



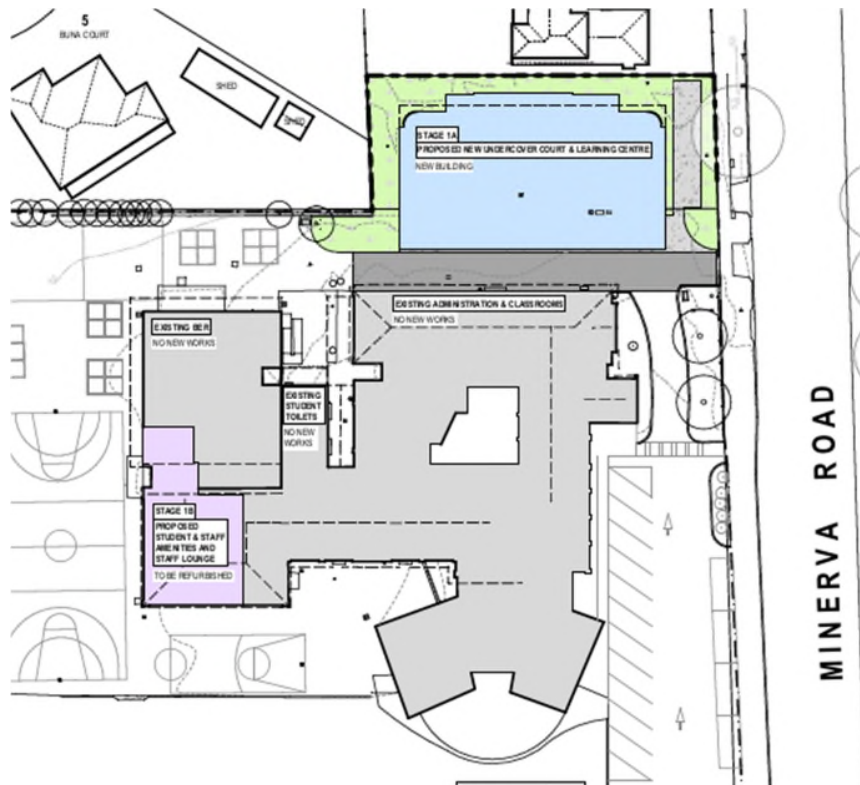
**BCA Section J (JP1) Assessment
Performance Requirement
Deemed-to-Satisfy Method**

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**Proposed School Development
Stage 1**

**83 Minerva Road
Manifold Heights VIC 3218**

Consultant: Karim Ghobrial
Date: December 2024



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Building Details

General Information	
Climate Zone for Thermal Design	6
Building Class	Class 9b
Property Address	83 Minerva Road Manifold Heights VIC 3218
New or alteration to existing building	New
Reference no	13800 Drawings by Minx Architecture Pty Ltd, Drawings: A0.00 to A501, Rev F, dated: 08/11/2024, Project no. 2402.
Building area (sqm)	Refer to drawings. Stage 1.
Estimated Hours of Operation	7am to 5pm / 5 days a week
Electrical design submitted	By services engineer if applicable.
Mechanical design submitted	By services engineer if applicable.

Background

Efficient Energy Choices has been engaged to carry out a Section J report for the above proposed project. Section J assessment and report will be carried out by NCC 2022 Section J Chapter of Energy Efficiency. The project consists of undercover netball/basketball court with a stage, and a first floor learning centre that includes 4xclassrooms, 1xproject space, 2xsmall group spaces and student & staff amenities.

