COMMUNITY-MINDED TRIFECTA OF EXCELLENCE

Kane have been constructing new medium-density residential units for low-income tenants at three sites, Richmond, Altona and Prahran, replacing pre-existing public housing units

Kane Constructions have a substantial track record of delivering outstanding results for projects which meet crucial community needs, from major hospitals and mental health facilities, through to their current multi-site design and construct undertaking for Victoria's Department of Human Services (DHS).

Kane have been constructing new medium-density residential units for low-income tenants at three sites, Richmond, Altona and Prahran, replacing pre-existing public housing units which were outdated, energy-inefficient and not in keeping with current policies for tenant wellbeing, including the Disability Discrimination Act. By working three sites simultaneously with similar construction methodologies, the teams were able to share ideas and strategies for tackling any issues which arose.

The DHS Richmond social housing development at Elizabeth Street Richmond comprises 207 new units (61 one bedroom, 130 two bedroom and 16 three bedroom units) constructed over four six-level buildings with underground carparking. All areas of the site were worked on concurrently. Kane redesigned the structure of the building, utilising the services of Mordue Engineering, resulting in significant savings which were passed onto DHS, and furthermore made it more efficient onsite to build. Several other savings were achieved during the design phase, with the result that Kane exceeded the client's expectations on savings generated, without compromising the quality and architectural intent of the design.

Efficiency in water and energy use was a guiding principle for the project. The services design incorporated solar hot water panels linked to a large static storage area which reticulates to all units. Grey water and rainwater recycling systems have also been incorporated, with grey water used for landscape irrigation and rainwater linked to all toilets, and the civil design incorporated bioremediation beds feeding into stormwater. This combined with careful selection of insulation and composite wall types resulted in unit design achieving an average 6-star residential energy rating.

The external and internal structure of the four buildings comprised of load bearing precast panels, with feature charcoal panels and Reckli panels. The structural concrete consisted mainly of bondek spanning between precast, with post tensioned, reinforced concrete slabs poured over. Kane's structural redesign included reduced slab thickness, which reduced the volume of concrete required.

"Careful programming of the works was required to coordinate the large volume of materials and workers on site. Up to twenty direct employees consisting of management, administration and general labouring staff assisted to manage a peak workforce of 300 tradespeople on site. Two tower cranes were used for the installation of approximately 1500 precast panels, alongside the constant demands of structural trades, and later on fit out trades. Mobile cranes were required from time to time to supplement the demand and assist in meeting hoisting requirements on site," said Kane's DHS Richmond site Project Manager, Benjamin Barrett.

"Kane directly employed several tenants from the adjacent housing estate under the PTEP scheme (Public Tenant Employment Program) as well as promoting this scheme to all subcontractors working on site. We exceeded contractual requirements in this regard with several long term employment opportunities. "We were also involved in regular meetings and provided professional services to the management of the local housing estate to assist in securing Government grants for the repainting of existing housing estate under croft areas and for an Urban Gym project, proposed to be implemented within the existing estate.

"The DHS Richmond Housing project has been a success for both the client and Kane Constructions. Time, quality and cost implications were paramount in driving finalisation of the design. The construction phase has run smoothly with closely managed quality control systems being implemented on all critical trades."

At the Prahran site, Kane's team undertook work in two stages. Stage one comprised the construction of 188 units of apartments (94 one bedroom and 94 two bedroom), constructed over three blocks ranging from four storeys to ten storeys, plus on-grade parking and other associated areas. Stage two involves landscaping, including constructing an external park and playground, civil works, and the demolition of pre-existing apartment building of 24 units.

The three new apartment blocks are predominantly constructed of precast concrete structural walls and suspended concrete slabs. The facade combines feature precast concrete and a light-weight pre-fabricated metal sheet facade system. Prefabrication of the facade was paramount due to the tight delivery program and space-restricted site.

ESD initiatives implemented at Prahran included stormwater retention, energy efficient gas boosted hot water and hydronic heating. Overall, the design aims to achieve an average 6 star NatHERS energy rating. "Initially the ground conditions were a considerable challenge, inconsistent structurally and the site was completely contaminated. This resulted in considerable double handling to cap under the subfloor of each block to avoid cartage offsite as much as possible," explained Kane's Prahran Project Manager, Tim Fowler.

"It was also a very tight site for access and materials handling. Two tower cranes and full time traffic management teams assisted with materials handling including the backing in of all semi-trailers into the site through a temporary opening between the buildings no wider than 3.5m. Finally, the spread of the 26 floors over three blocks made it more of a challenge to maintain continuity, as trades were constantly shifting from block to block, unlike the efficiencies you get out of a single 26 storey block.

"Building so close to existing tenanted buildings (only 6m in some locations) it was also important to avoid scaffolding our buildings which could potentially invade privacy and create safety issues. Again, prefabricating our envelope ensured quick, efficient and safe site installation. General safety measures such as hoardings, gantries and site security were also implemented.

"It was a difficult job logistically. Micro management of material and plant deliveries and prioritising each was time consuming but satisfying. Pushing to deliver a sprawling job of this size on time was also motivating, and as milestones were met it was very satisfying.

