

SECTION J ENERGY EFFICIENCY REPORT

PROJECT NAME: Proposed Boarding House & Community Centre

ADDRESS: 28 Fisher Road and Francis Street Dee Why, NSW 2099

CLIENT: The George Group Pty Ltd

DOCUMENT CONTROL

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DTS ENERGY EFFICIENCY DECLARATION

Pursuant to NCC A2.2 (vi) this report relies on supplied documentation for assessment with regards to adopting measures contributing to deemed-to-satisfy of designed and built deliverables. This report documents the energy efficiency assessment undertaken on the proposed building work described herein to confirm compliance with the Section J – Energy Efficiency Provisions of the National Construction Code Volume One – Class 2 to Class 9 Buildings. It is our opinion that this project can be constructed to satisfy the requirements of the National Construction Code.



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1 - Introduction

The term Proposed Development in this report refers to Proposed Boarding House and Community Centre located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW 2099.

This report presents the findings from the design assessment of the Proposed Development against the Deemed-to-Satisfy (DTS) requirements of Section J of the Building Code of Australia 2019, Volume 1, Amendment 1, ENERGY EFFICIENCY.

The purpose of this report is to provide an assessment of the design plans and documentation for the Proposed Development and to satisfy the requirements of Local Government Area of the development for issuance of Construction Certificate for construction operations in the development site.

The scope of this report is limited to the design documentation referenced in Section 2 of this report and only covers Section J of BCA 2019, Volume 1 Amendment 1 provisions.



2 - Referenced Documents

The following documents and design plans have been referenced in compilation of this report:

1. National Construction Code Series, Volume 1, Amendment 1, Building Code of Australia 2019, Class 2 to Class 9 Buildings.
2. Architectural Plans listed below provided by “The George Group Pty Ltd” and received by Certified Energy at 04/04/2022 and 01/04/2022.
 - 1.0 – Proposed 3D views, Survey Plan & Demolition Plan, DA
 - 1.1 – Proposed Lower Basement Carpark Level, Revision DA - Dated 14/05/22.
 - 1.2 – Upper Lower Basement Carpark Level, Revision DA - Dated 14/05/22.
 - 1.3 – Proposed Ground Level, Revision DA - Dated 14/05/22.
 - 1.4 – Proposed Level 1, Revision DA - Dated 14/05/22.
 - 1.5 – Proposed Level 2, Revision DA - Dated 14/05/22.
 - 1.6 – Proposed Level 3, Revision DA - Dated 14/05/22.
 - 1.7 – Proposed Level 4, Revision DA - Dated 14/05/22.
 - 1.8 – Proposed Rooftop Level, Revision DA - Dated 14/05/22.
 - 1.9 – Proposed Roof, Revision DA - Dated 14/05/22.
 - 1.4 – Proposed Level 1, Revision DA - Dated 14/05/22.
 - 2.1 – Proposed North Site Elevation, Revision DA - Dated 14/05/22.
 - 2.4 – Proposed East Elevation Fisher Road, Revision DA - Dated 14/05/22.
 - 2.5 – Proposed South Elevation, Revision DA - Dated 14/05/22.
 - 2.6 – Proposed West Elevation Fisher Road, Revision DA - Dated 14/05/22.
 - 2.7 – Proposed West Elevation Francis Street, Revision DA - Dated 14/05/22.
 - 2.8 – Proposed East Elevation T\Francis Street Revision DA - Dated 14/05/22.
 - 3.1 – Proposed Section through Centre of Site, Revision DA - Dated 14/05/22.
 - 3.2 – Proposed West Sun Slot Section, Revision DA - Dated 14/05/22.
 - 3.3 – Proposed East Sun Slot Section, Revision DA - Dated 14/05/22.
3. Email correspondence and response to information request received from “Philip George” for the Proposed Development.

3 – Proposed Development

The Proposed Development in this report is construction of a mixed-use Community Centre & Boarding House located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099.

The development is a Class 3, 9B & 7a building in BCA Climate Zone 5 according to BCA Climate Map for NSW.

The following construction elements are being proposed in the building design according to architectural plans and design documents referenced in this report:

Roof and Ceiling: Plasterboard internal lining and metal cladding.

External Walls: FC clad/CSR- Cemintel Barestone clad walls.

Internal Walls: Plasterboard on studs, Concrete with Plasterboard.

Floors: Concrete Slab on Ground.

Windows: Standard Aluminium framed windows.

Skylights: Standard aluminium skylights.

Air Conditioning System: No design plans provided.

Lighting System: No design plans provided.

4 - Scope of Report (Building Envelope)

“**Envelope**”, for the purposes of Section J, means the parts of the buildings fabric that separate a conditioned space or habitable room from-

- » the exterior of the building; or
- » 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.

Conditioned Space Note:

 Legend: Building Envelope and scope of this report

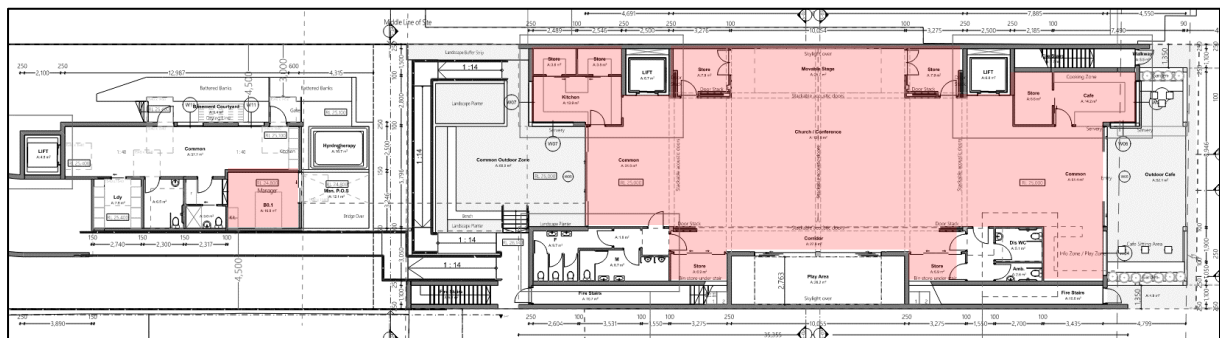


Figure 1 – Building Envelope – Ground Floor Plan

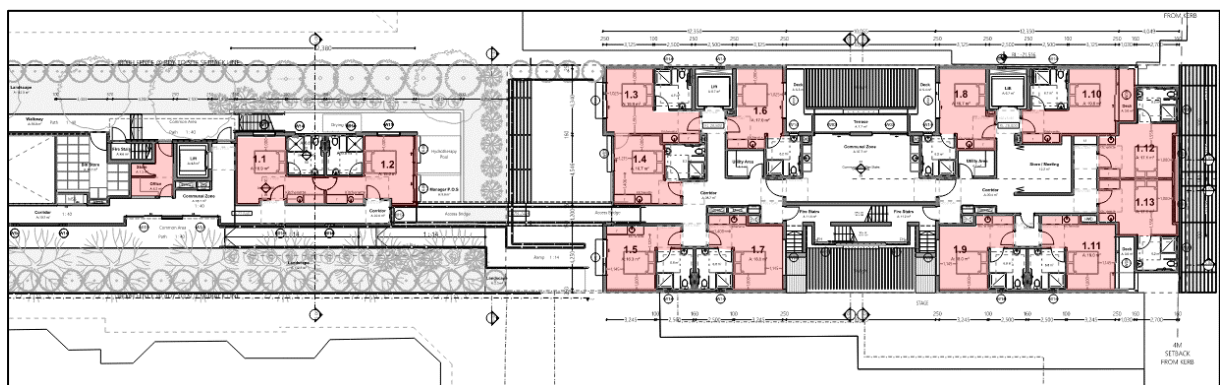


Figure 2 – Building Envelope – Level 01

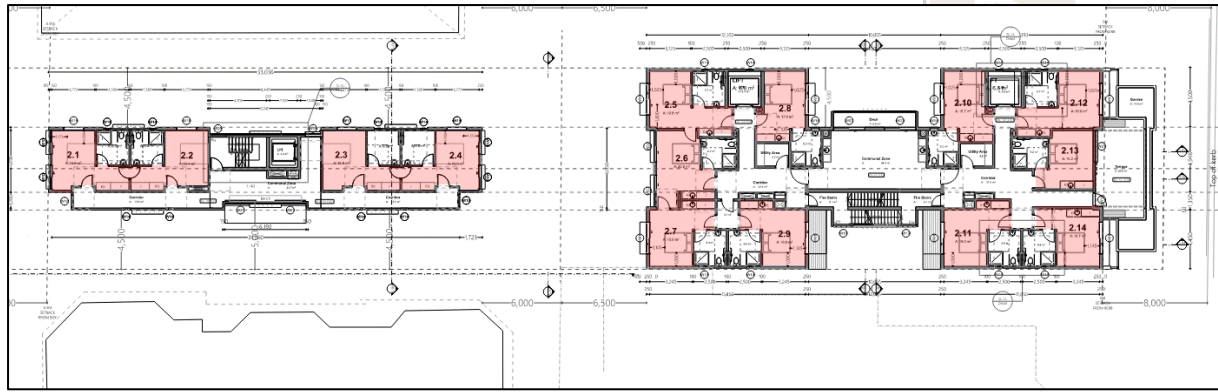


Figure 3 – Building Envelope – Level 02

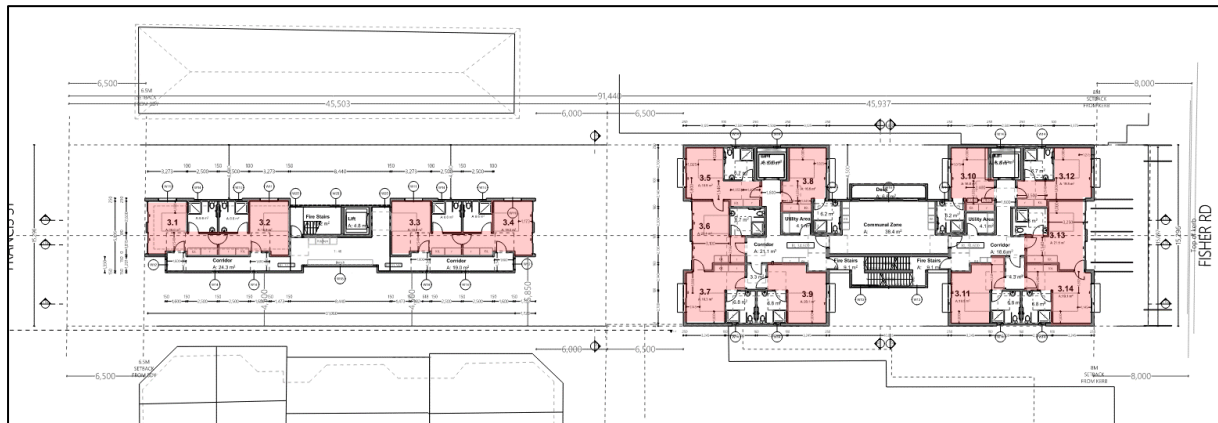


Figure 4 – Building Envelope – Level 03

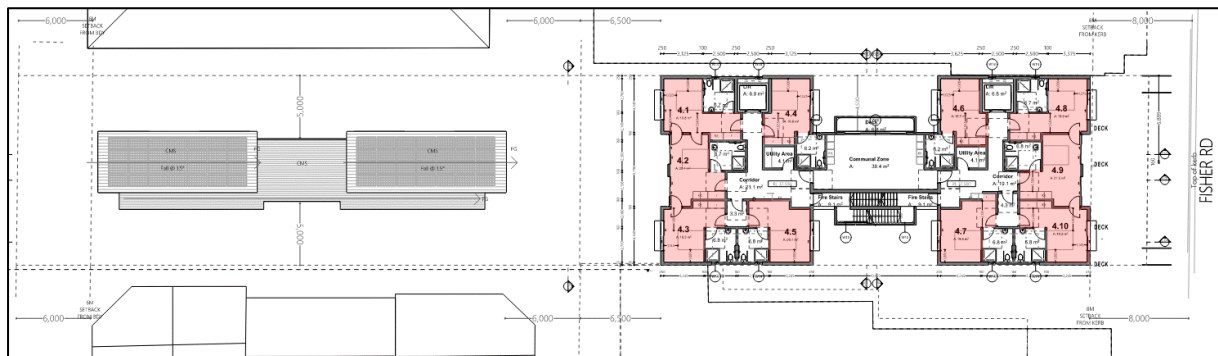


Figure 5 – Building Envelope – Level 04

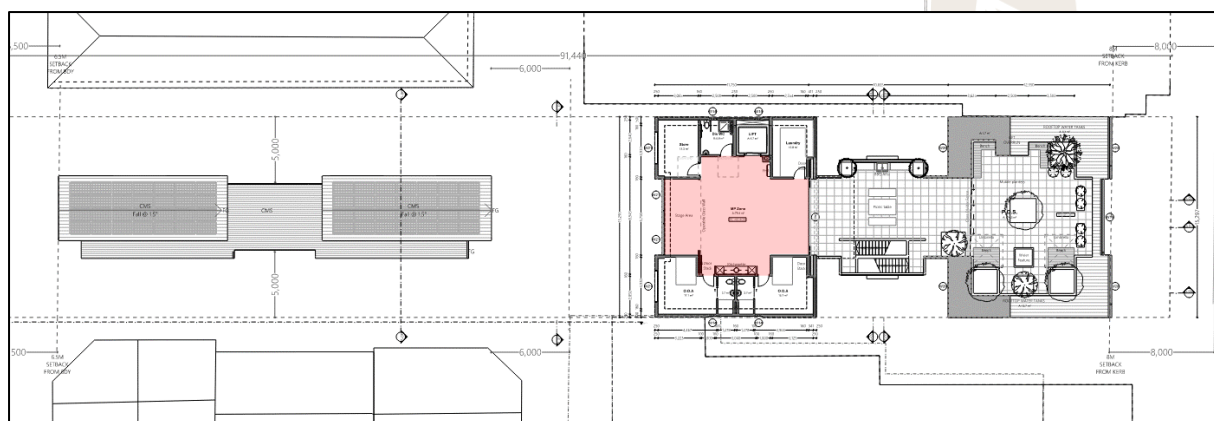
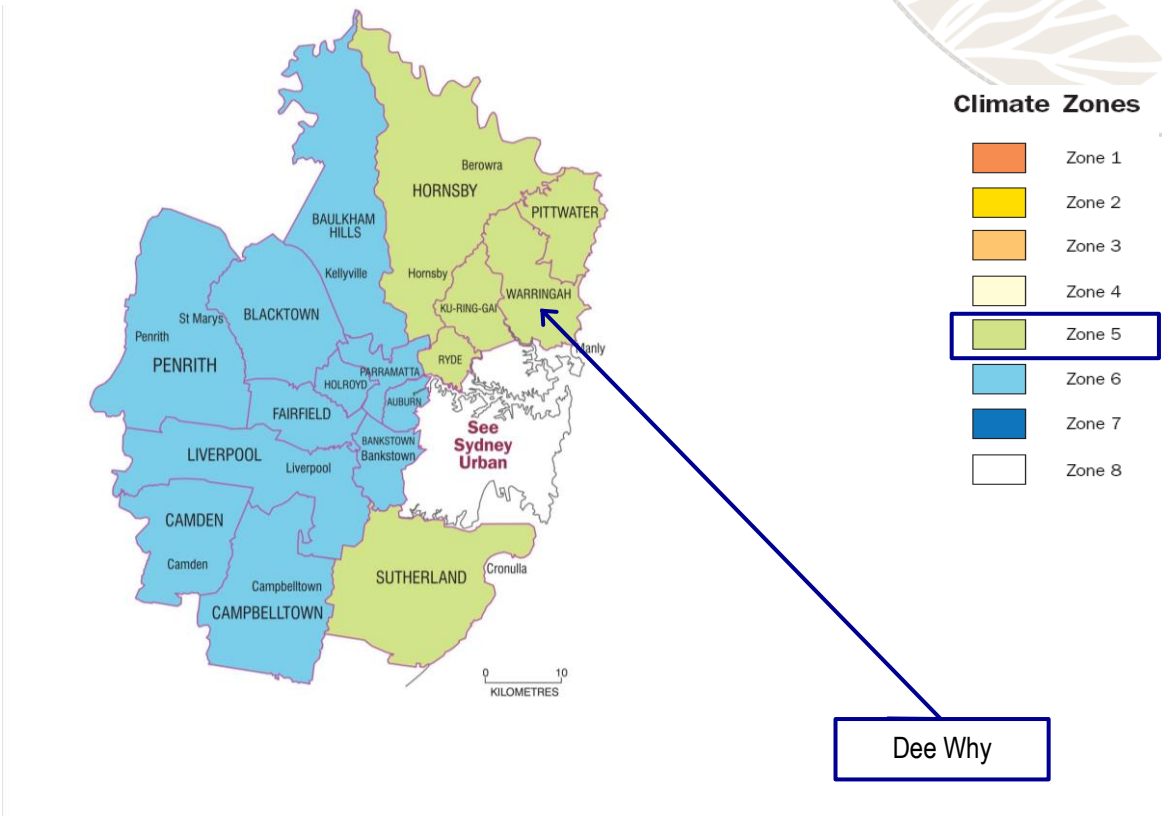


Figure 6 – Building Envelope – Roof Top

5 - Project Classification and Climate Zone

BUILDING CLASS 3, 9B & 7a



CLIMATE	COLOUR	SUBURB
ZONE 5	GREEN	DEE WHY

Climate Characteristics of Zone 5

Warm Temperate:

- Moderate diurnal (day-night) temperature range near coast to high diurnal range inland
- Four distinct seasons: summer and winter can exceed human comfort range, spring and autumn are ideal for human comfort
- Mild winters with low humidity
- Hot to very hot summers with low to moderate humidity
- Widely variable solar access and cooling breeze directions and patterns.

Key design objectives

Minimizing heating and cooling energy use should be a primary design objective

6 - NCC Section J Compliance Provisions

This section analyses the current elements of the of Proposed Development design against provisions of Section J of the Building Code of Australia 2019, Volume 1, Amendment 1- Energy Efficiency. In case of a non-complying element, advisory notes are provided to bring the building in compliance with Section J requirements.

A summary note of these provisions is provided in **Section 7-Conclusions** of this report that can be incorporated into specification blocks of architectural plans and, as a result, be deployed during construction. It is however the responsibility of the entity responsible for the submission of the design plans and documents to the council to ascertain each and every element of this report is clearly referenced and reflected on the submitted plans and documents.

