

AUSTRALIA'S LONGEST BRIDGE

On the 27th March this 3.2km bridge extending over the Frogmore Floodplain and Macleay River was officially opened.

MAIN CONSTRUCTION COMPANY : Abigroup Contractors Pty Ltd
CLIENT : Roads and Maritime Services
PROJECT END VALUE : \$185 Million
COMPLETION : 27th March 2013
ENGINEERING DESIGN : Arup and Benaim
STRUCTURAL ENGINEER : Arup and Benaim



Looking north across the bridge from an Elevated Work Platform
Photography by Mark Zvirblis, Abigroup

The official opening of the Kempsey Bypass Pacific Highway upgrade was on 27th March 2013.

Roads and Maritime Services (RMS) formed the Kempsey Bypass Alliance with Leighton Contractors, AECOM and Coffey Geosciences to build the 14.5km Kempsey Bypass. RMS awarded a separate contract to Abigroup for the design and construction of the Macleay River & Floodplain Bridge. The Kempsey Bypass is the first stage of the approved 40km Kempsey to Eungai Pacific Highway Upgrade.

The Federal Government funded the Kempsey Bypass under the Building Australia Fund.

Early Completion despite Significant Floods

Extending 3.2km across the Frogmore Floodplain and Macleay River, this is currently the longest road bridge in Australia and it was completed in just 24 months. The project was completed one year ahead of schedule. Additionally, there were zero Lost Time Injuries on the project.

The bridge has been designed to a 1 in 100 year flood event and during construction, was impacted by a number of minor flood events. The entire site was under water just four weeks before Abigroup started piling in July 2011. Similarly, the site was inundated again as recently as late February 2013, although by that time all structural works had been completed.

In addition to the two major floods in June 2011 and February 2013, there were four other flood events during the course of the project.

Key Challenges

The floodplain is subject to frequent inundation and the groundwater level is close to the surface. This drove the design to maximise the use of prefabricated elements such as steel piles, precast parapets and Super-T girders to minimise site work. Due to the length of the bridge, it was important to optimise the design and construction methodology, simplify the typical details, enhance the speed of construction and reduce

the risk profile. Issues such as reinforcement, pier and headstock formwork, plus selection of the bearings and joints, were deemed to be critical for a successful delivery.

Superstructure

Designed to remain operable in a 1:100 year flood, the bridge consists of a single structure with two lanes in each direction separated by a median safety barrier. Construction was of pre-tensioned, precast concrete Super-T girders composite with a 21.6m-wide in-situ concrete deck, supported on tapered concrete headstocks over twin concrete columns founded on piles. Pier heights across the floodplain vary between 3m and 6m, depending on the ground's profile.

The Super-T beams are all 1.5m deep and typically 34m long, with 10 beams across the width of each of the 94 spans except over the river's 20m-wide navigation channel, where there are 11 beams to accommodate the 35.0m-wide span.

Abigroup's site team erected the first Super-T beam in early December 2011 and placed the last of the Super-Ts in early September 2012. The beams were erected by a 250-tonne crawler crane at an average rate of 10 per day. "If placed end-to-end, the Super-T beams would stretch 32km, which is not much less than the distance between our site and Australian Precast Solutions Yard at Macksville," said Project Director Chris Pefkos.

Australian Precast Solutions Pty Ltd (a 100%-owned subsidiary of Abigroup) manufactured the Super-T beams and other precast components at its state-of-the-art facility in Macksville. The ready availability and certainty of delivery of quality Super-Ts from Abigroup's own subsidiary provided significant advantages to the project team and client.

For Australian Precast Solutions the supply of precast components presented a challenge, as 941 Super-T beams were required to be produced and delivered in less than a 12 month period, with the expectation for the quality of these beams being set high. In this instance, not one but multiple innovative ideas were implemented at several stages in the manufacturing process, ensuring the production of these precast beams for "just in time" delivery and of high quality.

The outcome for the project was the just in time delivery of high-quality concrete Super-T beams that met all of the quality requirements, being delivered in the correct sequence and on the day programmed. This maximised the use of resources both in the casting yard and on site. It also minimised the double-handling of Super-T beams, reducing the risk of damage. By limiting the number of heavy lifts, this also reduced the safety risks.

