

Mitchell Freeway Extension



NEW TECHNOLOGY DELIVERS SPEED AND QUALITY

Western Australian precast concrete manufacturer and National Precast member PERMAcast has made a multi-million dollar investment for a major roads project in Western Australia. The company was contracted to manufacture beams for the construction of four bridges as part of Main Roads Western Australia's Mitchell Freeway extension, in Perth's northern suburbs. To ensure the beams were manufactured to the highest standards and delivered on time, the company invested in a new high-tech stressing bed.

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STRESSING BED FOR TODAY AND TOMORROW

According to PERMAcast's Managing Director Alberto Ferraro, the company wanted to extend its capabilities for this high demand project and to cater for future jobs as well. "During the project we designed, fabricated and installed a new state-of-the-art 3,000 tonne stressing bed," said Mr Ferraro. "Over the next few years there are a large number of bridge projects in WA and we want to be in the best position for those potential projects in the future," he said.



A BEAM A DAY DELIVERED JUST IN TIME

The Mitchell Freeway project required 54 beams of varying sizes. The largest was 25 metres long, 5.5 metres wide and weighed 100 tonnes. One beam was cast every day in the new cutting edge stressing bed – an impressive output for the precaster. “There were quite strict specifications in regards to temperature control for this project, which we managed successfully with our new equipment”.

To accommodate the public rail network which had to be temporarily shut down, many of the beams were installed overnight. Delivery of the beams had to be just in time, with no room for error. The company’s large storage facility was used to hold up to 25 of the large beams at a time, each of which was delivered right before installation was required. Adhering to strict curfews, the beams were safely transported 80 kilometres using escorted special hydraulic trailers.

“It was high pressure to meet delivery. Our success came down to a committed and highly skilled team who all knew the end goal and we worked together to achieve it”, explained Mr Ferraro.

ALTERNATIVE CONTINUOUS BEAM DESIGN FOR 100 YEAR BEAMS

As well as the tight time frame, the beams were also complicated. “The designers came up with an alternative continuous beam design. It entailed a detailed connection and was quite complex. It had its challenges at times, but we managed them well,” according to Mr Ferraro.

“The bridge beams are designed to last at least 100 years and we had to ensure they are produced to meet that expectation. We know we’ve achieved that, which is extremely satisfying”.

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