Kane had a team of ten management staff, and up to seven of their own labourers onsite, along with 28 subcontractors, giving a peak daily workforce of 200. The Public Tenant Employment Program (PTEP) was

NEW WAYS OF SEEING TO HUMAN NEEDS

In creating their vision for affordable housing projects at Prahran and East Coburg, DesignInc have developed a new aesthetic for social housing, which emphasises a community-focused, sustainable residential environment.

At Prahran, the brief was to deliver 188 units, half one bedroom and half two bedroom units. 20% of the units were to be easily adaptable to DDA requirements, 10% fully Accessible and 70% visitable, with ongoing consultation ensuring the design details such as bench heights and door frames met the Act's specific requirements.

"The building form and pedestrian network aims to breakdown the existing "mega" block scale of this part of the Horace Petty Estate. Three separate identities are created for the new buildings, with distinct characteristics and the opportunities for individual unit identification," said DesignInc Project Architect Ross Chalmers. "A Colonnade structure forms a podium base for the buildings and articulates the building at the Street level. The use of two alternating tones of three colours to the metal-clad façade panels across the building facades helps to give individuality to units within an overall theme."

Key ESD aspects of the design include thermal efficiency, water efficiency, passive solar design, use of recycled timber batten screening, low VOC flooring, paints and adhesives. Community-building aspects include a large roof terrace on level 4 of one block that is accessible to all residents, and a landscaped play area to the west. Similar principles were applied to The Nicholson's design, which comprises a varied stepped form built using the modular, Unitised Building method. This project displays a recognisable 'village' streetscape to Nicholson Street and urban residential form to Moore Street, according to Design Leader, Rudy Darmawan. "The Nicholson is a visually integrated design solution which combines passive design principles, natural light, shared social spaces, deep winter sun penetration and natural ventilation with active strategies for water, waste and energy," said Rudy.

"The project's unique design aspects include feature stair access to all levels of the building from street level entries, and covered voids at the north and south ends of the building which support natural ventilation of all the interior corridors.

"The building activates the street edge with retail and commercial tenancies for daytime activity. These edges incorporate pleasant and inviting pedestrian edges for passers-by. The Nicholson sets a precedent for the establishment and development of an Urban Village Activity Centre."

DesignInc are a multi-award winning practice with 150 staff nationally providing architecture, interior design and urban design services to projects across the development spectrum.

Other current projects include DHS Affordable Housing projects at Norlane, Sale and Traralgon, the new Royal Adelaide Hospital, and the Victorian Comprehensive Cancer Centre.

For more information contact DesignInc, Level 2 GPO Building 350 Bourke Street Melbourne 3000, phone 03 9654 9654, fax 03 9654 4321, email melbourne@designinc.com.au, website www.designinc.com.au

also successfully implemented, with tenants gaining direct employment including the first apprentice plumber.

Concurrently at the Altona DHS site, Kane's team constructed 69 apartments over three storeys. 25 were fully DDA compliant, with the balance being made 'adaptable', so they could be converted to **fully** accessible as required by tenants in the future. Sustainable design aspects were also incorporated, including solar panels, and a rainwater tank system to service the toilets and gardens. The orientation of the building made the most of natural light, and precast walls with high thermal properties insulated the apartments effectively both thermally and acoustically.

Being located in a residential hub, the major safety concerns included residents leaving for and returning from work, and children from the local school. Fulltime traffic management was used, supplemented with additional signage and traffic labour during peak hours, including after school. Kane also ensured consistent control and maintenance of site boundary fencing and used overnight security guards.

"The building envelope itself is a feature of the project, comprising an interface of different cladding systems; timber, metal, standard flat form precast and rib-formed precast. Flashing and junction detailing was one of the aspects that did take a lot of innovation from a construction viewpoint, not just to make them functional, but to try maintain the architectural intent. I think MGS Architects has done an amazing job in their use of different colours to highlight features of the different cladding materials. The use of daring paint colours, feature timber panels and coloured glazing internally gives the internal space life and defies the "institutional" stigma of community housing," said Kane's DHS Altona Site Engineer, Andrew Lee. "A major challenge for Altona was trying to rationalise and build efficiently and economically as there were no standard shapes or layout in the building envelope. The mix and match and panel break up of traditional flat precast, rib-formed precast and timber framing of the external skin over a non-standard floor plan was very challenging, as was the interface of the different cladding, especially with all the different shapes of the external skin, as almost every junction was unique.

"Trying to cater for all the different possible mix of tenancies in community housing was also a very interesting aspect of the project. Being a design and build, we were quite involved in trying to achieve the most adaptable design for future tenants. "The buildings we have built are more forward thinking and future proof than previous community housing developments architecturally. A lot of thought has been put into the design to minimise architectural obsolescence. I think we have learnt from the past and avoided the creation of urban ghettos and moved towards sustainable community living.

"Being involved in a project of this nature was very rewarding, creating community housing which will blend into the local development model and blur the division between local residents in the private market and those in the public market, generating a much more integrated and sustainable community."