Indeed, the combined Abigroup and Australian Precast Solutions team received a 2012 Quality Award from RMS in the “Subcontractor Works” category for the Super-T manufacture and delivery. In order to guarantee the delivery of 941 Super-Ts within less than 18 months, the precast yard expanded its facilities, allowing the team to produce up to six Super-T beams per day.

Self-Performance of Floodplain Piling

Abigroup decided to self-perform the pile driving operation in the floodplain rather than engaging subcontractors to complete the work. This decision was taken in recognition of the particularly high level of piling experience within the company, combined with the need to mitigate risks associated with uncertainty in the supply of casings, the likelihood of wet weather delays during the project and considerable variations in the geotechnical profile.

Innovations began with the fabrication of a purpose-built piling frame, a 10m high, 15 tonne, rigid steel structure with the ability to guide two piles at a time into their final position. The piles were inserted through the frame and held by crane until the position was accurate, aligning each of the piles via sliding platforms at both ground level and high level. The benefit in the pile frame was not only placement accuracy, but also the speed in which the operation progressed.

Installation work began in July 2011 and was completed 15 weeks ahead of the construction programme date of early April 2012. Abigroup’s in-house team drove the 328 casings down to rock, to depths ranging from 22m to 50m. Of the 328 driven casings, Abigroup added further casings on-top of these via in-situ welding at 150 locations in order to achieve the desired pile length.

When Abigroup committed to the steel tube piling method for the floodplain, that part

of the bridge’s design consisted of piles, pile caps and pier columns supporting the headstocks. During the design development phase Abigroup proposed that the pile caps could be deleted, which meant that the casings would directly support the pier columns. This was an exciting innovation for the project, but also meant that the team was committing to achieving plan position tolerances of less than 75mm with no eccentricity.

While there were efficiencies to be gained from the deletion of pile caps, this required additional precision on site, with much tighter construction tolerances for the 750mm and 825mm diameter piles to align within the one metre wide columns than would conventionally be the case with pile caps. Deleting the floodplain pile caps was the correct decision, as the team achieved exceptional accuracy for pile position and therefore no pile caps were required, plus there was no need to excavate in potential Acid Sulphate Soils or work below the 2m water table.

Project Director Chris Pefkos praised the piling team noting, “Through the team’s dedication and can-do attitude, we were able to deliver excellent results on pile-position tolerance, pile after pile after pile.”

River Foundations

The 64 river piles are much larger than the floodplain piles because of the less favourable geology and massive scour effects of a 1:100 year flood. Following the results of the site investigation and a more refined finite element modelling, the design was developed to four 1800mm bored piles with pilecaps for the piers on the river banks and six 1800mm diameter bored concrete piles with pilecaps for the piers in the water.

Installation of the bored piles for the river section was performed from temporary rock platforms, across the river. It involved a combination of bentonite and temporary steel casings driven down into the river bed, followed by the construction of the rock socket.

For more information contact Abigroup Contractors Pty Ltd, Level 20, The Zenith Tower B, 821 Pacific Highway, Chatswood, NSW, 2067, phone 02 9499 0999

Looking south across the floodplain



Looking north across the floodplain



APP & HYDER – WORKING TOGETHER ON INDEPENDENT VERIFICATION

With a range of completed projects across Australia, APP and Hyder Consulting are proving a winning partnership and are gaining a solid reputation for independent verification of major infrastructure projects.

APP and Hyder have been combining their skills to independently verify landmark infrastructure projects including Brisbane's Airport Link, Gold

Coast Rapid Transit, Adelaide Desalination Plant, Fiona Stanley Hospital, Mundaring Water Treatment Plant, Adelaide's Seaford Rail Extension, and upgrading of the Pacific and Princes Highways in NSW.

More recently, they have teamed up to work on the Macleay River and Floodplain Bridge, as part of the Kempsey Bypass project.

APP General Manager of Infrastructure Jeff Sharp and Hyder Regional Director for Verification Rob Brown agreed that the success of the partnership was due to similar corporate cultures and a good working relationship between the two companies.

