

DANDENONG GOVERNMENT SERVICES OFFICE

GROCON CONSTRUCTORS

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CONSTRUCTION COMPANY : Grocon
COMPLETION : November 2011
STRUCTURAL ENGINEER : Winward
Structures
SURVEYOR : Vekta Pty Ltd
ARCHITECTS : Hassell

The building harvests rainwater which is stored in a 40,000L tank for use in amenities flushing and landscaping irrigation. Fire testing water drains down into a 6,000L tank for reuse.

“It is noteworthy that we achieved Six Star Green Star without using black water harvesting or tri-generation. There was a lot of concentration on reduction of potable water use and energy efficiency,” said Grocon Project Manager, Andrew Poulton.

“There are waterless urinals, and all the fixtures and fittings are water efficient. Solar panels have been installed on the roof for the domestic hot water system, and we have used air cooled chillers for the air conditioning. The air conditioning is an under floor system of air diffusers, with individual controls for each seating position.

“The building has a BMS system and an EMS, with all the lighting controlled by sensors. VicUrban (now known as Places Victoria) are planning a central energy plant for the entire precinct, and we have made sure the GSO can connect to that.

“The facade is double glazed, with blinds and sun shading from the timber canopies. A frit pattern has been put on the glazing which acts both as a privacy screen for the work stations and as sun shading. This pattern was based on a survey undertaken by the architects, HASSELL, in conjunction with Buro North the signage Consultant, of the local community and reflects the symbols of the different cultural groups in the Dandenong community.”

The GSO also has 120 bicycle storage spaces including visitor bicycle parking, shower and change rooms to encourage carbon free commuting.

Along with the use of low VOC products throughout and extensive natural light, the design enhanced the health of the indoor environment through the use of double height atriums (with inter-tenancy stairs) and green walls planted with philodendrons – a proven air purifier – and operable windows in the facade in these areas to enable night purging of the mechanical system. These operable windows also form part of the smoke control strategy, an element of the overall fire engineering plan put in place for the project. Grocon have also been innovative in its construction. The retention system was redesigned to minimise the number of piles, the column layout and the central core layout were redesigned to achieve a more efficient floor plate, and the concrete structure was refined of construction efficiencies which consists of post stressed bandbeams and slab on bondeck. Part of the

slab infills are also post stressed. Levels 5, 6 and 7 of the GSO cantilever out five metres over the street. At Level 5 a prefabricated steel beam system incorporating temporary handrails was developed and with the use of prefabricated bondeck panels, the cantilever areas could be constructed without the need of scaffolding from the street and without placing men at risk for falls at height. Levels 6 and 7 were then constructed in the conventional manner from the newly poured Level 5 slab. Most of the project's concrete was poured in situ, with Grocon using its own design of jump form, bondeck, screens and beam forms and its own form workers. Columns were double height precast and there were some precast walls.

There was a substantial Grocon workforce onsite of 80 trade staff and 20 management, supervisory and administration staff. The trade team included crane crew and dogmen, temporary electricians and temporary plumbers, concreters, first aid and OH&S and a number of apprentices, two from the local area. Grocon also employed two people through community assistance programs, a Sudanese refugee referred by the Brotherhood of St Laurence, and a young person from within the Juvenile Justice System who was referred by Whitleion.

Over 300,000 man hours were worked on site from demolition in November 2009 through to handover in December 2011, with no LTIs.

Other noteworthy aspects to the GSO include a conference centre area on Level 4, comprising a series of meeting rooms with operable walls to enable flexible spaces with access to the Loggia, an outdoor garden space to meet and unwind. There is also a Wellness centre on the first floor, which includes the first aid rooms and nursing rooms for the comfort of clients and staff with young babies.

This project is part of a broader plan by Places Victoria to revitalise Dandenong. It has purchased seven hectares of land, which includes the GSO site, with the intent to develop a thriving and dynamic mixed use precinct. Grocon is contributing to the bigger picture through the construction of a new road on the western boundary of the GSO.

Another major project Grocon has recently completed is the Bioscience Research Centre at Latrobe University, Bundoora. Grocon is currently constructing other projects in Victoria, New South Wales and Queensland, including Common Ground Brisbane, The Emporium in the Melbourne CBD and the Villa Maria Aged Care project at Wantirna.

BEAUTIFUL GREEN FIRSTS FOR DANDENONG

Grocon has combined construction innovation and design panache in delivering the first Six Star Green Star commercial development in Dandenong. The Dandenong Government Services Office comprises 14,400m² NLA of commercial office space over eight levels, 480m² NLA retail space on the ground floor and four levels of basement. This is the first building in the area to have basement space, so along with the task of demolishing existing buildings on the site before construction could commence, Grocon had to undertake a thorough assessment of the unknown contamination and ground water

risks. While the site proved to be clean, there were three underground tanks which required removal and remediation, and precautions needed to be taken in terms of drainage for basement excavations and construction, as preliminary drilling showed the possibility of groundwater 10m below the surface.

Originally contracted to design and construct the GSO to a five Star Green Star Office Design and As-Built v3, the building has been recently awarded a Six Star Green Star rating for Office Design v3. This has been achieved by aiming for the highest commercially viable standard of

sustainability during the design and construction process. In addition a 5star Green Star rating for Office Interiors v 1.1 has been targeted and a minimum rating of 4.5 Star NABERS Energy and NABERS Water. In practice, this came down to many key details in the methods, materials and design resolution. Extensive recycled and certified timber has been used throughout the building, in particular the timber canopies and for a cantilevered loggia on Level four landscaped with drought-hardy plants and providing an open space for staff. The loggia's substantial structure was constructed in sections by Grocon carpenters at ground level, and craned

into position. The timber façade elements, and indeed the feature timberwork inside the building, use timber salvaged in a sustainable way from areas of Victoria devastated by the 2009 bushfires. Grocon participated in the Victorian Government clean-up of the bushfire areas and, through our project management, became aware of forest resources that had been damaged and where the owners, and millers, needed commercial support to get back up and running again. Grocon worked with the local communities in those areas to have the damaged timber logged, milled and made ready for use in the Dandenong GSO project.