6.1 – Part J1 Building Fabric

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
J1.3 Roof and ceiling construction			
1	Metal clad roof and plasterboard ceiling of the Proposed Development	Install minimum R3.13 m ² .K/W insulation or provide a roof system with total performance of R3.7 m ² .K/W.	Part J1.3(a) and Material Properties from Specification - J1.2
2	Concrete roof and plasterboard ceiling of the Proposed Development	Install minimum R3.07 m ² .K/W insulation or provide a roof system with total performance of R3.7 m ² .K/W.	Part J1.3(a) and Material Properties from Specification - J1.2
3		The solar absorptance of the upper surface of the roof should not exceed 0.45	Part J1.3(b)
J1.4 Roof lights			
4	Roof lights of the Proposed Development	Total roof light area should not exceed the 5% of total floor area.	Part 1.4(a)
		Install roof lights with Total System U-value no more than 3.9 W/m ² .K and SHGC no more than 0.45	Part 1.4(b)
J1.5 Walls and Glazing			
5	External CSR- Cemintel Barestone walls of the Proposed Development	Install minimum R1.44 m ² .K/W insulation or Provide a wall-glazing construction system that not exceed the U-value of U2.0 W/m ² .K	Table 1.5(a), Façade Calculator and Material Properties from Specification - J1.2
6	External Concrete Walls with Plasterboard of the Proposed Development	Install minimum R1.25 m ² .K/W insulation or provide an external wall system with total performance of R1.79 m ² .K/W.	Table 1.5(a), Façade Calculator and Material Properties from Specification - J1.2
7	Plasterboard on stud internal walls adjacent to unconditioned spaces	Install minimum R1.21 m ² .K/W insulation or provide an internal wall system with total performance of R1.76 m ² .K/W.	Table 1.5(a), Façade Calculator and Material Properties from Specification - J1.2
8	Plasterboard on concrete internal walls adjacent to unconditioned spaces	Install minimum R1.17 m ² .K/W insulation or provide an internal wall system with total performance of R1.75 m ² .K/W.	Table 1.5(a), Façade Calculator and Material Properties from Specification - J1.2
9	All elevation windows (Francis road class 3)	Install windows with Total System U-value no more than 5.8 W/m ² .K and SHGC no more than 0.40	Part 1.5(a) and Façade Calculator
10	All elevation windows (Fisher road class 3)	Install windows with Total System U-value no more than 5.8 W/m ² .K and SHGC no more than 0.34	Part 1.5(a) and Façade Calculator
11	All elevation windows (Fisher road class 9B)	Install windows with Total System U-value no more than 5.8 W/m ² .K and SHGC no more than 0.45	Part 1.5(a) and Façade Calculator

J1.5 Floors			
12	Suspended concrete slab of conditioned areas on top of undercroft areas.	Install minimum R1.31 m ² .K/W insulation or provide a suspended slab system with total performance of R2.0 m ² .K/W.	Part J1.6(a)(i) and Table J1.6 considering the material properties from specification - J1.2 & J1.6 Figure 2(c)
13	Suspended AAC slab of conditioned areas on top of undercroft areas.	Existing proposed insulation complies. No additional insulation required for the proposed floor system.	Part J1.6(a)(i) and Table J1.6 considering the material properties from specification - J1.2 & J1.6 Figure 2(c)
14	Suspended Timber floor of conditioned areas on top of undercroft areas.	Install minimum R1.28 m ² .K/W insulation or provide a suspended slab system with total performance of R2.0 m ² .K/W.	Part J1.6(a)(i) and Table J1.6 considering the material properties from specification - J1.2 & J1.6 Figure 2(c)

6.1.1 – Building Fabric Breakdown

	Metal Roof	R value [m ² K/W]
1	Outdoor air film (7m/s)	0.03
2	Concrete tiles	0.04
3	Metal cladding	0.00
4	Roof airspace	0.28
5	Bulk insulation	-
6	Plasterboard gypsum (10mm, 880kg/m ³)	0.06
7	Indoor air film	0.16
	Default System R value	R0.57
	Total system R value required	R3.7
	Additional insulation required for compliance	R3.13

	Concrete Roof	R value [m ² K/W]
1	Outdoor air film (7m/s)	0.03
2	Waterproof membrane, rubber synthetic (4 mm, 961 kg/m ³)	0.03
3	Solid concrete, (100 mm, 2400 kg/m ³)	0.07
4	Ceiling airspace (100 mm to 300 mm, nonreflective)	0.28
5	Bulk insulation	-
6	Plasterboard gypsum (10mm, 880kg/m ³)	0.06
7	Indoor air film	0.16
	Default System R value	R0.63
	Total system R value required	R3.7
	Additional insulation required for compliance	R3.07

Note: EPS Thermal break of not less than 10mm to be installed on metal studs for all Walls.

	External CSR- Cemintel Barestone Walls	R value [m ² K/W]
1	Outdoor air film (7m/s)	0.03
2	Barestone Panel	0.02
3	Airspace (20 to 40mm)	0.17
4	Bulk insulation	-
5	Plasterboard gypsum (13mm, 880kg/m ³)	0.08
6	Indoor air film	0.12
	Default System R value	R0.42
	Total system R value required (with factored thermal bridging)	R1.86
	Additional insulation required for compliance (with factored thermal bridging) *	R1.44

	External Concrete Walls with Plasterboard	R value [m ² K/W]
1	Outdoor air film (7m/s)	0.03
2	Solid Concrete Wall (200mm)	0.14
3	Airspace (20 to 40mm)	0.17
4	Bulk insulation	-
5	Plasterboard gypsum (13mm, 880kg/m ³)	0.08
6	Indoor air film	0.12
	Default System R value	R0.54
	Total system R value required (with factored thermal bridging)	R1.79
	Additional insulation required for compliance (with factored thermal bridging) *	R1.25

	Internal Plasterboard on Studs Walls	R value [m ² K/W]
1	Indoor air film	0.14
2	Plasterboard gypsum (10mm, 880kg/m ³)	0.06
3	Airspace (20 to 40mm)	0.17
4	Bulk insulation	-
5	Plasterboard gypsum (10mm, 880kg/m ³)	0.06
6	Indoor air film	0.12
	Default System R value	R0.55
	Total system R value required (with factored thermal bridging)	R1.76
	Additional insulation required for compliance (with factored thermal bridging) *	R1.21

	Internal Plasterboard on Concrete Walls	R value [m²K/W]
1	Indoor air film	0.14
2	Plasterboard gypsum (10mm, 880kg/m³)	0.06
3	Airspace (20 to 40mm)	0.17
4	Bulk insulation	-
5	Concrete Wall (125 mm)	0.09
6	Indoor air film	0.12
	Default System R value	R0.58
	Total system R value required (with factored thermal bridging)	R1.75
	Additional insulation required for compliance (with factored thermal bridging) *	R1.17

	Suspended Concrete Slab	R value [m²K/W]
1	Indoor air film	0.16
2	Concrete floor slab (200mm)	0.12
3	Airspace under floor (100-300mm)	0.22
4	Bulk insulation	-
5	Fibre-cement (6mm)	0.03
6	Indoor air film	0.16
	Default System R value	R0.69
	Total system R value required	R2.0
	Additional insulation required for compliance	R1.31

	Suspended AAC Slab	R value [m²K/W]
1	Indoor air film	0.16
2	Autoclaved aerated concrete block (200 mm, 350 kg/m³)	1.54
3	Airspace under floor (100-300mm)	0.22
4	Bulk insulation	-
5	Fibre-cement (6mm)	0.03
6	Indoor air film	0.16
	Default System R value	R2.11
	Total system R value required	R2.0
	Additional insulation required for compliance	No additional insulation required

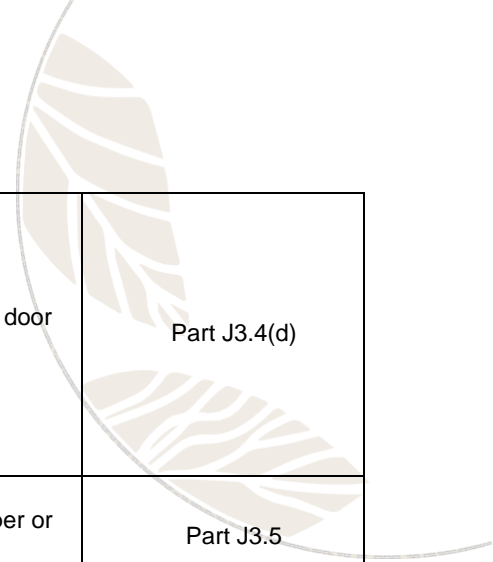
	Suspended Timber Floor	R value [m²K/W]
1	Indoor air film	0.16
2	Particleboard flooring (19 mm, 640 kg/m³)	0.15
3	Airspace under floor (100-300mm)	0.22
4	Bulk insulation	-
5	Fibre-cement (6mm)	0.03
6	Indoor air film	0.16
	Default System R value	R0.72
	Total system R value required	R2.0
	Additional insulation required for compliance	R1.28

*Alternatively, minimising the effect of thermal bridging without altering the existing wall thickness can be done via:

- Provide a thermal break to the metal stud
- Replace metal stud with less conductive type, such as timber.

