N/A and scoped out.	
3.3 Metering - Common Areas	0%
4.1 Building Users Guide	100%

Water Overall contribution 9.0%

Minimum required 50% **57%** ✔ **Pass**

1.1 Potable Water Use Reduction	60%
3.1 Water Efficient Landscaping	100%
4.1 Building Systems Water Use Reduction	0%

Energy Overall contribution 27.5%

	Minimum required 50%	65%	✔ Pass
1.1 Thermal Performance Rating - Non-Residential		37%	
2.1 Greenhouse Gas Emissions		100%	
2.2 Peak Demand		100%	
2.3 Electricity Consumption		100%	
2.4 Gas Consumption		N/A	Scoped Out
No gas connection in use			
2.6 Electrification		100%	
3.1 Carpark Ventilation		N/A	Scoped Out
No enclosed carpark, so this credit is N/A and scoped out.			
3.2 Hot Water		100%	
3.7 Internal Lighting - Non-Residential		100%	
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A	Scoped Out
No cogeneration or trigeneration system in use.			
4.2 Renewable Energy Systems - Solar		0%	Disabled
No solar PV renewable energy is in use.			
4.4 Renewable Energy Systems - Other		0%	Disabled
No other (non-solar PV) renewable energy is in use.			

Stormwater Overall contribution 13.5%

	Minimum required 100%	100%	✔ Pass
1.1 Stormwater Treatment		100%	

IEQ Overall contribution 16.5%

	Minimum required 50%	36%	✖ Not Passed
1.4 Daylight Access - Non-Residential		36%	✔ Achieved
2.3 Ventilation - Non-Residential		0%	✖ Not Achieved
3.4 Thermal comfort - Shading - Non-Residential		100%	
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
4.1 Air Quality - Non-Residential		100%	

Transport Overall contribution 9.0%

44%

1.4 Bicycle Parking - Non-Residential	100%
1.5 Bicycle Parking - Non-Residential Visitor	100%
1.6 End of Trip Facilities - Non-Residential	100%
2.1 Electric Vehicle Infrastructure	0%
2.2 Car Share Scheme	0%
2.3 Motorbikes / Mopeds	0%

Waste Overall contribution 5.5%

100%

1.1 - Construction Waste - Building Re-Use	N/A Scoped Out
Site has not been previously developed, this credit is N/A and should be scoped out.	
2.1 - Operational Waste - Food & Garden Waste	100%
2.2 - Operational Waste - Convenience of Recycling	100%

Urban Ecology Overall contribution 5.5%

25%

1.1 Communal Spaces	0%
2.1 Vegetation	50%
2.2 Green Roofs	0%
2.3 Green Walls and Facades	0%
3.2 Food Production - Non-Residential	0%

Innovation Overall contribution 9.0%

30%

1.1 Innovation	30%

Credit breakdown

Management Overall contribution 1%

1.1 Pre-Application Meeting		0%
Score Contribution	This credit contributes 42.9% towards the category score.	
Criteria	Has an ESD professional been engaged to provide sustainability advice from schematic design to construction? AND Has the ESD professional been involved in a pre-application meeting with Council?	
Question	Criteria Achieved ?	
Project	No	
2.3 Thermal Performance Modelling - Non-Residential		50%
Score Contribution	This credit contributes 28.6% towards the category score.	
Criteria	Has a preliminary facade assessment been undertaken in accordance with NCC2019 Section J1.5?	
Question	Criteria Achieved ?	
Public building	Yes	
Criteria	Has preliminary modelling been undertaken in accordance with either NCC2019 Section J (Energy Efficiency), NABERS or Green Star?	
Question	Criteria Achieved ?	
Public building	No	
3.2 Metering - Non-Residential		N/A Scoped Out
This credit was scoped out	The development is a medical building and the separate floors are not treated as individual tenancies and so it is N/A and scoped out.	
3.3 Metering - Common Areas		0%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Have all major common area services been separately submetered?	
Question	Criteria Achieved ?	
Public building	No	
4.1 Building Users Guide		100%
Score Contribution	This credit contributes 14.3% towards the category score.	
Criteria	Will a building users guide be produced and issued to occupants?	
Question	Criteria Achieved ?	
Project	Yes	

Water

Overall contribution 5% Minimum required 50%

Water Approach	
What approach do you want to use for Water?:	Use the built in calculation tools
Project Water Profile Question	
Do you have a reticulated third pipe or an on-site water recycling system?:	No
Are you installing a swimming pool?:	No
Are you installing a rainwater tank?:	Yes
Water fixtures, fittings and connections	
Showerhead:	4 Star WELS (>= 4.5 but <= 6.0)
Bath:	Scope out
Kitchen Taps:	>= 5 Star WELS rating
Bathroom Taps:	>= 5 Star WELS rating
Dishwashers:	>= 4 Star WELS rating
WC:	>= 5 Star WELS rating
Urinals:	>= 5 Star WELS rating
Washing Machine Water Efficiency:	Scope out
Which non-potable water source is the dwelling/space connected to?:	Rainwater Tank
Non-potable water source connected to Toilets:	Yes
Non-potable water source connected to Laundry (washing machine):	No
Non-potable water source connected to Hot Water System:	No
Rainwater Tank	
What is the total roof area connected to the rainwater tank?: Rainwater Tank	1,632 m^2
Tank Size: Rainwater Tank	30,000 Litres
Irrigation area connected to tank: Rainwater Tank	600 m^2
Is connected irrigation area a water efficient garden?: Rainwater Tank	Yes
Other external water demand connected to tank?: Rainwater Tank	-

1.1 Potable Water Use Reduction	60%
Score Contribution	This credit contributes 71.4% towards the category score.
Criteria	What is the reduction in total potable water use due to efficient fixtures, appliances, rainwater use and recycled water use? To achieve points in this credit there must be >25% potable water reduction.
Output	Reference
Project	13452 kL
Output	Proposed (excluding rainwater and recycled water use)
Project	9125 kL
Output	Proposed (including rainwater and recycled water use)
Project	7954 kL
Output	% Reduction in Potable Water Consumption
Project	40 %
Output	% of connected demand met by rainwater
Project	62 %
Output	How often does the tank overflow?
Project	Never / Rarely
Output	Opportunity for additional rainwater connection
Project	2065 kL

3.1 Water Efficient Landscaping	100%
Score Contribution	This credit contributes 14.3% towards the category score.
Criteria	Will water efficient landscaping be installed?
Question	Criteria Achieved ?
Project	Yes

4.1 Building Systems Water Use Reduction	0%
Score Contribution	This credit contributes 14.3% towards the category score.
Criteria	Where applicable, have measures been taken to reduce potable water consumption by >80% in the buildings air-conditioning chillers and when testing fire safety systems?
Question	Criteria Achieved ?
Project	No

Energy Overall contribution 18% Minimum required 50%

Use the BESS Deem to Satisfy (DtS) method for Energy?:	Yes
Do all exposed floors and ceilings (forming part of the envelope) demonstrate a minimum 10% improvement in required NCC2019 insulation levels (total R-value upwards and downwards)?:	Yes
Does all wall and glazing demonstrate meeting the required NCC2019 facade calculator (or better than the total allowance)?:	Yes
Are heating and cooling systems within one Star of the most efficient equivalent capacity unit available, or Coefficient of Performance (CoP) & Energy Efficiency Ratios (EER) not less than 85% of the CoP & EER of the most efficient equivalent capacity unit available?:	Yes
Are water heating systems within one star of the best available, or 85% or better than the most efficient equivalent capacity unit?:	Yes

Non-Residential Building Energy Profile	
Heating, Cooling & Comfort Ventilation - Electricity Reference fabric & services:	-
Heating, Cooling & Comfort Ventilation - Electricity - proposed fabric and reference services:	-
Heating, Cooling & Comfort Ventilation - Electricity Proposed fabric & services:	-
Heating - Wood - reference fabric and services:	-
Heating - Wood - proposed fabric and reference services:	-
Heating - Wood - proposed fabric and services:	-
Hot Water - Electricity - Reference:	-
Hot Water - Electricity - Proposed:	-
Lighting - Reference:	-
Lighting - Proposed:	-
Peak Thermal Cooling Load - Reference:	-
Peak Thermal Cooling Load - Proposed:	-

1.1 Thermal Performance Rating - Non-Residential 37%

Score Contribution	This credit contributes 40.0% towards the category score.
Criteria	What is the % reduction in heating and cooling energy consumption against the reference case (NCC 2019 Section J)?

2.1 Greenhouse Gas Emissions 100%

Score Contribution	This credit contributes 10.0% towards the category score.
Criteria	What is the % reduction in annual greenhouse gas emissions against the benchmark?

2.2 Peak Demand		100%	
Score Contribution	This credit contributes 5.0% towards the category score.		
Criteria	What is the % reduction in the instantaneous (peak-hour) demand against the benchmark?		
2.3 Electricity Consumption		100%	
Score Contribution	This credit contributes 10.0% towards the category score.		
Criteria	What is the % reduction in annual electricity consumption against the benchmark?		
2.4 Gas Consumption		N/A	✧ Scoped Out
This credit was scoped out	No gas connection in use		
2.6 Electrification		100%	
Score Contribution	This credit contributes 10.0% towards the category score.		
Criteria	Is the development all-electric?		
Question	Criteria Achieved?		
Project	Yes		
3.1 Carpark Ventilation		N/A	✧ Scoped Out
This credit was scoped out	No enclosed carpark, so this credit is N/A and scoped out.		
3.2 Hot Water		100%	
Score Contribution	This credit contributes 5.0% towards the category score.		
Criteria	What is the % reduction in annual energy consumption (gas and electricity) of the hot water system against the benchmark?		
3.7 Internal Lighting - Non-Residential		100%	
Score Contribution	This credit contributes 10.0% towards the category score.		
Criteria	Does the maximum illumination power density (W/m2) in at least 90% of the area of the relevant building class meet the requirements in Table J6.2a of the NCC 2019 Vol 1?		
Question	Criteria Achieved ?		
Public building	Yes		
4.1 Combined Heat and Power (cogeneration / trigeneration)		N/A	✧ Scoped Out
This credit was scoped out	No cogeneration or trigeneration system in use.		
4.2 Renewable Energy Systems - Solar		0%	⊘ Disabled
This credit is disabled	No solar PV renewable energy is in use.		
4.4 Renewable Energy Systems - Other		0%	⊘ Disabled
This credit is disabled	No other (non-solar PV) renewable energy is in use.		