For more information contact Kane Constructions, Level 1, Building 1, 658 Church Street, Richmond VIC 3121, phone 03 8420 1200, website www.kaneconstructions.com.au

ART OF ARCHITECTURE

WILLIAMS BOAG architects (WBa) is a independently owned architectural firm providing expertise in the fields of architecture, planning, urban design, interior design and graphic design, specialising in residential, institutional, community and cultural projects. With an office of 23 staff, WBa has a proven track record of delivering large scale developments up to $75 million, all the way down to individual houses.

WBa was established in 1975 and has built an enviable professional reputation based on carefully designed and finely crafted architectural solutions, some of which include the Melbourne GPO upgrade, Inkerman Oasis housing in St Kilda, the St Kilda Town Hall additions and the new Gungahlin Secondary College outside of Canberra.

WBa's design approach starts by addressing sustainability issues and opportunities in the concept or master-planning phase of any project which leads into consideration of the environmental impacts generated by the selection of building systems and services, the choice of materials, and the application of passive and active design strategies.

Project Summary:
In 2007, WBa completed the Richmond Housing Estate Redevelopment Masterplan for the Office of Housing. The 11.4 hectare site comprised 1255 units across the Elizabeth Street walk-ups and the existing high-rise estate bounded by Highett, Lennox, Elizabeth and Church Streets. The former school site in Lennox Street was also included in the Masterplan study. Through a series of options WBa proposed a masterplan solution across the site accommodating 3,373 apartments of which 1300 would remain public housing with the balance in private ownership. The masterplan proposed the demolition of all walk up buildings but the retention of the 5 high rise towers. Following a public tender this year, Wba has subsequently been engaged to readdress the masterplan of the entire precinct.

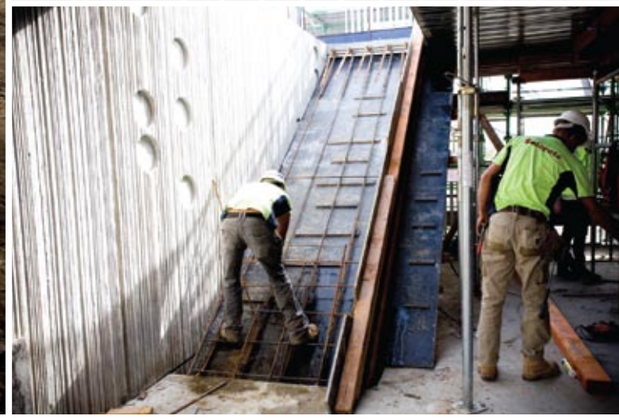
As part of stage one of the 2007 masterplan, WBa was commissioned to design four buildings which comprise 207 public apartments made up of one, two and three bed dwellings. Incorporating the requirements of the federally funded Nation Building Scheme along with the the State Government's Department of Human Services and the local planning authorities, WBa produced an integrated design which was visually dynamic whilst also providing excellent amenity for the new residents.

Key aspects of the design include:

- Generous sized apartments each planned specifically to respond to orientation and location on the site.
- An average six star energy rating, stormwater collection and reuse facilities, thermal glazed windows, hydronic heating, solar gas boosted hot water and bike racks.
- A considered palette of materials including coloured precast concrete, spotted gum timber and metal claddings which provide both the required robustness and a variety of textures, finishes and colours.
- A publicly accessible open space landscape network which provides excellent amenity for the residents whilst creating valuable new public thoroughfares across the site.
- Dynamic building forms which maximise solar orientation and views and help set a new aesthetic precedent for public housing in Melbourne.

Extent of Services:
Working with Kersulting sructural Engineers, Cundall services engineers and ASPECT landscape archtiects, WBa provided full architectural services from preliminary design, through town planning, design development and tender documentation. Following a tender negotiation period and value management exercise, WBa were novated to the builder. Working closely with the team at KANE, and Mordue Engineering, WBa have helped deliver a quality result on time and on budget.

For more information contact Williams Boag architects, 51 Leicester Street, Carlton, VIC 3053, phone 03 9388 6000, fax 03 9388 6060, email intray@williamsboag.com.au, website www.williamsboag.com.au



CONCRETE CONSTRUCTION DONE SWIFTLY, SAFELY AND WITH MAXIMUM SKILL

Investing in the skills of their team paid practical dividends for Solcrete in their work on the DHs Affordable Housing Richmond and DHS Altona. Faced with tight timeframes, a variety of challenges and high quality expectations, their focused approach delivered the projects on schedule, without compromising safety.

On both projects, Solcrete also utilised the latest green star building technology and practices. Recycled formwork and reinforcement was used, and concrete with a 20% recycled concrete component.

"The core challenge was meeting the key building works milestones on both sites, in a limited timeframe, as set out in the contract with the builder, whilst maintaining the highest standards of workmanship," said Solcrete Director, Paul Bassford.

"We also had to ensure we adhered to extremely strict OH&S policy and practices."

The timeframe for DHS Richmond was a short 16 weeks, during which Solcrete constructed a six story high rise multiple housing unit, and multiple housing units for Block D over six storeys. They constructed all ground slabs and suspended slabs, in addition to completing a car and pedestrian ramp, plus all the required formwork and steel-fixing works. One spanner in the works program came in the form of rocks found in the excavation site, which necessitated readjusting their work schedule.

