D&H STEEL CONSTRUCTION

Update . . .

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August 2011

FPHcare adds Building 3 to its Highbrook Campus

At 15 Maurice Paykel Place, a third building is being added to the Fisher & Paykel campus. At 31,000m^2 with a 7,000m^2 undercroft basement car park, this is the largest. Scheduled for completion in late 2012, the new $95-million building will provide increased R&D, laboratory, office, manufacturing and warehouse space and create the capacity to more than double the company's NZ-based R&D, clinical research and marketing activities.

Building 3's architects were Mason & Wales of Dunedin who also designed the first two buildings. The design consisted of three parallel blocks - A, B and C from west to east - on a north-south axis. A water feature along the west side of block A presented the lead contractor Mainzeal with a challenge: crane access. Project Manager Mike Turner said: "Building from south to north, with the west side effectively unavailable to us, we needed to devise an exact sequence for the D&H cranes to work on the three main blocks, carefully timing the progress of construction to avoid cutting off the cranes."

D&H's Site Manager Dean Pouwhare sums up the solution: "First we'd load the steel onto the Dycore floor of block C; then we'd put one of our cranes up on block C to transfer the steel to a floorstand on block B. Our second crane was then able to access this steel by operating from an alleyway between block B and block A. Once we'd erected that section, our cranes could move north to the next phase, leaving Mainzeal to close the alleyway with more pre-cast."

By the end of the steel construction programme, D&H Steel will have fabricated and erected 1,200 tonnes of steel. The erection is done by six riggers working in two teams, with two D&H crane drivers. For the large and heavy roof lifts, D&H calls in additional cranes when there's no wind in the weather forecast.

Air New Zealand's Enhanced Maintenance at Hangar 3+

Air New Zealand has responded to the light maintenance needs of the new, larger wide-body aircraft with an order placed on the French tail-dock manufacturer, Albret Portreau. It was for a bespoke design that caters for nose-in docking as well as tail-docking—a world first!

Over two months, a 12-man French team unpacked containers and completed the assembly, while Kevin Deane led the D&H team that built the Hangar 3+ frame on which the docking mechanism would be mounted.

Originally the installation was planned to take place over three weeks. However, a critical time constraint cut that time in half! Kevin and his team worked long hours through the Queen's Birthday weekend, their absolute deadline being June 16; they managed to beat that by three days and were commended by lead contractor Mainzeal.

Rebuilt Jacobs Ladder Spans SH1

Above: Stage 1 Lift & installation 8 Aug 2011

Below: Stage 2 Lift & installation 17 Aug 2011

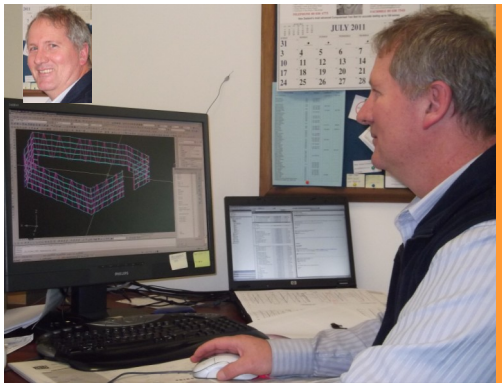
On completion of workshop fabrication, the two trusses were delivered to Pt Erin where the intricate secondary steelwork was added in preparation for the transparent and patterned cladding. The two-phase lift & installation went very smoothly . The 102m-long footbridge bridge is part of the Victoria Park Tunnel project. It spans the motorway and will be lit at night.

Auckland City Hospital Gets a Handsome Car Park

The Auckland District Health Board challenged those tendering for this job to design a cladding system that would address the issues of screening, ventilation and aesthetics cost-effectively. Mainzeal, D&H Steel and Ignite Architects agreed on aluminium as the material, to be supported on a secondary steel frame. Ignite developed the detail of folded panels perforated in tree-like patterns. The folds prevent visual monotony and the punched holes allow for natural ventilation.

It might all seem like plain sailing but that's because of the navigational expertise in the D&H drawing office. Senior Detailer Guy Jamison describes the challenge presented by the secondary steel for the aluminium cladding: "All the connections of the secondary steel to the primary steelwork had to be modelled and detailed early in the project, and because of the complex geometry this could not be done from the architectural and engineering drawings alone. We managed to integrate the architect's 3-D model into our structural 3-D model. Only then were we able to detail the secondary steel and integrate the connections to the primary steelwork. We use ProSteel and it immediately highlighted connection clashes, which I was then able to avoid. It was also apparent that not all of the vertical supports were in the correct locations. However, the accuracy and flexibility of our model enabled us to accommodate the changes prior to producing the shop drawings. D&H's attention to detail added value and saved the client money."

