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500 Collins Street MELBOURNE Building Refurbishment Project

About 500 Collins Street

The construction of 500 Collins Street was completed in 1970. For many years the building enjoyed an enviable reputation for its quality of construction reflecting modern building standards and services of the time. As a consequence it attracted a high tenancy profile.

By 2002, however, when the building was put on the market, it had deteriorated to a low B grade standard through gradual ageing and obsolescence.

Despite its general decline, it had managed to retain the support of many quality tenants. This was in part a reflection of the strong fundamentals intrinsic to the building (its floor plate size and configuration, first rate location) but also the sound on-site building management.

It was these attributes that led the building's new owner to decide that it was suitable for a substantial refurbishment. Two key conditions attached to the decision to undertake the project were:

1. The preservation of the majority of the property's rental income during upgrade through tenant retention: and
2. The attainment of the highest practical environmental efficiency upon completion of the project.

These factors presented significant challenges, as did the need for the project to deliver a commercial outcome.



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The upgrade process can be summarised as follows:

- Identification of broad project objectives
- Formation of a project team
- Master planning
- Construction
- Independent commissioning and review

Prior to the refurbishment the building comprised approx. 26,000m² of office space plus three retail shops and parking for 140 cars. The refurbishment achieved a slight increase in office net lettable area, 10 additional shops (bringing the total to 13), a small decrease in car park numbers but the addition of secure bicycle racking, change rooms with shower facilities, disabled access and amenities, all to A grade building standard.

In short the building has been completely transformed, gaining a 5 Green Star v1 Design rating in the process. It was the first CBD building refurbishment in Australia to achieve this rating. Moreover the building's occupancy has not fallen below 70 per cent during the upgrade project.

KEY OBJECTIVES OF THE PROJECT:

The objectives of the project were as follows:-

- Achievement of an A grade building standard.
- Attainment of a high degree of environmental efficiency both during the upgrade works and post-upgrade operations.
- Maximum tenant retention during the upgrade to maintain optimum cash flow and provide a potential pool of long term tenants.
- Elevation of the tenancy profile through an increase in the average size of tenancy, length of tenure and quality of tenant.
- Achievement of a commercially justifiable return on investment.



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PROJECT TEAM

Of particular significance is the fact that an ESD consultant was an integral part of the project from the outset. Besides the project manager and ESD consultant, the project team included the following consultants:

- Architectural
- Engineering (mechanical, electrical, structural, hydraulic)
- Planning
- Quantity surveying
- Building surveying
- Disability
- Facade engineering
- Hazardous Materials
- Waste Management
- Acoustic
- Car Park
- Traffic
- Landscape design
- Property advisory
- Independent Commissioning Agent
- Art consultant
- Plus active involvement by representatives of the committed building owner.

MASTER PLANNING

Given the complexity of the project, a lengthy master-planning phase was commenced in mid-2002 and took almost a year to finalise. This master-planning was led by the Project Manager and involved all the consultants and the building owner working in close liaison.

Despite it being the first time most of the consultants had worked on a project with sustainability at its core and with an ESD consultant as a significant voice, the team quickly developed an 'environmental culture' and with it an expectation that all design work would develop against the backdrop of environmental efficiency.

The team also accepted a strong discipline of analysing all elements of the upgrade design against ESD principles.



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During this time a wide range of initiatives were tested against the broad ESD objective, but as it was before the formation of the Green Building Council and pre-Green Star, there was no clear rating tool available in Australia against which the anticipated design performance could be measured.

It was important that the project team's master-planning and feasibility testing was not hurried but allowed to evolve in a cohesive and coordinated manner. By the end of this phase the project had been clearly defined.

This allowed optimum confidence in its outcome, although some elements were left as optional for further investigation for environmental and commercial merit (for example, VAV verses chilled beams for air conditioning).

CONSTRUCTION

The imperative of working around an almost fully occupied building meant that the project had to be carefully staged. For example, the early focus was on the upgrade (and in most cases replacement) of the major items of base building plant and equipment. But this was complicated by the need to run existing plant in tandem with the new equipment to enable the un-renovated floors to continue to operate. In many instances the stages over-lapped.

The stages were broadly as follows:

Stage 1 - Plant replacement/upgrade – including chillers, cooling towers, building maintenance unit, security system upgrade, main electrical switchboard, building automation system, lift controls, upgrade of lift cars, gas fired boilers, installation of solar panels on the roof, upgrade of air handling units and emergency lighting in common areas.

The facade was also renovated. This involved replacement of the glazed spandrel panels, repair and refurbishment of the vertical columns, repainting of the whole facade and erection of new building signage at roof level on all 4 faces of the building. The air-tightness of the facade was also checked prior to the installation of the new chilled beam air conditioning as this is fundamental to the performance of this system.



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Stage 2 - Maximisation of the retail space – this included modification and expansion of the Collins Street retail frontage, creation of four new shops along Church Lane plus a further six shops on the Little Collins Street plaza (now known as 'McCrackens'), and creation of back- of- house wet and dry storage facilities for the retailers plus goods delivery bay. New secure bicycle parking, new changing rooms including shower and locker facilities were provided;

Upgrade of entries and public areas – this included new building entries at Collins and Little Collins Streets, upgrading of the main foyer and installation of commissioned artworks.

Stage 3 - Office floor upgrades – rolled out progressively as leases expired (generally three levels at a time). The majority of refurbished floors have been leased to existing tenants of the building. Works included the complete strip out of each floor including lobbies and amenities and replacement with new finishes plus the installation of chilled beam air conditioning. Works also include the provision of disabled amenities on various levels.