"We both have a commitment at all levels of staff and the camaraderie at project level which permeates through both organisations," said Rob.

"The success of the APP Hyder joint venture has been the combination of Hyder's strong technical capability with APP's robust project and construction management experience," Jeff said.

"On the Macleay River and Floodplain Bridge we had the ability to solve complex

geotechnical piling issues through our combined experiences."

Engaged by the Roads and Maritime Services (RMS) and Abigroup to provide independent verification of all design and construction works pertaining to this project, APP Hyder issued over 40 design compliance certificates.

"The project was developed on what we would describe as a 'green field' site as part of the Kempsey Bypass and was originally designed as a series of three bridges connected by elevated carriageways but ended up being constructed as a single structure. "It is very impressive considering it is approximately 21.6m wide comprising of two sections with one section being the Floodplain Bridge which passes over the Frogmore floodplains and the other being the Macleay River Bridge," Rob said.

"The team was required to review all design packages ranging from geotechnical, substructure and superstructure designs

of the bridge; to flood and environmental assessments," Jeff said.

"APP Hyder reviewed the design changes to pile diameters and advised RMS and Abigroup during the installation of driven and bored piles in difficult geotechnical conditions."

"APP Hyder also verified the production of the 941 Super-T girders, which were produced in Abigroup's Macksville casting yard, followed by their installation on site which resulted in a very rapid production and installation cycle," said Jeff.

APP Hyder are currently verifying the upgrade of the Pacific Highway from Sapphire to Woolgoolga, Nambucca Heads to Urunga, and the Princes Highway at Gerringong as well as completing the verification of several 10-year maintenance phases for highways along the Pacific and Hume Highways throughout NSW, right up to the Queensland border with the verification of the Tugun Bypass and Tunnel which joins both states.

The Macleay River and Floodplain Bridge comprises:

- Super-T type structures 1.5m in depth with approximate spans up to 35 metres
- Two 3.5 metre-wide lanes in each direction with 2.5 and 1.0 metre-wide shoulders separated by a central barrier
- Pier heights across the floodplain between 3 and 5 metres
- An allowance in height to accommodate recreational boat access along the Macleay River as required by the NSW Maritime Authority.

For more information contact,

Jeff Sharp, General Manager, Infrastructure & Urban Development, APP Corporation, phone 02 9963 9962

Rob Brown, Transport Business Director, Hyder Consulting, phone 07 3337 0000



Jeff Sharp on left, and Rob Brown on right



Front row left to right: Greg Steele and Jeff Sharp, Top row left to right: Rob Brown, Alan Clover and Andrew Bennet

VERSATILITY AND EXPERIENCE

Diversity is something that Michael Reid has become known for in the construction industry and something that allows him to continue to develop and expand his business Clybucca Earthmoving Pty Ltd.

Involved in the earthmoving industry since 1989 and operating in the local area since 2003, Michael has been based in Kempsey for over 10 years, something that proved ideal for the Macleay River and Floodplain Bridge project.

Michael said that the continuity of work on the Floodplain Bridge and the opportunity to work with a well known construction company such as the Abigroup has been very rewarding.

“Throughout our time on this project we were involved in the majority of the general excavation work which is something that required up to 10 staff at any time based on the size of the project and the need to have it completed on time,” he said.

“Because we have been servicing Kempsey and surrounding areas for over a decade, we have a clear understanding of the layout of the area and the needs of the local community.”

“The Floodplain Bridge is a structure that has to be seen to be believed for its size and part of our work involved in the construction of this bridge included the boring down inside pile cases of up to 16 metres. We were also involved with general drainage and associated works with the construction of crane pads and access roads over the wetlands.”

“Another important aspect of our involvement was the placement of our 14 tonne excavator with hammer by crane onto a barge within the Macleay River. The reason for this was the removal of excess concrete from the bridge piers below the waterline. This was a sight to see.”

With the increased demand for materials to be recycled within the construction industry, Clybucca Earthmoving Pty Ltd has now expanded their services to include vegetation management and concrete recycling.