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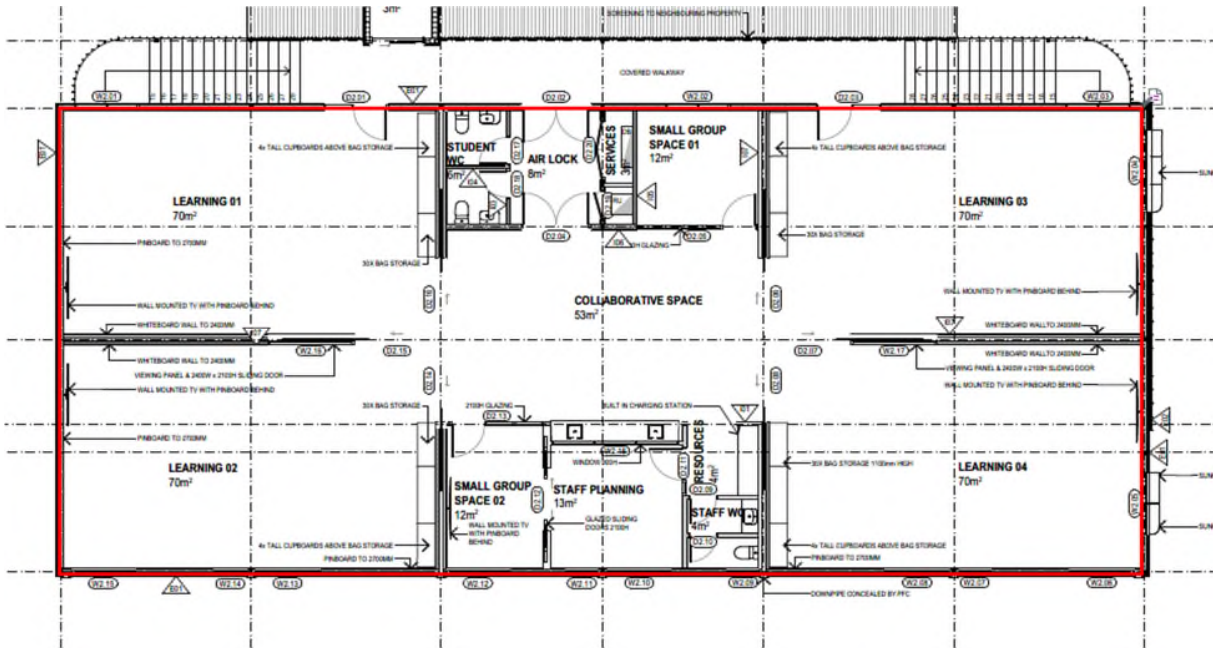


J4 Building Fabric

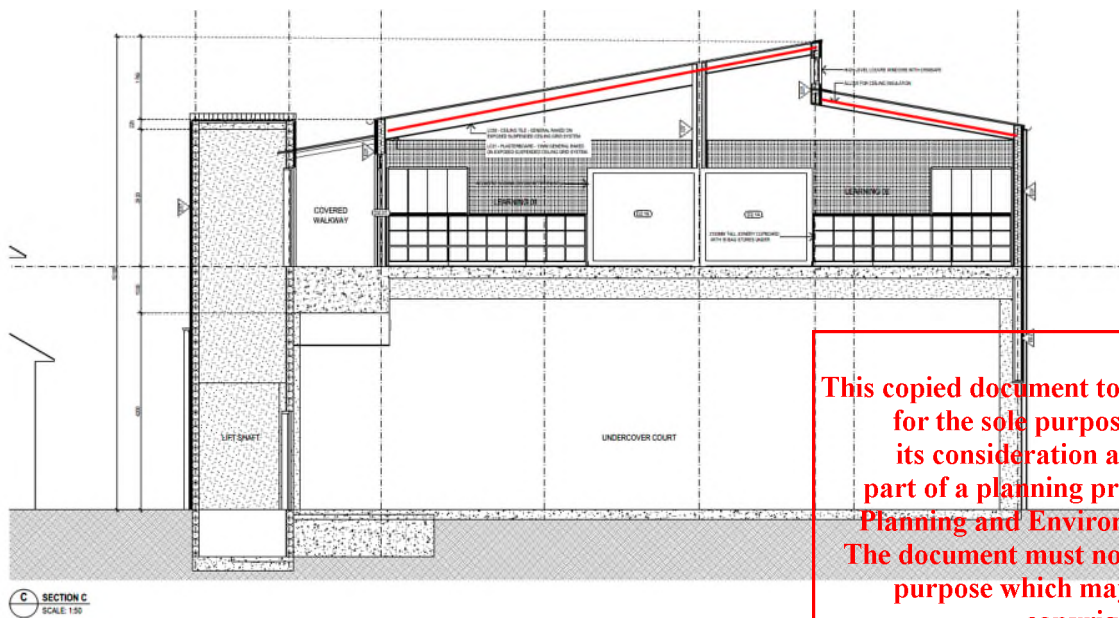
Item	Requirement	Comments
J4D2 application of part	General	Compliance not required.
J4D3 Thermal construction general	Required	<p>Where required, Install insulation to AS4859.1. Insulation to be installed to form a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contributes to the thermal barrier. It must also be water resistant. Ensure that it does not affect operation of a service or fitting.</p> <p>Bondor or Kingspan or Rockwool thermal insulation or approved equivalent is recommended. Thermal insulation with inherent acoustic performance is also recommended to decrease noise levels. This is not a mandatory requirement for the BCA Section J, but it is only voluntary.</p>
J4D4 Roof and ceiling insulation	Total R3.7 min	<p>it is required to install Bradford insulation R3.5 and sarking.</p> <p>Roof colour is surfmest with Solar absorptance of 0.33. This is excellent to reduce the cooling load. This is satisfactory and meets the NCC requirement.</p>
J4D5 Roof lights	Required	If applicable, to be single-glazed type. U value of 6.4 or less. SHGC of 0.45 or less.
J4D6 Walls	Total R2.5 min With thermal bridging.	<p>For compliance with thermal bridging, it is required to install minimum of R2.5 bulk insulation. See following page and Wall-Glazing Calculator for further details.</p> <p>This is satisfactory and meets NCC requirement.</p>
J4D7 Floors	N/A	Not required.

