EMERGEN

SUSTAINABILITY STATEMENT

MCDONALDS & ALDI - PINJARRA

PREPARED BY
AKHIL MOHAN

Project: 131904
Published date.
22/05/2025

EMERGEN

DOCUMENT HISTORY AND REVISION DETAILS

DATE	REV NO.	COMPLETED BY	APPROVED BY
22/05/2025	01	Akhil Mohan	Glenn Underwood

DISTRIBUTION OF COPIES

COPY NO	SOURCE	ISSUED TO
1	Electronic	Hindley and Associates Pty Ltd
2	Electronic	Planning Solutions

SOURCES OF INFORMATION

CUSTODIAN	Department	Issue/Revision
Place Fabric	Masterplan	K
Hindley and Associates Pty Ltd, Architecture HQ	Architectural	O

CONFIDENTIALITY STATEMENT

This report contains confidential information and is intended solely for the recipient. The purpose of this report is to present the sustainability commitments for the project. All information and documentation included in this report shall remain the exclusive property of EMERGEN/CADDS Group and may not be reproduced in any form without prior written consent from EMERGEN/CADDS Group.

DISCLAIMER

The contents of this report are based on the documentation and plans provided by the Client to Emergen. Emergen is not liable for outcomes resulting from changes to design, construction, or operations that differ from the strategies outlined.

EMERGEN

Table of Contents

1 INTRODUCTION

This Sustainability Statement has been prepared for Hindley and Associates Pty Ltd and Planning Solutions to develop and document the sustainability initiatives for the proposed McDonalds & ALDI at Lot 2, 3, 4, 31 & 40 Murray Street, Pinjarra, WA.

Figure 1 Proposed McDonalds & Aldi - Pinjarra

1.1 Summary

The sustainability initiatives identified for the project in liaison with the project team are documented in the table below.

Table 1:ESD Initiatives

ITEM	MCDONALDS	ALDI
Effective Building Fabric	• Roof- Roof sheeting with 50mm Anticon and R2.1 Continuous insulation. • External Wall - External cladding+ R2.5 with Stud Framing + Gypsum Plasterboard • Efficient Glazing – U4.3 SHGC0.45 The building incorporates an overhead awning that effectively shields windows and façades from direct summer sunlight, significantly reducing solar heat gain during peak sun hours. This passive design feature helps maintain cooler indoor temperatures and lessens the reliance on mechanical cooling systems, thereby enhancing energy efficiency. Glazing with a Solar Heat Gain Coefficient (SHGC) of 0.45 helps to minimise heat gain through the windows during warmer months.	Joinery Board Low Level To Retail, No Stud / Lining to Warehouse, Plasterboard to Amenities – Aldi stores will be JV3 modelled under NCC Section J. The building incorporates an overhead awning that effectively shields windows and façades from direct summer sunlight, significantly reducing solar heat gain during peak sun hours. This passive design feature helps maintain cooler indoor temperatures and lessens the reliance on mechanical cooling systems, thereby enhancing energy efficiency.
Renewable Energy	Proposed 25 kW Rooftop Solar PV system. On-site solar photovoltaic (PV) systems offer a number of benefits,	Proposed 99 kW Rooftop Solar PV system. On-site solar photovoltaic (PV) systems offer a number of benefits, including

	including reducing energy costs, mitigating environmental impacts, enhancing energy security, and contributing to a sustainable energy future.	reducing energy costs, mitigating environmental impacts, enhancing energy security, and contributing to a sustainable energy future.
Water Efficient Sanitary Fixtures & Fittings	All fixtures and water-using appliances installed within the project's scope will at a minimum, meet the following WELS ratings. • Public Male and Female taps – 6 star • Public Accessible toilet tap - 4 star • Staff toilet tap – 5 star • Urinals – 6 star • Toilets – 4 star	All fixtures and water-using appliances installed within the project's scope will at a minimum, meet the following WELS ratings. • Public Male and Female taps – 6 star • Public Accessible toilet tap - 4 star • Staff toilet tap – 5 star • Urinals – 6 star • Toilets – 4 star
Construction & Demolition Waste	At least **80%** of construction and demolition waste will be diverted from landfill by the Builder.	At least **80%** of construction and demolition waste will be diverted from landfill by the Builder.
Sustainable Materials	Materials (concrete, steel, engineered wood etc) with low carbon credentials and recycled content will be prioritised. Materials with Environmental Product Declarations (EPD) will be prioritised.	Materials (concrete, steel, engineered wood etc) with low carbon credentials and recycled content will be prioritised. Materials with Environmental Product Declarations (EPD) will be prioritised.
Artificial Lighting	Efficient LED Lighting will be provided. Lighting within the building will have Colour Rendering Index (CRI) 85 or higher.	Efficient LED Lighting will be provided. Lighting within the building will have Colour Rendering Index (CRI) 85 or higher.
Low VOC Finishes	Finishes (paints, adhesives, sealants) with low VOC will be specified.	Finishes (paints, adhesives, sealants) with low VOC will be specified.
Efficient Landscape Irrigation	• All Garden Beds to be irrigated. A Sub-Mulch Drip System for all Garden Beds and Recessed Sprinklers for Turf Areas. • Controller to be Automatic System with Rain Sensor.	• All Garden Beds to be irrigated. A Sub-Mulch Drip System for all Garden Beds and Recessed Sprinklers for Turf Areas. • Controller to be Automatic System with Rain Sensor.