Solcrete allocated up to 45 staff at the peak of works to the project, including concreters, formworkers and steel-fixers. The company's plant on the project comprised concrete pumps, cranes, concrete kibbles, concrete vibrators and trowel machines.

"Some of the OH&S issues at Richmond were tight deadlines, which can potentially compromise safety if workers cut corners to hit specific construction milestones. We were also working in a confined inner-city location. There were weekly toolbox meetings of all workers on site that had to be adhered to," commented Paul.

At DHS Altona, Solcrete had 12 week program to construct a 6000m2 housing unit. The scope comprised a ground slab, and first and second floor suspended slab.
A full crew of up to 25 workers was deployed to this site, again consisting of concreters, formworkers and steel-fixers, and plant similar to that used for DHS Richmond. The company's ability to allocate such a significant amount of plant and personnel is one of the things that puts them at the forefront of concrete construction, with their substantial resource base, including 120 staff, enabling them to undertake numerous simultaneous major projects across Melbourne and beyond.

The other key to achieving such a substantial scope across two sites in a limited timeframe is the company culture, which has a strong focus on teamwork, training and delivering quality results safely.

"Solcrete has a positive can-do attitude amongst the staff. Also many of our workers have extensive experience in their respective trades honed over many years, and can work harmoniously with other trades," said Solcrete Director, Paul Bassford.

"Our diligent approach combined with our concrete construction expertise gives us the ability to work around any issues that arise on site, and stay on program."

Solcrete's workforce is encouraged to constantly increase their skills. All their formwork, steel fixing and concrete construction workers have been trained in current OH&S practices. Additionally, numerous staff have recently received training at various institutions for different skills including Applied First Aid courses, Electrical spotting, Rigging, 11m boom/ scissor lift and Building Project Management Training for the foremen.

Solcrete are also dedicated to best practice environmental management. The company's EMS includes aspects such as Risk assessment of sites, Risk management strategies, de-watering of work sites, dust control, responsible waste management and minimisation of chemicals and fuels stored on site.

Solcrete are now bringing their integrated and highly skilled concrete construction expertise to the Mornington Centre Hospital for Hansen Yuncken, where they will undertake works to link a new wing to an existing building. They are also commencing onsite constructing a five storey building for Spec Properties at Berkeley Street Doncaster.

For more information contact Solcrete, 19 Nellbern Rd Moorabbin Victoria 3189, Paul Bassford – Director. phone 03 9555 0995, fax 03 9555 0945, website www.solcrete.com.au

DIVERSIFIED TALENTS FITOUT THE BLANK CANVAS

Give Waratah Global some empty rooms, and they can supply everything that turns it into a habitable space, providing a highly detailed diversified end-to-end fitout service which manages every stage of every link in the supply chain. This level of logistical skill, design ability and manufacturing capacity was invaluable for the company's Joinery Division in completing their scope of works for the DHS Affordable Housing project's Richmond units.

Waratah Joinery manufactured and installed all 207 kitchens, a total of 368 built-in wardrobes, 207 shaving cabinets and 207 toughened bathroom mirrors. The joinery items were constructed of laminated HMR durability and ease of maintenance for residents, as well as postformed laminated benchtops. Part of the manufacturing was undertaken by Waratah Global's own factory in China, with the machining and assembly completed at their Melbourne workshop and onsite.

"There were a lot of detail drawings and programming of the CNC machinery involved," said Waratah Global Director, David Barbin.

"Normally a lot of what we do (for major projects) is identical, but for this every single kitchen has been different, which has been a challenge to do within the time frame. We had six months from getting the order in April and taking site measurements in May to manufacture everything and complete the installation.

"There was a lot of design work to do in the kitchens. Being a DHS project, and there being a broad end-user clientele, there were a significant number of requirements in terms of the Disability Discrimination Act, for residents who are disabled or semi-disabled, in terms of access and safety. This included the heights of the benchtops, and placement of cabinets in the kitchen for wheelchair access.

"Our main team excelled with the logistics. We had booked containers (from China) coming which they would have unloaded within two hours after delivery to site. This project really needed excellent management skills, especially of the logistics."

Up to forty qualified installers from Waratah Global's team were on site at the peak of works, tackling the complex job. There were unforseen issues which arose, including the discovery that the prototype built-in-robe built in the initial stages based on site measurements did not fit 80% of the final rooms, and needed to be modified on-site. Fortunately, Waratah's extensive experience in making joinery meant this adjustment was carried out without delaying the completion of the job.

This is not the first time Waratah Global and their Joinery Division have delivered excellent workmanship for Kane Constructions. The company recently completed the complex joinery fit out of Kane's own Head Office in Brisbane, including the desks, storage units, reception and office screens.

Waratah Global's Directors began their careers over 30 years ago. As the company's reputation for craftsmanship, design and timely production grew the business, the company diversified into a custom furniture making division (Waratah Design), the joinery division and most recently, the end-to-end fit out solutions operation, with all three divisions now under the banner of Waratah Global.

