Mirvac Waterfront Apartments

AS ONE OF THE LARGEST URBAN RENEWAL PROJECTS EVER UNDERTAKEN IN SOUTH EAST QUEENSLAND, THE BILLION DOLLAR REDEVELOPMENT OF THE FORMER NEWSTEAD GAS WORKS SITE ON THE BRISBANE RIVER IS NOW THE EPITOME OF MODERN APARTMENT LIVING.

Less than two kilometres north of the CBD is Brisbane's new riverfront community, Waterfront at Newstead.

Where once a dirty gas works stood for over a century, five star luxury apartment living now takes its place - offering all the modern conveniences expected of properties that command million dollar river views.

Developed by Mirvac, the project's first two stages have been completed following several years of site remediation and head infrastructure works.

Stage One, completed in 2011, saw the development of a pair of premium residential apartment buildings – Pier South and Pier North – located on 250m of prime Brisbane River frontage.

Appearing to emerge from an 8000m² man-made lake located at their footings, these buildings comprise of 99 state-of-the-art apartments and penthouses showcasing exceptional craftsmanship including the use of natural stone tiles and timbers.

While the apartments offer three and four bedrooms plus multiple living areas, nine penthouses extend the level of luxury to include a study, walk-in robes, butler pantry, wine cellar, sauna, media room and outdoor kitchen.

As would be expected, the buildings' common areas also build on this sense of luxury with residential facilities including a concierge service and meeting rooms.

To best take advantage of its natural location, residents are afforded a range of lifestyle amenities in each building, including a private gymnasium, recreation and lap pools.

Outside, cycling and walking paths abound throughout the 5 hectare Waterfront Park and provide a scenic, unimpeded route to Brisbane's CBD.

The completion of the Waterfront development's second stage, Park, followed soon after in 2012.

Located at the corner of Cunningham and Waterloo Streets in Newstead, the Park building fronts onto the parkland and features 102 apartments across its stepped design that extends to eight levels in Park South and 16 levels in Park North.

A combination of one, two and three bedroom apartments are offered, with a number of ground floor retail spaces injecting a sense of vibrancy into the community.

The Waterfront Newstead master plan proposes a further six stages beyond the Pier and Park precincts, including those of Lake, Shore, Sky and Waterloo to be completed in coming years.

The tree-lined Skyring Terrace that extends through the site and connects to Breakfast Creek Road, is intended to form a "high street".

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DELIVERING LUXURY

One of the challenges of delivering consistently high quality, premium residential apartments is ensuring every aspect of their design, build and finish meets the industry standard.

Mirvac is able to achieve this through the company's strict quality control processes, which conducts all aspects of development in house – from sales and marketing to design, construction and after-market maintenance.

"Without doubt Mirvac delivers the best quality apartments in terms of construction, finish and superior design," said Grant Richardson, Site Engineer for Mirvac.

"The fact that Mirvac uses an integrated model allows Mirvac the ability to control quality throughout the entire process."

Where the Waterfront Pier and Park buildings are concerned, providing the end user with the ultimate indoor environment experience has been paramount.

Each apartment has been designed to take advantage of the lifestyle afforded by its riverside location. Along with openable doors and windows, bedrooms and living rooms are typically provided with independent temperature control.

"The owners need to have the flexibility to open their balcony doors and windows, or utilise the HVAC system during hotter or colder periods," Richardson said.

Every apartment across the two Pier buildings is individually serviced by its own Daikin ducted VRV split system, with separate in-ceiling fan coil units installed in each bedroom and living room. A typical three-bedroom, two-living room apartment would therefore feature five fan coil units.

According to Richardson, there are a number of advantages to this design.

"The main advantage is that the owner remains responsible for maintenance and usage costs," he said. "It is not something body corporate or building managers control or maintain, so it helps to keep ongoing fees down, which in turn prevents disputes."

Among the specific challenges confronted during the HVAC design for these buildings was determining heat load and occupancy numbers well before apartments are sold.

Given that parties can be comfortably hosted in some of the larger apartments, while others might be occupied by a retired couple only, meant it was important that the mechanical services design was able to accommodate all circumstances.

Additionally, heat gain through untreated glazing remained an unknown during the design.

"Mirvac does not install window coverings as standard, so we lose control over whether the glass has shading or not," said Richardson. "Both of these factors can affect mechanical design parameters and equipment sizing."

