

TEAMWORK SAFELY DELIVERS SUCCESS AT SALE

MAIN CONSTRUCTION COMPANY : BMD Constructions
CLIENTS : VicRoads
PROJECT END VALUE : \$32 Million
COMPLETION : April 2013
DESIGN : GHD
SURVEYOR : Beveridge Williams & Co P/L



BMD's Princes Highway East Duplication – Wurruk to Sale section comprises 4.5km of dual carriageway, four new road bridges, 6 refurbished road bridges and an architecturally-designed 90 metre cable stay pedestrian bridge.

Managing risk succeeds when the right culture is created. BMD have achieved this on the Princes Highway East Duplication – Wurruk to Sale section which comprises 4.5km of dual carriageway, four new road bridges, 6 refurbished road bridges and an architecturally-designed 90 metre cable stay pedestrian bridge. The project's challenges included managing high levels of traffic, mitigating the effects of three flood events throughout the duration of the works, and more recently managing the threat of bushfire in close proximity to the works.

The new carriageway is being constructed with dual lanes in each direction from Reid Drive to Reeve Street. Three major roundabouts are currently underway at Hunt Place, Fisk Street and Settlement Road with traffic lights being installed at Reeve Street. In addition to the new pavement construction and rehabilitation of the existing pavements, BMD are constructing a cable stay pedestrian bridge, building four new

highway bridges, strengthening six existing highway bridges, placing in excess of 100,000m³ of earthworks, installing street lighting, undertaking landscaping works, building footpaths and undertaking guard rail and wire rope installation.

To minimise delays to the travelling public, a number of temporary cross overs have been built to provide access to the new pavements that have been constructed. This provides significant benefits to BMD, allowing us to make rapid progress by separating live traffic hazards immediately adjacent to the work zone. The community appears to have also appreciated this forward planning, with positive coverage in the local newspaper on the lack of delays, from the four major traffic switches undertaken in the last four months.

“With three major interchanges being built on the alignment of the existing road – the staging can get quite complicated. A lot of planning

goes into this aspect to make it as seamless as possible. There have been almost no delays for motorists, which is a significant challenge we resolved through detailed planning,” said BMD Project Manager, Jason Brewerton.

“A large part of the project is being built in partnership with local subcontractors, which is great for the community. The steel fabrication for the cable stay pedestrian bridge was undertaken by a company in Wurruk, and it is the most technical project they've built. Part of the advantage of using local labour is they are building something for their local community and developing their experience and skills which instils an added level of engagement and pride.”

“The cable stay pedestrian bridge is truly iconic, and is now a striking landmark at Sale. Timber from the 100 year old, pre-existing timber bridge which BMD are demolishing is being used to create a legacy for the community. It is a fantastic opportunity to give something back by using the timber from the old bridge which is part of Gippsland's history.” Access into and over the Thompson River and Flooding Creek for bridge construction was a specific challenge for this project. BMD used an innovative method of lowering hollow concrete forms over the top of the

steel tube piles and then waterproofing these to allow the pile caps to be constructed below the water level of the Thompson River.

A large variety of cranes, elevated working platforms and scissor lifts were required to construct the bridges. These ranged from 200T crawler cranes, 30T to 250T truck-mounted cranes, 20ft to 135ft straight boom and knuckle boom elevated working platforms and a variety of scissor lifts. To achieve some of the planned lifts, up to six cranes were working together with three EWP's to undertake the planned operations for the day. A rescue boat was on standby in the river during lifting operations in the event of a worker falling into the water.

BMD has had 18 staff on this project to date, including construction managers, design managers, project managers, project engineers, site engineers, foremen, leading hands, health and safety officers, environmental officers and labourers. VicRoads have congratulated BMD on their excellent safety management for the project, with over 180,000 man hours worked on the job to date with no LTIs.

“We are all responsible for the safety of ourselves and others. We strongly encouraged the use of SBO (Site-Based Observation) cards particularly from the workers to identify safety improvements that could be made. We then discussed these suggestions in toolbox meetings to further encourage the SBOs to be used as a tool and to reinforce the fact that we can all make a difference to safety” said Jason.

“Our construction method statements were often reviewed by WorkCover and from time to time with difficult operations we also used external consultants and VicRoads expertise to review our proposed methodology.

“I am very proud of the huge effort our team has put in to this project. There is a mutual respect for each other – we work together to deliver what's best for the project. We honestly look out for each other, that environment is not created by accident.”

“I inherited the Project Management role from Rob Trebilco who has built well over half the job. I have a huge amount of respect for Rob and for the team he has created.”

“A big part of the success of this project is also the close collaboration with the client, VicRoads, who have embraced the collaboration model. When there are issues, we work through them together with a no blame culture.”

“Another significant part of what creates a great job, are our local subcontractors. There have been no issues with subcontractors working in close proximity with each other, due to the attitudes of the local workforce.”

“In summary, it's the combination of a great project team from BMD, VicRoads and subcontractors working collaboratively together that makes this such a special project. This is one of the most enjoyable jobs I've worked on in Victoria. “The residents of Sale should be proud of the world-class infrastructure being built for them by BMD and VicRoads.”