A substantial portion of the waste concrete generated in the construction of the bridge is now being recycled by our company and reused as roadbase and aggregate.

This expansion of services combines well with the team’s experience in earthmoving, construction, landscaping, demolition, domestic work and rock walls.

“By having experienced operators and versatility our aim is to give all our customers a great service with honest and professional work.”

For more information contact Clybucca Earthmoving, 18-20 Railway Street South Kempsey, NSW 2440, mobile 0427 972 004, phone 02 6562 2201, fax 02 6562 1056, email clybuccaearthmoving@bigpond.com



SPECIALISED FOUNDATIONS WORKS



When a company such as Bauer Foundations Australia is not only part of the Bauer Asia Pacific Region but also a subsidiary of BAUER Spezialtiefbau GmbH, a world leader in advanced foundation technology, you know this is a company that has been a part of many important and highly technical challenging projects.

Founded in 1790, the BAUER Group today employs some 9,500 people. As part of the BST Group, BAUER Foundations Australia has opened to it a group of international geotechnical engineers and contractors with management and subsidiary offices which operate in over 50 countries throughout the world with a particularly strong focus on the Asian Pacific region.

Looking at the list of projects that BAUER Foundations Australia Pty Ltd has worked on in Australia alone showcases its variety and focus on quality. A BAUER Foundations Australia representative said, the company was made up of a diverse range of professionals who although in various locations were working towards a common goal – to combine the quest for technical excellence with outstanding client service and results.

“From the Legacy Way Eastern Portal to the Hinze Dam or Gold Coast Desalination Plant, Tugan Bypass and Lend Lease’s major development Barangaroo Sydney we are able to provide a wide range of specialised foundation techniques,” he said.

“We have a strong technical and operational team for the design and construction of foundations meaning our clients get the most suitable construction methodology tailor made to fit the project conditions. “The strength of BAUER Foundations Australia is our specialist Bauer equipment which gives us the ability to successfully deal with the hard rock and other challenging sub-ground conditions for Bored Pile, Diaphragm Wall and Cut-off Wall construction.

“Add to this our ability to develop and execute cost effective and quality solutions, tailor made for any project size.” On the Macleay River and Floodplain Bridge BAUER Foundations Australia were able to showcase

its bored piles designed to carry the bridge loading through end bearing in the rock and side friction in the 2-16m rock sockets provided. To cater for heavy impact loads and scour, the piles are designed with relatively heavy reinforcement cages, while due to the possibility of contamination of the river with drilling fluids, the piles are installed with permanent casings extending to the rock head level.

“As with many of our other governmental projects we understood the importance of placing as little impact on the surrounding area as possible as well as having it completed well within the expected timeline as this is a major thoroughfare for many residents of this area. “The piling works were completed during two visits within an overall period of six months. “During the break in piling works, the rock fill platform was moved from one side of the river to the other in order to ensure that the flow of the river was never interrupted. “Safe work practices, quality workmanship, technical knowledge, strength in hard rock excavation and the willingness to be the most reliable partner in the foundation market are forming the foundation of our company.”

BAUER Foundations Australia’s other foundation techniques also include barrette piles, stone columns, cutter soil mix and mix in place techniques. Its offices in both Queensland and Western Australia have allowed the company to be at the forefront of many significant projects.

“Because we do all types of specialised foundations works on industrial, commercial, civil and governmental construction projects, it is truly remarkable to watch these projects become a reality and realise the difference they can make whether to the look or the overall functionality of the area. “The BST Group has been leaders in our field for over 25 years, nearly nine of them in Australia, so we are looking forward to the next challenge.”

For more information contact Bauer Foundations Australia Pty Ltd, Ground Floor, 154 Enoggera Road Newmarket, QLD 4051, phone 07 3352 7444 fax 07 3352 7244, email info@baueraustralia.com.au, website www.baueraustralia.com.au



CONCRETING THE COUNTRIES LONGEST ROAD BRIDGE

When a bridge boasts being not only the longest operating road bridge in Australia but also one of the longest reinforced concrete structures you know that businesses such as Bob Geering Concrete Pumping were vital.

