



OGE Group
Architects

SUSTAINABILITY REPORT DETAILING KEY INNOVATION AND INITIATIVES

Level 1 The Old Courthouse
4 First Avenue
Maroochydore, Qld 4558

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T: 5444 8883
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PROJECT NO: 23040

PROJECT NAME: Lot 8002

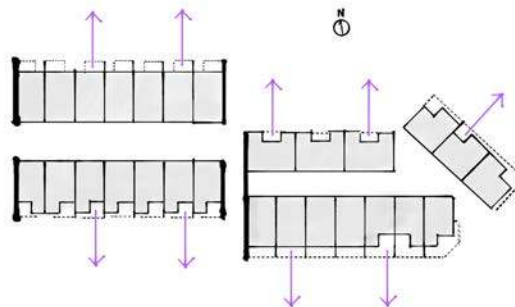
CLIENT: Plantation Retirement Resorts

SUBMISSION DATE: 2024.03.26

Sub-tropical design elements are incorporated within the building design, including but not limited to:

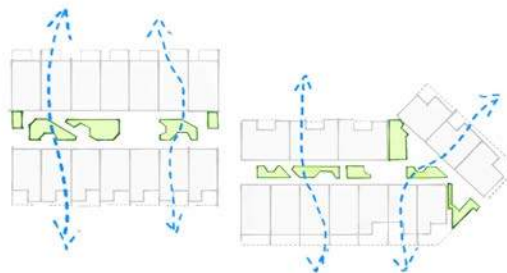
1.0

- 1.01 **ORIENTATION** - Maximise North, South and East facing apartments for best solar orientation. No West facing apartments.



- 1.02 **LANDSCAPE** - A strong focus and integration of landscape has been included in the design to ensure an exemplary subtropical experience is delivered with a strong coastal reference through the choice of local and tropical planting.

- 1.03 **ATRIUM** - Tropical landscaped atrium space separates the apartment entries and maximises natural light and cross-ventilation, providing comfortable spaces for aged persons. Built in seating on Level 01 and bridge links above encourages visual and physical connection between users and the landscape.



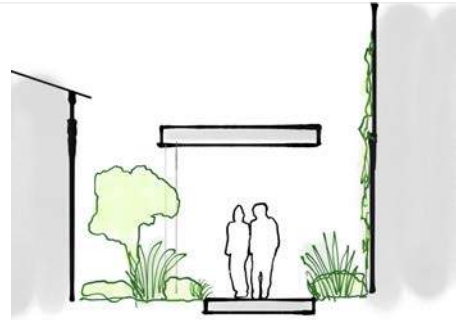
- 1.04 **SCREENING** - Select flexible screening and sun shading devices to control direct solar access and address privacy and overlooking.

- 1.05 **OVERHANGS** - Provision of roof eave overhangs to walls, wall openings and balconies.

Sub-tropical design elements are incorporated within the building design, including but not limited to:

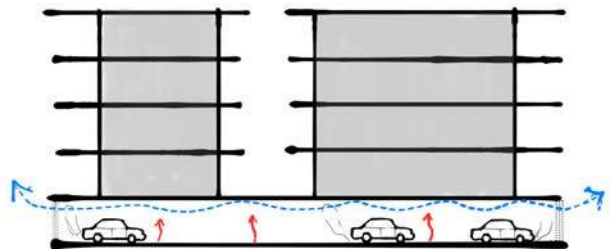
1.06 COMMUNAL FACILITY - Flexible communal facility addresses North-East orientation. Large operable glazing is covered by large overhangs to control direct solar access yet encourage natural light and cross-ventilation. Oversized high level ceiling fans provide relief to a reliance on mechanical air conditional in suitable weather conditions.

1.07 COVERED LINKS - Covered pedestrian links and walkways set within dense landscaping connect users and occupants to landscape and let these areas breathe by limiting solid walls and screening where suitable.



1.08 COMMUNAL LOBBY - Lobby to SE corner of the site provides a welcoming space with increased ceiling heights and maximised glazing to address the ground plane and activate the street frontage. Operable glazing and select flexible screening to the corner connects the semi-active spaces within the building and controls natural light and ventilation.

