

FIT FOR A KING

DEVELOPER : VICROADS
MAIN CONSTRUCTION COMPANY : BMD Constructions
CONSTRUCTION VALUE : \$80 million



The Princes Highway Duplication project involved widening and upgrading 23 kilometres of highway to a four-lane divided road that will improve safety, travel times and reliability between Waurm Ponds to Winchelsea. It also included the construction of a new bridge over the Warrnambool-Geelong railway line at Buckley.

BMD Constructions was the principal contractor for the delivery of the \$80 million Princes Highway West Waurm Ponds to Winchelsea duplication project, responsible for the planning and delivery of all design and construction activities, along with the management of all safety, quality and environmental aspects.

The project was undertaken to resolve a number of important issues, such as the need to improve safety, travel times and reliability as well as improve access for freight and tourism to the Great Ocean Road.

Safety had been of paramount importance for the BMD team on this project. Rob Trebilco, BMD Constructions Project Manager revealed that “the project leadership approach promoted and embraced a safety culture where all staff and workforce were empowered to be safety leaders; no matter their role. We encouraged all staff to have proactive conversations about safety with their peers. Safety initiatives and discussions were integrated into the practical and safe delivery of our works.” The strong BMD safety culture, facilitated by their safety

system tools including Safe Work Method Statements (SWMS), Job Hazard Analysis cards (JHA) and Safety Based Observations (SBO), enabled the civil and structural works to be delivered safely in parallel with the rehabilitation of the existing rail bridge near Winchelsea, all while meeting tight program milestones.

The management of logistics was a key aspect to the successful delivery of the project with some 1,300,000 tonne of quarry material sourced, delivered and placed up until completion of the works.

At any given time the project required up to 100 personnel to manage and undertake the works. This included a team of 30 personnel including BMD Engineers, Foreman and Field Employees, along with approximately 50 subcontractor personnel during the peak periods. Mr Trebilco reported the “BMD team achieved over 130,000 man hours for the project in the last 12 months alone, which is a significant accomplishment and we thank all involved for their efforts in sustaining a Zero Harm environment.”

This was a complex project which required appropriate coordination and strategic planning. There was multifaceted project staging which facilitated the construction of the new carriageway and rehabilitation of the existing highway. This enabled new pavement to cross the existing highway at seven locations through the 23km section of road duplication.

The biggest challenge for BMD Constructions was the low CBR subgrade materials and less than ideal climatic conditions in the delivery of the new highway pavement. This was minor in comparison to the technical challenges and practicalities overcome in rehabilitation of the existing highway pavements.

BMD utilised a collaborative model in working with VicRoads. This streamlined technical decision making when working through the obstacles presented in reconstructing a pavement that had been maintained and upgraded with various pavement and drainage technologies throughout its decades of operation leading up to commencement of the project works.

The same collaborative approach was equally important in the safe opening of the completed highway. Recently the team implemented

the highway opening strategy, which was developed jointly between BMD and its client VicRoads. This successfully enabled a 13km section of the highway to be opened to split traffic without the need for any detours or other significant traffic impacts to the public traffic.

BMD Constructions is part of the family owned BMD Group, specialising in Engineering Design, Construction and Land Development. BMD employs approximately 1,700 staff throughout Australia, with offices in Brisbane, Sydney, Melbourne, Adelaide, Perth, Darwin and Cairns.

With the Princes Highway duplication project now nearing completion, BMD Constructions is currently in the process of delivering other key projects including VICT Webb Dock Project, the Buangor Bypass for VicRoads and the Port Capacity Project, Roads and Services Package for the Port of Melbourne Corporation.

For more information contact Mark Curtis, BMD Group, 24-30 Camberwell Road, Hawthorn East VIC 3123, phone 03 9811 3444, email Mark.Curtis@bmd.com.au, website www.bmd.com.au

NON DESTRUCTIVE DIGGING

Environmental Services Group (ESG) are committed to preserving the environment for future generations and driven to working towards improving environmental awareness, sustainability and utilising best practice in all areas of their Operations.

The ESG team pride themselves on their commitment to using the latest equipment and innovative technology to ensure they leave our environment as close to its natural state as possible.