Owner Bob Geering said he was proud to have Supervisor Martin Harrow on a job of this magnitude given his ability to handle many situations from concrete to even mechanical work.

“Martin is truly a great all rounder who not only produces quality work but saves time and money by being able to fix things himself on site,” he said.

“He was well supported by a very experienced team including Tim Duffy, Martin Gelea and Mick Verey who were involved with nearly all the decks, fill in and head stocks.”

This project was a natural progression for this business as throughout his 15 year in operation, Bob and his team have been involved in considerable highway work throughout Coffs Harbour and surrounding areas, bridges and high rises generally of approximately eight stories.

Supervisor Martin Harrow said the Macleay River and Floodplain Bridge project raised a few challenges based on its size but the excellent rapport the team developed with the Abigroup allowed for results to be found.

“We worked end to end on this project and based on the amount of curve work and bunted concrete slabs needed we were able to present a few solutions including laying the hose flat to run down and pump through on the pier holes,” he said.

“It was not a small job given that we covered 32,000 metres through the pier holes, columns and of course head stocks.

“As Bob says you can’t beat experience and all our staff have at least 10 years in the industry.

“On these bigger jobs you have to have a lot of patience because you are working for a considerable amount of time with others to ensure you get the job done right.”

For more information contact Bob Geering Concrete Pumping, 28 Hardys Road Lake Cathie, NSW 2445, phone 0418 242 450

ENGINEERING, DESIGN, MANUFACTURE & INSTALLATION

“W.E. SMITH Engineering Pty Ltd places a heavy emphasis on offering and maintaining a reliable and timely supply, combined with the company’s commitment to effective project management and as such has established systems and allocated resources to ensure delivery milestones are attained,” said National Sales Manager Gregory Mann.

For this world renowned business, the Macleay River and Floodplain Bridge project was no exception and highlights why W.E. Smith Engineering has a rich history in the industry that commenced in 1922. Currently employing over 130 employees that include more than 80 highly experienced tradesmen from welding, boiler making and machining backgrounds, the company included 30 on this project from engineering to project management through to engineering and shop floor tradespeople.

The company’s first contract was to fabricate 3000 tonne of large diameter permanent pile casings for the in ground concrete footings with subsequent contracts to fabricate the collapsible/reusable steel formwork for the above ground pylons and 27m long pile caps.

“The fact that we were able to also perform any urgent welding and post weld heat treatment repairs to pile driving equipment allowed us

to drastically reduce down time on the site for contractors which is always a bonus on jobs of this magnitude,” Gregory said.

“Our in house National Association of Testing Authorities Australia (NATA) accredited Mechanical Testing lab has normally been exclusive to our internal projects, however with the onset of Roads and Maritime Services projects in close proximity we are seeing a huge increase in demand from RMS Contractors for our Mechanical Testing and Non Destructive Testing Services in the field.

“Our closeness to the major upgrades to the Pacific Highway especially are quite suited to our workshop, while our unique skills and qualifications make us a logical selection for high end fabrication for projects around Australia.”

With its main focus engineering, design, manufacture and installation of high end heavy fabrication and pressure related process equipment, it is only natural that the next projects the company is working on include major oil and gas projects and chemical and mineral refineries.

For more information contact W.E. Smith Engineering Pty Ltd, Hamilton Drive, Boambee, NSW 2450, phone 02 6650 8840, email gmann@wesnm.com.au, website www.wesnm.com.au



ENSURING STABILITY AND QUALITY

As well as extensive views of the Macleay River, users of the monstrous 3.2km Floodplain Bridge will have confidence in the stability and quality of this structure.

This project is the result of the coming together of many local and interstate businesses working together to make it a reality.

One of these was Thurgood Haulage who boasts 30 years experience as excavating and earth moving contractors.

Given the company specialises in among other things float shifts, this was an ideal project for the company to be involved in with owner David Thurgood overseeing the work himself to ensure quality at every stage.

David said it was exhilarating to work on a project of this size and see its first stage completion.

“Our work is often on driveways and small bridge construction, so to be involved in such a momentous project was outstanding,” he said.