2 OVERVIEW OF SUSTAINABILITY INITIATIVES

2.1 Efficient Thermal Envelope

The following table outlines the proposed building fabric details.

Table 2 - Proposed Building Specification

BUILDING	DESCRIPTION
MCDONALDS	Roof sheeting with 50mm Anticon and R2.1 Continuous ceiling insulation. External cladding+ R2.5 with Stud Framing + Gypsum Plasterboard U4.3 SHGC0.45
ALDI	Joinery Board Low Level To Retail, No Stud / Lining to Warehouse, Plasterboard to Amenities – Aldi stores will be JV3 modelled under NCC Section J.

Figure 2 Awnings - Elevation View

The building incorporates an overhead awning that effectively shields windows and façades from direct summer sunlight, significantly reducing solar heat gain during peak sun hours. This passive design feature helps maintain cooler indoor temperatures and decreases the reliance on mechanical cooling systems, thereby enhancing energy efficiency. Glazing for McDonalds with a Solar Heat Gain Coefficient (SHGC) of 0.45 helps to minimise heat gain through the windows during warmer months.

2.2 Renewable Energy

The installation of a **25kW** rooftop solar photovoltaic (PV) system is proposed for the McDonalds building. The installation of a **99kW** rooftop solar photovoltaic (PV) system is proposed for the ALDI building.

On-site solar PV systems offer a wide range of benefits. Firstly, they significantly reduce operational energy costs by generating clean, renewable electricity directly from sunlight, lowering dependence on grid-supplied power. This reduction in grid energy use not only cuts costs but also helps minimise greenhouse gas emissions, supporting broader environmental and climate goals.

