

CLIENT

Handle Property Group

ARCHITECT

MJA Studio

VALUE

\$38m

DURATION

Sept 2015 to May 2017

LOCATION

99 Palmerston Street, Perth, WA

BRIEF

The Bottleyard Apartment Project was a Design and Construct contract consisting of 125 luxury apartments and basement carparking. The development boasts seven (7) separate buildings totalling over 5,500m², ranging from 2 to 6-storeys, creating a unique, architecturally designed streetscape.

The project's energy efficient design drastically reduces its reliance on cooling, heating, and energy consumption and is certified with a Life Cycle carbon reduction of 52% over its design life. This was achieved through the implementation of a solar photovoltaic array, live-feed individual energy monitoring, communal lighting motion sensors, and a naturally ventilated carpark. Solar Photovoltaic Array occupies every available square meter of roof space and, at the time of construction, was one of the largest multi-residential arrays in the southern hemisphere.

A dual-aspect apartment design enables easy cross-ventilation and allows south-facing apartments to receive northern light, thus reducing heating, cooling, and energy consumption. The apartment's cross section utilizes a series of lightwells to allow solar penetration to internal slabs without compromising on resident's privacy.

The Bottleyard features a 'central urban' edible garden and a separate 'residents only' rooftop terrace which offers panoramic views of the Perth CBD.

The project was awarded 'Design Excellence' by the City of Vincent's Design Advisory Committee.

PROJECT CHALLENGES

Due to the high water table, the buildings lower areas required dewatering to allow excavation, compaction, and waterproofing. However, groundwater could not be discharged into the sewer, so EMCO Building had to build a series of dams on site to hold the water, with daily monitoring of the water quality.

Subsequent delays were countered by scheduling concurrent activities across the seven (7) separate buildings.

DESIGN INNOVATIONS

The project incorporates a 260kw solar photovoltaic array, micro-inverted to a 10kw system for commercial areas and a 2kw system for each apartment.

The apartments also incorporate an energy efficient design, built to achieve maximum light penetration in winter and crossflow ventilation in summer.