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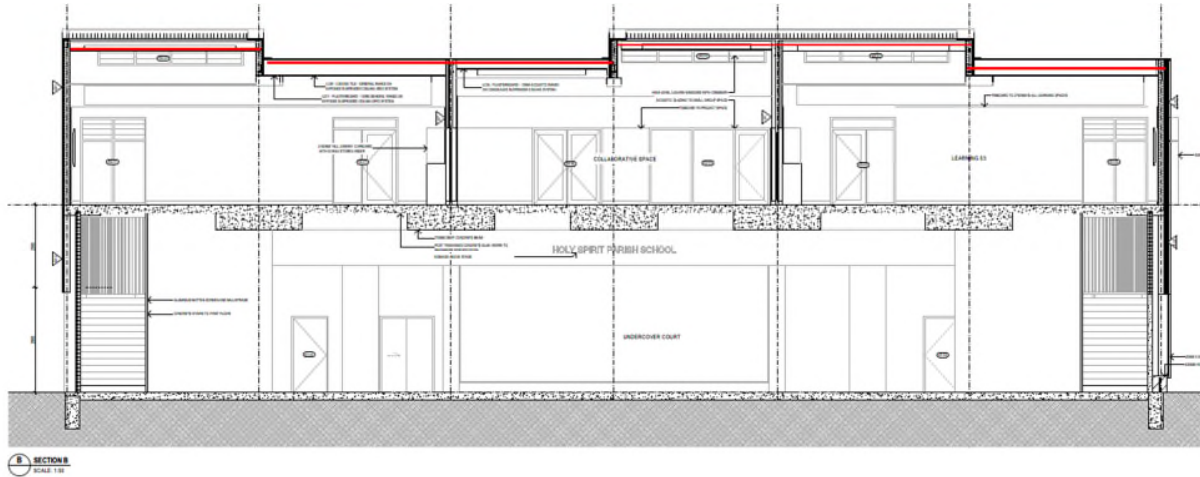


Walls insulation permitter marked in Red.



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Ceilings insulation permitter marked in Red.



Ceilings insulation permitter marked in Red.

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J4D6 External Glazing

Glazing method	Required	Glazing to be single-glazed LowE type for windows, doors and louvers. U Value of 4.2 or less and SHGC of 0.45-0.55. This is satisfactory and meets NCC requirement.
Shading	Required	N/A

BCA Requirements Part J4D6	Assessment	Comments
a) (i) U Value not greater than 2.0 (minimum R=0.5) for: Class 2, 5, 6, 7, 8, 9b.	Assessed. See Wall-Glazing Calculator	Complies
a) (ii) U Value not great than 1.1 (minimum R=1) for: Class 3, 9c. for Climates 1,3,4,6 or 7. U Value of 2 (R=0.5) for Climates 2 or 5.	Assessed. See Wall-Glazing Calculator N/A	Complies N/A
b) U Value of not greater than 5.8 for display glazing	Assessed. See Wall-Glazing Calculator	N/A
c) System U Value of wall-glazing construction must be calculated in accordance with Specification 37	Assessed. See Wall-Glazing Calculator	Complies
d) Wall components of a wall-glazing construction much achieve a minimum Total R Value of: (i) Walls are less than 80% of area, Wall-Glazing construction of R1.0; (ii) Wall is 80% or more of the area of the wall-glazing construction, the value specified in Table J4D6A.	Assessed. See Wall-Glazing Calculator	Complies

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J5 Building Sealing

(Deemed-to-Satisfy Provisions Methodology)

Item	Requirement	Comments
J5D2 Application of part	General	N/A
J5D2 Chimneys and flues	Required	If applicable, must be provided with a damper or flap that can be closed to seal the chimney or flue.
J5D4 Roof lights	General	Must be sealed or capable of being sealed when service a conditioned space or habitable room. If applicable, must be constructed with an imperforate ceiling diffuser or the like OR weatherproof seal OR have a shutter system readily operated manually, mechanically or electronically.
J5D5 Windows and doors	Required	Seal to restrict air infiltration to the entry doors and windows. Main entrance doors are to be self-closing type.
J5D6 Exhaust fans	Required	Seal exhaust fans.
J5D7 Construction of roofs, walls	Required	Must be constructed in a fashion to minimise air leakage.
J5D8 Evaporative coolers	N/A	If applicable, must be constructed with a self-closing damper or the like.