An example of their vertically integrated approach is the Quest Serviced Apartments project at Frankston for Asia-Pacific Building Corporation. Waratah Global are doing all the joinery for 147 high-end apartments, including kitchens, shaving cabinets, vanities, sliding robes, and mirrors. They have also supplied the tiles, frameless shower-screens, all bathroom ware including taps and towel rails, all the lighting, oil paintings for living and bedroom areas, mattresses, linen, chairs, tables, TVs, fridges, microwaves and all kitchen equipment – everything in fact but the carpets, though they can do those too if a project requires it.

"Our end-to-end solution means we deal with the company that does the artworks, then we hang it at the other end," explained David.

"For all the glazing, such as the shower screens, we organise the glass, do the design drawings, then organise the glazier at the other end. We have our Australian workshop and office, and three overseas operations in China, Hong Kong and Malaysia, and they all have comprehensive quality control systems in place. Everything we get is checked at every point from the order and throughout the process, we have traceability of everything. For big jobs (like Quest) one of our Directors goes over to do the quality control, checking everything to the millimetre.

"When a client tells us they'll give us $100, we give them back $110 worth. We operate from a value-adding perspective."

For more information contact Waratah Global Head office, Factory 2, 18 Technology Circuit, Hallam VIC 3803, phone 03 8786 3920, email: mark@waratahglobal.com mobile 0448 345 712, website www.waratahglobal.com

PROVIDING THE DATUMS THAT KEEP EVERYONE IN LINE

Verifying that lines on plans, lines on the ground and the building rising up from it are all congruent takes the kind of expertise Madigan Surveying brought to the DHS Affordable Housing project's Richmond site. From initial boundary, architectural grid and site datums, through to set out and ongoing as-built surveying, their staff have been on site regularly for over 12 months marking, monitoring and recording data.

The two biggest challenges were the fast-paced construction program and maintaining control of 4 emerging buildings.

"Usually we get time to pre-compute data in the office, which we then upload to our instruments and take to site, then setout whilst we are doing tasks such as marking grids on concrete pours and transferring level datums, verifying precast alignments and gathering as-built data. But because this has gone so quickly, a lot more work had to be done rapidly on-site".

"Our two main staff on the project, Senior Surveyor Andrew Kuropatoff and Technical Assistant Warren Artridge, who both have many years of experience in the construction industry, have made a significant contribution to the construction process on this site for Kane Constructions".

"The job has gone well. We have a good relationship with Kane right through from administration to foremen, and that makes for a smooth process," explained Madigan Surveying Director, John Santalucia.

Madigan Surveying used a Leica Total Station for set-out and as-built survey tasks, providing the resulting data as both hard copy and CAD digital PDF files, as required.

The company has 35 staff, including 20 professional surveyors plus assistants, providing the full range of green-fields, brown-fields and as-built survey services including detailed setting out, dilapidation reports, compilation and mapping of underground services, laser scanning of complex steelwork and facades for as-built and existing condition surveys, automated monitoring observations by remote control for detecting construction activity induced movements, preparation of 3D digital models and annotated high resolution ortho aerial images and preparation of subdivision plans.

Other recent major projects have included RMIT's SAB Building; ROI Apartments in Fitzroy; rail corridor surveys for Victoria's Department of Transport; Chadstone Shopping Centre Expansion; 171 Collins Street; Probuild's Six Star Green Star 717 Bourke Street Project, and all of LendLease's subdivision developments for Victoria Harbour, Docklands. With over 30 years of experience in providing cost-effective survey solutions to the construction industry, Madigan Surveying has built a well-earned reputation for skill, diligence and attention to detail.

For more information contact Madigan Surveying, 96 Morang Road, Hawthorn VIC 3122 phone 03 9819 9599, fax 03 9818 2322, email surveyors@madigan.com.au, website www.madigan.com.au

KANE AND TEAMBINDER – AN AFFORDABLE ALLIANCE

With three affordable housing projects at Richmond, Altona and Prahran to build for the Department of Human Services, Kane Constructions relied on TeamBinder as the collaborative web-based solution for the management, control and storage of all documents on the Richmond Project.

TeamBinder is a project collaboration solution, used on several large-scale projects, which facilitates communication between all project stakeholders and participants.

Tristan Forster, Director of Business Development for Kane, says the Richmond project being the biggest of the three DHS estates awarded to Kane, means that the management and control of all documents on the project is vital to ensure timely delivery.

"Projects like these generate high volumes of information that need to be managed and using TeamBinder enables all project members to effectively communicate and share project documents in a controlled environment," said Mr Forster.

"Careful management of core information is critical on any project. Using a central repository ensures that timing and project costs are controlled while TeamBinder's rigour enables us to work efficiently and effectively, streamlining processes through a high level of automation and ensuring a superior degree of compliance." With a total end value of $70 million, the Richmond Estate Redevelopment project involves the design and construction of 207 units of high density, high quality, contemporary housing designed to suit the needs of low-income tenants.

Located in the inner-city suburb of Richmond, just over two kilometres from Melbourne's CBD, the development will comprise four buildings between four and six storeys in height with a variety of treatments to break up the facade.

The new units will better integrate public housing with the surrounding streetscape, partially screening the existing high-rise, while preserving existing light and views. In addition, new landscaping will provide secure and attractive outdoor spaces.