1.09 CAR PARKING - No basement car parking is an intentional strategy to maximise natural ventilation to these areas and reduce reliance on mechanical ventilation.



1.10 BUILDING MATERIALS - Refer letter provided by Progressive Energy Australia, and Acoustic letter provided by Acoustic Works

1.11 ENERGY EFFICIENT HOMES - Refer letter provided by MRP Hydraulics consultant.

1.12 WATER SENSITIVITY - Refer letter provided by MRP Hydraulics consultant.

1.13 ELECTRIC VEHICLE READINESS - Refer letter produced by Wildeisen & Associates.

1.14 WASTE REDUCTION - Refer letter provided by Raw Skips



Building Materials 1.10



Fred Beytell
Plantation Retirement
fred@plantationretirementresort.com

11/03/2024

RE: LOT 8002 Vertical Retirement Village – Baringa

Rooftop Design: Sustainability Approach

Vantage Building Group consider the concrete roof sustainability by considering the following during construction to meet design needs:

1. Material Selection: Choosing concrete supplier with a low carbon footprint incorporating recycled materials like fly ash as it reduces transportation emissions. Concrete is a strong and durable material, making it resistant to weather, fire and pests.

2. Energy Efficiency: Concrete roofs have a much greater thermal mass than other traditional roof materials. When incorporated with proper insulation will lead to minimize heat loss/ gain, reducing the buildings energy consumption for heating and cooling.

3. Durability and longevity: Durable concrete mixes and reinforcement helps to prolong the roof lifespan, deducing the need for frequent repairs or replacement. The use of reinforced concrete in roofs allows for the construction of more slender and durable structures with a prolonged service life, leading to improved sustainability.

Yours sincerely,

David Atkinson

Project Manager

0424 551 268

David.atkinson@vantagemail.com.au

4 March 2024
Reference: 2024086 L01A Lot 8002 Baringa Drive Baringa ENV - EDQ RFI Response

Plantation Baringa Pty Ltd
604/45 Brisbane Road
Mooloolaba QLD 4557

Attn: Fred Beytell

RE: Lot 8002 Baringa Drive, Baringa - Information request response

This letter is in response to a request by Economic Development Queensland (EDQ) for further information regarding the sustainability approach for a concrete roof of a proposed residential development located at Lot 8002 Baringa Drive, Baringa. In relation to the issues raised, we provide the following response with regards to acoustics:

EDQ Request

- “1. Confirm the sustainability approach and specification of the proposed concrete roof design, e.g. longevity and performance of a building that ultimately reduces energy bills, higher quality acoustic properties for units, fit for purpose sealant or waterproofing specifications that minimise maintenance and/or utilise cool roof technology, reduce localised air temperature improvements, etc.; and
2. EDQ notes the OGE Group Architects addendum (dated 14 February 2023) on the proposed concrete roof design benefits. However, EDQ has concerns on how this roof type assists in mitigating urban heat island effects for the local climate and seeks further demonstration on the espoused energy efficiency / thermal load (U-value properties) and acoustic benefits (R-value). ”.

Response

Acoustic Works recommends concrete roof construction as opposed to sheet metal to improve the acoustic amenity of top level apartments. Concrete construction will provide higher attenuation of offsite activities (such as school, shopping centre, Baringa Drive, etc.) than your standard sheet metal or tiled roof systems. Table 1 compares the weighted sound reduction index (Rw) values between a standard 150mm concrete roof and a standard sheet metal roof.

Table 1: Typical roof construction performance

Roof/ceiling construction	Rw
150mm concrete slab/furring channel/glasswool insulation (11kg/m3)/10mm plasterboard	58
Metal deck roof/60mm Anticon/40mm battens/ceiling joists/185mm insulation (11kg/m3)/10mm plasterboard	41



We trust that this information meets your current requirements. Should you have any queries please do not hesitate to contact Acoustic Works.

Regards,

A handwritten signature in blue ink that reads "M Bechara".

