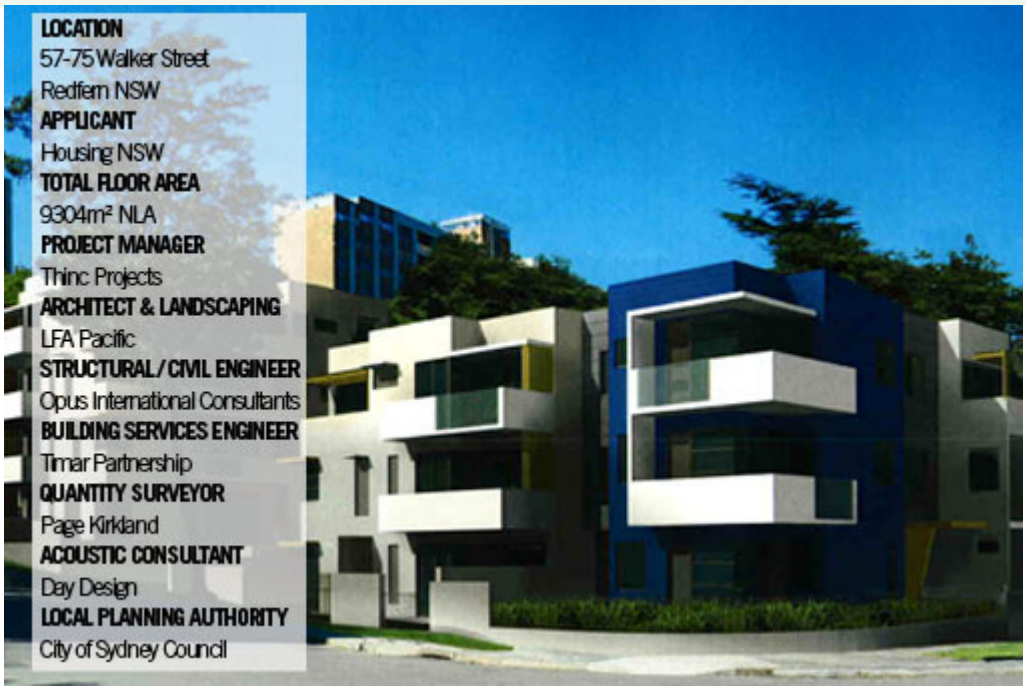
Redfern Housing Redevelopment

MON 19 APR, 2010 GREEN BUILDING CASE STUDIES



The Redfern Housing Redevelopment in Sydney was only the second public housing development in Australia to achieve a Green Star rating, and was awarded a 5 Star - Green Star rating under the Multi Unit Residential PILOT in 2009.

Representing 'Australian Excellence' in environmentally sustainable design, this project for Housing NSW sets a new standard for social housing developments, and demonstrates that environmentally, economically and socially sustainable outcomes are achievable.

According to the Green Building Council of Australia's Chief Executive, Romilly Madew, the Redfern Housing Redevelopment project is a "triple bottom line success story".

"The project team took a holistic approach to the development, and addressed the social sustainability issues alongside the more commonly recognised environmental and economic ones," she says.

Where community belongs

The project involves the demolition of ten existing two and three storey public housing buildings, and the construction of new low-to-medium rise accommodation. The 106 public housing dwellings will be comprised of 66 apartments and 40 townhouses, as well as two community rooms.

The goal of the redevelopment project is to deliver new public housing with a more appropriate mix of housing types that promotes a greater level of community within the area. Specifically, the new development will provide more adaptable and accessible housing for aged and disabled members of the community.

The design features an external facade which is both contemporary and sympathetic to the existing semi-detached and historic dwellings in the Redfern area. As a result, the development will integrate into and enhance the urban landscape.

Smart savings

Green initiatives such as rainwater collection and greywater treatment, solar hot water systems, solar photovoltaic cells for lighting and passive ventilation will deliver cost savings for both Housing NSW and the low-income tenants who live in the development.

The project's design aims to reduce energy consumption by 74 per cent when compared with standard residential buildings of similar size. This reduction in CO2 emissions is equivalent to taking 100 cars off the road.

What's more, the energy efficiency measures are predicted to save around $26,000 across the entire building in energy consumption each year alone.

Water efficient fittings and fixtures, as well as the reuse of rainwater and treated greywater, will ensure around 45 per cent of all water demand on the site is met by non-potable water. The predicted saving of 4,700 cubic metres of water a year is equivalent to 4.7 Olympic-sized swimming pools or 33,571 bathtubs. Based on current Sydney Water prices, the cost savings will be around $7,500 a year across the entire tenancy.

Social spirit

Australia's indigenous people have a long association with Redfern, moving to the suburb in the 1920s for employment opportunities and affordable housing. They formed a strong and vibrant community which is still in evidence today.

Recognising the links between indigenous people and the suburb, a minimum of 20 construction workers on the project were required to be indigenous. This was a 'first' for a public housing project in Australia, and was rewarded with a Green Star Innovation point (INN-1).

Empowering the local community was an integral part of the sustainable development, and Housing NSW provided employment opportunities to both Aboriginal and long-term unemployed people to enhance their business skills, increase their knowledge of ESD issues and improve the social and economic conditions for both the individuals and their community.

ESD initiatives featured in the project:

Indoor Environment Quality

- All 106 apartments are naturally ventilated and there is no air conditioning in the development
- Energy
- Gas boosted solar hot water for apartment buildings and instantaneous gas hot water system for townhouses
- PV cells for common area lighting
- Use of low energy embodied materials where possible

Water

- Rainwater harvesting for toilet flushing and laundry
- Greywater treatment system for landscape irrigation

Innovation

- Exceeding the benchmarks of TRA-1 by providing significantly less car parking than the minimum - 6 dedicated disabled parking spaces are provided on the site
- There is no general parking but generous bicycle storage is provided
- Land Use and Ecology
- Remediation of a contaminated site
- Use of native landscaping.