6.3 – Part J3 Building Sealing

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
1	Roof lights	<p>Roof light in a conditioned space or habitable room in climate zone 4 to 8; must be sealed or capable of being sealed, and must be constructed with either;</p> <ul style="list-style-type: none"> ➤ An imperforate ceiling diffuser or the like installed at the ceiling or internal lining level, or ➤ A weatherproof seal, or ➤ A shutter system readily operated either manually, mechanically or electronically by the occupant. 	Part J3.3
2	Each edge of a door, all openable windows, or the like forming part of the envelope of a conditioned space	Provide air seals on all edges or provide windows complying with AS2047 for the Proposed Development except for fire doors, smoke doors, roller shutter doors roller shutter grille or other security door or device installed only for out-of-hours security	Part J3.4 (a)(b)



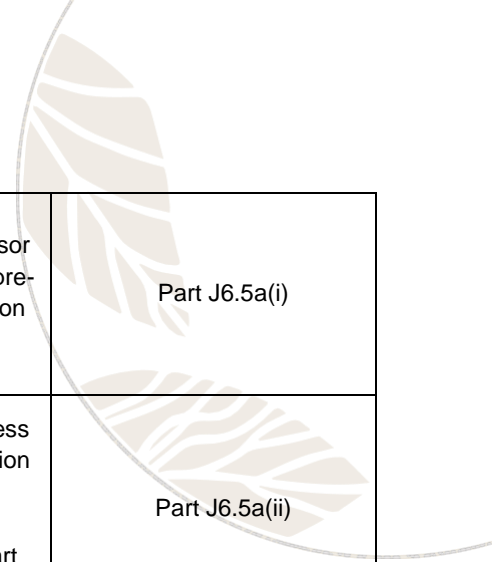
3	Entry doors to the building which leads to conditioned spaces greater than 50m ²	Provide self-closing mechanism, revolving door or similar system	Part J3.4(d)
4	Exhaust fans of the conditioned areas of the Proposed Development if any	Must be equipped with a self-closing damper or similar	Part J3.5
5	Roofs, ceilings, walls, floors, windows frame, door frame and roof light frame of the conditioned areas of the Proposed Development	Must be enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions OR be sealed by caulking, skirting, architraves, cornices or similar elements unless required for smoke hazard management	Part J3.6

6.4 – Part J5 Air-Conditioning and Ventilation Systems

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
1	No design plans provided	N/A	N/A

6.5 – Part J6 Artificial Lighting and Power

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
1	Lighting electrical power of the Proposed Development	Maximum design power allowed is 17303 Watts (class 3) and 4313 Watts (class 9B)	Part J6.2
2	Artificial light switch or other lighting control devices of Proposed Development	Artificial lighting of a room or space must be individually operated by a switch or other control device. An artificial lighting switch must be located in a visible position. Light switch or control device must control lighting of no more than 250 m ² of area. *	Part J6.3c
3	Windows display lighting if installed	Must be controlled separately from other display lighting.	Part J6.4b



4	External lighting of the Proposed Development if installed	Must be controlled by either a daylight sensor or a time switch which is capable of being pre-programmed for different times of the day on variable days. *	Part J6.5a(i)
5	If the total perimeter lighting load of the Proposed Development exceeds 100 Watts	Provide average light source efficacy not less than 60 Lumens/Watt or control with a motion detector device in accordance with Specification J6 except when providing emergency lighting in accordance with Part E4 of the BCA 2011. *	Part J6.5a(ii)
6	Façade lighting or signage lighting of the Proposed Development if installed	Must be provided with a separate time switch in accordance with Specification J6. *	Part J6.5a(ii)(C)

6.6 – Part J7 Hot Water Supply and Swimming Pool and Spa Pool Plant

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
1	Hot water supply of the Proposed Development	Must be designed and installed in accordance with section 8 of AS/NZS 3500.4	Part J7.2

6.7 – Part J8 Access for Maintenance and Facilities for Monitoring

	Building Element	Energy Efficiency Provisions	Corresponding BCA Part
1	For the Proposed Development with a floor area of more than 2500 m ²	Provide facilities to record individually the energy consumption of air conditioning plant, heating plant, cooling plant, air handling fans, artificial lighting, appliance power, central hot water supply and internal transport devices including lifts escalators, and travelators where there is more than one serving the building and other ancillary plant.	Part J8.3(b)

The provisions of **(b)** do not apply to a Class 2 building with a *floor area* of more than 2,500 m² where the total area of the common areas is less than 500 m².

7 - Conclusions

Considering the design elements nominated on the Proposed Development provided by The George Group Pty Ltd the following can be concluded for the Proposed Development to meet the Deemed to Satisfy requirements of Section J of the Building Code of Australia 2019 – Amendment 1, Energy Efficiency;

Part J1 – Building Fabric:

Roof & Ceiling:

- » Install minimum R3.13 m².K/W insulation or provide a roof system with total performance of R3.7 m².K/W. for the proposed metal roof and ceiling system of the conditioned areas.
- » Install minimum R3.07 m².K/W insulation or provide a roof system with total performance of R3.7 m².K/W. for the proposed concrete roof and ceiling system of the conditioned areas.
- » All the upper surfaces of the roof should not exceed the solar absorptance of 0.45.

Roof lights:

- » Total roof light area should not exceed the 5% of total floor area.
- » Install roof lights with Total System U-value no more than 3.9 W/m².K and SHGC no more than 0.45

Walls:

- » Install minimum R1.44 m².K/W insulation or provide an external wall system with total performance of R1.86 m².K/W for the proposed External CSR- Centimel Barestone Walls system of the conditioned areas.
- » Install minimum R1.25 m².K/W insulation or provide an external wall system with total performance of R1.79 m².K/W. for the proposed External Concrete Walls with plasterboard system of the conditioned areas.
- » Install minimum R1.21 m².K/W insulation or provide an internal wall system with total performance of R1.76 m².K/W for the internal plasterboard on stud walls.
- » Install minimum R1.17 m².K/W insulation or provide an internal wall system with total performance of R1.75 m².K/W for the internal plasterboard on concrete walls.
- » Alternatively, minimising the effect of thermal bridging without altering the existing wall thickness can be done via:
 - Provide a thermal break to the metal studs.
 - Replace metal stud with less conductive type, such as timber.

Glazing:

- » Provide the following minimum performance requirements for doors & windows of conditioned areas, adjacent to unconditioned spaces.
 - All Francis road class 3 windows; Install windows with Total System U-value no more than 5.8 W/m².K and SHGC no more than 0.40
 - All Fisher road class 3 windows; Install windows with Total System U-value no more than 5.8 W/m².K and SHGC no more than 0.34
 - All Fisher road class 9B windows; Install windows with Total System U-value no more than 5.8 W/m².K and SHGC no more than 0.45

Flooring:

- » Install minimum R1.31 m2.K/W insulation or provide a suspended slab system with total performance of R2.0 m2.K/W for the proposed suspended concrete floor system of the conditioned areas.
- » Existing proposed insulation complies. No additional insulation required for the proposed suspended AAC floor of the conditioned areas.
- » Install minimum R1.28 m2.K/W insulation or provide a suspended slab system with total performance of R2.0 m2.K/W for the proposed suspended timber floor of the conditioned areas.

Insulations:

- » Installed insulation must comply with AS/NZS 4859.1 and be installed in such a way to meet the following requirements:
 - The insulation must abut or overlap adjoining insulation other than at supporting members such as studs, noggins, joists, furring channels and the like where the insulation must be against the member.
 - The installed insulation must form a continuous barrier with ceiling, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier while does not affect the safe and effective operation of a service or fitting.
 - The bulk insulation must maintain its position and thickness other than when it is compressed between cladding and supporting members, water pipes, electrical cabling or the like.
 - Reflective insulation must be installed with the necessary airspace to achieve the required R Value and be adequately supported by framing members. Each adjoining sheet of role membrane must be overlapped by not less than 50mm or tapped together. It must be closely fitted against any penetration, door or window opening.

Part J3 – Building Sealing:

- » Roof lights in a conditioned space or habitable room in climate zone 4 to 8; must be sealed or capable of being sealed and must be constructed with either; an imperforate ceiling diffuser or the like installed at the ceiling or internal lining level, or a weatherproof seal, or a shutter system readily operated either manually, mechanically or electronically by the occupant.
- » Provide air seals on all edges or provide windows complying with AS 2047 for all external doors and openable windows of the Proposed Development servicing conditioned areas except fire doors, smoke doors, roller shutter doors roller shutter grille or other security door or device installed only for out-of-hours security.
- » Provide self-closing mechanism, revolving door or similar system to conditioned spaces greater than 50m².
- » Exhaust fans of the Proposed Development serving conditioned areas must be equipped with a self-closing damper or similar.
- » Roofs, ceilings, walls, floors, windows frame, door frame and roof light frame of conditioned areas of the Proposed Development must be enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions OR be sealed by caulking, skirting, architraves, cornices or similar elements unless required for smoke hazard management.
- » Air infiltration seal for bottom edge of external swing doors of the Proposed Development must be a draft protection device and for other edges of an external door or the edges of

an openable window or other such openings may be a foam or rubber compression strip, fibrous seal or the like.

Part J5 – Air Conditioning & Ventilation:

- » Has not assessed as design details not provided.