Matthew Bechara

Associate Director

acousticworks)))

Progressive Energy Australia Pty Ltd

- ✓ Energy Efficiency Assessments
- ✓ Star Rating Simulations
- ✓ Section J Reports
- ✓ Consultation



Dear Fred,

Mitigating this common phenomenon with the proposed design is handled by sealing and coating the surface with a product such as Solar Guard, Solar Shield or similar. This has been proven to reduce the amount of heat penetrating the surface of the structure from the sun. Other factors to be taken into consideration when this is applied are very beneficial. These include -

- Blocking the solar heat gain from visual light, ultraviolet (UV) and infrared (IR)
- Its resistant to dirt, mold, mildew, and pollution
- It provides A water-tight barrier and sound dampening capability.
- There is an estimated report of solar Reflectance of 84.9% meaning it reflects that amount (%) of the sun's rays before they hit the surface of a roof/wall back into the atmosphere. This also decreases the likelihood and possibly removes the amount of thermal heat gain/load that would typically occur with this material if left uncoated. This alone mitigates the Urban Heat Island Effect that has been raised as a concern.

With these factors in mind combined with increased longevity compared with Colorbond, its virtually maintenance free, resistant too harsh coastal weather conditions and salt air, it can reduce the cost of air conditioning and electricity input through its thermal properties. It also has significant acoustic values without the need for additional sound proofing compared with the other alternatives in roofing design, giving greater comfort for the community.

In relation to the EDQ response and concerns regarding the Urban Heat Island Effect, it is my professional belief that the proposed Concrete Roof design vs a Colorbond or similar will best suit this application.

Regards,

Brendon Neuendorf
Energy Efficiency Consultant

Brendon L Neuendorf

Ipswich, Qld, 4305
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Abn: 90 620 050 277

Energy Efficient Homes 1.11

Progressive Energy Australia Pty Ltd

- ✓ Energy Efficiency Assessments
- ✓ Star Rating Simulations
- ✓ Section J Reports
- ✓ Consultation



PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL



Approval no: DEV2024/1474
Date: 08 May 2024

Dear Fred,

In response to the elements listed on the submitted sustainability report mentioned below, refereeing to Item 10 Section a)

- Building materials, e.g. lower carbon concrete, timber framing, etc.
- Energy efficient homes, e.g. solar PV, hot water system heat pump, etc.

I would like to state that the current design features listed below, including but not limited to reflect the commitment to the environment and leading construction practices. In this project, the focus on energy efficiency and creating a comfortable environment for the community considers sustainability by offering materials and outcomes that encompass this idea.

- AFS Wall system
Creates a 30% load reduction in greenhouse gas emissions compared to precast concrete
- Insulation to the roof and ceiling
Insulation R1.3 to Roof and R2.5 at ceiling with a combined minimum of R3.7
- LowE Glazing
Reduces heat gain and heat loss, Offers UV protection and ultimately improving the windows insulation performance in comparison to standard clear glass.

The overall benefit will assist in long term cost reduction by decreased heating and cooling loads by benefiting not only the end user but by reducing greenhouse gas emissions and doing its part to reduce the load on our infrastructure.

Regards, Brendon Neuendorf
Energy Efficiency Consultant

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Water Sensitivity 1.12



**HYDRAULIC & FIRE SERVICES
CONSULTANTS**

OUR REF: 23-0770 - Residential Development, Lot 8002, Baringa Drive Aura

25/03/2024

**Pratt Development Group Pty Ltd
PO BOX 126
MOOLOOLABA,
QLD,4557**

Attention: Fred Beytell
Email: Fred@plantationretirementresort.com

Dear Fred

RE: SUSTAINABILITY REPORT – HYDRAULIC AND FIRE SERVICES

ESD (Environmentally Sustainable Design) initiatives for the Baringa development typically focus on reducing water consumption, minimising waste, and ensuring efficient operation.