Stormwater

Overall contribution 14% Minimum required 100%

Which stormwater modelling are you using?:	Melbourne Water STORM tool
1.1 Stormwater Treatment	100%
Score Contribution	This credit contributes 100.0% towards the category score.
Criteria	Has best practice stormwater management been demonstrated?
Question	STORM score achieved
Project	102
Output	Min STORM Score
Project	100

IEQ

Overall contribution 6% Minimum required 50%

1.4 Daylight Access - Non-Residential		36%	✔ Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Criteria	What % of the nominated floor area has at least 2% daylight factor?		
Question	Percentage Achieved?		
Public building	36 %		
2.3 Ventilation - Non-Residential		0%	✖ Not Achieved
Score Contribution	This credit contributes 35.3% towards the category score.		
Annotation	Increase in outdoor air and CO2 concentrations are not applicable (scoped out) to this project as it is required to meet the healthcare project requirements. As scoping out option is not available in BESS for this credit, special consideration is required for this credit		
Criteria	What % of the regular use areas are effectively naturally ventilated?		
Question	Percentage Achieved?		
Public building	0 %		
Criteria	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668.2:2012?		
Question	What increase in outdoor air is available to regular use areas compared to the minimum required by AS 1668:2012?		
Public building	0 %		
Criteria	What CO2 concentrations are the ventilation systems designed to achieve, to monitor and to maintain?		
Question	Value		
Public building	0 ppm		
3.4 Thermal comfort - Shading - Non-Residential		100%	
Score Contribution	This credit contributes 17.6% towards the category score.		
Criteria	What percentage of east, north and west glazing to regular use areas is effectively shaded?		
Question	Percentage Achieved?		
Public building	100 %		
3.5 Thermal Comfort - Ceiling Fans - Non-Residential		0%	
Score Contribution	This credit contributes 5.9% towards the category score.		
Criteria	What percentage of regular use areas in tenancies have ceiling fans?		
Question	Percentage Achieved?		
Public building	0 %		
4.1 Air Quality - Non-Residential		100%	
Score Contribution	This credit contributes 5.9% towards the category score.		

Criteria	Do all paints, sealants and adhesives meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Public building	Yes

Criteria	Does all carpet meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Public building	Yes

Criteria	Does all engineered wood meet the maximum total indoor pollutant emission limits?
Question	Criteria Achieved ?
Public building	Yes

Transport Overall contribution 4%

1.4 Bicycle Parking - Non-Residential	100%
Score Contribution	This credit contributes 22.2% towards the category score.
Criteria	Have the planning scheme requirements for employee bicycle parking been exceeded by at least 50% (or a minimum of 2 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Public building	Yes
Question	Bicycle Spaces Provided ?
Public building	10

1.5 Bicycle Parking - Non-Residential Visitor	100%
Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	Have the planning scheme requirements for visitor bicycle parking been exceeded by at least 50% (or a minimum of 1 where there is no planning scheme requirement)?
Question	Criteria Achieved ?
Public building	Yes
Question	Bicycle Spaces Provided ?
Public building	8

1.6 End of Trip Facilities - Non-Residential	100%
Score Contribution	This credit contributes 11.1% towards the category score.
Criteria	Where adequate bicycle parking has been provided. Is there also: * 1 shower for the first 5 employee bicycle spaces plus 1 to each 10 employee bicycles spaces thereafter, * changing facilities adjacent to showers, and * one secure locker per employee bicycle space in the vicinity of the changing / shower facilities?
Question	Number of showers provided ?
Public building	1
Question	Number of lockers provided ?
Public building	10
Output	Min Showers Required
Public building	1
Output	Min Lockers Required
Public building	10

2.1 Electric Vehicle Infrastructure	0%
Score Contribution	This credit contributes 22.2% towards the category score.
Criteria	Are facilities provided for the charging of electric vehicles?
Question	Criteria Achieved ?
Project	No

2.2 Car Share Scheme		0%
Score Contribution	This credit contributes 11.1% towards the category score.	
Criteria	Has a formal car sharing scheme been integrated into the development?	
Question	Criteria Achieved ?	
Project	No	

2.3 Motorbikes / Mopeds		0%
Score Contribution	This credit contributes 22.2% towards the category score.	
Criteria	Are a minimum of 5% of vehicle parking spaces designed and labelled for motorbikes (must be at least 5 motorbike spaces)?	
Question	Criteria Achieved ?	
Project	No	

Waste Overall contribution 6%

1.1 - Construction Waste - Building Re-Use		N/A	Scoped Out
This credit was scoped out	Site has not been previously developed, this credit is N/A and should be scoped out.		

2.1 - Operational Waste - Food & Garden Waste		100%
Score Contribution	This credit contributes 50.0% towards the category score.	
Criteria	Are facilities provided for on-site management of food and garden waste?	
Question	Criteria Achieved ?	
Project	Yes	

2.2 - Operational Waste - Convenience of Recycling		100%
Score Contribution	This credit contributes 50.0% towards the category score.	
Criteria	Are the recycling facilities at least as convenient for occupants as facilities for general waste?	
Question	Criteria Achieved ?	
Project	Yes	

Urban Ecology Overall contribution 1%

1.1 Communal Spaces		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Is there at least the following amount of common space measured in square meters : * 1m² for each of the first 50 occupants * Additional 0.5m² for each occupant between 51 and 250 * Additional 0.25m² for each occupant above 251?	
Question	Common space provided	
Public building	0.0 m²	
Output	Minimum Common Space Required	
Public building	238 m²	
2.1 Vegetation		50%
Score Contribution	This credit contributes 50.0% towards the category score.	
Criteria	How much of the site is covered with vegetation, expressed as a percentage of the total site area?	
Question	Percentage Achieved ?	
Project	18 %	
2.2 Green Roofs		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green roof?	
Question	Criteria Achieved ?	
Project	No	
2.3 Green Walls and Facades		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	Does the development incorporate a green wall or green façade?	
Question	Criteria Achieved ?	
Project	No	
3.2 Food Production - Non-Residential		0%
Score Contribution	This credit contributes 12.5% towards the category score.	
Criteria	What area of space per occupant is dedicated to food production?	
Question	Food Production Area	
Public building	0.0 m²	
Output	Min Food Production Area	
Public building	101 m²	

Innovation Overall contribution 3%

Innovations	
Description:	
Urban heat island effect	Light colour roof materials are nominated for most of the roof.
Sustainable construction materials	For concrete used as part of the development, approximately 25% of cement is replaced with Supplementary Cement Materials (SCM); e.g. fly ash or ground granulated blast furnace slag (GGBFS)
Construction waste	At least 70% of construction and demolition waste to be diverted from landfill by recycling and reuse
Points Targeted:	
Urban heat island effect	1
Sustainable construction materials	1
Construction waste	1

1.1 Innovation		30%
Score Contribution	This credit contributes 100.0% towards the category score.	
Criteria	What percentage of the Innovation points have been claimed (10 points maximum)?	

Disclaimer

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Appendix B – STORM Report

Melbourne Water

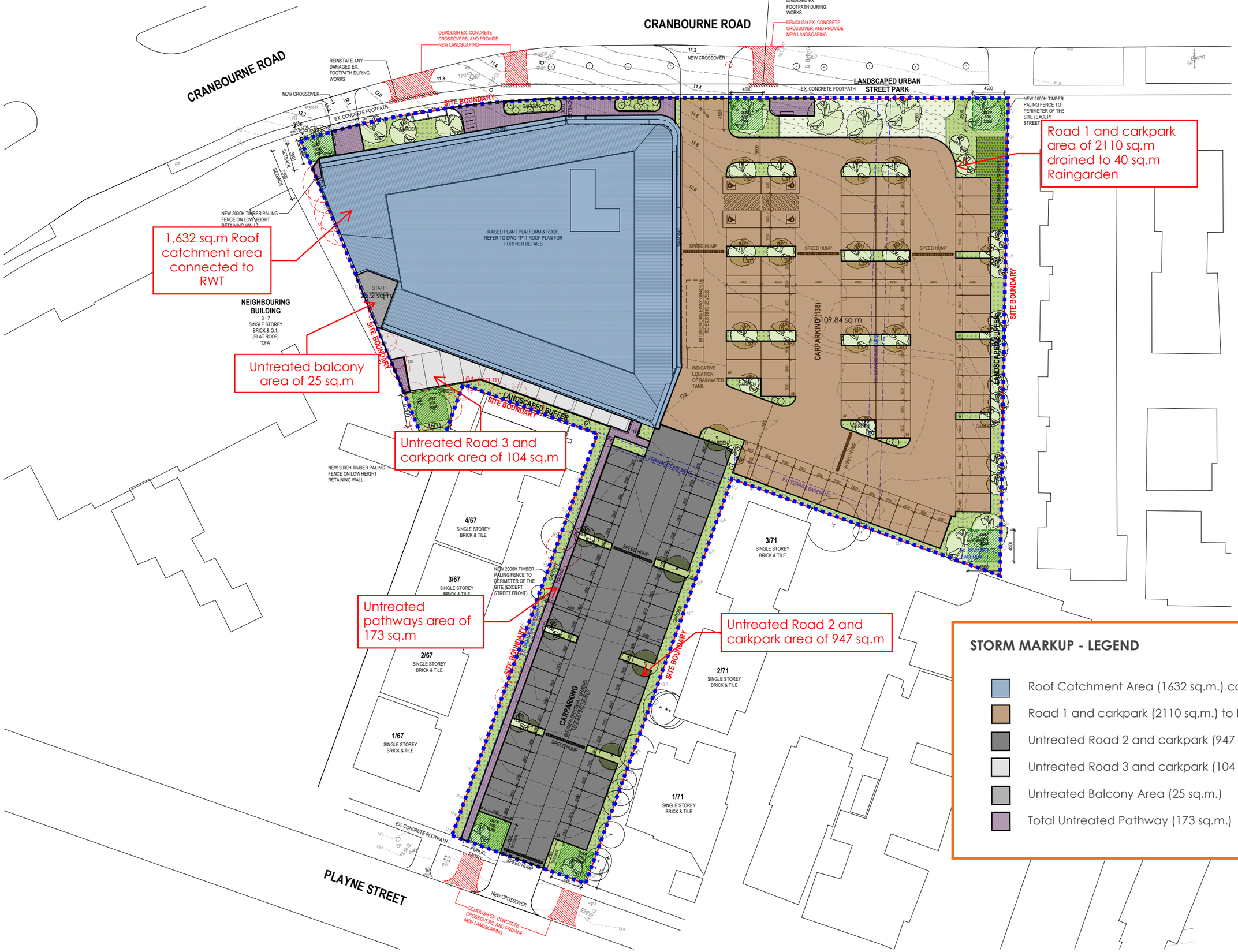
STORM Rating Report

TransactionID:	1654696
Municipality:	FRANKSTON
Rainfall Station:	FRANKSTON
Address:	9-13 Cranbourne Road & 69 Playne Street
	Frankston
	VIC
	VIC 3199
Assessor:	Aditi Abnave
Development Type:	Other
Allotment Site (m2):	6,000.00
STORM Rating %:	102