Dandenong Government Services Office, VIC





GOING THE EXTRA MILES FOR GREEN STARS

Richstone Group went a few extra miles for Grocon on the Dandenong GSO project, to ensure all the building's plumbing was up to the Five Star Green Star standard of the project. The two companies have developed a working relationship over several previous high rating projects, including Media House and Pixel, but this was the first time Richstone had undertaken a major commercial plumbing task in the Dandenong region.

Richstone undertook all the plumbing for the commercial office project, including fit out for kitchens on all levels; toilet blocks; installation of services including water, sewerage and gas works; and supplying and installing a gas boosted solar hot water plant in the roof plant room. Due to the project's Green Star design, all the pipework is HDPE, resulting in PVC minimisation. Also, all the water related fixtures and fittings are low flow and water efficient.

Up to eight qualified and Registered Richstone plumbers worked on the project over a twelve month period, with Richstone's abilities in costings, procurement, logistics, delivery and installation ensuring an efficient approach which met all program milestones for the works. Richstone also ensured safety was paramount.

"This project is an example of the benefit of experience - we have an understanding of how Grocon works, which helps us mesh smoothly with their works program, safety policies and site management," said Richstone Director, Shannon Egglestone.

"We sit with them on the safety committee once a month, and because Grocon have a lot of long term staff, our people are working with people they know at the different Grocon jobs we've done."

Richstone have grown from a small company founded by the two hands-on Directors, Shannon Egglestone and Hayden Richardson, both registered plumbers, into a multitalented highly experienced firm managing up to 15 major projects concurrently. Their capabilities include all plumbing, gas works, rainwater harvesting systems, roofing and guttering. With a strong track record on Five Star and Six Star Green Star projects, Richstone have an ongoing commitment to research into the best available products and technology for ensuring long term sustainability is built into the projects they work on.

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GOVERNMENT REINFORCEMENT

With decades of tier one industry experience at the company helm, Metro Steelfixing bring a thorough understanding of the whole construction process to their task on a project like the Dandenong Government Offices.

Metro provided all the steel fixing Grocon required for the job, including footings, floor slabs (which were poured insitu), columns and stairs. The lift core was the first task, and as the building rose so did Metro's workers, paying scrupulous attention to maintaining excellent LTI-free levels of safety while working at heights.

Grocon used the Lubecker jump form system for the project, which is an extremely safe system, and one the Metro crew were familiar with. Having worked on previous Grocon jobs including Media House and Pixel was also a benefit in terms of being familiar with the expectations and working style of the construction management team and labour force.

An average of eight to ten Metro steel fixers worked on the project for nine months, tying 900 tonnes of reinforcing steel for seven upper levels and four basement levels of the building.

Metro was founded in 2005, and since then has been steadily engaged on a range of major projects including not only commercial construction but also major civil projects including sections of Eastlink for Fitzgeralds Construction. They have built strong

working relationships with many of the leading concreters and formwork companies.

Metro can fix steel for every kind of concrete work including buildings, bridges, even pools. In addition to contracting to projects, the company provides a day labour hire service, and all Metro workers are trained, and have white cards, EPA, PPE, Union and CBUS.

"We give 110% always. We have experienced men who give quality effort and endeavour to meet the program," said Metro Steelfixing Managing Director, Sam Bufalino, who founded the company after 23 years of working as a direct employee for Grocon.

"We meet all the requirements of a project and don't let builders down. Our workforce is a mix of highly experienced staff and young workers, because we believe in passing on the skills and training people. I would like to see it recognised as a trade in Victoria, to encourage more young people to become steel fixers."

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SOLID PERFORMERS AT GSO

To ensure efficient and safe placement of the concrete for the Dandenong GSO project, Grocon relied on Australian Concrete Pumping Logistics (Victoria) to provide mobile boom concrete pumping plant and equipment on a daily hire basis.

ACPL also supplied a crew of two men to operate the pump for each day of the concrete pours, who worked closely with Grocon's team to complete the works. ACPL have 20 experienced operators who work on sites across Melbourne and regional Victoria under the close supervision of the ACPL management team.

There are only five 55 metre mobile boom pumps in Australia, and ACPL owns and operates four of them. The company also hires out a fleet of over 20 mobile concrete pumping plant including smaller boom pumps and mobile line pumps, and provides high rise and shotcrete pumping services.

"A noteworthy aspect of the Dandenong GSO project was Grocon's continuing and exemplary daily execution of occupational health and safety. From daily pre-start meetings, to ensuring that our men were always working in the safest working environment, OH&S was a high priority," said an ACPL spokesman.

ACPL was formed in July 2010 following the merger of Improved Concrete Pumping Services and TKS concrete pumping. The company employs 75 people to meet the concrete pumping needs of first and second tier construction companies undertaking major projects across the commercial, high rise residential and retail sectors. ACPL also provide their plant and skilled services to infrastructure projects, including water treatment plants, railway stations, arterial roads and freeways.

Located in Sunshine West, ACPL have been investing in a state-of-the-art allocation and dispatch system that will set the industry standard, ensuring that when a project calls for concrete pumping, ACPL provide Victoria's best, safe and reliable service.

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