In particular,

- > Domestic pump sets will incorporate VSD drives.
 - > VSD-driven pumps can respond dynamically to fluctuations in water demand, ensuring that the pump operates optimally without unnecessary energy wastage.
- > Instantaneous hot water heating
 - > Instantaneous water heaters, also known as tankless water heaters, are typically more energy-efficient than traditional storage water heaters. They heat water on demand, eliminating standby heat loss associated with storing hot water in a tank. This improved energy efficiency can help reduce overall energy consumption in buildings.
- > Fire Sprinkler test water will return to the tank from which it is drawn, reducing the monthly water wastage associated with routine testing in accordance with AS1851.
- > Tapware will meet minimum WELS ratings.
 - > Installing water-efficient fixtures such as low-flow toilets and WELS-rated water-saving taps significantly reduces building water usage.
- > Water metering and monitoring of all SOUs
 - > Water metering and monitoring systems promote tracking water usage patterns, identifying inefficiencies, and optimising water management strategies accordingly.

Yours faithfully

MRP Hydraulic & Fire Services Consultants,

MRP HYDRAULIC & FIRE SERVICES CONSULTANTS PTY LTD

A: 1/47-49 Owen Creek Road PO Box 646
Forest Glen Qld 4556 Maroochydore, Qld, 4558

P: (07) 5443 1000

E: accounts@mrp.com.au
W: mrp.com.au

ABN: 23 126 270 326 ACN: 126 270 326

BRISBANE

SUNSHINE COAST





A handwritten signature in black ink that reads 'Lynch'.

Simon Lynch

Director

simon@mrp.com.au





Electric Vehicle Readiness 1.13



QDC COMPLIANCE ADVICE

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1474
Date: 08 May 2024



PROPERTY DESCRIPTION:

Name: PLANTATION RESORT, Baringa
Address: Lot 8002 Baringa Drive, Aura Q 4551
Local Council: Sunshine Coast Regional Council

COMPLIANCE ITEMS:

Item 9 b) Rooftop Design: PV Panel Arrays:

Query: Detail how any proposed or future PV array could be accommodated without impacting the buildability or required membrane systems.

Response: The PV array space allocation provides for the 20% of roof coverage complying with the BCA 2022 requirements.

A PV system will be installed with the initial capacity to be determined.

Provision for future expansion of will consist of concrete plinths with rail mounting brackets installed ready for the future installation of mounting rails for the PV Panels to be mounted upon. The plinths and rail mounting brackets will be installed prior to weatherproof roof membrane being applied such that the membrane does not have to be pierced during any future installation. Cable entry points installed for the initial PV Array system will be of sufficient size to allow future cabling to be installed without further penetrations being required.

10. Sustainability and Climate Risk: Electric Vehicle Readiness:

Query: Demonstrate how this development will support decarbonisation through initiatives including, but not limited to the following:

iv. Electric vehicle readiness, e.g. community charger; EV readiness, etc.;

Response: The development has infra-structure complying with BCA 2022 J9D4 Facilities for Electrical Vehicle Charging Equipment, which incorporates dedicated Switchboards for power for electric vehicle charging facilities.

Facilities include space for load control charging control system with the ability to manage and schedule charging of electric vehicles in response to total building demand; and have capacity for each circuit to support an electric vehicle charger able to deliver a minimum of 12 kWh from 11:00 pm to 7:00 am daily.

Cabling support infra-structure for future cabling will be provided to enable Electric Vehicle Charging to be fitted to all resident and visitor carparks.

Date: 22 March 2024

Signature:

Waste reduction 1.14

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1474
Date: 08 May 2024



Tuesday, 12 March 2024

VANTAGE BUILDING GROUP

Project - LOT 8002 BARINA DRIVE, BARINGA (STAGE 1 & STAGE 2)

To Whom It May Concern,

RAW Skips operates a vertically integrated waste management and recycling operation across Southeast Queensland. RAW Skips has worked closely with Vantage Building Group on a number of projects in the past.

If RAW Skips were to be selected as the waste contractor for the above project, we would plan to place skip bins on site during construction which would be filled with construction and demolition waste.

The full bins would then be removed from site upon instruction from Vantage Building Group and taken to our resource recovery and recycling facility located at Caboolture where the waste would be screened and sorted. Historically this site can divert at least 90% of all incoming waste from landfill.

Kind Regards,

Jason Meredith – Director