Providing a safe, reliable and consistent service delivery, ESG's commitment to their Integrated Management System (IMS) is certified in accordance with AS 4801: Safety Management Standard, ISO 9001:2008 Quality Management System Standard and ISO 14004:2004 Environmental Management System Standard.

The \$80 million Princes Highway Waurin Ponds to Winchelsea duplication project comprises 23kms of widening and upgrading to a four-lane divided road as well as building a new bridge over the Warrnambool to Geelong railway line.

One of the main aims of these major works was to improve safety, travel times and reliability as well as crucially improve access for freight and tourism links to the Great Ocean Road.

ESG supplied three to four skilled personnel for the duration of the works, engaged to provide Hydro Excavation/Non Destructive Digging, proving underground services, co coordinating liquid waste management and transport and undertaking specialised cleaning works throughout the later stages of the project, as BMD were preparing to hand over.

The Victorian based company, established in 2011 specialises in the provision of drain cleaning, non-destructive digging, hydro excavation, vacuum loading, CCTV, quick view, drainage data collection, electronic locating and confined space entry services.

With Depots in both Dandenong and Geelong, ESG have proudly serviced local councils, water authorities, manufacturing and market leaders in construction and industry to achieve innovative, sustainable solutions. Their team of 32 works cohesively together to ensure best practice is adhered to at all times.

ESG have continued in forging their strong relationship with BMD with ongoing projects including sub-division works, the Leakes Road reconstruction and the High St Road Duplication Project and look forward to the future ahead.

For more information contact Environmental Services Group, 7-9 Capital Drive, Grovedale VIC 3216, phone 1300 369 916, email info@esgrp.com.au, website www.esgrp.com.au or find us on Facebook, Twitter and Linked In



KEEPING IT STABIL

With 23kms of widening and upgrading to a four-lane divided road, Stabil-Lime were contracted to one of the most important jobs on the \$80 million Princes Highway project - road stabilising.

Stabil-Lime spent an estimated two months onsite to get the road stabilised and up to grade for operation. Three people worked on the project site and according to Chris Elenius of Stabil-Lime, it was relatively seamless and a straight forward job for the 30-year-old company.



Stabil-Lime is the oldest road stabilising company in Australia and was started as a family business, for which they are still involved. Their headquarters is in Victoria employing up to 60 people and their work takes them all around Australia.

Stabil-Lime specialises in soil stabilisation saving time and money and improving the strength, durability and consistency of the sub-grade and pavement. Their comprehensive services include supply and spreading of binders, in-situ stabilisation, compaction and trimming as necessary.

They also specialise in road recycling which reconstitutes existing pavements reducing the environmental impact of road construction thus reducing the carbon footprint. These two specialised services remains their core business, but they have since diversified and attempted to provide clients with a full-service philosophy from within the group.

Their strengths include engineering and project management skills that can be utilised across the various disciplines and the unique skillsets of the field staff and supervision across each division.

Stabil-Lime have enriched their business relationship with BMD Group through the upgrade of the Western Highway, the principal road link between Melbourne and Adelaide and serves interstate trade between Victoria and South Australia.

For more information contact The Stabil-Lime Group of Companies, 17-19 Market Street, Lilydale VIC 3140, phone 03 8739 3800, fax 03 8739 3801, email info@slgroup.com.au, website www.slgroup.com.au



HIGH PRESSURE WATER JETTING/HYDRO DEMOLITION

Aqua Prep operates the most advanced High Pressure Water Jetting and Hydro Demolition technology in the industry and were called in to work on the \$80 million Princes Highway Duplication project.

High Pressure Water Jetting is increasingly becoming a primary method to treat and remediate a vast range of concrete and structural steel defects. It is a reliable and effective approach to dealing with many current concrete and coating problems.

Aqua Prep was engaged by BMD to carry out concrete demolition on a number of bridge piers where the reinforcing was required to be exposed, but not damaged. "It was our first time working with BMD," said Aqua Prep's Managing Director, Peter Bradford.

"While our involvement on this project was limited to just a few days, works were completed in a timely and efficient manner. We were impressed with how smooth the project ran, which ended in

a good result for all. BMD are certainly a client we would happily work with again."