“It was a chance for a smaller, family owned business such as ours to highlight the excellence of our work and that we have the experience and

the knowledge to get the job done right the first time. “This bridge is an important part of the Kempsey bypass project, especially being the first stage it needed to highlight how this new area will provide a higher level of road safety than the old Pacific highway.”

As well as developing a reputation for exceptional work such as was showcased on the Floodplain Bridge, Thurgood Haulage are the only supplier of broken and crushed brick.

“It is through working on projects such as this that I see the value of this product and am pleased that we are able to supply it for a variety of projects throughout Australia.

“It is also great to know that through such a straightforward role as pushing rock into the river for the bridge platform and float shifts that the name Thurgood Haulage will be associated with this amazing bridge for years to come.”

For more information contact Thurgood Haulage Pty Ltd, 434 Pacific Highway South Kempsey, NSW 2440, phone 02 6563 1168, email thurgoodhaulagepl@yahoo.com.au



CIVIL AND RESIDENTIAL CONSTRUCTION

Beginning in 2003 as a civil works and construction company with a specialisation in retirement village construction, the Macleay River and Floodplain Bridge is proof of just how far Roadcom Pty Ltd has come.

The company's expansion into residential and commercial developments meant it was ideal for the very precise role of placing concrete for the deck of this very expansive bridge.

Roadcom Director/Project Manager Rob O'Brien said Roadcom were very proud to have been associated with the quality and professionalism of Abigroup and their project. “We pride ourselves on maintaining a high level of expertise and industry experience in both civil and construction works,” he said.

“Roadcom has maintained its expertise in projects such as the Bellevue Gardens and Lincoln Gardens Retirement Villages in Port Macquarie but has also extended our capabilities to work on such well known projects as stage one of Sienna Grange, the aircraft hangar at Mudgee, Port Macquarie Airport upgrade and Port Macquarie Hastings Council street works.

“Throughout these and the Macleay River and Floodplain Bridge we have become renowned for establishing an understanding of each project through effective client communication, for creating and maintaining safe work environments and for delivering an exemplary standard on work on schedule every time.”

Being located in Port Macquarie means Roadcom is able to service a large area of the New South Wales mid-north coast for sub divisions, road works, bulk earthworks and even structural reports and design services, as well as construction labour recruitment and hire.

“Becoming fully accredited to carry out civil infrastructure works for the Port Macquarie Hastings Council made us even more focused on ensuring the ongoing safety of all employees, contractors and the public following stringent work health and safety guidelines. “Because when it comes to any civil construction carparks, pipe laying, engineered retaining walls and specialised concreting, quality and safety must be a number one priority.”

For more information contact Roadcom Pty Ltd, phone 02 6583 4601, email info@roadcom.com.au, website www.roadcom.com.au



SAWCUT

CONCRETE, SAWING & DRILLING

Building the longest bridge in Australia is no mean feat and one that required a lot of skilled professionals to make it a reality.

One such business was Port Macquarie business Sawcut Concrete, Sawing and Drilling who provided a concrete pile splitting service as well as concrete sawing and drilling. Owner Phil Baker said as the name suggests Sawcut is available for concrete sawing, drilling, grinding and splitting.

“This family run business has been operating for just over 12 years now and we continue to service the mid North Coast of New South Wales developing a reputation for excellence,” he said.

“We were proud to work with the Abigroup on the recently Macleay River Floodplain Bridge project and especially to successfully complete the work in good time.

“Sawcut takes pride in all of its work in order to give the contractor the best finished result possible.”

For more information contact **SAWCUT Concrete, Sawing and Drilling**, PO Box 9259 Port Macquarie NSW 2444, mobile 0408 320 653



IT'S AN INTREGAL PART OF THE PROJECT

After over 35 years in the industry, earthmoving is definitely something It's Earthmoving's Ian Townsend knows something about.

While Ian admits the industry may have changed since he started with his brother-in-law in Scone or even spent 17 years with Telstra, the premise of quality hard work remains the same.

This was well showcased by Ian during his time on the Macleay River and Floodplain Bridge first stage and Ian said it was pleasing to be involved in a project from start to finish.