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J6 Air Conditioning and Ventilation Systems

Refer to services engineer report and certificate.

Item	Requirement	Comments
J6D2 Application of Part	General	Applies to conditioned areas. To be provided by tenant when they move in.
J6D3 Air Conditioning system control	Required	Refer <i>Table A</i> below. a) To be capable to be deactivated when area is not occupied. A remote control may be used. Thermostatically control temperature of each zone. Limit reheating to save energy. Provide mechanical ventilation. To have an economy cycle if flow rate is greater than Table J6D3. Use variable speed drive for air flow greater than 1000L/s. For Class 3, must not operate when any external door is opened to a balcony or like for more than one minute. b) Must work together when two or more A/C systems are in the same area. c) Must have a time switch for greater than 2kW. Not required for Class 2,3 and 4. d) Must have an air economy cycle when the air flow rate is greater than the flow rates in Table J6D3. e) Must have a variable speed fan when airflow of more than 1000L/s and supply air quantity is capable of being varied.
J6D4 Mechanical ventilation system control	Required	a) For other than Class 2 and 4, to be capable to be deactivated when building is not occupied. Have energy reclaiming system that preconditions outdoor ai at a minimum heat transfer effectiveness of 60%. OR demand control ventilation as per AS1668.2. refer to Table J6D4. Exhaust systems for air flow greater than 1000L/s to be capable to stop when

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		<p>system is not needed. Other than Class 2,3 or 9c. Time switch to be used when air flow rate is greater than 1000L/s.</p> <p>b) Exhaust systems: if air flow is greater than 1000L/s must be capable of stopping the motor when the system is not needed except for Class 2,3 or 9c building.</p> <p>c) Carpark exhaust systems: must have a control system with AS1668.2.</p>
J6D5 Fan systems	Required	To comply with b,c,d and e in this clause.
J6D5-D7 Ductwork	Required	To comply with AS/NZS4859.1; and insulation of R1.0 for flexible ductwork. Insulation to be protected against effects of weather and sunlight. Form a continuous barrier. Be protected by vapour barrier on the outside of the insulation. For any air-conditioning of 3000L/s or greater to be in accordance with AS4254.1 and AS4254.2.
J6D9 Pipework Insulation	Required	To comply with items 1 to 5 in this Clause.
J6D10 Space heating	Required	A heater used for airconditioning must be solar heater or gas or heat pump or heating using reclaimed energy. For electric heating: annual energy consumption not to exceed 15kW/m2 of the floor area.

The ductwork must be insulated with R2.0 insulation where not exposed to direct sunlight. Where exposed to direct sunlight, ductwork must be insulated with R3.0.

Any additional unconditioned outside air supplied is to provide free cooling or balance required exhaust ventilation such as toilet exhaust. The system must not inhibit smoke hazard management operation. The kW rating is a guide. Unit sizes are to be finalised by mechanical contractor on site.

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J8 Heated Water Supply and Swimming Pool and Spa Pool Plant

(Deemed-to-Satisfy Provisions Methodology)

Item	Requirement	Comments
J8D1	N/A	N/A
J8D2 Hot water supply	Required	Refer to J7D7. Must be designed and installed in accordance with Part B2 of NCC Vol Three, Plumbing Code of Australia.
J8D3 Swimming pool heating and pumping	Required	N/A
J8D4 Spa pool heating and pumping	Required	N/A

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J9 Energy Monitoring and On-site Distributed Energy Resources

(Deemed-to-Satisfy Provisions Methodology)