Robert Bryant, General Manager Sales and Marketing for QA Software says TeamBinder is one of the most user-friendly products of its kind. "It is our goal to constantly strive towards superior usability thereby retaining our leadership position as the industry standard in document control," Mr Bryant said.

"It's about saving people's time and reducing risk through improved management of information and processes for the life of a project."

For more information contact QA Software: rbryant@qa-software.com, phone 03 8379 0000, website www.qa-software.com

QA Software
TeamBinder

OLD-SCHOOL HEATING EVOLVES FOR THE NEW GREEN ERA

Operating at the leading edge of energy-efficiency, Brenair Mechanical Services deliver superior turnkey HVAC solutions to projects like the Altona DHS Affordable Housing project. Working within an extremely tight timeframe, Brenair designed and constructed an energy and water-efficient hydronic heating system for the 69 apartments, which will provide extremely low-cost heating for residents via the two radiators installed per apartment.

The system comprises gas fired boilers, radiators, variable speed energy-efficient pumps, and the pipework, which carries the hot water in a closed loop throughout the development. Chemical treatment of the water is carried out to ensure no scale buildup, and being a closed loop, there is minimal risk of contamination by bacteria or other microorganisms.

Brenair also constructed and installed the mechanical services for the fire pump room and the toilet and range hood exhaust systems.

Work commenced in December 2011, with final installation completed in June 2012. Everything has been manufactured in Melbourne, and is certified Quality, meeting the standards of AS 1668 parts 1 and 2.

"The timeframe was a challenge, and there was a lot of coordination required with the other fitout trades, and this is where our project management strengths and experience make a positive difference," said Brenair Director, Patrick Brennan.

"Hydronic heating is making a comeback, it is now cheaper to manufacture because materials costs have gone down, and it is the most cost-effective form of mechanical heating. The piepwork lasts for up to fifty years or more, as do the radiators – the only moving parts are in the boiler and pumps.

"We focus on designing and manufacturing systems that provide optimal energy efficiency and minimise the long-term carbon footprint. We specialise in complex projects and can manage tight timeframes. We have in-house mechanical engineering, AUTOCAD drafting and CNC equipment at the manufacturing end."

Brenair has a solid core of expertise in the form of trade-qualified mechanical plumbers and gas fitters, and culture of ongoing employment of apprentices, including providing opportunities for young persons from the Foster Care Network.

The company's specialties include reverse cycle refrigeration, HEPA filtration systems for operating theatres, specialised industrial ventilation systems, chilled water central plant systems, heating/hot water central plant systems and gas reticulation.

Their project track record showcases a high level of precise skills applied to demanding specifications, including air conditioning and ventilation central plant for the State Library of Victoria extension; the Australian Nursing Federation in Elizabeth Street; the co-generation upgrade for Dandenong Hospital; Uniting Aged Care Keysborough; Fitzroy Town Hall boiler and chiller upgrades; and theatre upgrades for Dandenong and Moorabbin Hospital.

For projects seeking greener, cleaner HVAC technology, Brenair Mechanical Services delivers the custom-engineered systems which will provide cost-effective, reliable and energy-efficient services.

For more information contact Brenair Mechanical Services, PO Box 2121 Fountain Gate, VIC 3805, phone 03 8790 6999, fax 03 8790 6222, email admin@brenair.com.au

PROVEN EXCELLENCE IN PLASTERING

A fine standard of interior finish requires the kind of workmanship and eye for detail Caldow Plastering brought to the Altona DHS Affordable Housing project. Their qualified and experienced tradesmen undertook all the wall and ceiling framing, supply and fix of insulation and plasterboard, and other associated works for the project, completing everything within just five short months.

Caldow Plastering are a commercial plastering company specialising in all aspects of internal wall and ceiling installation, working across Melbourne, Geelong and surrounding suburbs on both commercial and residential projects.

From the procurement and project administration through to the site works, all of the company's employees contributed to the project, including five qualified carpenters, one builder, tradesmen plasterers, labourers and four apprentices. Caldow Plastering relied on Knauf and Plastamasta Geelong for the top quality insulation and plasterboard products used on the job.

The biggest challenge was an extremely tight timeframe, in addition, access to the site was also restricted, complicating the deliveries of materials and use of machinery. Working in a densely settled residential area also meant consideration had to be given to neighbours at all times.

"Our company prides itself on having the capability to get the required job done in any time frame and we have had extensive experience with these types of projects," said Caldow Plastering Director, Leonie Caldow.

"Our business is extremely well run, with a great work ethic, and has an excellent reputation in the industry."

Caldow Plastering have proven their merits on a wide range of projects, including the Geelong Superclinic at Reynolds Road Belmont; the Kilgour Place prestige residential precinct in South Geelong; and the Halstead Place/Villamanta units project in Geelong West.