Part J6 – Artificial Lighting & Power:

- » Maximum design lighting power allowed for the Proposed Development is 17303 Watts (class 3) and 4313 Watts (class 9B).
- » Artificial lighting of a room or space must be individually operated by a switch or other control device. An artificial lighting switch must be located in a visible position. Artificial light switch or other lighting control devices of the Proposed Development must control lighting of no more than 250 m² of area.
- » Windows display lighting if installed must be controlled separately from other display lighting.
- » External lighting of the Proposed Development if installed must be controlled by either a daylight sensor or a time switch which is capable of being pre-programmed for different times of the day on variable days.
- » Façade lighting or signage lighting of the Proposed Development if installed must be provided with a separate time switch.
- » All lighting and power control devices of the Proposed Development including timers, time switches, motion detectors and daylight control devices must follow the guidelines and specifications outlined in Appendix D Artificial Lighting and Power Notes of this report.

Part J7 – Heater Water Supply & Swimming Pool & Spa Pool Plant:

- » Hot water supply of the Proposed Development must be designed and installed in accordance with section 8 of AS/NZS 3500.4

Part J8 – Facilities for Energy Monitoring:

- » For the Proposed Development provide facilities to record individually the energy consumption of air conditioning plant, heating plant, cooling plant, air handling fans, artificial lighting, appliance power, central hot water supply, and internal transport devices including lifts, escalators and travelators where there is more than one serving the building and other ancillary plant.

7.2 – Recommendation

As section-j report is just one of the many pathways for minimum compliance as per NCC2019, it does not offer higher flexibility for any trade-offs in the building fabric. It is advisable that undertaking a JV3 assessment for this project may further enhance the specified system both in terms of performance and cost.

8 - Appendix

This section of the report demonstrates the results of employing BCA Calculators for Glazing, Lighting Power, and other referenced calculations and plans in this report.



8.1 – Appendix A – Façade Calculator



Project Summary

Date
27/06/2022

Name
Siddesh Shetty

Company
Certified Energy

Position
ESD Consultant

Building Name / Address
Mixed- use Community Centre
28 Fisher Road and Francis Street Dee Why, NSW

Building State
NSW

Climate Zone
Climate Zone 5 - Warm temperate

Building Classification
Class 3 - student accommodation

Storeys Above Ground
3

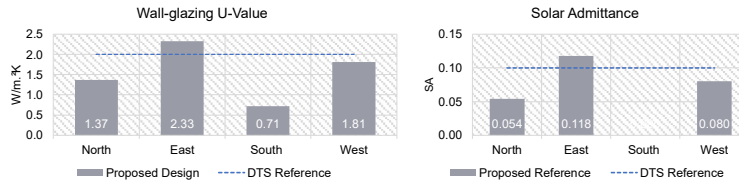
Tool Version
1.1 (April 2020)

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 Aspects).

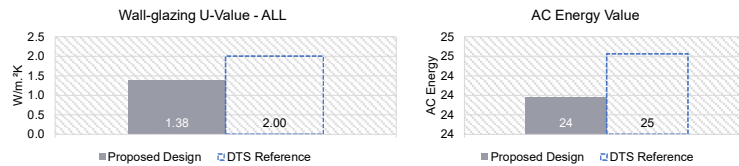
Compliant Solution =
Non-Compliant Solution =

	North	East	Method 1 South	West	Method 2 All
Wall-glazing U-Value (W/m ² .K)	1.37	2.33	0.71	1.81	1.38
Solar Admittance	0.05	0.12		0.08	
AC Energy					24

Method 1



Method 2



Project Details

	North	East	South	West
Glazing Area (m ²)	22.5	26.46	0	17.28
Glazing to Façade Ratio	13%	32%	0%	22%
Glazing References	NW11	EW10		WW10
Glazing System Types	Sliding Door	Sliding Door		Sliding Door
Glass Types	Single glazing	Single glazing		Single glazing
Frame Types	Aluminium	Aluminium		
Average Glazing U-Value (W/m ² .K)	5.80	5.80		5.80
Average Glazing SHGC	0.45	0.40	0.00	0.40
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m ²)	151.893	56.97	171.855	62.748
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS
Wall Thickness	250 150	250 150	250 150	250
Average Wall R-value (m ² .K/W)	1.40	1.40	1.40	1.40
Solar Absorptance	0.6	0.6	0.6	0.6

Project Summary

Date
27/06/2022

Name
Siddesh Shetty

Company
Certified Energy

Position
ESD Consultant

Building Name / Address
Mixed- use Community Centre
28 Fisher Road and Francis Street Dee Why, NSW

Building State
NSW

Climate Zone
Climate Zone 5 - Warm temperate

Building Classification
Class 3 - student accommodation

Storeys Above Ground
4

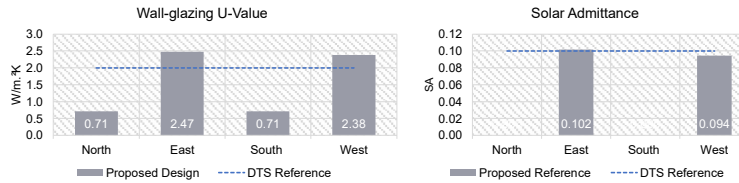
Tool Version
1.1 (April 2020)

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 Aspects).

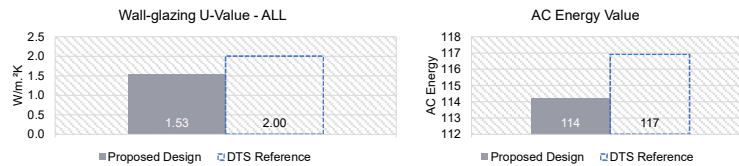
Compliant Solution =
Non-Compliant Solution =

	North	East	Method 1	South	West	Method 2 All
Wall-glazing U-Value (W/m².K)	0.71	2.47		0.71	2.38	1.53
Solar Admittance		0.10			0.09	
AC Energy						114

Method 1



Method 2



Project Details

	North	East	South	West
Glazing Area (m²)	0	123.759	0	137.52
Glazing to Façade Ratio	0%	35%	0%	33%
Glazing References		EW21 EW01 EW03 EWW09 EW23		ww1 ww3 ew-21 ew-w09
Glazing System Types				Sliding Door
Glass Types		Single glazing		Single glazing
Frame Types		Aluminium		
Average Glazing U-Value (W/m².K)		5.80		5.80
Average Glazing SHGC	0.00	0.34	0.00	0.34
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	486.081	234.18	364.797	283.113
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS
Wall Thickness	250 150	250 150	250 150	250
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

Project Summary

Date
27/06/2022

Name
Siddesh Shetty

Company
Certified Energy

Position
ESD Consultant

Building Name / Address
Mixed- use Community Centre
28 Fisher Road and Francis Street Dee Why, NSW

Building State
NSW

Climate Zone
Climate Zone 5 - Warm temperate

Building Classification
Class 9b - churches, chapels or the like

Storeys Above Ground
4

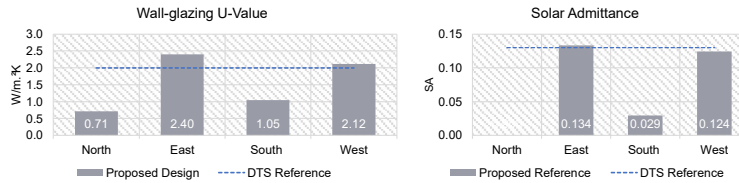
Tool Version
1.1 (April 2020)

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 Aspects).

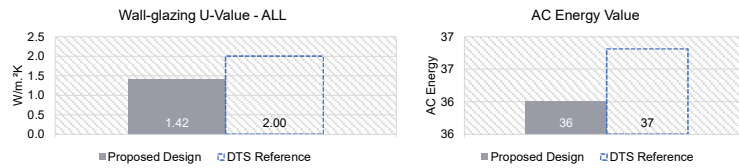
Compliant Solution =
Non-Compliant Solution =

	North	East	Method 1	South	West	Method 2 All
Wall-glazing U-Value (W/m².K)	0.71	2.40		1.05	2.12	1.42
Solar Admittance		0.13		0.03	0.12	
AC Energy						36

Method 1



Method 2



Project Details

	North	East	South	West
Glazing Area (m²)	0	27.063	8.19	22.428
Glazing to Façade Ratio	0%	33%	7%	28%
Glazing References		EW05 EW07 EW04	sw6 sw7	WW07 WW05
Glazing System Types			Sliding Door	Sliding Door
Glass Types		Single glazing	Single glazing	Single glazing
Frame Types		Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m².K)		5.80	5.80	5.80
Average Glazing SHGC	0.00	0.44	0.45	0.45
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m²)	125.928	54.549	117.63	58.788
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS	CSR CEMINTEL PB ON STUDS
Wall Thickness	250 150	250 150	250 150	250
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

8.2 – Appendix B – Lighting Calculator





Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

Help

Multiple Lighting Systems Calculator

Calculator

Building name/description

mixed-use Community Centre" located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099

Classification

Class 3

Number of rows preferred in table below

148

(as currently displayed)