An extension of level 3 is being undertaken onto the podium roof space of Level 2 to create a unique series of external meeting rooms together with outdoor recreational areas and associated landscaping.

At this time, all external work has been finalised and approx. 80 per cent of the office floors have been completed. The remaining five are expected to be completed within 18 months.

Two things have been fundamental to the successful implementation of this project:

1. Communication with tenants. Inevitably a project such as this involves a level of disturbance but the impact of this is manageable provided there is a high degree of communication so that tenants are aware of what is happening at any point in time and moreover aware in advance of likely impacts on their occupancy.



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2. Strong project management leadership which recognises the on-going operational imperatives of the building and its services. Elements such as noise control and temporary shut-down of services have to be managed to the highest level and this has been recognised and practised throughout this project.

ESD FEATURES OF THE PROJECT:

The principal ESD features of the project can be grouped under the following headings:-

Energy Savings – A significant reduction in energy consumption (30 per cent air conditioning, 50 per cent lighting, 15 per cent hot water) is expected from the following initiatives:

- installation of energy efficient Chilled Beam air conditioning technology reducing the number of fans required for air conditioning from four to two;
- new energy efficient chillers and cooling towers;
- solar panels for hot water supplying 25 per cent of the domestic hot water;
- gas fired boilers (replacing oil fired);
- low energy T5 light fittings; and
- strong focus on commissioning of plant and equipment for efficient operation.

Materials – Materials selection criteria included:

- low embodied energy;
- PVC free wherever possible;
- low volatile organic compounds emissions;
- preference for materials containing a high recycled content; and
- selection of materials for durability and from sustainable sources.

Water – Very significant savings in water consumption (40 per cent to 50 per cent) through:

- installation of waterless urinals;
- 3/6 litre cisterns;
- flow restricting devices on fixtures; and
- rainwater and condensate capture for landscape irrigation.



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Maintenance – Reduced maintenance costs due to:

- reduction in plant and equipment;
- more efficient plant (in particular the chilled beam air con with less moving parts); and
- better monitoring of plant through a new building automation system.

Indoor Environment Quality – Improved IEQ achieved through:

- an increase of 50 per cent more fresh air through the use of chilled beam technology ;
- radiant cooling provided by the chilled beams;
- low VOC materials and finishes; and
- reduction in indoor ambient noise levels.

Social Dividends – Initiatives to improve occupant quality of life including:

- provision of a dedicated secure bicycle compound for 82 bicycles plus visitor parking;
- shower and change room facilities;
- new disabled toilets;
- commissioned artwork embracing the history of the site; and
- creation of a vibrant retail precinct.

An independently conducted ‘productivity study’ jointly commissioned by Sustainability Victoria and the building owner to examine pre- and post-occupancy tenant responses was conducted. The results found both qualitative and quantitative evidence of the benefits of the building’s green initiatives which in totality represented improved workplace satisfaction and productivity.

This study was conducted with two existing tenants who moved from un-refurbished floors to newly refurbished space and whilst this study was small numerically, the following results give a clear indication of the merits of the ESD focussed project, for example:

- 39 per cent reduction in average sick days per employee per month after the move to the new office;
- 44 per cent reduction in average cost of sick leave after the move;



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- Nine per cent improvement in average typing speeds of secretarial staff and a significant improvement in overall accuracy;
- A seven per cent increase in billings ratio, despite a decline in average monthly hours worked. This would indicate that despite working less hours after the move, the time worked was spent on billable work.

There was also significant improvements in staff perception of their health in their two new offices, as shown below (both firms shown):

- Headache – 7 per cent / 20 per cent reduction
- Cold and Flu - 21 per cent / 24 per cent reduction
- Fatigue - 26 per cent / 16 per cent reduction

INDEPENDENT COMMISSIONING AND REVIEW

An independent commissioning agent (ICA) was appointed during the design and construction phases of the project. This role was created to specify commissioning and tuning criteria and timing for the project, plus to witness and overview the installation and commissioning of the building services during the construction phase.

The ICA will have an ongoing performance monitoring and building tuning role, to assist the optimal operation of the building.

OUTCOMES:

By any measure this unique project has been successful. It has –

- attained an A grade status building;
- achieved a higher than expected environmental efficiency – 5 Green Star design rating incorporating 5 star ABGR (now NABERS) design;
- maintained the on-going support of tenants throughout with an occupancy not falling below 70 per cent;
- elevation of the tenancy profile – now 20 per cent less tenants meaning that the average size of tenancy has increased;
- indicatively, achieved a commercial outcome in line with the adopted criteria.



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Given that there are still some floors to refurbish, it is not possible to categorically measure the environmental outcome or commercial return on investment as yet as some of the benefits and efficiencies of the upgrade are not fully realisable until final completion of the project, however thus far the indicators of the success of the project are most encouraging because of:

- attraction of quality new tenants to the building in a very competitive office market Achievement of rentals at or above budget estimates underpinning valuation of the property and proving project viability for the current status of the project; and
- the strong support and re-commitment of valued 'old' tenants.

The uplift in the rentals achieved on refurbished space as against the rental value of non-refurbished space is of the order of 35 per cent.

This increase in rental value is the key indicator of the project's commercial viability and this reinforces the incorporation of the sustainable initiatives as an integral element.

Whilst the project is still to some degree a 'work in progress' the final outcome now seems assured.