KNAUF

PlastaMasta Geelong

For more information contact G.R. and L. Caldow Pty Ltd T/A Caldow Plastering, 336 Moorabool Street Geelong, VIC 3220, phone Greg Caldow, director 0418 145 011, phone Leonie Caldow, director 0411 090 545, fax 03 5223 1202, email leonie.caldow@bigpond.com

DESIGNED TO DELIVER EXCELLENCE IN ENERGY-EFFICIENCY

Control is the keynote when it comes to energy efficiency, and Elliot Controls provide it, with leading-edge energy-management systems. For DHS Richmond, their team supplied the Mechanical Electrical and BMS controls, including six Mechanical Systems Switchboards (MSSB's) housing the power, BMS controls for car park fans, the boiler and pumps, and energy monitoring equipment.

Elliot controls designed; manufactured and installed the MSSB's, engineered, installed and commissioned all BMS components, and ensured a smooth transition between the Power and the Controls from start to finish. "Having a combined Installation and commissioning crew, the installation was completed on time and the commissioning went smoothly," said Elliot Controls Director, Mat Elliot.

"By collaborating with the builder and other trades, were we able to set a realistic timeframe and meet it. This was a team effort, including everyone from our office staff in quoting the job, engineering staff designing the job and project manager successfully ensuring the job was on time and budget. Together with the installation department and the commissioning team, making the whole project come together, everyone did a tremendous job.

"We take pride in being able to handle any size job and deliver on time and budget with no surprises, we keep variations to a minimum at completion, and ensure both builder and client are satisfied. We are known for delivering excellent service with skilled tradesmen who are highly knowledgeable, and also flexible if conditions or time frames move."

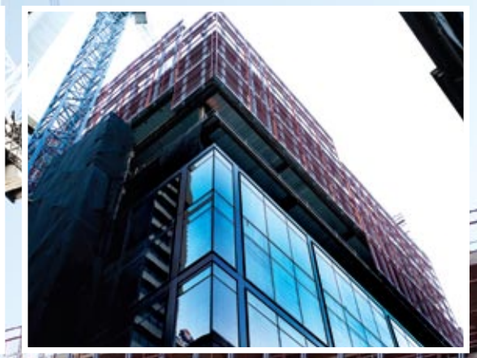
Elliot Controls have been in business for over six years, bringing together the skills of experienced, university-qualified industry professionals to provide superior solutions for clients. The staff numbers are growing to match the company's projects, which include Victorian and interstate government, commercial, recreational, residential and education sector developments.

All MSSB's and BMS built by Elliot Controls meet AS 3000 and AS 1668, and the company are an accredited Controls specialist Certified Tridium dealer. They have worked on many DDC systems, and carried out seamless upgrades or replacement on numerous other BAS systems. The company capabilities include all aspects of Building automation and energy management including multi stage Chilled water and hot water systems, through to VRV systems in commercial projects including Greensborough Aquatic Centre, Manningham Civic Centre, Deakin University Student Accommodation, Chisholm TAFE Automotive training Centre and North Richmond Health.

"Within these projects we have the ability to view the energy monitoring, with water, gas and electricity metering to give an overall picture on how much energy is being used, we then work together with the tenants and owners or Managing agents to get the best long-term energy-efficiency outcome," said Mat.

For more information contact Elliot Airconditioning Controls, phone 03 9702 8658, fax 03 9702 7548, email admin@elliotcontrols.com.au, website www.elliotcontrols.com.au

OMNIFORM



QUICKER AND SAFER CONSTRUCTION SOLUTIONS

For any contractor, minimizing costs and man-hours while maximizing safety is a winning solution – and that's exactly what Omniform Consulting provided to Kane for the DHS Affordable Housing Richmond project. Omniform provided erection engineering design of all the precast panels to the project, as well as undertaking a range of temporary works designs. Their contribution included designing and fabricating customised support brackets which provided support for the precast spandrel panels without the need for push pull props running through the slab floors. As a result, all formwork could be closed off, and the need for costly and time-consuming filling of holes left by the penetrations of standard props avoided.

As specialist temporary works design engineers, Omniform can provide design, fabrication and supply of all formwork systems and special forming moulds, including Table Forms, ALPI Wall Panel Systems, EPIC Plastic Form Panel Systems, Crane Lifted Lift Core Systems, Travelling Forms, Circular and Rectangular Column Forms, Cantilever Formwork Solutions, Tunnel Formwork and Balance Cantilever Bridge Form Travellers. They also provide Perimeter Safety Screens with patented "EZ-Lift" lifting and placing brackets, handrail protection systems, and a range of heavy duty shoring and props.

Managing Director, Evan Zannis, has been designing formwork since 1985, and brings to Omniform senior management experience within Acrow and SGB international in South East Asia. "Our aim is to design formwork systems that will enable the client to complete the work in less time and minimize construction costs, and we aim to provide a service second to none," said Evan.

"We have designed and fabricated complex column and arch moulds to the ACU (Australian Catholic University) and have been involved in the majority of major projects in Melbourne, including recently the new Royal Children's Hospital, the 63 level Freshwater Tower at Southbank and the Royal Domain Tower. In South East Asia we have been involved with the Mega Tower Project in Hong Kong, designing the self climbing core form system to the 118 level building, and are currently involved in the Hong Kong Airport extension project. "Our design approach is based on years of practical experience throughout Australia, South East Asia, Europe and the Middle East, and our philosophy is to keep it simple but effective in order to maintain programs and more importantly budgets."