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof catchment area	1,000.00	Rainwater Tank	15,000.00	100	132.50	72.00
Roof catchment area	632.00	Rainwater Tank	15,000.00	100	152.60	80.00
Road 1 and carpark	2,110.00	Raingarden 300mm	40.00	0	132.55	0.00
Untreated Road 2 and carpark	947.00	None	0.00	0	0.00	0.00
Untreated Road 3 and carpark	104.00	None	0.00	0	0.00	0.00
Untreated Balcony	25.00	None	0.00	0	0.00	0.00
Untreated pathways	173.00	None	0.00	0	0.00	0.00

Figure 2: STORM Calculator

Appendix C – STORM Markup



Legend - Site

- ASPHALT PAVING
- PAVING UNITS
- DECKING
- GRASS AREA
- GARDEN BED AREA
- EXISTING TREE
- DEMOLISHED TREES
- PROPOSED TREE REFER TO LANDSCAPE ARCHITECTS DRAWINGS

Site

	AREA	PERCENTAGE
TOTAL SITE AREA	6000m²	
SITE COVERAGE	1607m²	26%
PERMEABLE COVERAGE	1245m²	20%
IMPERVIOUS AREA	4822m²	80%
LANDSCAPING	1245m²	20%

STORM MARKUP - LEGEND

- Roof Catchment Area (1632 sq.m.) connected to Rainwater Tank
- Road 1 and carkpark (2110 sq.m.) to Raingarden (min. 40 sq.m.)
- Untreated Road 2 and carkpark (947 sq.m.)
- Untreated Road 3 and carkpark (104 sq.m.)
- Untreated Balcony Area (25 sq.m.)
- Total Untreated Pathway (173 sq.m.)

PRELIMINARY

Clarke Hopkins Clarke

Mornington Peninsula Specialist Hospital
9-13 Cranbourne Road & 69 Playne Street, Frankston VIC 3199
Project No. 220088

www.chc.com.au | studio@chc.com.au | 03 9419 4340

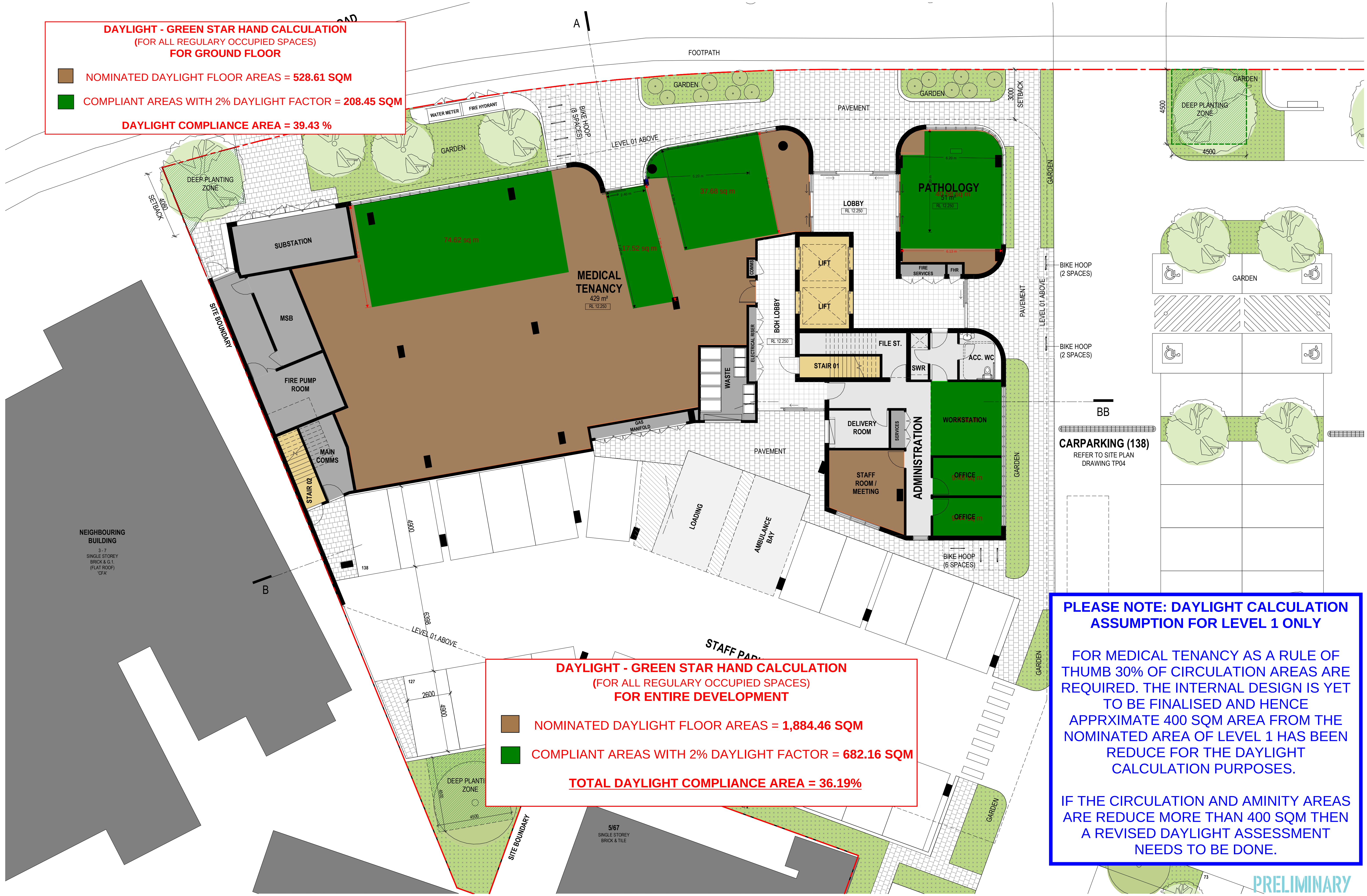
Scale 1:250 @A1
0 12.5m
12,500.01 mm

SITE PLAN AND DEMO | TP04

21 SEPTEMBER 2023

e

Appendix D – Daylight Compliance


FOOTPATH
GARDEN
PAVEMENT
DEEP PLANTING ZONE
SUBSTATION
MSB
FIRE PUMP ROOM
MAIN COMMS
STAIR 02
MEDICAL TENANCY
429 m²
74.62 sq m
17.52 sq m
37.88 sq m
PATHOLOGY
51 m²
LOBBY
LIFT
LIFT
BOH LOBBY
WASTE
FILE ST.
STAIR 01
SWR
ACC. WC
DELIVERY ROOM
STAFF ROOM / MEETING
ADMINISTRATION
WORKSTATION
OFFICE
OFFICE
FIRE SERVICES
FHR
LOADING
AMBULANCE BAY
LEVEL 01 ABOVE
SITE BOUNDARY
SETBACK
BIKE HOOP (2 SPACES)
BIKE HOOP (6 SPACES)
CARPARKING (138)
REFER TO SITE PLAN DRAWING TP04
NEIGHBOURING BUILDING
STAFF PARKING
WATER METER
FIRE HYDRANT
GAS MANIFOLD
ELECTRICAL RISER
SERVICES
COMMS

DAYLIGHT - GREEN STAR HAND CALCULATION
(FOR ALL REGULARY OCCUPIED SPACES)
FOR GROUND FLOOR

- NOMINATED DAYLIGHT FLOOR AREAS = **528.61 SQM**
- COMPLIANT AREAS WITH 2% DAYLIGHT FACTOR = **208.45 SQM**

DAYLIGHT COMPLIANCE AREA = 39.43 %

DAYLIGHT - GREEN STAR HAND CALCULATION
(FOR ALL REGULARY OCCUPIED SPACES)
FOR ENTIRE DEVELOPMENT

- NOMINATED DAYLIGHT FLOOR AREAS = **1,884.46 SQM**
- COMPLIANT AREAS WITH 2% DAYLIGHT FACTOR = **682.16 SQM**

TOTAL DAYLIGHT COMPLIANCE AREA = 36.19%

PLEASE NOTE: DAYLIGHT CALCULATION ASSUMPTION FOR LEVEL 1 ONLY

FOR MEDICAL TENANCY AS A RULE OF THUMB 30% OF CIRCULATION AREAS ARE REQUIRED. THE INTERNAL DESIGN IS YET TO BE FINALISED AND HENCE APPRXIMATE 400 SQM AREA FROM THE NOMINATED AREA OF LEVEL 1 HAS BEEN REDUCE FOR THE DAYLIGHT CALCULATION PURPOSES.

IF THE CIRCULATION AND AMINITY AREAS ARE REDUCE MORE THAN 400 SQM THEN A REVISED DAYLIGHT ASSESSMENT NEEDS TO BE DONE.