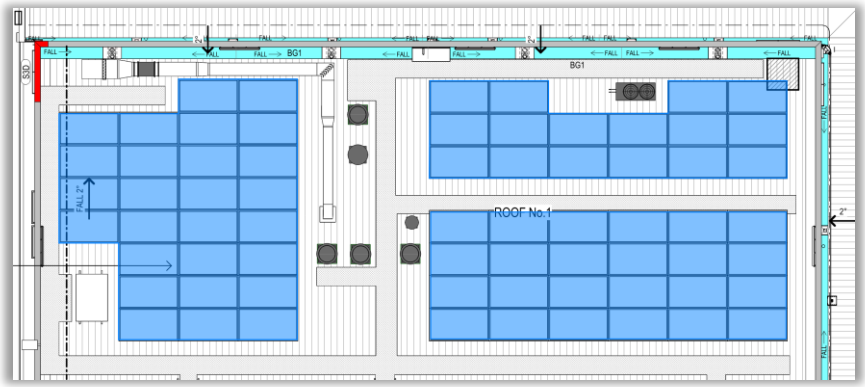

Figure 3 Proposed 25 kW Rooftop Solar PV - McDonalds

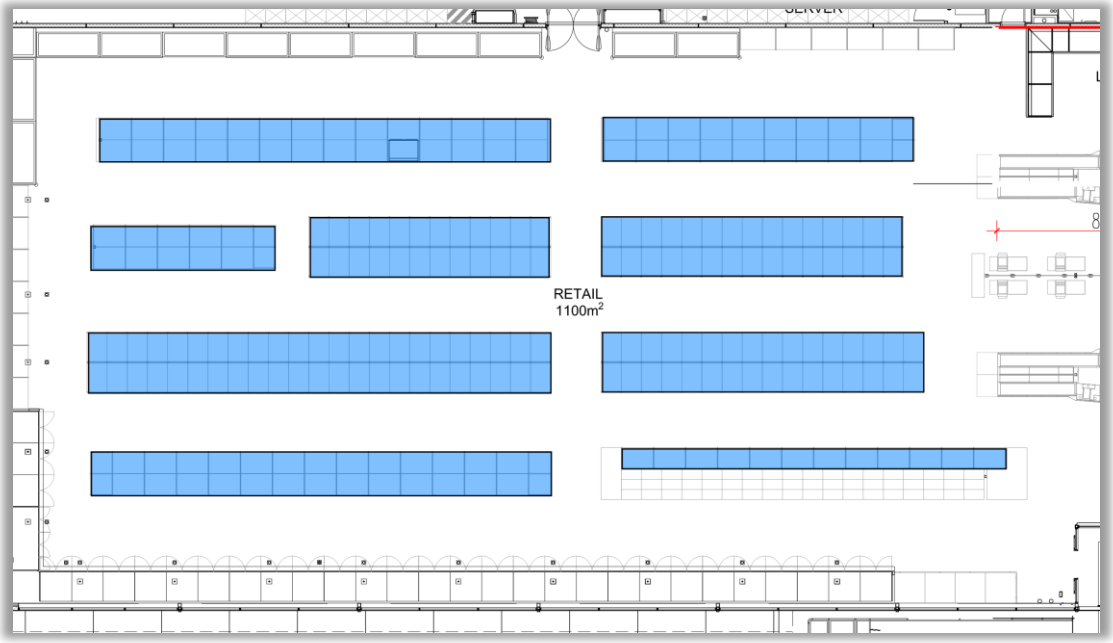

Figure 4 Proposed 99 kW Rooftop Solar PV - ALDI

2.3 Water Efficient Sanitary Fixtures & Fittings

One way to prioritise water conservation is by installing water efficient fixtures in buildings. Benefits include:

- Reduce impact of building on the environment
- Reduced water bill
- Less energy required to heat and transport the water

The following WELS rating is nominated for the Sanitary Fixtures for McDonalds and ALDI.

Table 3 Sanitary Fixtures – WELS Rating

SANITARY FIXTURE	WELS RATING
Public Male & Female Taps	6 star
Public Accessible Toilet Tap	4 star
Staff Toilets Tap	5 star
Urinals	6 star
Toilets	4 star

2.4 Construction Waste

At least **80%** of construction waste generated on-site will be diverted from landfill by the Builder through effective waste management practices. Construction waste will predominantly be separated into two main streams: one for steel and aluminium, and another for general waste. This streamlined approach facilitates efficient sorting and maximises recovery rates for recyclable materials.

2.5 Sustainable Materials

The project will prioritise the use of materials that possess low carbon credentials and a high proportion of recycled content to minimise the building's embodied carbon footprint. This includes materials such as low-carbon concrete mixes and recycled or responsibly sourced steel. Recycled bricks are proposed as shown in Figure 5.

In addition, preference will be given to products that are supported by third-party verified Environmental Product Declarations (EPDs), which provide transparent, credible information on the environmental impact of materials across their life cycle.

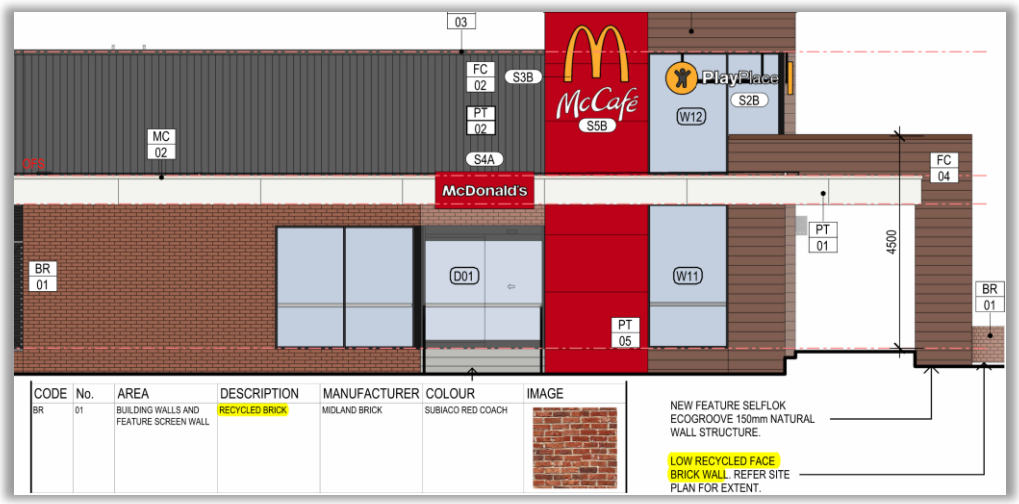

Figure 5 Recycled Bricks – McDonalds

2.6 Artificial Lighting

Lighting within the building will meet the following requirements:

- LED Lighting.
- Colour Rendering Index (CRI) 85 or higher.

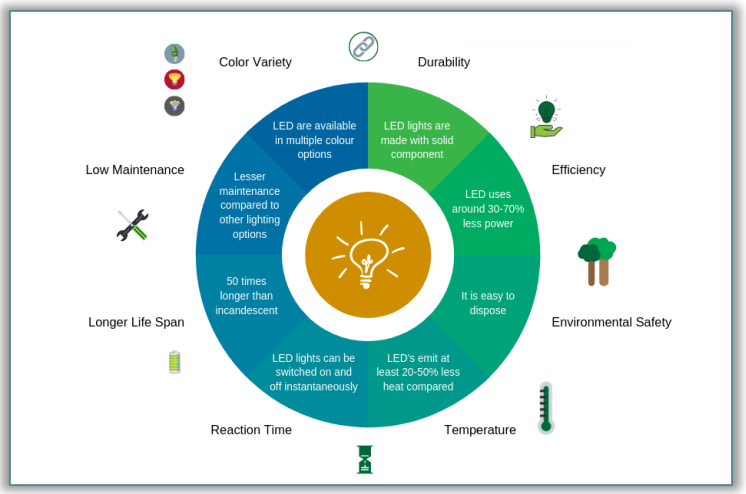

Figure 6 Benefits of LED Lighting (Source: https://www.hornsbyelectric.com.au/benefits-of-led-lighting/)

The widespread adoption of light-emitting diodes (LEDs) has significantly contributed to the decline in lighting expenses in recent times. Traditional incandescent and halogen bulbs are gradually being replaced in the Australian market by LED alternatives. Benefits include:

- Compared to halogen bulbs, LEDs consume approximately 75% less energy.
- LEDs have a lifespan 5 to 10 times longer, significantly minimizing replacement expenses.
- Because of its durability, volume of discarded bulbs in landfills is minimised.

2.7 Low TVOC Finishes

All internally applied paint products will meet the Total Volatile Organic Compounds (TVOC) contents as per table below.

Table 4 TVOC Limits

PRODUCT TYPE/SUB-CATEGORY	MAX TVOC CONTENT (G/L)
Walls and ceilings – interior gloss	75
Walls and ceilings – interior semi-gloss	16
Walls and ceilings – interior low sheen	16
Walls and ceilings – interior flat washable	16
Ceilings – interior flat	14
Trim – gloss, semi-gloss, satin, varnishes and wood stains	75

Timber and binding primers	30
Latex primer for galvanized iron and zincalume	60
Inter latex undercoat	65
Interior Sealer	65
One and Two pack Performance Coatings for floors	140
Any solvent-based coatings whose purpose is not covered in table	200

Using low VOC (volatile organic compounds) products offers numerous benefits, primarily by enhancing indoor air quality and promoting better health. These products release fewer harmful chemicals, reducing the risk of respiratory issues, headaches, dizziness, and long-term health problems. Additionally, low VOC products typically have a milder odour, improving comfort for occupants.

2.8 Efficient Landscape Irrigation

Water-efficient landscaping refers to techniques and strategies aimed at conserving water while maintaining aesthetically pleasing and functional outdoor spaces. This is important in Western Australia due to its semi-arid climate conditions, which often result in water scarcity. Key strategies include:

- All garden beds will be equipped with an efficient irrigation system to ensure optimal water distribution and plant health. A **sub-mulch drip irrigation system** will be installed for all garden beds, delivering water directly to the root zone beneath the mulch layer.
- **Turf areas** will be irrigated using **recessed sprinklers**, which provide even coverage and retract below the surface when not in use, maintaining safety and aesthetics.
- The entire irrigation system will be managed by an **automatic controller**. A **rain sensor** will be integrated into the system to prevent overwatering by pausing irrigation during and after rainfall.