

BRUCE HIGHWAY:

COOROY TO CURRA SECTION B: SANKEYS ROAD TO TRAVESTON ROAD

The Bruce Highway is the main artery connecting one end of Queensland to another, and is heavily used by freight, tourists and also for local traffic. Upgrading the highway to enable safer, faster travel for long distance drivers and better meet the needs of commuters and local traffic has been made a priority by both the state and federal governments.

To meet all of these needs for the section of Bruce Highway between Cooroy and Curra in one project required clever planning and comprehensive community consultation. The Recommended Corridor Report developed by the Queensland Government for the proposed new highway corridor has been designed to meet modern motorway standards which cater for safer higher speed travel. To improve safety along this section, the reconfigured highway will be a limited access road which caters for an initial four-lane divided highway, providing two lanes in each direction with a wide central median. To meet future needs involving increased traffic volumes, provision is being made for possible extra lanes at a later date.

The proposed new corridor for the Cooroy to Curra stretch is a lengthy 61km, which has been divided into four sections for construction. The selected route has been designed to create a safer, more efficient highway with an improved flood immunity. The proposal restricts direct driveway access, maintains adequate spacing between intersections and interchanges and divides opposing lanes of traffic. The recommended corridor was developed in close consultation with the wider community, local councils and other stakeholders.

The existing Bruce Highway will remain as a local arterial road, maintain connectivity and provide access to the local roads and properties that currently have direct access to the existing highway. The connections of

existing network and local roads will be maintained by under/overpasses where feasible.

The four sections of the project are:

- Section A (Cooroy southern interchange to Sankeys Road)
- Section B (Sankeys Road to Traveston Road) - the construction priority due to safety and traffic needs
- Section C (Traveston Road to Keffton Road)
- Section D (Keffton Road to Curra) - Gympie bypass.

Construction priority has been given to Section B, with leading civil contractor, Abigroup, undertaking the complex tasks of constructing contracts one and four within this section. Section B is being completed with a budget of \$513 million and is on target to achieve a late 2012 completion, despite the extensive challenges to the works program caused by the extreme weather and flooding of early 2011.

Abigroup's works program for contract 4, the final major construction contract for Section B, includes the construction of an interchange at the Traveston end of the project; realignment of a section of Traveston Road to the east of the interchange; a new link road from the interchange west to Gympie-Brooloo Road (known locally as Mary Valley Road) including bridges over Coles Creek and the Mary River; and construction of bridges over Skyring Creek at Federal in the south.

The new interchange will be located about one kilometre south of Traveston Road and will provide access in all directions to and from the new highway and the existing Bruce Highway, which will be designated as a service road for local traffic. A section of the existing Bruce Highway, plus

the intersection with Carlson Road (north), will be realigned to connect with the new interchange.

Work also includes the realignment of a section of Traveston Road, beginning near Thomason Road to the east, which will connect Traveston Road to the new interchange. Once complete, the existing Traveston Road intersection with the highway will be closed with safer access provided via the all-directional interchange.

A new road is also being built from the new Traveston interchange, west into the Mary Valley. This new link road will improve safety at the existing Traveston Crossing Road/Bruce Highway intersection, which has previously been an accident black spot. Following the completion of the new link road, right hand turns from Traveston Crossing Road onto the Bruce Highway will no longer be allowed to ensure motorists safety. The new Mary Valley Link Road will improve access to and from the Mary Valley, particularly during periods of flooding and support local industries by providing appropriate highway access for heavy vehicles.

The Dobson Road/Gympie-Brooloo Road (Mary Valley Road) intersection will also be upgraded to improve safety. The link road will include bridges over Coles Creek and the Mary River. The Mary River Bridge will be built to the height of the upper flood plain and will have a flood immunity of about a one-in-20 year rain event. This is a vast improvement on the existing Traveston Crossing Bridge which floods frequently.

Milestones achieved on the Section B project to date have included the completion of the Skyring Creek minor diversion, which became operational in October 2011; completion of the Pier 3 and 4 columns to the twin bridges (south); completion of Abutment A to the twin bridges; completion of Pier 1 headstock on the southbound bridge; and continued excavation and construction of the upstream rock protection and topsoiling finishing works to the Skyring Creek main diversion.