Architecturally, the aesthetics of the mechanical services installed in each apartment was another important consideration.

"We expect our HVAC systems to blend in as part of the building fabric without being seen or heard," said Richardson.

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Mirvac commissioned custom made, powder-coated, linear slot air grilles for this project, and spent considerable time and effort with the mechanical contractor, Quantum Air, confirming the installation and placement of all panels and grilles.

Daikin in-ceiling fan coil units were specified to be concealed in bulk heads and dropped ceilings, while the placement of air grilles had to strike a balance between being centred uniformly on bulk heads, and being best located for functionality.

Return air grilles also had to be installed in inconspicuous locations, with above ceiling return air plenums designed to ensure optimal equipment performance.

CONTROLS AND COMMISSIONING

To provide for individual room temperature control, every apartment is fitted with a number of sleek, gloss-white Daikin control units – an upgrade from the standard control units supplied with each fan coil unit.

The building management system (BMS) of each apartment building also provides an "all off" function on exiting the apartment to provide each owner with a further level of energy efficiency.

Reliability and performance was also a key consideration in the selection of equipment, particularly as servicing and maintenance is required to be conducted with minimal disruption to residents.

To provide for fuss-free maintenance, all in-ceiling fan coil units have been installed with a flush set access panel beneath it for ready access to pipe and electrical connection points.

Additionally, all outdoor condenser units have been located in a central roof top location and provided with separate maintenance access.

According to Richardson, the main challenge during the installation and commissioning of the building's mechanical services was timing. Oftentimes, lower level apartments were ready for commissioning well before the roof top condensers and mechanical services switchboards had been installed.

"Consequently, we provided temporary power to pre-commission and balance an apartment prior to final commissioning once all plant and equipment had been installed," he said.

An additional challenge, he said, is one common with most apartment building projects - the question of when equipment warranty periods commence.

"Typically, Mirvac requires warranties to commence from the point of sale, not from practical completion of construction. To my knowledge, Daikin are pretty obliging with this requirement."

To this end, he said collaboration between all key stakeholders, including suppliers, is paramount on premium property projects.

"Mirvac spends months up front in early concept design ensuring that equipment selections and layouts work efficiently and are cost effective. However, there is a balance to ensure specifications do not inhibit the competitive tender process."

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He said contractors also need the ability to select equipment based on their previous experiences to achieve economies of scale in delivering the project for Mirvac, and the Waterfront project is no exception.

"Once a contractor is on board, there is further time involved in shop drawing and procurement in consultation with the architect and mechanical consultant."

He said allowing enough lead time so as to ensure onsite progress is not restricted is something he is always conscious of.

"In my experience Daikin are typically pretty good with carrying enough stock to service our needs without significant waiting times," Richardson adds.

FXMQ125PVE

REYQ14

Images courtesy of Mirvac

PEOPLE

Developer: Mirvac Group
Architect: Mirvac Design
Builder: Mirvac Constructions (Queensland)
Mechanical Services Engineer: Mirvac Group
Mechanical Services Contractor: Quantum Air

EQUIPMENT

HEAT RECOVERY SYSTEMS

3	x REYQ10PY1 - VRV III Heat Recovery System
3	x REYQ12PY1- VRV III Heat Recovery System
3	x REYQ14PY1 - VRV III Heat Recovery System
1	x REYQ18PY1 - VRV III Heat Recovery System
50	x RXYQ8PAY19 - VRV III Heat Pump System
28	x RXYQ10PAY19 - VRV III Heat Pump System
13	x RXYQ12PAY19 - VRV III Heat Pump System
4	x RXYQ14PAY19 - VRV III Heat Pump System
1	x RXYQ16PAY19 - VRV III Heat Pump System
1	x RXYMQ4PV4A - VRV IIIS Heat Pump System
1	x RXYMQ6PV4A - VRV IIIS Heat Pump System
401	x FXSYQ - Ceiling Mounted Built-in Indoor Unit
116	x FXDQ - Slim Ceiling Mounted Indoor Unit
56	x BSVQ - Branch Selector Units
6	x FTKS - Hi Wall Split Systems (Cool Only)
7	x FTXS - Hi Wall Split Systems (Heat Pump)

Total Plant Capacity = 3,050 kW