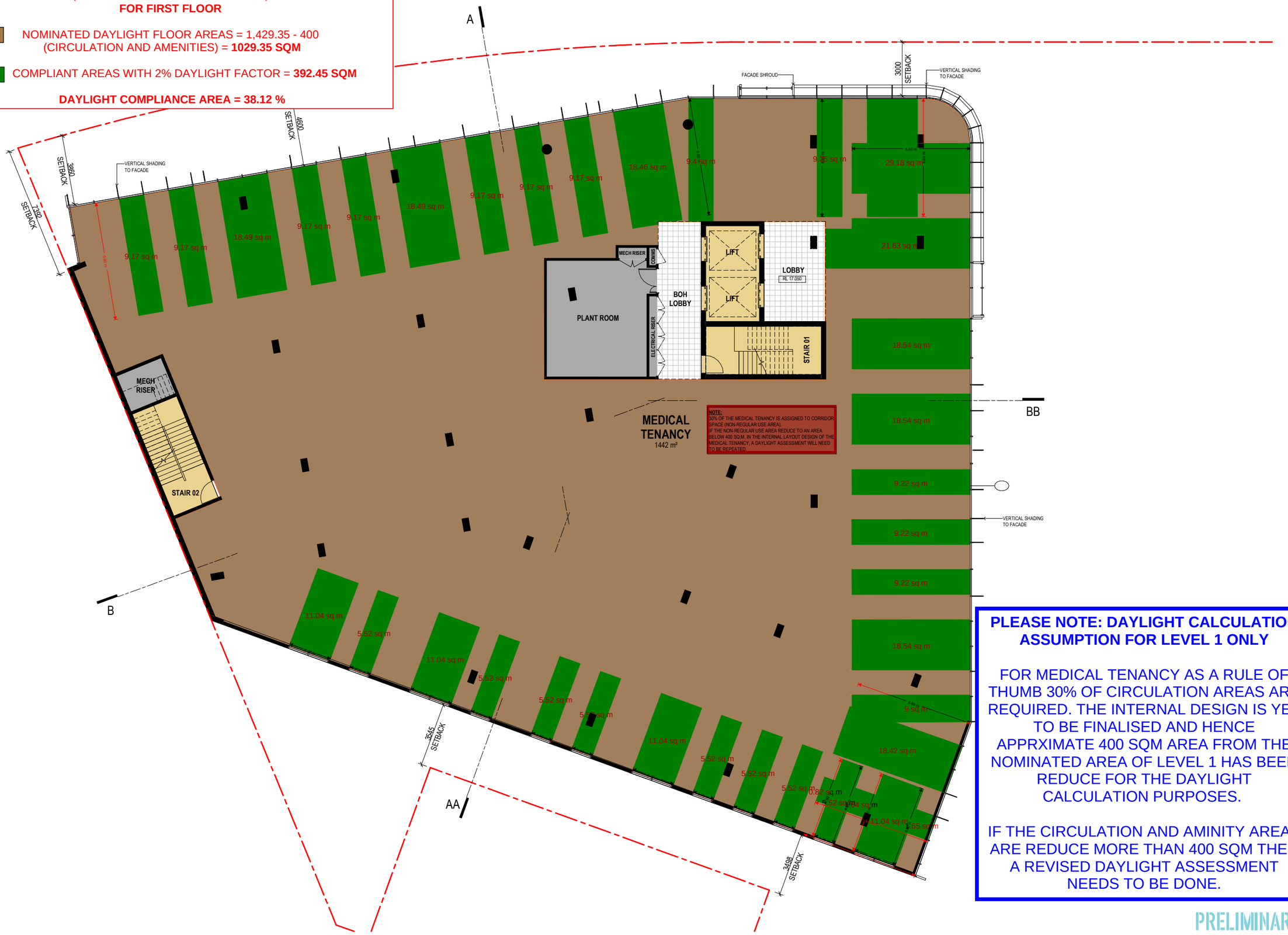
PRELIMINARY

DAYLIGHT - GREEN STAR HAND CALCULATION
(FOR ALL REGULARY OCCUPIED SPACES)
FOR FIRST FLOOR

NOMINATED DAYLIGHT FLOOR AREAS = 1,429.35 - 400
(CIRCULATION AND AMENITIES) = **1029.35 SQM**

COMPLIANT AREAS WITH 2% DAYLIGHT FACTOR = **392.45 SQM**

DAYLIGHT COMPLIANCE AREA = 38.12 %



PLEASE NOTE: DAYLIGHT CALCULATION ASSUMPTION FOR LEVEL 1 ONLY

FOR MEDICAL TENANCY AS A RULE OF THUMB 30% OF CIRCULATION AREAS ARE REQUIRED. THE INTERNAL DESIGN IS YET TO BE FINALISED AND HENCE APPRXIMATE 400 SQM AREA FROM THE NOMINATED AREA OF LEVEL 1 HAS BEEN REDUCE FOR THE DAYLIGHT CALCULATION PURPOSES.

IF THE CIRCULATION AND AMINITY AREAS ARE REDUCE MORE THAN 400 SQM THEN A REVISED DAYLIGHT ASSESSMENT NEEDS TO BE DONE.

PRELIMINARY

Clarke Hopkins Clarke
Mornington Peninsula Specialist Hospital
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www.chc.com.au | studio@chc.com.au | 03 9419 4340

Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 01

21 SEPTEMBER 2023

TP11

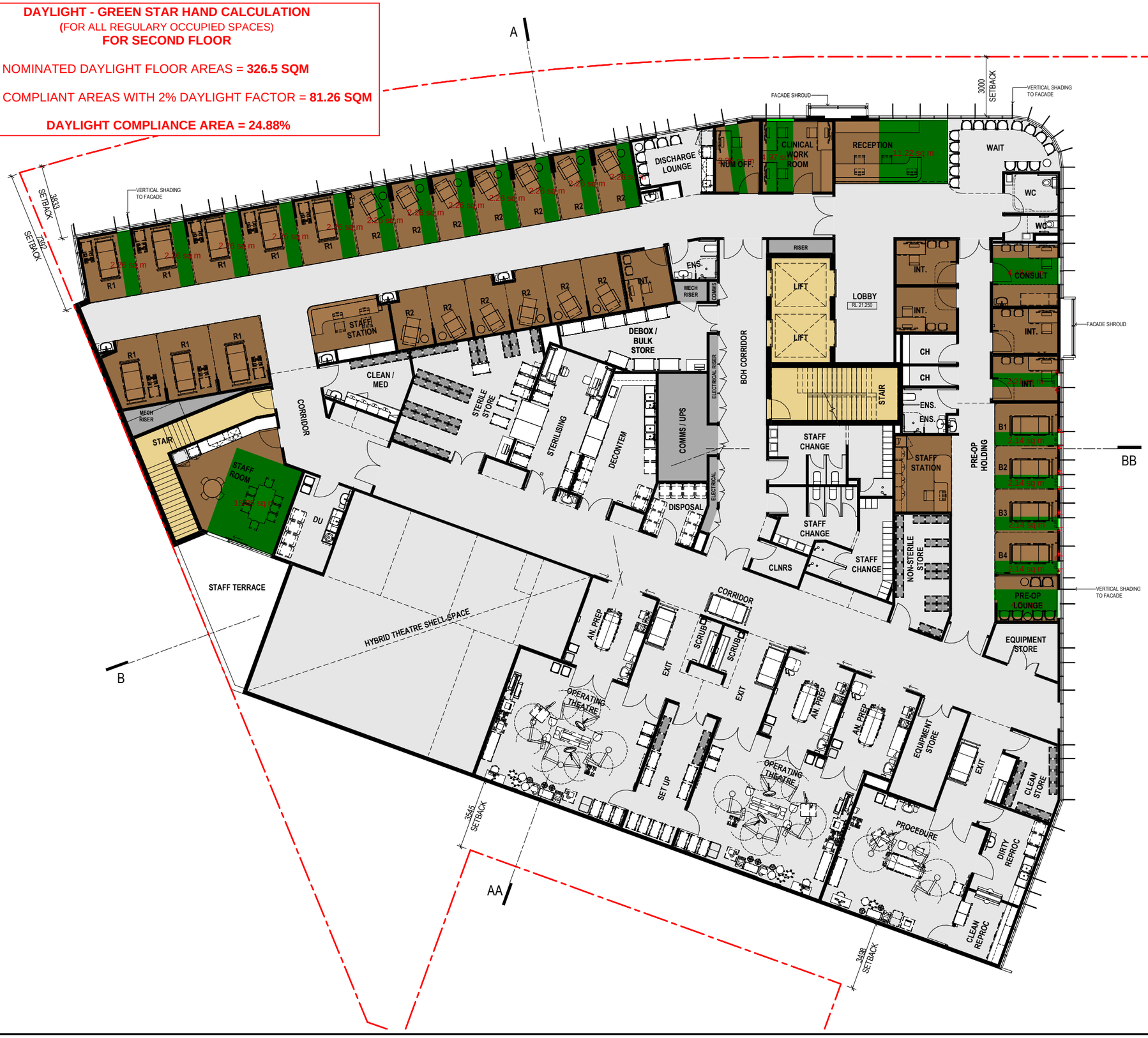
C

DAYLIGHT - GREEN STAR HAND CALCULATION
(FOR ALL REGULARY OCCUPIED SPACES)
FOR SECOND FLOOR

NOMINATED DAYLIGHT FLOOR AREAS = **326.5 SQM**

COMPLIANT AREAS WITH 2% DAYLIGHT FACTOR = **81.26 SQM**

DAYLIGHT COMPLIANCE AREA = 24.88%



PRELIMINARY

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Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 02

21 SEPTEMBER 2023

TP12

C

Appendix E – Section J Report

Section J DTS Report

Mornington Peninsula Specialist Hospital

For Clarke Hopkins Clarke

Revision	Date	Description	Author	Reviewer
P1	07/Dec/22	Preliminary Issue 1 – For Client to review	DZ	KNR
P2	19/Dec/22	Preliminary Issue 2 – For Client to review	KP	KNR
0	28/Sep/23	Final Issue	KP	AA

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Contents

Introduction

A final assessment has been completed to determine the building fabric and glazing performance to achieve compliance with NCC 2019 Section J, Part J1 and J3 for a Specialist Hospital Building. The proposed Specialist Hospital located at 9-17 Cranbourne Road, Frankston Vic 3199.

The NCC 2019 façade calculator, published by the Australian Building Codes board, is used for the assessment of Part J1.5 Walls and glazing Deemed to Satisfy provisions. Part J1.5 assesses the wall-glazing construction, which is the combination of wall and glazing components comprising the building envelope.

Envelope, for the purpose of Section J, means the parts of a building's fabric that separate a conditioned space or habitable room from the exterior of the building; a non-conditioned space including the floor of a rooftop plant room, lift-machine room or the like, the floor above a carpark or warehouse, and common wall with a carpark, warehouse or the like.

This report also addresses Sustainability Management Plan requirements that was prepared by erbas Sustain dated 28/Sept/2023. Under the Sustainability Initiatives – Energy Section that was presented in the report, the following have been targeted:

- 10% increase on the minimum required R-values specified for roofs and ceilings in part J1.3, and floors in Part J1.6, including compliance with J0.4 where applicable; and
- For roofs, have an upper surface solar absorptance of at least 0.05 less than maximum allowable value in Part J1.3; and
- Wall-glazing constructions achieve an area-weighted total system U-value, across all facades (Specification J1.5a U-value – Method 2), at least 10% less than the maximum allowable total system U-value for wall-glazing constructions as per the requirements of Part J1.5, including compliance with Part J0.5 where applicable; and
- Wall-glazing constructions have a combination of solar heat gain coefficients, across all façades (Specification J1.5a Solar admittance – Method 2), that achieve a calculated proposed representative air-conditioning energy value of not more than 90% of the calculated reference representative air-conditioning energy value as per the requirements of Part J1.5; and
- Where the wall component is 80% or more of the area of the wall-glazing construction, it achieves a 10% increase on the minimum total R-value specified in Table J1.5a; and

In this assessment, the following items will be addressed:

- J1 Building Fabric (Wall and Glazing); and
- J3 Building Sealing; and
- Sustainability Initiatives – Energy listed in the SMP dated 06/Dec/2022.

