

# Wakefield Factory Apartments Adelaide

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This case study was written at the time when InfraBuild (formerly Liberty OneSteel) was part of OneSteel. In that context, in some instances within this case study reference may be made to OneSteel.



**“The warehouse style design is a new concept in development in Adelaide and provides high ceilings, ventilation, abundant space, and an individual sense of place and identity with each apartment.”**

#### CLIENT

City Living Consortium P/L

#### ARCHITECTS

Woodhead International

#### CONTRACTOR

Specialised Construction and Management

#### ENGINEER

Wallbridge and Gilbert

#### QUANTITY SURVEYOR

Rider Hunt

#### BUILDING SURVEYOR

Katnich Dodd

#### HYDRAULIC ENGINEER

Ashley Hallandal

#### MARKETING

Brock Partners

#### FABRICATOR

Magill Welding Service

# Wakefield

## FACTORY WAREHOUSE APARTMENTS ADELAIDE

Woodhead International, Specialised Construction and Management and Brock Partners have drawn on their collective experience to provide a unique development in Adelaide. Comprising 56 apartments, car parking and commercial tenancies, the Factory Warehouse Apartments in Wakefield Street, Adelaide, are a new concept in mixed-use development.

A steel frame was chosen to reduce the on-site construction time and to enable the design to provide a space with the flexibility to change with clients needs in the future.

### THE CONCEPT OF INDIVIDUAL

Three modular steel frame buildings are gathered around a communal inward looking courtyard, which is the focal point of the development. The community space incorporates a water feature, planter boxes and seasonal grasses that change to become a tapestry of colour. According to Brian Emmett of Woodhead International, the courtyard offers residents a tranquil area for contemplation while individual apartment courtyards provide a transition zone from semi-public to private spaces, and are personalised with planting and lighting.

This “individual” approach has been reflected from the outset, and was one of the prime reasons that a steel frame building design was selected.

Boasting high ceilings, ventilation and abundant space, this warehouse style design appealed to a wider potential market, offering an intelligent, flexible space that would allow and encourage the personalisation of apartments. The concept met council and community approval, and resulted in strong interest among buyers where the flexibility of space was important.

The apartments were purchased as a shell and fitted out to the individual style of the owner with Woodhead International creating three-dimensional computer images and interior perspectives, to assist in the visualising and promotion of the project.



The floor area of the apartments ranges from 100 square metres to 260 square metres with large floor plates and mezzanines facilitating the personalisation of each apartment.

### THE APARTMENTS

- Average size 8.4m x 15m.
- Two storey with a floor to floor height of 6 metres.
- Incorporating a mezzanine floor approx. 8.4m wide x 7.5m deep.
- The mezzanine floors are of steel framed construction with timber floor joists and particleboard flooring.

### THE CONSTRUCTION

The Factory Warehouse Apartments are a steel framed construction of four individual buildings with a podium at base level and concrete floors on Bondek. Another prime reason steel framing was chosen was the ability for offsite pre-fabrication. This reduced onsite construction time, and allowed the builder to work simultaneously in different areas of the complex.

To maximise cost advantages, OneSteel was consulted through the design

development stage. A computer system using the latest steel construction shop drawing techniques was also adopted to accelerate the program.

The speed of construction allowed the apartments to be bought onto the market quickly and provided a faster return on capital investment. This, together with the individual design flexibility, combined to give the steel frame option an unassailable advantage for this innovative development.

### THE FIRST FLOOR AND PODIUM LEVEL

This level covers virtually the full site area, and provides cover for the ground level car parking as well as forming the base for the construction of the four blocks of apartment buildings. This is a concrete floor (of varying thickness) and 1.0mm Bondek supported by a system of steel floor beams and steel support columns.

The floor separating the units is also of steel framed construction, with a 130mm concrete floor on 1.0 mm Bondek. The floor was required to be fire rated and therefore the steel beams were sprayed with vermiculite to achieve the required rating.

### THE ROOF AND WALLS

The roof of the apartment blocks is a steel decking on cold-formed purlins and structural steel support beams. All floors and roof are supported on structural hollow section steel columns built into the walls. The perimeter walls are a combination of glass, brick and light framed construction. Internal division walls between apartments are of light framed construction (fire rated).

### THE FIRE PROTECTION

The site is landlocked on three sides and the building was constructed on air rights with a community title system adopted allowing ownership in the horizontal and vertical planes. The secure carpark, which is located below the apartments, is fire separated from the apartments. All services are provided at a fire rated service riser. These include three phase and off-peak electricity, gas, water, communications and sewer, as well as free to air and satellite television. All apartment owners also have the opportunity to connect to a security system

Fire proofing of the structural steel members was kept to a minimum using the performance specification of the Building Code of Australia.

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