							Illuminance		Adjustment Factor One			Adjustment Factor Two			Light Colour Adjustment Factors		SATISFIES PART J6.2	
Description	Floor area of the space	Perimeter of the space	Floor to ceiling height	Design Illumination Power Load	Space	Designed Lux Level	Recommended Lux Level	Adjustment Factor One			Adjustment Factor Two				Light Colour Adjustment Factor One	Light Colour Adjustment Factor Two	System Illumination Power Load Allowance	Lighting System Share of % of Aggregate Allowance Used
ID						These columns do not represent a requirement of the NCC and are suggestions only		Adjustment Factors	Dimming % Area	Illuminance Turndown	Adjustment Factors	Dimming % Area	Illuminance Turndown					
1	LIFT 1	4.8 m²	9 m	3.0 m	1 W	Lift cars											25 W	1% of 1%
2	LIFT 2	5.8 m²	10 m	3.0 m	1 W	Lift cars											32 W	1% of 1%
3	LIFT 3	5.8 m²	10 m	3.0 m	1 W	Lift cars											30 W	1% of 1%
4	FIRE STAIRS 1	10.6 m²	14 m	3.0 m	1 W	Stairways, including fire-isolated stairways											36 W	1% of 1%
5	FIRE STAIRS 2	13.8 m²	17 m	3.0 m	1 W	Stairways, including fire-isolated stairways											47 W	1% of 1%
6	CARPARK 1	590.1 m²	128 m	3.0 m	1 W	Carpark - general											1180 W	1% of 1%
7	BULKY GOODS STORE	171.7 m²	58 m	3.0 m	1 W	Storage											311 W	1% of 1%
8	LOWER CARPARK	575.7 m²	123 m	3.0 m	1 W	Carpark - general											1151 W	1% of 1%
9	FIRE STAIRS-BASE 1	10.6 m²	14 m	3.0 m	1 W	Stairways, including fire-isolated stairways											36 W	1% of 1%
10	FIRE STAIRS-BASE 2	13.8 m²	17 m	3.0 m	1 W	Stairways, including fire-isolated stairways											47 W	1% of 1%
11	HYD PUMP ROOM	10.1 m²	13 m	3.0 m	1 W	Service area, cleaner's room and the like											25 W	1% of 1%
12	BINSTORE	16.6 m²	18 m	2.7 m	1 W	Storage											41 W	1% of 1%
13	FIRE STAIRS L1	3.0 m²	8 m	2.7 m	1 W	Stairways, including fire-isolated stairways											11 W	1% of 1%
14	STORE	1.3 m²	5 m	2.7 m	1 W	Storage											4 W	1% of 1%
15	OFFICE	6.2 m²	13 m	2.7 m	1 W	Office - artificially lit to an ambient level of 200 lx or more											50 W	1% of 1%
16	CORRIDOR/COMMUNAL ZONE	45.4 m²	70 m	2.7 m	1 W	Lounge area for communal use in a Class 3 building or Class 9c building											352 W	1% of 1%
17	1.1 ROOM	19.0 m²	22 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											156 W	1% of 1%
18	1.1 WC	6.6 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											34 W	1% of 1%
19	1.2 ROOM	18.8 m²	21 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											154 W	1% of 1%
20	1.2 WC	6.3 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											33 W	1% of 1%
21	ACCESS BRIDGE	20.0 m²	36 m	2.7 m	1 W	Corridors											175 W	1% of 1%
22	1.3 ROOM	19.8 m²	22 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											162 W	1% of 1%
23	1.3 WC	6.9 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											36 W	1% of 1%
24	1.4 ROOM	16.8 m²	18 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											138 W	1% of 1%
25	1.4 WC	6.2 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											33 W	1% of 1%
26	1.5 ROOM	16.3 m²	18 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											133 W	1% of 1%
27	1.5 WC	6.6 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											34 W	1% of 1%
28	1.6 ROOM	16.8 m²	18 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											138 W	1% of 1%
29	1.6 WC	6.2 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											33 W	1% of 1%
30	1.7 ROOM	18.1 m²	20 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											149 W	1% of 1%



Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

Help

Multiple Lighting Systems Calculator

Calculator

[illegible]

mixed-use Community Centre" located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099

Classification

Class 3

Number of rows preferred in table below

148

(as currently displayed)

[illegible]



Class 3 and 5-9 buildings



Calculator

Number of rows preferred in table below	148	(as currently displayed)
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[illegible]



Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

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Multiple Lighting Systems Calculator

Calculator

Building name/description			Classification
mixed-use Community Centre* located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099			Class 3
Number of rows preferred in table below	148	(as currently displayed)	

[illegible]



Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

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Multiple Lighting Systems Calculator

Calculator

Building name/description			Classification
mixed-use Community Centre" located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099			Class 3
Number of rows preferred in table below	148	(as currently displayed)	

[illegible]



Non-residential Lighting

Class 3 and 5-9 buildings



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Help

Multiple Lighting Systems Calculator

Calculator

Building name/description

mixed-use Community Centre[®] located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099

Classification

Class 3

Number of rows preferred in table below

148

(as currently displayed)

ID	Description	Floor area of the space	Perimeter of the space	Floor to ceiling height	Design Illumination Power Load	Space	Illuminance		Adjustment Factor One			Adjustment Factor Two			Light Colour Adjustment Factors		SATISFIES PART J6.2	
							Designed Lux Level	Recommended Lux Level	Adjustment Factor One			Adjustment Factor Two			Light Colour Adjustment Factor One	Light Colour Adjustment Factor Two	System Illumination Power Load Allowance	Lighting System Share of % of Aggregate Allowance Used
							These columns do not represent a requirement of the NCC and are suggestions only						Adjustment Factors	Dimming % Area	Illuminance Turndown	Adjustment Factors	Dimming % Area	Illuminance Turndown
144	4.10 ROOM	18.2 m²	20 m	2.7 m	1 W	Sole-occupancy unit of a Class 3 or 9c building											149 W	1% of 1%
145	4.10 WC	6.7 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											34 W	1% of 1%
146	UTILITY AREA	4.2 m²	8 m	2.7 m	1 W	Service area, cleaner's room and the like											11 W	1% of 1%
147	CORRIDOR	26.2 m²	34 m	2.7 m	1 W	Corridors											222 W	1% of 1%

Total 147 W

Total 17303 W

if inputs are valid



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Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

Help

Multiple Lighting Systems Calculator

Calculator

Building name/description

mixed-use Community Centre[®] located at 28 Fisher Road and 9 Francis Street, Dee Why, NSW, 2099

Classification

Class 9b

Number of rows preferred in table below

21

(as currently displayed)

ID	Description	Floor area of the space	Perimeter of the space	Floor to ceiling height	Design Illumination Power Load	Space	Illuminance		Adjustment Factor One			Adjustment Factor Two			Light Colour Adjustment Factors		SATISFIES PART J6.2	
							Designed Lux Level	Recommended Lux Level	Adjustment Factor One	Dimming % Area	Illuminance Turndown	Adjustment Factor Two	Dimming % Area	Illuminance Turndown	Light Colour Adjustment Factor One	Light Colour Adjustment Factor Two	System Illumination Power Load Allowance	Lighting System Share of % of Aggregate Allowance Used
							These columns do not represent a requirement of the NCC and are suggestions only						Adjustment Factors	Dimming % Area	Illuminance Turndown	Adjustment Factors	Dimming % Area	Illuminance Turndown
1	COMMON	37.7 m²	33 m	2.7 m	1 W	Common rooms, spaces and corridors in a Class 2 building											266 W	5% of 0%
2	LDRY	7.8 m²	11 m	2.7 m	1 W	Service area, cleaner's room and the like											20 W	5% of 0%
3	MANAGER	13.4 m²	15 m	2.7 m	1 W	Office - artificially lit to an ambient level of 200 lx or more											98 W	5% of 0%
4	TOILET 1	6.5 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											34 W	5% of 0%
5	TOILET 2	6.6 m²	10 m	2.7 m	1 W	Toilet, locker room, staff room, rest room and the like											34 W	5% of 0%
6	STORE 1	3.7 m²	8 m	3.6 m	1 W	Storage											11 W	5% of 0%
7	STORE 2	3.8 m²	8 m	3.6 m	1 W	Storage											11 W	5% of 0%
8	KITCHEN	13.1 m²	15 m	3.6 m	1 W	Kitchen and food preparation area											90 W	5% of 0%
9	STORE 3	6.9 m²	11 m	3.6 m	1 W	Storage											18 W	5% of 0%
10	STORE 4	8.1 m²	12 m	3.6 m	1 W	Storage											21 W	5% of 0%
11	STORE 5	5.0 m²	9 m	3.6 m	1 W	Storage											15 W	5% of 0%
12	CAFÉ	13.8 m²	15 m	3.6 m	1 W	Restaurant, café, bar, hotel lounge and a space for the serving and consumption of food or drinks											333 W	5% of 0%
13	WC	23.8 m²	22 m	3.6 m	1 W	Toilet, locker room, staff room, rest room and the like											118 W	5% of 0%
14	STORE 6	4.6 m²	9 m	3.6 m	1 W	Storage											13 W	5% of 0%
15	PLAY AREA	28.2 m²	26 m	3.6 m	1 W	Common rooms, spaces and corridors in a Class 2 building											212 W	5% of 0%
16	STORE 7	4.8 m²	10 m	3.6 m	1 W	Storage											13 W	5% of 0%
17	DIS WC	13.2 m²	15 m	3.6 m	1 W	Toilet, locker room, staff room, rest room and the like											67 W	5% of 0%
18	FIRE STAIRS	12.3 m²	25 m	3.6 m	1 W	Stairways, including fire-isolated stairways											45 W	5% of 0%
19	FIRE STAIRS 2	7.7 m²	16 m	3.6 m	1 W	Stairways, including fire-isolated stairways											28 W	5% of 0%
20	CHURCH/CONFERENCE	275.0 m²	90 m	3.6 m	1 W	Auditorium, church and public hall											2821 W	5% of 0%
21	FIRE STAIRS 3	12.4 m²	25 m	3.6 m	1 W	Stairways, including fire-isolated stairways											45 W	5% of 0%