“Considering the length of time I worked on this project I was able to be involved in a broad range of areas using the backhoe because it is such a versatile piece of machinery,” he said.

“With the drilling rigs I put fingers in to help the first group of workers get out into the water and obtain the samples they needed and then helped build the main road to provide all access and all with just the backhoe.

“I then helped build the crane pads which use a very unique system as well as pull them in and out of the water as required.

“In total I loaded a whopping 26,000 tyres onto trucks from the start to the finish of this initial stage.”

Considering that much of Ian's previous work at It's Earthmoving has focused on earthmoving, house fittings and driveways, this diversification has definitely suited him.

“My extensive experience and focus on doing the right thing by the managing company has proven extremely beneficial on a project of this exceptional size.

“Throughout the years I have developed an understanding of what companies want and need and this helps them to feel comfortable and able to get on with the job at hand.

“I understand it is my name on the door and although I have plans for expansion it is me that has to get the job done right the first time.”

For more information contact **It's Earthmoving**, 282 south West Rocks Road Kempsey, NSW 2440, phone 02 6562 8361, mobile 0407 214 007, email itsearthmoving@bigpond.com



ALL YOUR MARINE NEEDS

Established in 2006, Sydney based company AusBarge Marine Services has grown to be a major player in the Australian marine industry, encompassing most areas of the industry.

A comprehensive service is provided through AusBarge Marine Services having several office and wharf facilities in Sydney servicing not only local work but providing a centralised command post for its remote operations. As a specialist tug and barge service provider, the company operates in many ports of Australia and currently has vessels and crews working in Sydney, Newcastle, Williamstown, Gladstone, Townsville and various sites in the West.

AusBarge Marine Services' vessels, plant and crews work in trans shipments and heavy lifts, ship to ship transfers, lines work for moor ups and let goes of merchant and passenger ships, construction, dredging and reclamation support and even marine support to Caltex and Shell facilities.

Acquired in 2011, AusBarge Marine Services has now added Barges Australia, a floating plant hire company specialising in road transportable pontoon barge components, workboats and other associated marine equipment. AusBarge Marine Services Project Division Site Manager Jason Murphy said the beauty of this service was that by being road transportable, the pontoon units could be mobilised in areas that would prove impossible for conventional barges and marine plant to access.

"These include inland rivers and waterways, mining and construction sites, dams and weirs, flood areas and basically anywhere a truck can access," he said. "All of the hire items are standardised to allow for flexible applications,

although under advice from reputable Naval architects the barges have been used in many and varied applications. "Cranes are commonly placed on these applications along with pumping and dredging equipment and endless other client required uses."

Barges Australia was an integral part of the Macleay River and Floodplain Bridge development providing these floating pontoon barge components and workboats to ensure that materials could be delivered efficiently and safely around the worksite. Barges Australia continues to raise awareness of its exceptional standards through other projects including most recently in Euston, New South Wales, Lock 15.

Developed in 1937, it was built on the Murray River and constructed using concrete and timber weir. In order to strengthen and improve its service life, this structure is being upgraded and Barges Australia and AusBarge have once again been engaged to supply floating plant and supervision of the on water works.

"This is quite a good sized project and there are currently three barge arrangements on site made up of nine components along with two workboats. "The fact that we have such a variety of equipment that is able to ferry materials between shore and the work areas on a project such as this highlights our versatility and ability to work under a wide range of circumstance and conditions present within the maritime industry."

For more information contact Ausbarge Marine Services, 3 Ward St, Kurnell, NSW, 2231, phone 02 9668 2400

SURFACING THE EAST COAST

A Leader in the contract services industry in Australia, SRS Roads specialise in the supply and application of modified bitumen, sprayed sealing applications, waterproof membranes for bridge decks and specialised asphalt production and placement.

Considering that SRS Roads have been involved in bituminous surfacing for major highway projects all along Australia's East Coast, the Macleay River and Floodplain Bridge project was just an extension of this work.

More than half of the company's staff were involved in areas such as spraying bituminous waterproofing membrane and producing and laying asphalt.