Item	Requirement	Comments
J9D2 Application of Part	N/A	N/A
J9D3 Facilities for energy monitoring: <ul style="list-style-type: none"> to apply for buildings over 500m² for gas and electricity; for buildings over 2500m² for energy consuming items such as: A/C, lighting, appliance power, hot water supply, transport and other ancillary plan; central HWS; lifts, escalators and moving walkways where there is more than one serving the building; on-site renewable energy equipment; on-site EV charging equipment; on-site battery systems. Meters to be interlined and communication to collate data for analysis and review and to be stored. 	Required	If floor area is greater than 500m ² , must energy meters for record gas and electricity consumption.
J9D4 Facilities for EV charging equipment: <ul style="list-style-type: none"> A carpark with Class 2,3,5,6,7b,8 or 9, must provide an electrical distribution (DB) board dedicated to EV charging as per Table J9D4. Typically one DB per 24 parking spaces. To be also labelled. EV charging equipment to have control systems to manage and schedule charging in response to total building demand; Class 2, each circuit to support EV charger to deliver a minimum of 12kWh from 11pm to 7am daily; Class 5-9, each circuit to support EV charger to deliver a minimum of 12kWh from 9am to 5pm daily; Class 3, each circuit to support EV charger to deliver a minimum of 48kWh from 11pm to 7am daily; 	N/A	Does not apply to this development

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- The DB to be sized up to support future installation of a 7kW (32) type 2 charging.

J9D5 Facilities for solar photovoltaic and battery systems:

- The main electrical switchboard must have: two empty three-phase circuit breaker slots and four DIN rail spaces labelled to indicate the use of solar photovoltaic and a battery system;
- The main electrical switchboard to be sized to accommodate the installation of solar photovoltaic panels to at least 20% of the building roof;
- 20% of building roof to be left clear to future solar photovoltaic panels installation.

Required

Required spaces to be determined and incorporated.

Will have a new PV solar power panel system for electricity generation.

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By applying the above recommendations, the proposed project will be compliant to BCA Section J energy efficiency requirements.

Kind Regards,
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Disclaimer

The above are guidelines to assist the above property to meet the Deemed-to-Satisfy provisions for BCA JP1. It is the responsibility of the owner/builder to follow the above guidelines to meet requirements of BCA JP1. It is not the responsibility of Efficient Energy Choices.



Appendix A Wall-Glazing Calculations Part J4D6

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Project Summary

Date
12/12/2024

Name
Mr. Karim Ghobrial

Company
EEC

Position
ESD Consultant

Building Name / Address
Stage 1, Holy Spirit Parish School
83 Minerva Road, Manifold Heights

Building State
VIC

Climate Zone
Climate Zone 6 - Mild temperate

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

Stores Above Ground
1

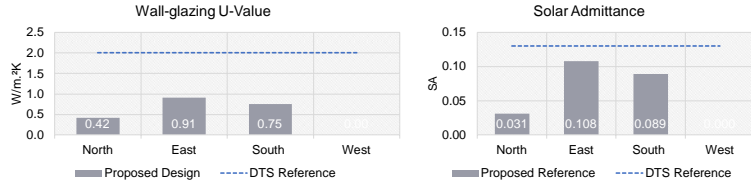
Tool Version
1.5 (May 2024)

The summary below provides an overview of where compliance has been achieved for Specification S37 - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

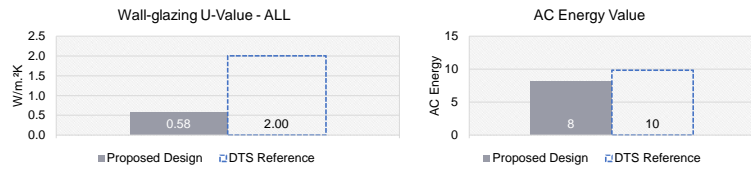
Compliant Solution =
Non-Compliant Solution =

	North	East	Method 1 South	West	Method 2 All
Wall-glazing U-Value (W/m ² .K)	0.42	0.91	0.75	0.00	0.58
Solar Admittance	0.03	0.11	0.09		
AC Energy Value					8

Method 1



Method 2



Project Details

	North	East	South	West
Glazing Area (m ²)	18	10.08	35.28	0
Glazing to Façade Ratio	10%	22%	18%	0%
Glazing References	casement louvers	casement	casement louvers	
Glazing System Types	Casement USER (DEFINED)	Casement	Casement USER (DEFINED)	
Glass Types	Single Glazing - low-E coating	Single Glazing - low-E coating	Single Glazing - low-E coating	
Frame Types	Aluminium	Aluminium	Aluminium	Aluminium
Average Glazing U-Value (W/m ² .K)	4.20	4.20	4.20	
Average Glazing SHGC	0.50	0.50	0.50	0.00
Shading Systems	Horizontal	Horizontal	Horizontal	Horizontal
Wall Area (m ²)	162	36.5	162	36.5
Wall Types	Wall	Wall	Wall	Wall
Methodology	Wall			
Wall Construction	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)	USER (DEFINED)
Wall Thickness	214	214	214	214
Average Wall R-value (m ² .K/W)				
Solar Absorptance	0.8	0.8	0.8	0.8

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