Total 21 W

Total 4313 W

if inputs are valid



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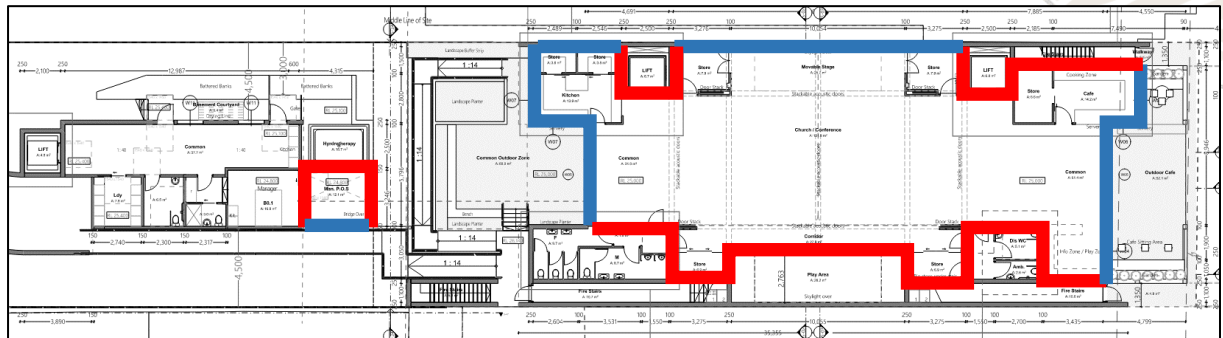
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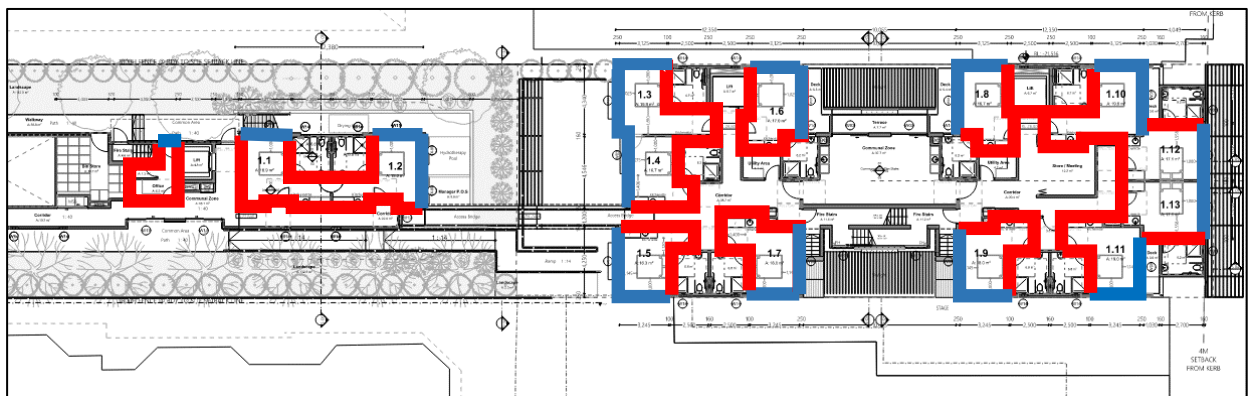
8.3 – Appendix C – Insulation Mark-Up

LEGEND

- R1.86 EXTERNAL CSR CEMINTEL WALLS; R1.79 CONCRETE WALLS ON PLASTERBOARD
- R1.76 INTERNAL PLASTERBOARD ON STUDS; R1.75 PLASTERBOARD ON CONCRETE WALL



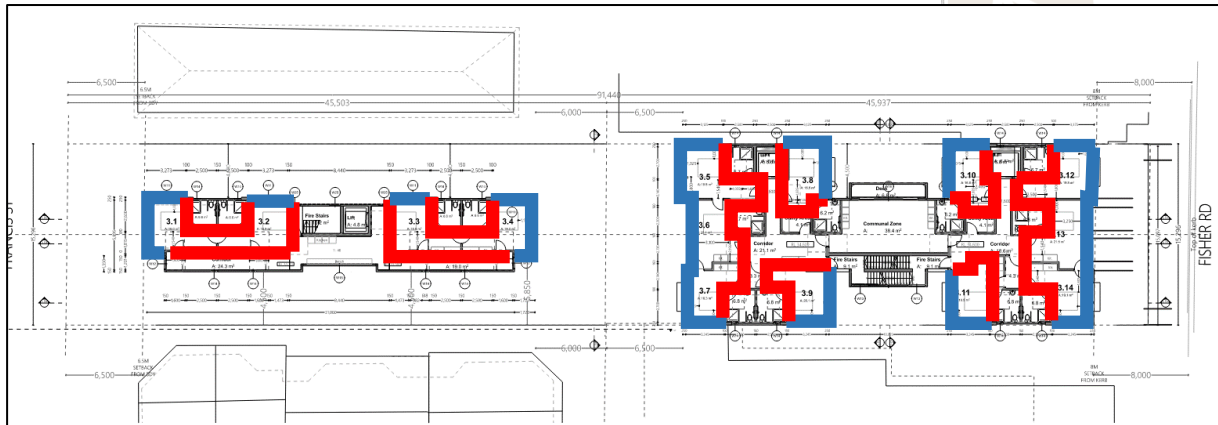
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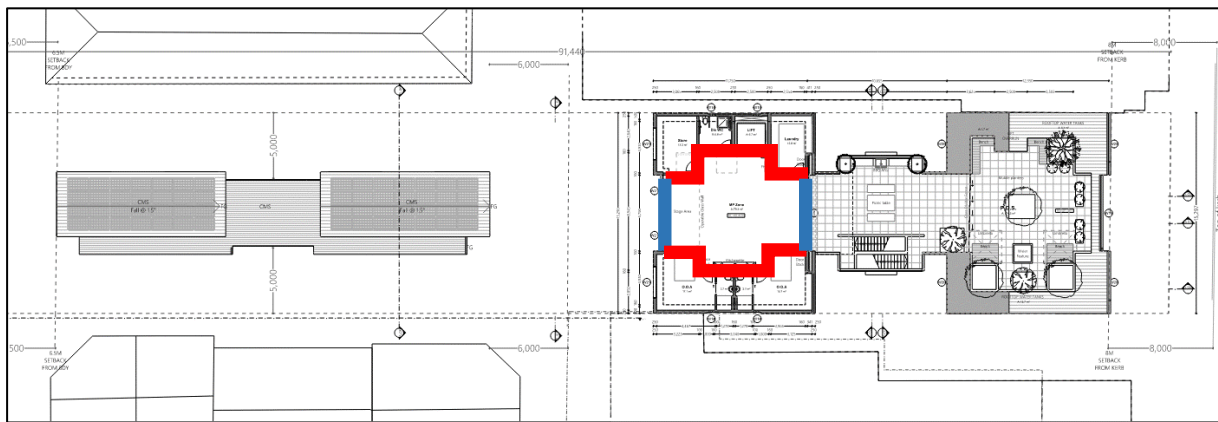
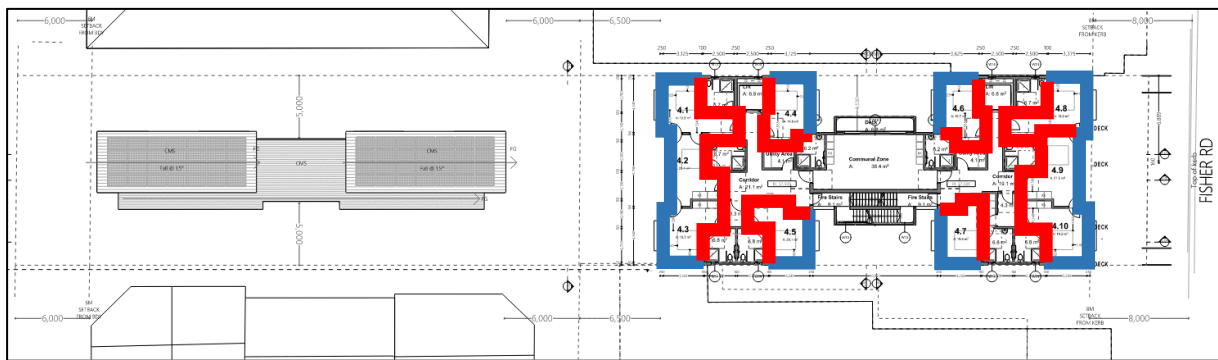
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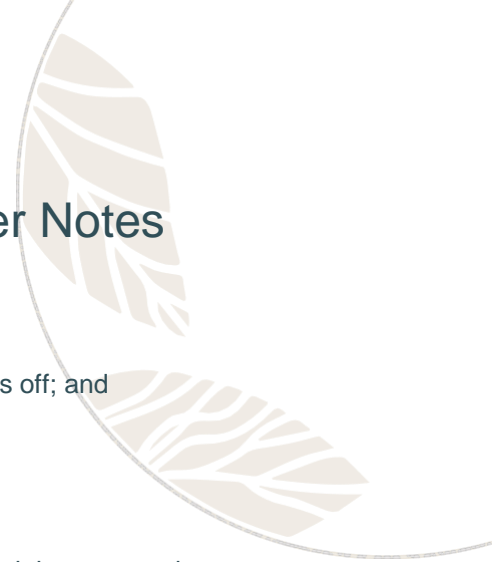
L2