Mainzeal's Project Manager Stewart Lovelock said: "D&H's General Manager, Wayne Carson, brought excellent communications and cost-effective problem solving the weekly project meetings. D&H has enabled us to steer this project steadily towards its scheduled completion by the end of December."



Right top to bottom:

- *A D&H flatback makes a delivery to 2 Park Rd, Grafton*
- *A pair of K-braces goes aloft*
- *EBFs were designed for four perimeter bays*
- *The folded & punched facade with retail & commercial frontage*

Left & inset:

- *D&H Senior Detailer Guy Jamison*

Bay 1 Update on Custom Welded Beams. . . D&H now exporting. . .

We have manufactured CWB for some different 30 projects over the last 12 months in a wide range of different applications, including tapered portal frames, crane beams, bridge beams, Fabsec composite cellular floor beams, Asymmetric floor beams, and WB and WC sections. We have received many compliments about the quality and dimensional accuracy of our CWBs. Our manufacturing process has double-side welding as a standard, with straightening rollers to reverse any distortions. CWBs have been sold to 10 different fabricators around NZ and we are now exporting to a number of fabricators.

D&H STEEL CONSTRUCTION

'Experience Our Strength'

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General
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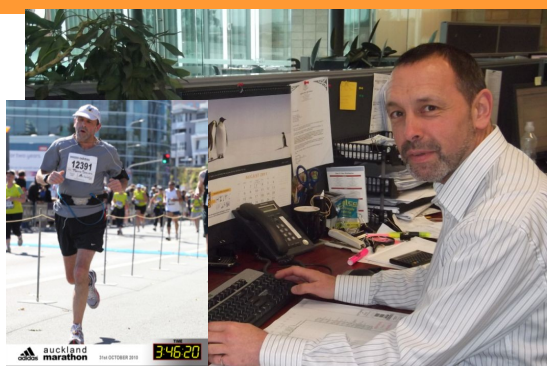
Staff in the Field, in the Office, in the Cab

Kevin Deane is one of D&H's site managers and looks after projects in and around Auckland (see Hangar 3+ p.2). "You need a lot of experience under your belt to deal with the variety of challenges," he says. "After 10 years with D&H, I feel really satisfied when completing projects on time and keeping our clients happy."

Kevin and his wife, Lucia, have a 20-year old daughter, Cassandra, in her second year of studying Child Care. Come summer they like to time-out at the batch on Great Barrier, free diving off the boat and fishing with spear and rod.

How our Chief Estimator runs his show



Tony Smith joined D&H Steel in August 2004 and is the company's Chief Estimator. His job is to bid for steel construction projects, setting the price at which D&H is prepared to undertake the steel detailing, fabrication, protection and erection. He has to be competitive against other steel constructors and still have enough of a margin for the company to continue to be profitable.

What makes a good estimator? "Shop floor experience," says Tony. " Without that fundamental grounding and gut feel, you might become an estimator but it will take years to become a good one. Some like to use historical tonne rate data; I prefer to work from first principles and ask myself: 'Could I and one of my mates make that job in 10 days, or would it take us 11?' That's when your experience talks to you!"

Is it stressful being the Chief Estimator? "It is when you stop to think you're responsible for winning the business that keeps all of D&H's employees in jobs! D&H never tries to sell itself as being the cheapest. So when I'm bidding for business, I'm selling 1) our commitment to our client's programme dates; and 2) our value engineering skills. In today's market, estimates have to be tighter, and that in turn makes things tougher on the workshop. Meanwhile, I see very strong prospects for steel in the Christchurch rebuild; we're even giving some Aussie fabricators a run for their money."

Run is what Tony likes to do for recreation. "Between 50 and 70 kms a week typically. Half marathons regularly, and, yes, last year I ran the Auckland marathon (inset) in 3:46, a time 15 minutes under my target. At D&H, we always like to finish ahead of the programme!"

From Chippie to Crane Driver

Tom Heather started his working life as a qualified carpenter and enjoyed many years on the tools. After nearly 17 years with D&H, he works with just one tool. He and his wife Lesley have grandchildren, thanks to their daughter Rawinia. Their 14 year old son Thomas is mad about skating, both in-line and on the ice. "He's been an NZ ice hockey rep for two years and is going to Greece with the NZ U/18 team!" Currently, Tom is working on the Fisher & Paykel project (page 1). What's the first rule of crane driving? **"Everyone comes home safe!"**