"Our ongoing focus is to better serve our clients, which includes maintaining highly advanced and modern machinery, specifically engineered to accurately and effectively fulfill water jetting and hydro demolition projects. The advanced robotic technology we deploy provides us with the ability to operate on almost any surface, at a variety of locations," said Bradford.

Aqua Prep operates along the eastern seaboard at a number of facilities including ports and jetties, bridges, tunnels, water and wastewater treatment plants, dams, rail, for remedial engineering and or civil construction. Based in Victoria, Aqua Prep employ nine full-time staff with support networks in Sydney and Hobart.



For more information contact Aqua Prep, 35/1 Commercial Road, Highett VIC 3190, phone 03 9553 6478, website www.aquaprep.com.au

CREATING STABLE FOOTINGS

Hiway Stabilizers, a company with over 30 years' experience across Australia, New Zealand and the Pacific in ground improvement and stabilisation technologies that employs 150 full time staff, provided specialized plant along with 6 highly trained employees to deliver Lime and Cement stabilization work on the Princess Highway Project.

"Despite delivering a complex solution their biggest challenge was the poor weather which required the equipment to be available at very short notice in order to keep the project on program" said Mark Filsell, General Manager – Southern Region. "But, whilst this was a challenge, we always do what we have to in order to deliver on our promises of exceptional service and quality."

The Hiways Group have progressively expanded their operations across Australia, New Zealand and the Pacific with their Australian offices in Victoria and Queensland. Their focus has been on providing the highest level of quality and service in insitu stabilization and modification of soils, gravels and pavement materials.

Hiways are also a leading pioneer of innovative technologies in ground improvement utilising the addition of various binders like

lime, cement, cement blends, foam bitumen and polymers to soils, gravels and pavement materials which enable faster production, higher performance and more economic results on construction projects.

With a strong focus on building and maintaining long term relationships, Hiway Stabilizers Australia place emphasis on understanding the client's requirements and utilise their experience and strive for innovative solutions, to exceed these.

Their main clients come from the Road Construction, Civil Infrastructure, Gas, Rail, Energy and Mining Industries. Hiway Stabilizers also have an upcoming project which will utilize their Foam Bitumen treatment process on the Princess Highway in Colac.



For more information contact Hiway Stabilizers Australia Pty Ltd, 35A Bell Street, Yarra Glen VIC 3775, phone 03 9730 2020, mobile 0428 803 001, email MarkF@hiways.com.au, website www.hiways.com.au



DRILLING DOWN

Wessel Drilling pulled out their bag of tricks when it came to their work on the \$80 million Princes Duplication Project. Always looking to utilise their specialised equipment, Wessel Drilling opted to use threaded bars on this project and a machine was brought in to drill in the poor ground conditions they faced.

"Our work was fairly challenging as we were working in the rail corridor. A rail spotter was used with work pausing for passing rail traffic. With only one access point and a confined work area all contractors had to work together to get the job completed successfully." Operations Manager Scott Wessel said.

"Drilling and installing soil nails into the fill material was quite challenging. Fortunately we have good equipment and experienced personnel to deal with whatever ground conditions we may encounter."

Wessel Drilling came onto the project to install soil nails under the Princes Highway Rail Overpass, which took them roughly two months to complete.

The Victorian company are specialists in ground anchors, soil nails, rock bolts and rock nails, self-drilling anchors, rock drilling and blast hole drilling. Based in Clonbinane, 65kms north of Melbourne, Wessel Drilling was established in 1993. A family business, drilling is in the Wessel family's blood with Scott's father being a drilling contractor most of his life.

To stand out from their competitors, Wessel Drilling has an impressive drilling fleet, which consists of seven drilling rigs.

With their work on the Princes Highway completed, Wessel Drilling's current projects include working on the redevelopment of the Eastland Shopping Centre in the Victorian suburb of Ringwood and the redevelopment of Chadstone Shopping Centre.

For more information contact Wessel Drilling, 170 Taits Road, Clonbinane VIC 3658, phone 03 5787 1246, email info@groundanchors.net.au, website www.wesseldrilling.com