In 2011 the gravel and bitumen seal pavements on the service road were completed; significant progress in drainage works with the installation of the majority of large pipework; completion of the major bridgeworks

milestone at the Traveston interchange Overpass, N10 deck unit installation and the commencement of piling works at Coles Creek.

Section B is due currently on track for completion in late 2012.

Abigroup is one of Australia's leading and most diverse national contractors, with 50 years of experience delivering works in building, roads, rail, water, mining services, tunnels, bridges, energy and telecommunications. To date it has successfully delivered some of the country's largest and most important infrastructure and construction projects and is poised to continue this success into the future.

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DIGGING IN FOR THE DURATION

When Carrolls Civil and Construction and Carrolls Excavations take on a job like the Bruce Highway Cooroy to Curra Upgrade, they are in it for the long haul. For this particular project that meant supplying two excavators, a compactor and a back hoe, plus operators, and a flexible labour force of up to 30 for over 18 months, including keeping men and machines on standby through two summer flood seasons.

One of the excavators was equipped with a Trimble GPS, which proved a real advantage in terms of reliable connection with the satellite in project area. Carrolls' scope of works included the detailed excavation work of V drains, batters and drains, tasks where GPS coverage enables a more exact result in terms of turning the plans into results.

Carrolls have developed a strong working relationship with Abigroup, thanks to the reliability of their plant, the skills and safety-conscious approach of the operators, and the high calibre of the labour hire personnel they supply. They are also currently involved with Abigroup's Peninsula Link project in Victoria, work at Gympie, Gladstone and the Bruce Highway bypass at Cardwell.

Anywhere across the Eastern mainland states, Carrolls' plant and people tackle jobs efficiently, professionally and with an eye to quality. Currently 60 Carrolls machines and operators are working across major projects, which also include constructing a mine at Cloncurry, The Airport Link project, Rail Corporation work in country New South Wales and the Hunter Valley for Abigroup. The company are also considering contracts in Western Australia.

Carrolls Excavations only supply machines on a wet hire basis. Most of their plant is new and still under warranty, for increased reliability and rapid response to any mechanical issues. The Labour Hire Division, Carrolls Civil and Construction, provides trustworthy, skilled and flexible manpower across the construction trades, including concreters, carpenters, formworkers, plumbers, concrete finishers, civil construction labour and general labour.

Director and Owner, Andy Carroll, has been in the industry for over two decades, with experience in the UK, and many years of employment with Leightons, before starting the business with a five year contract on the Gateway Motorway upgrade.

"When we commit we are there from the start to the finish, supplying good machines, good drivers and quality service. We are on call 24/7 to meet client needs," said Andy.

"With our labour hire, we screen and check everything before we send them out. We make sure we send the right blokes, with the right skills to the job. One of our strengths is we have a very good picture of what's involved on a project."

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ACCREDITED LEADERS IN GEOTECHNICAL INVESTIGATIONS

Rocks the size of cars in fill areas, constantly varying soils, a six week deluge which halted work and a tight construction timeframe made supplying soil testing services for Abigroup's Bruce Highway Cooroy-Curra Package B Stage 1 project a fulltime year-long undertaking for Cardno Bowler. With over 20 years of experience in soil testing, environmental testing and geotechnical engineering, Cardno Bowler added value by developing an alternative testing method to help Abigroup increase the speed of material placement.

"Through innovative use of Australian Standard test methods we were able to optimise our productivity to supply Abigroup with high quality conformance data, testing up to 40,000m³ of material in each shift," said Cardno Bowler Business Unit Manager, Dan Courtney.

"We ensured sample locations were randomly selected in accordance with test method and quality system requirements. There were a lot of silty clays, rocky clays, silt stones and a lot of weathered rocks. There was up to 75 per cent material greater than 37.5mm in size at some sites, with some rocks bigger than cars in the fill area, making lab testing a challenge."

"We also used our geotechnical engineering team to design ten permanent sedimentation basins within the road reserve and a large dam and spillway for the newly relocated Federal State School, which was a variation to the original design. This gave a ready supply of water for construction to avoid tapping into mains or creeks, which may have been an environmental and PR issue. The basins are also part of the long term soil erosion prevention strategy."