They showed their experience and dedication by working well within tight deadlines to actually finish ahead of schedule.

SRS Asphalt Manager John Vicars said this ability to work under pressure was proof of why SRS Roads had grown so remarkably since starting out in 1990.

"The company, a contracting partner of the Colas Group has now expanded to accommodate our growing customer base with operations in Brisbane, Sydney, Goulburn, Port Macquarie and Grafton," he said.

"As we saw on this project with the challenging ride targets and expansion joints every 170m, there will always be a need to be adaptable and in this case we developed processes to ensure joint and parapet protection.

"We are proud to have crews with highly experienced operators who have been fully trained on the requirements for the successful application of all our products, thus ensuring each site is managed safely with minimal disruption to the public."

Further highlighting why it continues to be involved in major projects including the Kempsey Bypass and Herons Creek to Stills Road Upgrade, SRS Roads have developed purpose built equipment including Bitumen Sprayers, Seal Coat Sprayers, Automatic Spreader Boxes, Rollers and Crack Sealing Equipment for the successful application of SRS Roads and SAMI's numerous products.

"Asphalt and spray seal surfacing is our specialty, we know and stand behind our product and that is what continues to raise our profile throughout Queensland and Northern New South Wales."

For more information contact SRS Roads, 12 Grand Avenue Camellia, NSW 2142, phone 02 9638 0255, email info@srsroads.com.au





SKILLED LABOUR FOR THE MACLEAY PROJECT

With an outstanding reputation begun in 1964 giving the organisation the title of Australia's oldest labour hire company, Skilled Group was a natural choice for a project the size of the Macleay River and Floodplain Bridge.

Skilled Group Port Macquarie Branch manager Paul Fletcher who serviced the project said SKILLED Group is a national workforce services company built on a passion for providing superior service with the very best people and a commitment to safety and the community. "This can be seen in the fact that we have in excess of 30,000 employees who go to work daily, as a SKILLED Group employee," he said.

"Our versatility made us valuable on this project supplying 60 employees who have performed as part of the construction team that completed almost one million man hours on the project without a lost time injury,"

he said. "These employees worked in a variety of areas including crane operators, dogmen, formwork carpenters, riggers and plant operators and general labourers, while trainees and apprentices were also placed on the project by SKILLED Group.

"Given the project size and obvious time constraints, it was imperative that we supply only dedicated and highly qualified people for this project to provide exceptional results.

"Our client commented that the reason they use SKILLED Group was due to commitment to safety in the workplace, promptly servicing their needs and ability to provide suitably experienced employees."

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ENSURING QUALITY FROM START TO FINISH

With a project that boasts a bridge that will be the longest in Australia, it pays to have a business involved that boasts 30 years experience in the earthmoving industry.

BJ & NJ PENSON, known as Penson Earthmoving, is a small business located about 15 minutes from Kempsey. Their experienced drivers/operators provide an efficient service to many different situations and clients, in the Kempsey Shire and the Mid North Coast area.

Specialising in contracting and earthmoving, the Kempsey Bypass was an ideal project for this company as it allowed them to be involved with the excavations and provide on-site tip trucks/trailers. Partner Narelle Penson said the team was proud to be a part of a project of this magnitude. "It was our largest and longest project and quite challenging with the daily organising of the many [local] sub-contracted trucks," she said.

"This is the first stage of the 40 km Kempsey to Eungai upgrade; we worked on all of this 14.5km section to Frederickton – with Leighton Contractors [KBA] for the earthworks trucks and Abigroup with excavators and trucks on the 3.2km bridge site. "It was interesting to see the project come together [especially when Bruce was on an excavator] as is the case on many of our other projects, including the Nestle upgrade."

As specialists in their field, Penson Earthmoving supply and deliver a wide variety of bases including crushed road base gravel, soil and riverstone as well as providing tip trucks with dog trailers, excavators, loaders and rollers to ensure quality from beginning to end.

For more information contact BJ & NJ Penson, 257 Right Bank Road Belmore River NSW 2440, phone 02 6567 4672 - [Narelle], mobile 0408652820 - [Bruce], email penon50@hotmail.com