Omniform's resources include two senior Autocad designers, the engineer-director and administrative staff, partnerships in Hong Kong and Italy, plus a separate fabrication arm which uses a contract fabrication facility exclusively working for Omniform. This gives the company the ability to provide all varieties of fabrication required for a specific project, no matter how complex or challenging the design.

For more information contact **OMNIFORM CONSULTING PTY LTD,** Unit 3, 9 Mirra Court Bundoora, VIC 3083, phone 03 9467 5511, fax 03 9467 5512, mobile 0418 555 667, email evan@omniform.com.au, website www.omniform.com.au

MINIMISING ENVIRONMENTAL & OHS RISKS ON SITES

Contamination is a critical risk management issue, so the expertise Environmental and Safety Professionals (ESP) bring to a site like DHS Richmond is vital. Their team performed a hazardous materials survey of the original buildings and the soil, and subsequent asbestos air monitoring during asbestos removal works.

Additionally, "since soils were contaminated with heavy metals and minor asbestos materials, further strategic sampling and analysis was designed by ESP to accurately identify contaminant zones over three stages," said the Environmental Manager, Luke Richards.

"ESP successfully defined contaminant zones, reducing the initially claimed total contaminated soil tonnage from 8,000 Tonnes down to 3,000 Tonnes - thereby saving Kane Constructions at least $450,000 in soil disposal costs."

ESP are ACLCA accredited for environmental works, and have a NATA accredited asbestos laboratory. They have been performing contaminated soil and groundwater assessments and developing remediation plans for over a decade, delivering a timely and cost-effective service.

Other services offered by ESP include air monitoring at construction and/or demolition sites for a range of contaminants including airborne lead, organics and dust as overseen by AIOH certified Occupational Hygienists.

Recent projects include the residential conversion of former industrial land at Altona VIC, remediation of the North Head Manly NSW Australian Federal Police Education Centre and air monitoring along the Hunter Valley NSW rail track extension.

For more information contact Environmental and Safety Professionals Melbourne Office, 2/2B Parker Street Footscray, VIC 3011, phone 03 9688 8000, website: www.environet.com.au Offices also in NSW at; Dulwich Hill Sydney and Tighes Hill Newcastle.

Richmond Housing Estate Redevelopment, VIC

FIRST-CLASS PEOPLE MOVERS

As their name implies, All Lifts specialize in vertical lifting technology. A recent example of their dedication to making sure they deliver the exact solution required is the two 1350kg MRL Electric Traction Lifts with three stops which they supplied and installed for the DHS Altona Affordable Housing project.

All Lifts take pride in their attention to detail, sourcing project requirements from a wide range of leading manufacturers. For this job, they used specialist products including a Rimex finish on the car and landing doors, Design Com Car and Landing Screens, Wittur Doors and Dewhurst buttons. Together, this combination of elements provides the reliability, functionality, safety and ease-of-use requirements for end-users, which include a significant proportion of older tenants.

All Lifts Director Bruce Beasley and Project Manager James Bodley oversaw the project from initial tender stage through to completion, and a team of twelve technicians and one service technician worked on site undertaking the installation and commissioning.

All Lifts also supplied and installed five 1350kg MRL Electric Traction Lifts with eight stops to the DHS project at Elizabeth St, Richmond, and are also to supply and install lifts for another DHS project at Reservoir.

Other current projects include Deakin University (three 2000kg MRL Electric Traction Lifts with four stops); Luna Apartments, (two 1250kg MRL Electric Lifts with eight stops); Docklands Studio – Docklands (one 1250kg MRL Electric Lift with two stops); Portsea Golf Club; Latrobe University; RMIT University; Vogue Apartments- Chapel Street (four 630kg Lifts with three Stops); Olivet Aged Care, (one 2000kg Lift with three stops); Southern Cross Aged Care (two 2000kg Lifts with four stops); Bank Street Social Housing (one 2000kg Lift with four stops); Phoenix Community Centre (one 1150kg Lift with four stops); Port Melbourne Child Care Centre (two 1000kg Lifts); and Centrelink Frankston (one 1250kg Lift with four stops).

For 25 years, All Lifts were in the business of supplying crane services, before moving into supply, installation, service and repair of lifts, elevators, goods lifts, disabled lifts and dumbwaiters in 2006.

Since then, they have provided a superior level of service to a range of projects across the commercial, residential and education sectors. Their commitment to clients extends beyond the installation to include 24/7 hour technical and spare parts support in event of equipment issues, and individually tailored maintenance and servicing plans.

From stylish, DDA-compliant solutions for special needs lifting such as wheelchair stair lifts, through to energy-efficient electric commercial lifts rated for 54 person capacity for up to 68 level high rise developments, All Lifts have the engineering expertise and product knowledge to ensure that what needs to go up - and then down - does so reliably and safely.

For more information contact All Lifts Pty Ltd, Factory 4, 16 Dingley Ave, Dandenong Vic 3175, phone 03 9794 9400 Fax 03 9794 9200, email sales@alllifts.com.au, website www.alllifts.com.au