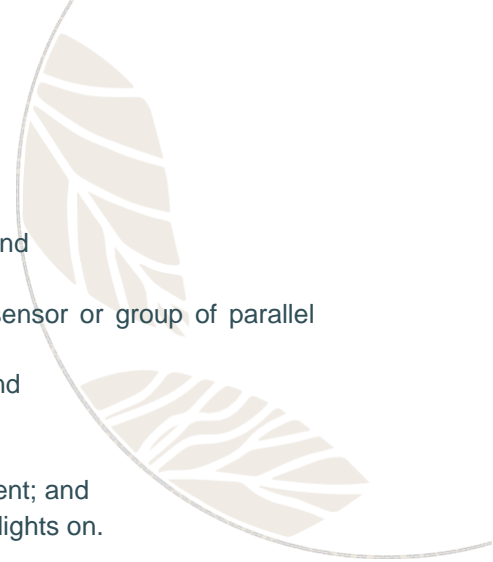


L3



8.4 – Appendix D – Artificial Lighting & Power Notes

- 
- 1- A lighting timer must;
 - a. be located within 2 m of every entry door to the space; and
 - b. have an indicator light that is illuminated when the artificial lighting is off; and
 - c. not control more than
 - i. an area of 100 m² with a single push button timer; and
 - ii. 95% of the lights in spaces of area more than 25 m²; and
 - d. be capable of maintaining the artificial lighting
 - i. for not less than 5 minutes and not more than 15 minutes unless it is reset; and
 - ii. without interruption if the timer is reset.
 - 2- Time switch;
 - a. A time switch must be capable of switching on and off electric power at variable pre-programmed times and on variable pre-programmed days.
 - b. A time switch for internal lighting must be capable of being overridden by
 - i. a means of turning the lights on, either by
 1. a manual switch or an occupant sensing device that on sensing a person's presence, overrides the time switch for a period of up to 2 hours, after which there is no further presence detected, the time switch must resume control; or
 2. an occupant sensing device that overrides the time switch upon a person's entry and returns control to the time switch upon the person's exiting, such as a security card reader; and
 - ii. a manual "off" switch
 - c. A time switch for external lighting must be capable of
 - i. limiting the period the system is switched on to between 30 minutes before sunset and 30 minutes after sunrise is determined or detected including any pre-programmed period between these times; and
 - ii. being overridden by a manual switch or a security access system for a period of up to 30 minutes, after which the time switch must resume control.
 - d. A time switch for boiling water and chilled water storage units must be capable of being overridden by a manual switch or a security access system that senses a person's presence, overrides for a period of up to 2 hours, after which if there is no further presence detected, the time switch must resume control.
 - 3- Motion detectors;
 - a. In a Class 2, 3 or 9c aged care building other than within a sole-occupancy unit, a motion detector must
 - i. be capable of sensing movement such as by infra-red, ultrasonic or microwave detection or by a combination of these means; and
 - ii. be capable of detecting a person before they are 1Â m into the space; and
 - iii. other than within a sole-occupancy unit of a Class 3 building, not control more than
 1. an area of 100 m²; and
 2. 95% of the lights in spaces of area more than 25 m²; and
 - iv. be capable of maintaining the artificial lighting when activated
 1. for not less than 5 minutes and not more than 15 minutes unless it is reset; and
 2. without interruption if the motion detector is reset by movement.
 - b. In a Class 5, 6, 7, 8, 9a or 9b building, a motion detector must
 - i. be capable of sensing movement such as by infra-red, ultrasonic or microwave detection or by a combination of these means; and
 - ii. be capable of detecting

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- 1. a person before they have entered 1 m into the space; and
 - 2. movement of 500 mm within the useable part of the space; and
 - ii. not control more than
 - 1. in other than a carpark an area of 500 m² with a single sensor or group of parallel sensors; and
 - 2. 75% of the lights in spaces using high intensity discharge; and
 - iii. be capable of maintaining the artificial lighting when activated
 - 1. for a maximum of 30 minutes unless it is reset; and
 - 2. without interruption if the motion detector is reset by movement; and
 - iv. not be overridden by a manual switch to permanently leave the lights on.
 - c. When outside a building, a motion detector must
 - i. be capable of sensing movement such as by infra-red, ultrasonic or microwave detection or by a combination of these means; and
 - ii. be capable of detecting a person within a distance from the light equal to
 - 1. twice the mounting height; or
 - 2. 80% of the ground area covered by the light's beam; and
 - iii. not control more than five lights; and
 - iii. be operated in series with a photoelectric cell or astronomical time switch so that the light will not operate in daylight hours; and
 - iv. be capable of maintaining the artificial lighting when the switch is on for a maximum of 10 minutes unless it is reset; and
 - v. have a manual override switch which is reset after a maximum period of 4 hours.
- 4- Daylight sensor and dynamic lighting control device;
- a. A daylight sensor and dynamic control device for artificial lighting must
 - i. for switching on and off
 - 1. be capable of having the switching level set point adjusted between 50 and 1000 Lux; and
 - 2. have a delay of more than 2 minutes; and a differential of more than 100 Lux for a sensor controlling high pressure discharge lighting, and 50 Lux for a sensor controlling other than high pressure discharge lighting; and
 - 3. for dimmed or stepped switching, be capable of reducing the power consumed by the controlled lighting in proportion to the incident daylight on the working plane either
 - 5- continuously down to a power consumption that is less than 50% of full power; or
 - 6- in no less than 4 steps down to a power consumption that is less than 50% of full power.
 - a. Where a daylight sensor and dynamic control device has a manual override switch, the manual override switch must not be able to switch the lights permanently on or bypass the lighting controls.

8.5 – Appendix E – NSW Subsection J(A)

This Subsection contains energy efficiency requirements for Class 2 buildings and Class 4 parts of buildings. The provisions of NSW Subsection J(A) are therefore designed to complement requirements that arise under BASIX and which are implemented via the development consent.

8.3.1 – NSW J(A)P2

A building must have, to the degree necessary, a level of building sealing against air leakage to facilitate the efficient use of energy for artificial heating and cooling appropriate to—

- (a) the function and use of the building; and
- (b) the internal environment; and
- (c) the geographic location of the building.

8.3.2 – NSW J(A)P3

A building's services must have features that, to the degree necessary, facilitate the efficient use of energy appropriate to—

- (a) the function and use of the service; and
- (b) the internal environment; and
- (c) the geographic location of the building; and
- (d) the energy source of the service.

8.3.3 – NSW J(A)P3

A building's services must have features that, to the degree necessary, facilitate the efficient use of energy appropriate to—

- (a) the function and use of the service; and
- (b) the internal environment; and
- (c) the geographic location of the building; and
- (d) the energy source of the service.

8.3.4 – NSW J(A)V1 Building sealing

Compliance with NSW J(A)P2 is verified when a building envelope is sealed in accordance with JV4 of the national provisions.

8.3.5 – NSW J(A)V1 Building sealing

Where a Performance Solution is proposed, the relevant Performance Requirements must be determined in accordance with A2.2(3) and A2.4(3) as applicable.

8.3.6 – NSW Part J(A)3 Air-conditioning and ventilation systems

Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement NSW J(A)P3 is satisfied by complying with NSW J(A)3.1 and NSW J(A)3.2. NSW J(A)3.2 Compliance with BCA provisions

Class 2 buildings and Class 4 parts of buildings must comply with the following national BCA provisions, as applicable—

- (a) for air-conditioning system control: J5.2; and
- (b) for mechanical ventilation system control: J5.3; and
- (c) for fan systems: J5.4; and
- (d) for ductwork insulation: J5.5; and
- (e) for ductwork sealing: J5.6; and
- (f) for pump systems: J5.7; and
- (g) for pipework insulation: J5.8; and
- (h) for refrigerant chillers: J5.10; and
- (i) for unitary air-conditioning equipment: J5.11; and
- (j) for heat rejection equipment: J5.12.

Note: Compliance is not required with the national BCA provisions of J5.9 as those matters are regulated under BASIX

8.3.7 – NSW Part J(A)4 Heated water supply

- (a) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement NSW J(A)P3 is satisfied by complying with NSW J(A)4.1 and NSW J(A)4.2

8.3.8 – Facilities for energy monitoring

- (a) Where a Deemed-to-Satisfy Solution is proposed, Performance Requirement NSW J(A)P3 is satisfied by complying with NSW J(A)5.1 and NSW J(A)5.3.

9 - Disclaimer

Recommendations:

Based on the information available on the supplied drawings and data, I am of the opinion that there is nothing that should prevent this project from compliance with the requirements of the Building Code of Australia. However, if the Construction Certificate is lodged/intend to be lodged after 30 April 2020, this project will need to be assessed under NCC 2019. Please contact Certified Energy if a reassessment under NCC 2019 is required.

This report is based on details available at the time of writing. Selected contractors and other parties contributing to the scope of the works should confirm that their supplied work will be in compliance with the BCA/NCC. It is advisable that this confirmation be requested prior to the commencement of construction. Final certification of BCA/NCC compliance at completion of works should be obtained to aid final certifier's approval.

Dimensions:

The dimensions used in this report are scaled from the supplied project documents. There may be some minor variation between the scaled dimensions, the dimensions on the window schedule and the actual dimensions on site.

Checked by:



Siddesh Shetty

B.Arch MArchSci (Sustainable Design & High-Performance Buildings)



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