For more information contact BMD's Business Development Manager - Mark Curtis, Mobile 0403 344 003, mark.curtis@bmd.com.au www.bmd.com.au

THIS INTEGRATED TEAM DELIVERS THE WORKS

When works are in progress, Whelans' integrated operation helps keep the civil program moving along efficiently. For the Princes Highway Duplication, three of the divisions contributed to the scope of works - Whelans Earthmoving undertaking civil works and traffic management; Whelans Quarries providing the bedding and other materials; and Whelans Heavy Haulage bringing plant and materials to site as required.

"Our coordination with trucks/quarries and teams onsite is a capability our company utilises well. With prior knowledge of when materials are available and delivered our earthworks/pavement teams are able to organise around this and are therefore more productive with their time," said Whelans Project Manager, Chris Whelan. Work commenced in January 2011 clearing the area for the new road alignment, followed by bulk earthworks of the new alignment from the Western limits to Settlement Rd; bridge abutment fill; completing intersection works on Reid Drive and Settlement Road and pavement works over the completed earthworks.

Up to 30 staff worked on the project, comprising truck drivers, on-site operators and labourers, a project engineers and administration/payroll staff. Whelans plant and equipment used onsite included graders; rollers - padfoot, flatdrum, 3-point and multi wheels; loaders; stabilisers; water trucks; site trucks; excavators; backhoes; a trencher; DPU's; whackers; chainsaws; mulchers; and two Trimble total stations.



"Traffic management has been particularly challenging. With the high volume of traffic through the site, delaying or detouring them is not an option, therefore works must be undertaken with traffic present on the worksite," said Chris.

"Safety is always priority on any worksite, therefore strict safety measures are constantly in place. Workers must be aware of all the hazards present on the worksite and always wear appropriate PPE. Machines must be kept in good working order and workers must be signed on and inducted to the site. Training in safety is an ongoing operation which includes daily pre-starts every day - each activity must be conducted in a safe manner, and so briefings are undertaken for all tasks."

The project had some specific environmental considerations, which were exacerbated by two very wet winters during the project's duration and an initial intensely wet construction season.

"With the high volume of earthworks being undertaken near rivers, silt runoff is a big environmental concern. Silt fencing is a major part of these works which helps ensure no runoff contaminates the waterways. Dust is another concern, with the exposed surfaces of so much crushed rock, wind easily creates a lot of dust - watering this regularly helps regulate it," said Chris.

Whelans employ approximately 140 staff, including qualified engineers, ticketed operators on a large range of machinery and trucks, and skilled workers with qualifications ranging from chainsaw operators, dogmen, traffic management and pesticide use through to qualified OHS managers. Other current major projects include embankment repairs for V/line in Darnum and Morwell; the construction of Anderson/Goold St Roundabout in Bairnsdale and the East Gippsland Shire Council Maintenance Contract.

For more information contact *Charlie Whelan*, 103 Rupert St, Bairnsdale VIC 3875, phone 03 5152 2844, fax 03 5152 7202, email charliewhelan@whelansgroup.com.au



EXPERIENCE SHOWS IN ALL THEY DO

Since starting business in 1985 with a single crane, Wheters Street Cranes have grown into a multi-faceted operation with 25 machines including cranes, concrete pumps and heavy haulage, delivering a safe and reliable service to major projects such as the Princes Highway Duplication.

For the BMD Constructions site at Wurruk, they provided a diverse range of equipment including concrete pumps for concrete placement for bridge abutments, crossheads and bridge decks. They also provided franna cranes and personnel at the pre-cast yard for lifting bridge beams from the casting beams and stockpiling them for transport to site, which was also provided by Wheters Street Cranes heavy haulage and loaded out by the company's 80t crane and personnel.

At the bridge site, they resolved the challenge of setting up their equipment on the unstable terrain of the constricted work area, so their 60t and 80t cranes and personnel could unload and place the bridge beams.

For the pedestrian bridge, two 60t cranes and two franna cranes were used at the fabrication factory to remove the 30m long steel sections of the walkway, each weighing 30tonne, and these cranes were also used for the task of picking up and rotating the sections 180 degrees for welding, and loading them for delivery to the worksite.

Once the walkway sections were onsite and unloaded by two 60t cranes, Wheters Street Cranes personnel and a 200t crawler crane placed the sections, while one of the 60t cranes and its crew lifted and placed steel rods from the walkway tower to the bridge deck. A 50t crane and personnel basket was used for the task of bolting up the support rods while the 200t crawler held the bridge sections.

Having such a range of cranes at three different locations during the project, along with the operators and labour personnel, demonstrates the logistical skill Wheters Street Cranes bring to their projects. Their team is not only highly trained in crane operations and concrete pumping, they also have a strong focus on safety. Other major projects the company is working on include the Longford Bridge and Road section of the South Gippsland Highway.

When there's lifting to be done, Wheters Street Cranes have what it takes to provide the right equipment and skilled manpower where it's needed, when it's needed and for as long as it's needed.

For more information contact *Wheters Street Cranes Pty Ltd (Incorporating Sale Crane Hire Pty Ltd)*, 6 Gordon Street Bairnsdale VIC 3875, phone 03 5152 7075, fax 03 5152 7027, mobile 0427 179 576, email wsch@net-tech.com.au