Building Description

The proposed development includes a 3-storey specialist hospital building. It is comprised of Class 9a operating rooms, recovery rooms, staff rooms, offices, storage areas, scrubbing rooms, sterile zones, circulation, waiting areas and amenities.

BCA Classification and Climate Zone

The project buildings are located at 9-17 Cranbourne Road, Frankston Vic 3199 which is within the Australian Building Codes Board (ABCB) Climate Zone 6. The development has been assumed to be classified as class 9a Health Care Building (Ward and Non-ward area). This should be confirmed by the building surveyor.

Reference Documents

Building Code of Australia

The guidelines from NCC BCA 2019 Volume 1 Amendment 1 are used in this report.

Drawings

This report is based on the following architectural drawings received from Clarke Hopkins Clarke:

Architect: Clarke Hopkins Clarke Architects
L9, Melbourne Connect, 700 Swanston Street
Carlton 3053, Melbourne
VIC 3000

The relevant documents and drawings used in compiling this report are as follows:

Project reference No.	Drawing No.	Rev/ Issue Date	Title
220088	TP03	21 SEPTEMBER 2023	EXISTING SITE PLAN
	TP04	21 SEPTEMBER 2023	SITE PLAN AND DEMO
	TP10	21 SEPTEMBER 2023	FLOOR PLAN – GROUND FLOOR
	TP11	21 SEPTEMBER 2023	FLOOR PLAN – LEVEL 01
	TP12	21 SEPTEMBER 2023	FLOOR PLAN – LEVEL 02
	TP13	21 SEPTEMBER 2023	ROOF PLAN
	TP20	21 SEPTEMBER 2023	SECTIONS
	TP30	21 SEPTEMBER 2023	BUILDING ELEVATIONS – SHEET 01
	TP31	21 SEPTEMBER 2023	BUILDING ELEVATIONS – SHEET 02

Table 1: Reference documents

Others:

SMP Report prepared by erbas™Sustain dated 28/Sept/2023.

NCC Section J Assessment

The performance requirements of Section JP1 Energy use are as follows;
A building, including its services, must have features that facilitate the efficient use of energy appropriate to—

(a) the function and use of the building; and
(b) the level of human comfort required for the building use; and
(c) solar radiation being—
    (i) utilised for heating; and
    (ii) controlled to minimise energy for cooling; and
(d) the energy source of the services; and
(e) the sealing of the building envelope against air leakage; and
(f) for a conditioned space, achieving an hourly regulated energy consumption, averaged over the annual hours of operation, of not more than—
    (i) for a Class 6 building, 80 kJ/m^2.hr; and
    (ii) for a Class 5, 7b, 8 or 9a building other than a ward area, or a Class 9b school, 43 kJ/m^2.hr; and
    (iii) for all other building classifications, other than a sole-occupancy unit of a Class 2 building or a Class 4 part of a building, 15 kJ/m^2.hr.

The NCC has a set of criteria under Deemed to Satisfy provisions (DTS). This allows the building to be assessed as deemed to comply with the building code if it can achieve (or exceed) those specific criteria.

For the purpose of this preliminary assessment, the development will be examined against the DTS criteria for J1 (Building Fabric) and J3 (Building Sealing) only.

Part J1 Building Fabric

Building envelope

The thermal performance of each part of the thermal building fabric is required to comply with the total minimum Insulation R-values in Table 2 below. The DTS total system values are inclusive of building materials, air-gaps, insulation etc and should be utilised in conjunction with the attached thermal envelope mark-up in Appendix B.

The table below shows the minimum section J DTS compliance values as well as the minimum compliance values that meet the Sustainability Initiatives listed in the SMP Report dated 28/Sept/2023. The values in this report, applies to all new fabric and glazing. Any deviations may impact on the results and may require re-assessment.

This report does not account for thermal bridging, which is likely to lower a product R value in calculating the total construction R value. The total construction R value should be confirmed by a façade consultant or suppliers offering this service.

Building Envelope	DTS Minimum Total System R-Value (m^{2}K/W)	10% Building Fabric Improvement over DTS minimum requirement as per SMP Report (19/12/2022) Minimum Total System R-Value (m^{2}K/W)
Roof/ceiling, refer to Appendix B	R3.2 (solar absorptance of upper surface of a roof must be ≤ 0.45)	R3.52 (solar absorptance of upper surface of a roof must be ≤ 0.40)
External/Internal Envelope Wall, refer to Appendix B	R1.4/R2.8(Class 9a Ward area)	R1.54/R3.08(Class 9a Ward area)
Floor – Concrete slab on ground, refer to Appendix B	R2.0	R2.2

Table 2: Building Fabric minimum DTS Total System requirements and minimum Total System Requirements as per SMP.

Glazing

The Method 2 (Multiple Aspect) assessment which allows trading off low thermal performance with better performing aspects have demonstrated compliance for all the buildings. This is indicated under Appendix A, Method 2 compliant solution where the proposed design overall wall-glazing U-value and air-conditioning (AC) Energy value remains less than the DTS reference case.

The assessment is based on the dimension of each glazing. The total system thermal performance requirements of U-Value and Solar Heat Gain Coefficient (SHGC) is as per Table 3 below. The glazing performance values are system values inclusive of frame elements. The table below shows the minimum section J DTS compliance values as well as the minimum compliance values required by SMP dated 28/Sept/2023. The values in this report, applies to new fabric and glazing. Please Refer to Appendix C for more details.

Location	Description	For DTS Minimum Compliance		For 10% Building Fabric Improvement Compliance	
		DTS Minimum Total System U-Value (W/m²K)	DTS Total System SHGC	10% Building Fabric Improvement over DTS minimum requirement as per SMP Report (19/12/2022) Minimum Total System U-Value (W/m²K)	10% Building Fabric Improvement over DTS minimum requirement as per SMP Report (19/12/2022) Total System SHGC
Class 9a Non-Ward Area	Glazed doors and windows	≤ 5.8	≤ 0.31	≤ 5.5	≤ 0.28
Class 9a Ward Area	Glazed doors and windows	≤ 5.1	≤ 0.31	≤ 4.6	≤ 0.26

Table 3: System-value glazing performance requirements

In general, glazing performance can be reduced by:

- Reducing glazing area;
- Increasing shading;
- Using insulated spandrel panels instead of glazing for certain windows.

An alternative assessment to glazing can be conducted via JV3 modelling, which is currently outside of erbas™'s scope. This allows the walls, floors and ceiling to have additional insulation to compensate for more relaxed glazing performance. It may also enable the use of alternative performance values for the building fabric to that proposed in this report should there be physical constraints. Any changes to the drawings or deviations from the assumptions listed in this report should be communicated to erbas™ as it may impact the outcome of the Section J assessment.

Thermal construction general

Insulation installation shall meet the following:

a) Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it—
   (i) abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and
   (ii) forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
   (iii) does not affect the safe or effective operation of a service or fitting.
b) Where required, reflective insulation must be installed with—
   (i) the necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
   (ii) the reflective insulation closely fitted against any penetration, door or window opening; and
   (iii) the reflective insulation adequately supported by framing members; and
   (iv) each adjoining sheet of roll membrane being—
      a. overlapped not less than 50 mm; or
      b. taped together.
c) Where required, bulk insulation must be installed so that—
   (i) it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and
   (ii) in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50 mm.
d) Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2 of the Building Code of Australia Volume 1.
e) The required Total R-Value and Total System U-Value, including allowance for thermal bridging, must be—
   (i) calculated in accordance with AS/NZS 4859.2 for a roof or floor; or
   (ii) determined in accordance with Specification J1.5a for wall-glazing construction; or
   (iii) determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.

Part J1.3 Roof and ceiling construction

A roof or ceiling that is part of the thermal envelope must achieve the Total R-Value specified in Table 2.

Part J1.4 Roof Lights

No new roof lights are proposed in the development.

Part J1.5 Walls and Glazing

For the purpose of this Section, wall and glazing components comprising the part of new envelope of a building excluding—

a) display glazing; and
b) opaque non-glazed openings e.g. doors, vents, penetrations and shutters.

In assessing the thermal properties for building fabric (walls and glazing), the part of building fabric that separate a conditioned space or habitable room from the following must be considered:

a) the exterior of the building; or
b) a non-conditioned space including—
   (i) the floor of a rooftop plant room, lift-machine room or the like; and
   (ii) the floor above a carpark or warehouse; and
   (iii) the common wall with a carpark, warehouse or the like.

External walls and glazing that is part of the envelope must achieve the thermal performance specified in Table 2 and Table 3 respectively.

Part J1.6 Floors

A floor that is part of the new envelope must achieve the Total R-Value specified in Table 2.

For the purpose of calculating the Total R-value of a floor, Table 4 details the R-values considered to be achieved by enclosed sub-floor spaces that are —

(i) mechanically ventilated by not more than 1.5 air changes per hour; or

(ii) provided with not more than 150% of the aggregate sub-floor ventilation area required by Part F1 and are not mechanically ventilated.

Ratio of Floor area to floor perimeter (m)	Sub-floor space R-Value
1.0	0.10
1.5	0.15
2.0	0.20
2.5	0.25
3.0	0.30
3.5	0.35
4.0	0.40
4.5	0.45
5.0	0.50
5.5	0.55
6.0	0.60
6.5	0.65
7.0	0.70

Table 4: R-Value of sub-floor spaces (Ref: NCC 2019 Specification 1.6, Table 2a). Where the ratio to floor perimeter is between the values stated, interpolation may be used to determine the sub-floor space R-Values.