Cardno Bowler set up a NATA-accredited onsite lab, and had crews working in multiple work fronts along the 12.5km project site, with 15 staff on location at the peak of works, using GPS survey equipment for fast, accurate location of testing positions.

With their preparedness to go the extra step for clients and highly professional expertise in geotechnical engineering and construction materials testing, Cardno Bowler is a leading name in testing services in eastern Australia. Cardno Bowler also has a laboratory on Queensland's Sunshine Coast which is one of the only NATA accredited laboratories for testing resistivity, sulphate, chloride and acid sulphate soils testing, delivering environmental testing results in a fast, cost-effective manner.

In addition to civil projects, Cardno Bowler have provided extensive services for golf course projects, flood remediation and landslip repair, developing effective methods to quickly repair damage created by natural disasters. Currently their teams are working on the next stages of the Bruce Highway upgrade, the Northern Pipeline Interconnector which will connect the Brisbane and Sunshine Coast water supplies and help 'drought proof' South East Queensland, and various other major road, dam infrastructure and liquefied natural gas projects throughout Australia.

"We think outside the box and work closely with our clients to produce best for project outcomes" said Dan.

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The Bruce Highway Upgrade - Cooroy to Curra Section B:
Sankeys Road to Traveston Road, Qld



RELIABLE EXPERTISE IN THE CIVIL SECTOR

With megatonnes of earth to move for the Cooroy to Curra section of the Bruce Highway upgrade, Abigroup relied on AE Group Civil and Mining to supplement their own construction fleet with additional major plant and skilled operators for construction.

The project scope consisted of the removal of 7 Million cubic metres of material to tight time constraints. AE Group mobilised plant including PC 1100 Komatsu excavators with a fleet of 50T Rear Dump Trucks. Final trim batter work was undertaken with several PC 300-8 excavators (with GPS) providing fast efficient and pegless operations. AE graders with GPS capability were also utilised in the bulk earthworks crews for haul road maintenance and management of fills, which was accomplished by the company's skilled final trim operators.

The large volumes of material hauled through the project required the AE fleet to interact with other construction traffic extensively, which was managed without incident due to the high standards of safety awareness and attention to task management instilled in their team.

Another recent major project AE Group has completed is the South East QLD Correctional Precinct for Baulderstone Queensland. They undertook all the civil works including 900,000m² of clearing, 850,000m² topsoil removal and 1.2 Million Cut to Fill; they also constructed 5km of drainage channels, HDPE lined water retention and waste water basins, evaporation ponds and 6km of road built to Queensland Main Roads standards. In excess of 60 AE machines worked on the site.

AE Group have the manpower, machines and construction capability to undertake an extremely wide range of projects and developments across Queensland. Their core areas of operations include Bulk earthwork excavations, screening and crushing operations, subdivisions, building and construction, dam construction, civil and concrete construction, earthworks

formation, land reclamation, contaminated waste removal, quarrying, mining and plant hire.

The plant available for hire includes dozers to 100tonne; excavators to 120tonne; graders to Cat 16H; scrapers Cat 657 and Cat 631E; 50 tonne dump trucks; compactors; servicing facilities; 6WD Trucks; and crushers/ screening equipment. There is GPS control on the graders, dozers and excavators, to ensure detailed works are carried out with the utmost of accuracy and efficiency. All AE Group equipment is subject to a comprehensive preventative maintenance schedule.

Because many of AE Group's projects require a level of self-reliance in places where water, power and site amenities are extremely minimal, the company has an incredibly comprehensive range of plant for use on direct contracts. This includes a wide range of pumps, mobile office and workshop facilities, service trucks, personnel transport, loaders for plant transport, lighting tower, cranes, fuel trucks, high volume water fill point trucks, whacker packers and site generators.

AE Group are committed to maintaining extremely high levels of OH&S management, and holds third party certification for Safety (AS/NZ 4801:2001) Quality (ISO9001:2008) and Environmental (ISO 14001:2004) management systems, enabling them to deliver sound environmental outcomes and constructing quality results for clients on time, within budget and with complete reliability and professionalism.

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