

DARACON  
MAYFIELD NSW

# TOURLE STREET BRIDGE



## OUTSTANDING SYNERGISTIC CAPABILITIES

**S**trong integration gives Daracon Group the ability to achieve enviable efficiency on their construction projects, such as completing the Tourle Street Bridge three months ahead of schedule.

During the construction of the new two lane bridge across the south arm of the Hunter River, Daracon had to ensure no disruption to the average of 24,000 vehicle movements a day crossing the river on the existing road. To achieve this required a six month traffic staging phase. “We had to build separate side tracks onto temporary pavement, build the new pavement then move the traffic back on to the new pavement,” explained Project Manager Justin Foot. “This allowed us to build the new approaches under traffic, which was one of our major traffic control features. Usually people do the bridge first and the approach work follows later, but we had those works completed before the bridge was built which was a special staging process for this big project. This is part of how we were able to complete the project ahead of schedule. Generally, our approach is we do things efficiently, and we do things once.”

Daracon own 150 pieces of plant, making them one of the largest heavy equipment owners in New South Wales. This broad all-encompassing fleet of heavy civil construction equipment minimises their need to involve multiple subcontractors, allowing for vastly increased efficiency of communications, and an ability to progress works at their own schedule.

“When it comes to heavy haulage, we have 12 floats, so we can transport equipment between sites,” said Bob Murphy, Daracon’s Systems Co-ordinator. “Beyond plant and transport, our quarries division has half a dozen quarries in the Lower Hunter. We produce bound pavement material and can supply a product that meets the RTA specifications for bound pavement. We have the option of using selected materials from Daracon quarries, loaded by Daracon loaders onto Daracon trucks, spread with Daracon equipment, right through to the phase where it is on the client’s job. It’s highly efficient, you’re not dealing with six or seven subcontractors which all adds to the complication. We’re all working for the one team and that’s what makes us efficient.”

For the Tourle Street Bridge project, Daracon had fifteen staff on site, along with their excavators, graders, backhoes, and internal truck and dog fleet. They also trialled a Caterpillar wheeled excavator, and utilised a launching truss gantry system to install the Super T girders on the bridge. This was more efficient than subcontracting a crane.

Two major environmental issues on site required clever resolution. “Preliminary works on the southern approach were complicated by the presence of a benzene plume containing coal tars and other contaminants. These byproducts from the old BHP site were sitting under the new road, and located over a clay layer atop a perched aquifer.

We had to drive embankment piles and abutment piles 17m into it, the fear was we would drive the piles through and that would create a flow access for the contaminants to enter the groundwater. We had to develop a mechanism to drive the piles in without pushing the benzene through,” explained Justin Foot.

“We drove the casings through into the clay, dug out the contaminated material, then disposed of it properly. The clay then sealed around the casing. Then we filled the steel casing with a bentonite grout mix, then drove the embankment piles through 17 metres into bedrock. Eighty piles required this process on the southern approach, and subsequent water testing shows we were successful. Another environmental challenge was that a preliminary environmental assessment of the northern abutment indicated acid sulphate beneath the Hunter River, so we needed a special approach with the river pilings.”

Daracon processed excavated material within the river pile casings, resulting in nil contaminants released into the river.

As a diversified family owned company, Daracon are buffered from volatile markets. Their divisions include construction, mining, rail, plant & transport, landscaping, quarries and property development. Their 700-plus workforce includes civil, structural and environmental

engineers, designers, business managers, mechanics, fitters, concreters and other trades. They have their own workshops for fleet maintenance and repair.

Daracon were one of the first companies to achieve Environmental Management certification to AS/NZ ISO 14001, and also hold OH&S certification to AS/NZS 4801 and Quality Assurance certification to AS/NZS ISO 9001.

The RTA is one of their major clients, they also work for local government, major commercial and industrial projects.

All in all, Daracon Group embodies remarkable achievement since their founding by Civil Engineer David Mingay and his wife Susan, who began operations in 1983 with just three employees, a grader and David’s 25 years of civil engineering experience.

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