For the purpose of calculating the Total R-value of a floor, Table 5 details the R-values considered to be achieved by the soil for floors that are in direct contact with the ground —

Ratio of Floor area to floor perimeter (m)	Wall thickness of					
	50mm	100mm	150mm	200mm	250mm	300mm
1.0	0.4	0.5	0.5	0.6	0.7	0.8
1.5	0.6	0.7	0.7	0.8	0.9	1.0
2.0	0.7	0.8	0.9	1.0	1.1	1.3
2.5	0.9	1.0	1.1	1.2	1.3	1.5
3.0	1.0	1.2	1.3	1.4	1.5	1.7
3.5	1.2	1.3	1.5	1.6	1.7	1.9
4.0	1.3	1.5	1.6	1.7	1.9	2.2
4.5	1.5	1.7	1.8	1.9	2.1	2.4
5.0	1.6	1.8	2.0	2.1	2.3	2.6
5.5	1.8	2.0	2.1	2.2	2.4	2.8
6.0	1.9	2.1	2.3	2.4	2.6	2.9
6.5	2.0	2.3	2.4	2.6	2.8	3.1
7.0	2.2	2.4	2.6	2.7	3.0	3.3

Table 5: R-Value of soil in contact with a floor (Ref: NCC 2019 Specification 1.6, Table 2b). Where a wall thickness or ratio of floor area to floor perimeter is between the values stated above, interpolation may be used to determine the soil R-value.

Part J3 Building Sealing

The Deemed-to-Satisfy Provisions of this Part apply to elements forming the envelope of a Class 2 to 9 building, other than—

(a) a building in climate zones 1, 2, 3 and 5 where the only means of air-conditioning is by using an evaporative cooler; or

(b) a permanent building opening, in a space where a gas appliance is located, that is necessary for the safe operation of a gas appliance; or

(c) a building or space where the mechanical ventilation required by Part F4 provides sufficient pressurisation to prevent infiltration.

Part J3.2 Chimneys and flues

There are no new chimneys and flues at the conditioned space or habitable section of the building.

Part J3.3 Roof lights

No new roof lights are proposed in the development.

Part J3.4 Windows and doors

(a) A door, openable window or the like must be sealed—

(i) when forming part of the envelope; or

(ii) in climate zones 4, 5, 6, 7 or 8.

(b) The requirements of (a) do not apply to—

(i) a window complying with AS 2047; or

(ii) a fire door or smoke door; or

(iii) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security.

(c) A seal to restrict air infiltration—

(i) for the bottom edge of a door, must be a draft protection device; and

(ii) for the other edges of a door or the edges of an openable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like.

(d) An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than—

(i) where the conditioned space has a floor area of not more than 50 m^2; or

(ii) where a café, restaurant, open front shop or the like has—

(A) a 3 m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and

(B) at all other entrances to the café, restaurant, open front shop or the like, self-closing doors.

(e) A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like.

Part J3.5 Exhaust fans

(a) An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving—

(i) a conditioned space; or

(ii) a habitable room in climate zones 4, 5, 6, 7 or 8.

Part J3.6 Construction of roofs, walls and floors

(a) Ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of—

(i) the envelope; or

(ii) in climate zones 4, 5, 6, 7 or 8.

(b) Construction required by (a) must be—

(i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or

(ii) sealed at junctions and penetrations with—

(A) close fitting architrave, skirting or cornice; or

(B) expanding foam, rubber compressible strip, caulking or the like.

(c) The requirements of (a) do not apply to openings, grilles or the like required for smoke hazard management.

Part J3.7 Evaporative coolers

There are no new evaporative coolers installed on this building.

Appendix A – Façade Calculator

Class 9a Ward Area – DTS Requirement

Calculator that includes both Externally and Internally envelope for U value

ABCB

Façade

Report

National Construction Code

Calculator

Project Summary

Date
26/09/2023

Name
KP

Company
erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - ward

Storeys Above Ground
3

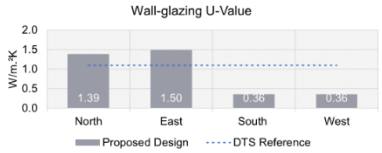
Tool Version
1.2 (June 2020)

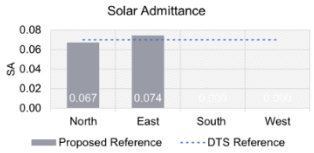
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

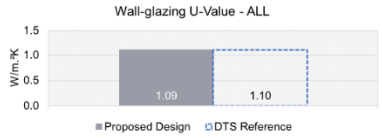
	Method 1 North	Method 1 East	Method 1 South	Method 1 West	Method 2 All
Wall-glazing U-Value (W/m².K)	1.39	1.50	0.36	0.36	1.09
Solar Admittance	0.07	0.07			
AC Energy Value					14

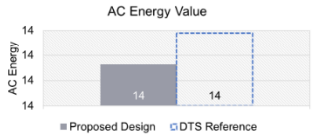
Method 1





Method 2





Project Details

	North	East	South	West
Glazing Area (m²)	23.4	7.8	0	0
Glazing to Façade Ratio	22%	24%	0%	0%
Glazing References	GL01	GL03		
Glazing System Types	USER (DEFINED)	USER (DEFINED)		
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)		
Frame Types	Aluminium	Aluminium		
Average Glazing U-Value (W/m².K)	5.10	5.10		
Average Glazing SHGC	0.31	0.31	0.00	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	84.3879	24.6795	28.6994	32.8832
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R2.8	R2.8	R2.8	R2.8
Wall Thickness	150	150	200	150
Average Wall R-value (m².K/W)	2.80	2.80	2.80	2.80
Solar Absorptance	0.6	0.6	0.6	0.6

Calculator that includes externally facing envelope façade only for SHGC

ABCB

Façade

Report

National Construction Code

Calculator

Project Summary

Date
26/09/2023

Name
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erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - ward

Storeys Above Ground
3

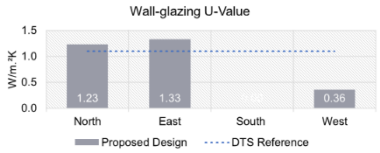
Tool Version
1.2 (June 2020)

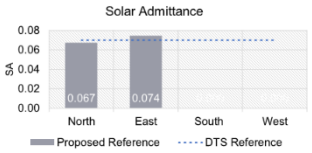
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

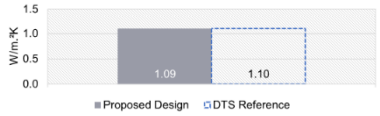
	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	1.23	1.33		0.36	1.09
Solar Admittance	0.07	0.07			
AC Energy Value					14

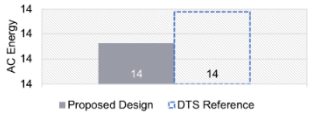
Method 1





Method 2





Project Details

	North	East	South	West
Glazing Area (m²)	23.4	7.8		0
Glazing to Façade Ratio	22%	24%		0%
Glazing References	GL01	GL03		
Glazing System Types	USER (DEFINED)	USER (DEFINED)		
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)		
Frame Types	Aluminium	Aluminium		
Average Glazing U-Value (W/m².K)	4.40	4.40		
Average Glazing SHGC	0.31	0.31	0.00	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	84.3879	24.6795		32.8832
Wall Types	Wall	Wall		Wall
Methodology	Wall			
Wall Construction	R2.8	R2.8		
Wall Thickness	150	150		150
Average Wall R-value (m².K/W)	2.80	2.80		2.80
Solar Absorptance	0.6	0.6	0.6	0.6

Class 9a Ward area – SMP Requirement

Calculator that includes both Externally and Internally envelope for U value

ABCB

Façade

Report

National Construction Code

Calculator

Project Summary

Date
27/09/2023

Name
KP

Company
erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - ward

Storeys Above Ground
3

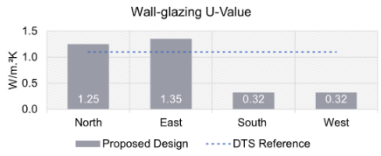
Tool Version
1.2 (June 2020)

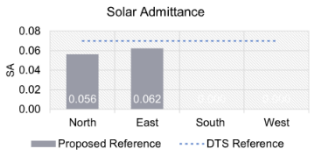
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	1.25	1.35	0.32	0.32	0.99
Solar Admittance	0.06	0.06			
AC Energy Value					12

Method 1





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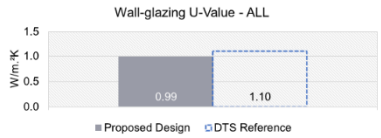
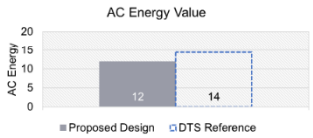




Project Details

	North	East	South	West
Glazing Area (m²)	23.4	7.8	0	0
Glazing to Façade Ratio	22%	24%	0%	0%
Glazing References	GL01	GL03		
Glazing System Types	USER (DEFINED)	USER (DEFINED)		
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)		
Frame Types	Aluminium	Aluminium		
Average Glazing U-Value (W/m².K)	4.60	4.60		
Average Glazing SHGC	0.26	0.26	0.00	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	84.3879	24.6795	28.6994	32.8832
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R3.08	R3.08	R3.08	R3.08
Wall Thickness	250	250	250	250
Average Wall R-value (m².K/W)	3.08	3.08	3.08	3.08
Solar Absorptance	0.6	0.6	0.6	0.6

Calculator that includes externally facing envelope façade only for SHGC

ABCB

Façade

Report

National Construction Code

Calculator

Project Summary

Date
27/09/2023

Name
KP

Company
erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - ward

Storeys Above Ground
3

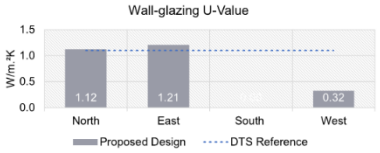
Tool Version
1.2 (June 2020)

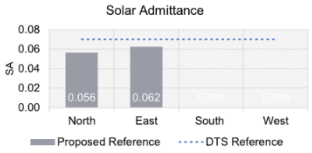
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	1.12	1.21		0.32	0.99
Solar Admittance	0.06	0.06			
AC Energy Value					12

Method 1





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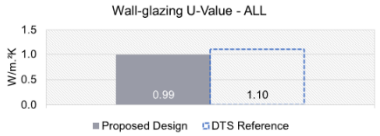

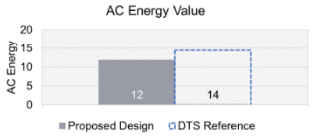

Project Details

	North	East	South	West
Glazing Area (m²)	23.4	7.8		0
Glazing to Façade Ratio	22%	24%		0%
Glazing References	GL01	GL03		
Glazing System Types	USER (DEFINED)	USER (DEFINED)		
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)		
Frame Types	Aluminium	Aluminium		
Average Glazing U-Value (W/m².K)	4.00	4.00		
Average Glazing SHGC	0.26	0.26	0.00	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	84.3879	24.6795		32.8832
Wall Types	Wall	Wall		Wall
Methodology	Wall			
Wall Construction	R3.08	R3.08		
Wall Thickness	250	250		250
Average Wall R-value (m².K/W)	3.08	3.08		3.08
Solar Absorptance	0.6	0.6	0.6	0.6

Class 9a Non-Ward Area – DTS Requirement

Calculator that includes both Externally and Internally envelope for U value

Façade

Report

Calculator

Project Summary

Date
26/09/2023

Name
KP

Company
erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - health-care buildings

Storeys Above Ground
3

Tool Version
1.2 (June 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

	Method 1 North	Method 1 East	Method 1 South	Method 1 West	Method 2 All
Wall-glazing U-Value (W/m².K)	2.48	2.33	1.44	1.15	1.91
Solar Admittance	0.14	0.11	0.06	0.02	
AC Energy Value					279

Method 1

Method 2

Project Details

	North	East	South	West
Glazing Area (m²)	215.414	168.859	88.27	33.007
Glazing to Façade Ratio	35%	32%	14%	9%
Glazing References	GL01 GL02 GL03 GL04 GL05	GL01 GL02 GL03 GL04	GL01 GL02 GL03	GL01 GL02 GL03
Glazing System Types	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m².K)	5.80	5.80	5.80	5.80
Average Glazing SHGC	0.43	0.39	0.43	0.23
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	405.4048	364.2433	533.6575	349.1293
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R1.4	R1.4	R1.4	R1.4
Wall Thickness	200	200	200	200
Average Wall R-value (m².K/W)	1.40	1.40	1.40	1.40
Solar Absorptance	0.6	0.6	0.6	0.6

Calculator that includes externally facing envelope façade only for SHGC

Façade

Report

Calculator

Project Summary

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26/09/2023

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Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
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Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - health-care buildings

Storeys Above Ground
3

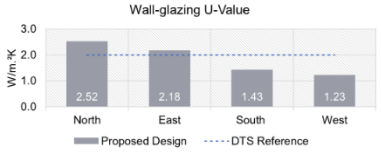
Tool Version
1.2 (June 2020)

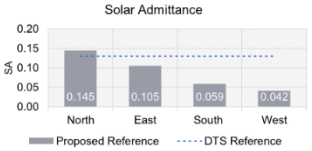
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

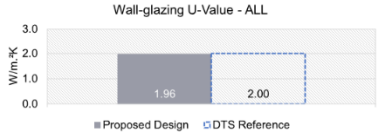
	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	2.52	2.18	1.43	1.23	1.96
Solar Admittance	0.14	0.11	0.06	0.04	
AC Energy Value					201

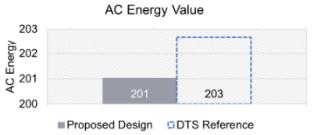
Method 1





Method 2





Project Details

	North	East	South	West
Glazing Area (m²)	215.414	153.852	88.27	18
Glazing to Façade Ratio	49%	40%	19%	14%
Glazing References	GL01 GL02 GL03 GL04 GL05	GL01 GL02 GL03	GL01 GL02 GL03	GL01 GL02
Glazing System Types	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m².K)	4.40	4.40	4.40	4.40
Average Glazing SHGC	0.31	0.31	0.31	0.31
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	224.1641	233.2796	365.1841	111.1261
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R1.4	R1.4	R1.4	R1.4
Wall Thickness	200	200	200	200
Average Wall R-value (m².K/W)	1.40	1.40	1.40	1.40
Solar Absorptance	0.6	0.6	0.6	0.6

Class 9a Non-Ward Area – SMP Requirement

Calculator that includes both Externally and Internally envelope for U value

Façade

Report

Calculator

Project Summary

Date
27/09/2023

Name
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Company
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Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - health-care buildings

Storeys Above Ground
3

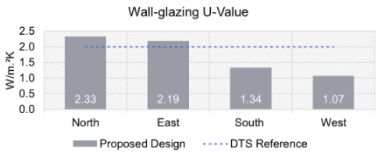
Tool Version
1.2 (June 2020)

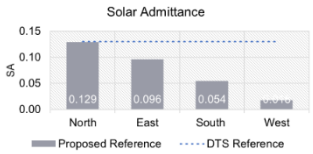
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

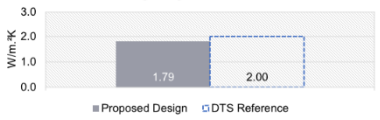
	Method 1				Method 2
	North	East	South	West	All
Wall-glazing U-Value (W/m².K)	2.33	2.19	1.34	1.07	1.79
Solar Admittance	0.13	0.10	0.05	0.02	
AC Energy Value					253

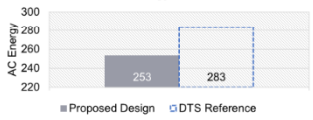
Method 1





Method 2





Project Details

	North	East	South	West
Glazing Area (m²)	215.414	168.859	88.27	33.007
Glazing to Façade Ratio	35%	32%	14%	9%
Glazing References	GL01 GL02 GL03 GL04 GL05	GL01 GL02 GL03 GL04	GL01 GL02 GL03	GL01 GL02 GL03
Glazing System Types	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m².K)	5.50	5.50	5.50	5.50
Average Glazing SHGC	0.39	0.36	0.39	0.21
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	405.4048	364.2433	533.6575	349.1293
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R1.54	R1.54	R1.54	R1.54
Wall Thickness	200 150	200 150	200 150	200
Average Wall R-value (m².K/W)	1.54	1.54	1.54	1.54
Solar Absorptance	0.6	0.6	0.6	0.6

Calculator that includes externally facing envelope façade only for SHGC

ABCB

Façade

Report

National Construction Code

Calculator

Project Summary

Date
27/09/2023

Name
KP

Company
erbas™

Position
ESD Modeller

Building Name / Address
Mornington Peninsula Specialist Hospital
9-17 Cranbourne Road, Frankston

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

Building Classification
Class 9a - health-care buildings

Storeys Above Ground
3

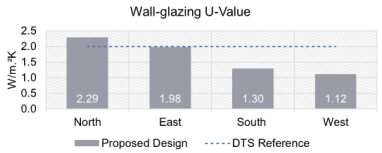
Tool Version
1.2 (June 2020)

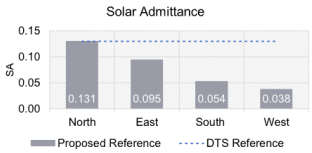
The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Apects).

Compliant Solution =
Non-Compliant Solution =

	Method 1 North	Method 1 East	Method 1 South	Method 1 West	Method 2 All
Wall-glazing U-Value (W/m².K)	2.29	1.98	1.30	1.12	1.78
Solar Admittance	0.13	0.09	0.05	0.04	
AC Energy Value					182

Method 1





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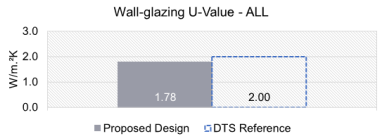

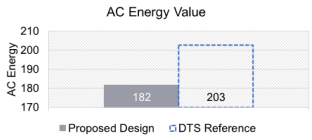

Project Details

	North	East	South	West
Glazing Area (m²)	215.414	153.852	88.27	18
Glazing to Façade Ratio	49%	40%	19%	14%
Glazing References	GL01 GL02 GL03 GL04 GL05	GL01 GL02 GL03	GL01 GL02 GL03	GL01 GL02
Glazing System Types	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)
Glass Types	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)	DEFAULTS (GENERIC)
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m².K)	4.00	4.00	4.00	4.00
Average Glazing SHGC	0.28	0.28	0.28	0.28
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	224.1641	233.2796	365.1841	111.1261
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	R1.54	R1.54	R1.54	R1.54
Wall Thickness	200	200	200	200
Average Wall R-value (m².K/W)	1.54	1.54	1.54	1.54
Solar Absorptance	0.6	0.6	0.6	0.6

Appendix B – J1 Thermal Insulation Markup

Insulation - For DTS Minimum Compliance + 10% Improvement

R-values indicated represent minimum overall system R-values that requires to be achieved by the overall construction of the wall, floor, and roof.

- R1.54 - External/Internal Envelope wall between conditioned and unconditioned spaces
- R3.08 - External/Internal Envelope wall between conditioned and unconditioned spaces
- R2.2 - Floor
- R3.52 - Roof over conditioned area (solar absorptance of upper surface of a roof must be ≤ 0.40)

A
FOOTPATH
GARDEN
WATER METER
FIRE HYDRANT
BIKE HOOP (8 SPACES)
LEVEL 01 ABOVE
PAVEMENT
3000 SETBACK
GARDEN
DEEP PLANTING ZONE
4500
4080 SETBACK
SUBSTATION
MSB
FIRE PUMP ROOM
MAIN COMMS
STAIR 02
SITE BOUNDARY
MEDICAL TENANCY
429 m²
RL 12.250
LOBBY
RL 12.250
PATHOLOGY
51 m²
RL 12.250
FIRE SERVICES
FHR
LIFT
LIFT
BOH LOBBY
RL 12.250
ELECTRICAL ASSET
WASTE
GAS MANIFOLD
FILE ST.
STAIR 01
SWR
ACC. WC
DELIVERY ROOM
S.SERVICES
STAFF ROOM / MEETING
ADMINISTRATION
WORKSTATION
OFFICE
OFFICE
GARDEN
PAVEMENT
LEVEL 01 ABOVE
BIKE HOOP (2 SPACES)
BIKE HOOP (2 SPACES)
BB
CARPARKING (138)
REFER TO SITE PLAN DRAWING TP04
BIKE HOOP (6 SPACES)
INDICATIVE LOCATION OF UNDERGROUND 20KL RAINWATER HARVESTING TANK CONNECTED TO THE ROOF CATCHMENT AREA
NEIGHBOURING BUILDING
3 - 7 SINGLE STOREY BRICK & G.1. (FLAT ROOF) 'CFA'
B
4900
138
6398
LEVEL 01 ABOVE
STAFF PARKING
127
2600
4900
DEEP PLANTING ZONE
4500
AA
SITE BOUNDARY
GARDEN
5/67
SINGLE STOREY BRICK & TILE
GARDEN
GARDEN
61
52
73

PRELIMINARY

Clarke Hopkins Clarke
www.chc.com.au | studio@chc.com.au | 03 9419 4340

Mornington Peninsula Specialist Hospital
9-13 Cranbourne Road & 69 Playne Street, Frankston VIC 3199
Project No. 220088

Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - GROUND FLOOR | TP10 d

21 SEPTEMBER 2023

Insulation - For DTS Minimum Compliance + 10% Improvement

R-values indicated represent minimum overall system R-values that requires to be achieved by the overall construction of the wall, floor, and roof.

- R1.54 - External/Internal Envelope wall between conditioned and unconditioned spaces
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Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 01

21 SEPTEMBER 2023

TP11

C

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Insulation - For DTS Minimum Compliance + 10% Improvement

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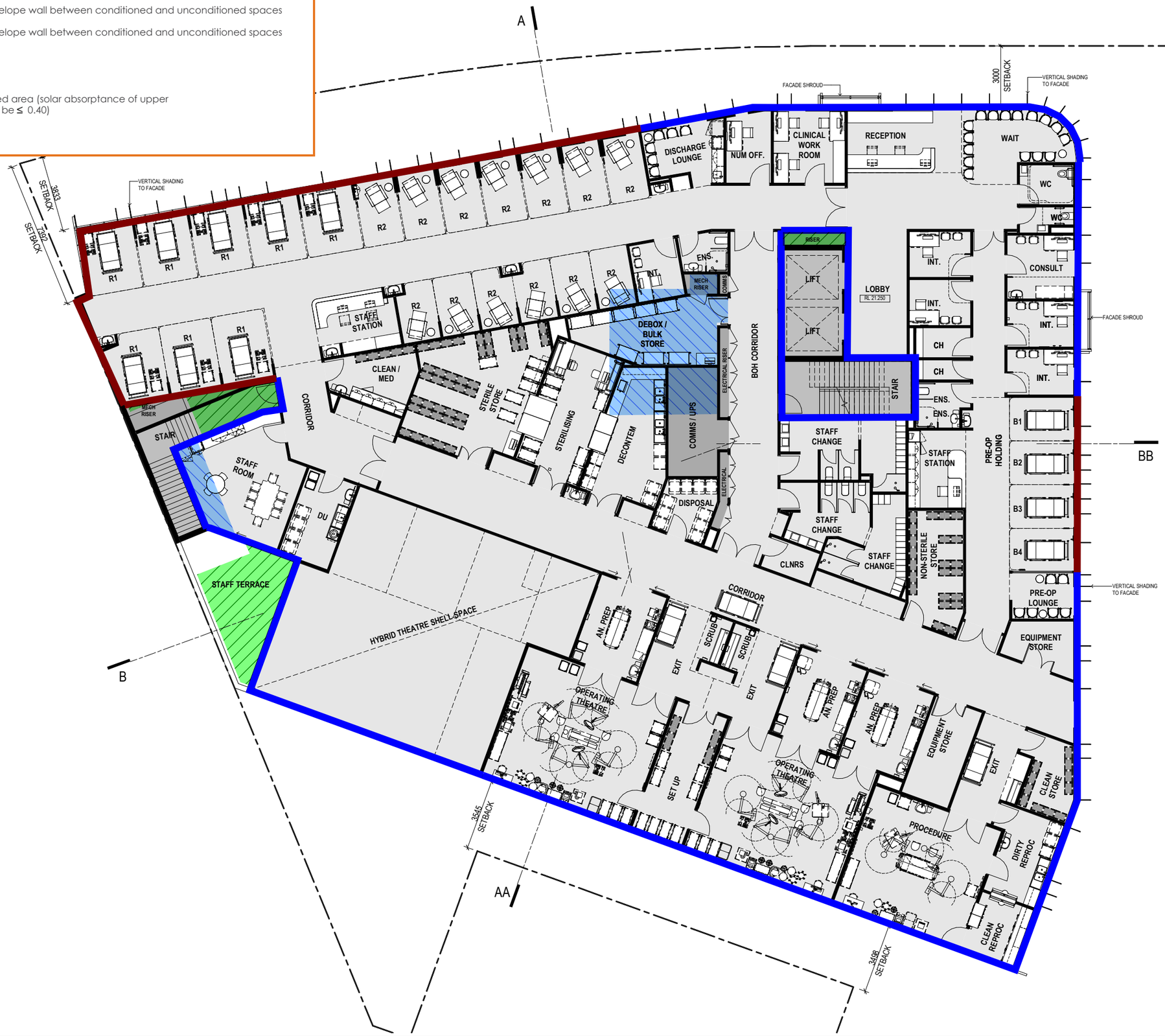

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Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 02

21 SEPTEMBER 2023

TP12

C

Insulation - For DTS Minimum Compliance + 10% Improvement

R-values indicated represent minimum overall system R-values that requires to be achieved by the overall construction of the wall, floor, and roof.

- R1.54 - External/Internal Envelope wall between conditioned and unconditioned spaces
- R3.08 - External/Internal Envelope wall between conditioned and unconditioned spaces
- R2.2 - Floor
- R3.52 - Roof over conditioned area (solar absorptance of upper surface of a roof must be ≤ 0.40)

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Scale 1 : 100 @ A1
0 5m

ROOF PLAN | TP13

21 SEPTEMBER 2023

e

Appendix C – Glazing Thermal Requirement Markup

NCC 2019 Volume One Amendment 1DTS Minimum Compliant +10% Improvement Glazing Specification

Total System U-value (Ward areas) = not greater than 4.6, Total System SHGC = 0.26 (+/- 5%)

Total System U-value (Non-Ward areas) = not greater than 5.5, Total System SHGC = 0.28 (+/- 5%)

NCC2019 Volume One Amendent 1 Section J Part J1 Glazing Thermal Requirement Markup - For DTS Minimum Compliance + 10% Improvement

PRELIMINARY

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Scale 1 : 100 @ A1
0 5m

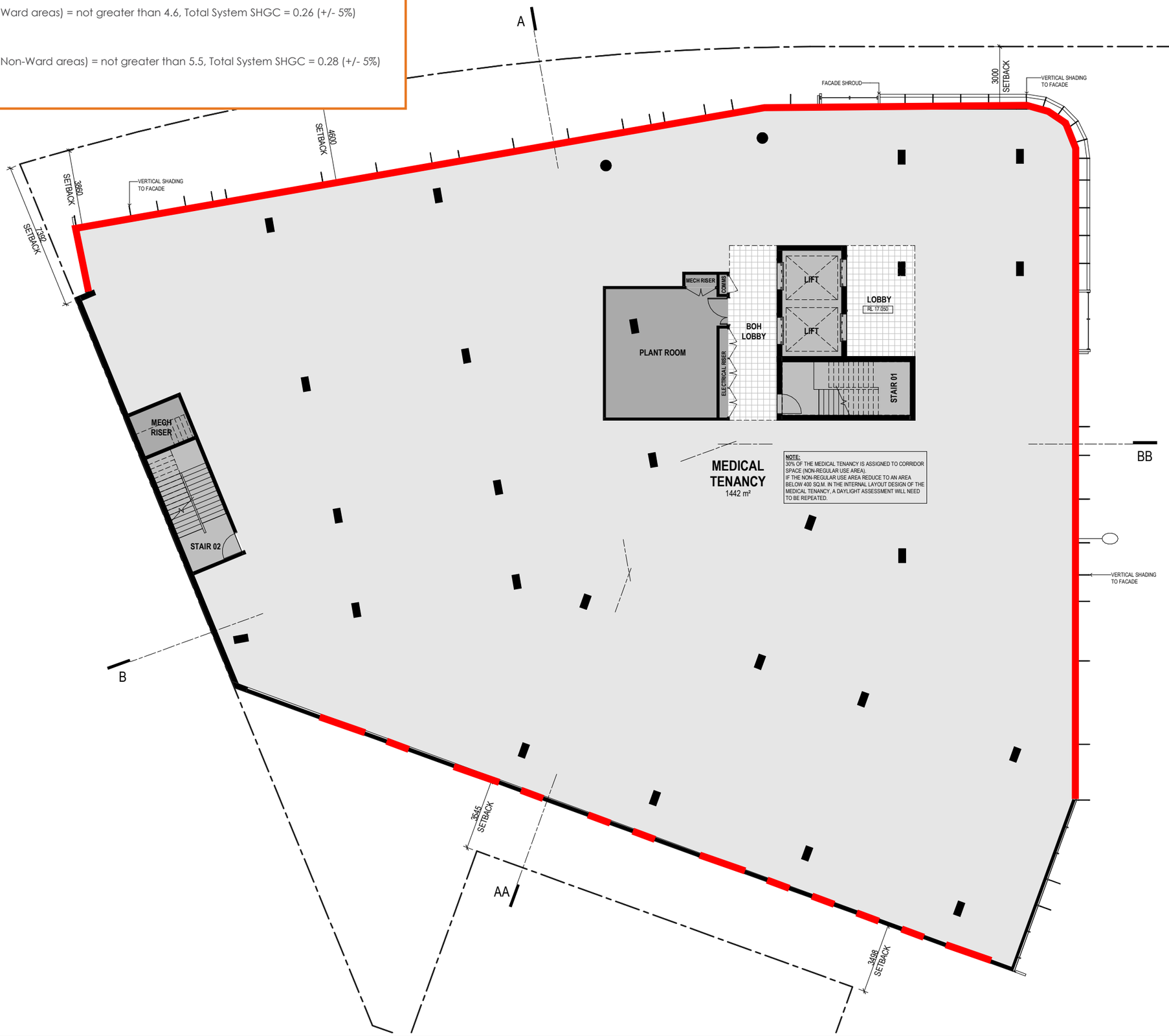
FLOOR PLAN - GROUND FLOOR
21 SEPTEMBER 2023

TP10 d

NCC 2019 Volume One Amendment 1DTS Minimum Compliant +10% Improvement Glazing Specification

Total System U-value (Ward areas) = not greater than 4.6, Total System SHGC = 0.26 (+/- 5%)

Total System U-value (Non-Ward areas) = not greater than 5.5, Total System SHGC = 0.28 (+/- 5%)



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9-13 Cranbourne Road & 69 Playne Street, Frankston VIC 3199
Project No. 220088

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Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 01

21 SEPTEMBER 2023

TP11

C

NCC 2019 Volume One Amendment 1DTS Minimum Compliant +10% Improvement Glazing Specification

Total System U-value (Ward areas) = not greater than 4.6, Total System SHGC = 0.26 (+/- 5%)

Total System U-value (Non-Ward areas) = not greater than 5.5, Total System SHGC = 0.28 (+/- 5%)

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Scale 1 : 100 @ A1
0 5m

FLOOR PLAN - LEVEL 02

21 SEPTEMBER 2023

TP12

C

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