

Roof a technical feat



Elements of Byron, the Bennett Group mid build.

PHOTO: CONTRIBUTED



Elements of Byron takes shape, the Bennett Group.

PHOTO: CONTRIBUTED

The build

AS DIRECTED by the owners, Elements of Byron aimed to employ locals as much as possible.

Operating since 1938, one of the first construction appointments went to the Bennett Group, a well-known and well respected local construction company.

Bennett Group's Darryl Piper recalls his proposal to build what was to be one of the most innovative structures in Australia, the Elements of Byron pavilion. "We put together a proposal and a team outlining how we could achieve this architectural feat," explains Mr Piper.

"Of course it is the signature roof that was most challenging. The roof is unique and very innovative and we needed to think outside the square," said Mr Piper.

"To achieve this engineering feat," Mr Piper explained, "It would involve a tensioned steel frame that spanned up to 38 metres and would be held together with graphite purlins. There were lots of challenges, and we managed to master these challenges, but it was a team effort all round that achieved this unique design.

"You don't get jobs like this very often.

"It has certainly been a

fantastic job, it spanned over the best part of two years, with a lot done in the last year. We finished on time and to the brief and the owners were wonderful to work with," said Mr Piper.

The Bennett group plan to enter their work in the Master Builders Awards (MBA) this year – and if the response is anything like the response from the public, it could well be a winner.

The technology

TO ENABLE the extraordinary architectural design of the Elements of Byron roof specialised engineering was required.

With the architect and owners told that their roof design was impossible, it was Murray Ellen from PT Technology who assured them the roof was possible – with specialised engineering. PT Technology has designed European defence systems, Stadium Australia and contributed to aviation infrastructure.

Post Tensioning (PT) technology specifically allows for strong curved buildings to be created with their internationally patented and unique technology. Consulted from the beginning of the Elements of Byron design; Murray Ellen presented the specialised technology and was appointed with Marty



Elements of Byron roof engineering and design by ZC.

PHOTO: CONTRIBUTED

Brennan.

PT Technology saw the project through to completion, overseeing the complex and extraordinary feat of the signature roof at Elements of Byron.

"It was a team effort, and a wonderful project to be involved with," said Mr Ellen. "Everyone needs to be congratulated, we achieved something very special."

Also involved in the 5500 square metres of roofing was ZC Technical.

Simon Johansen from ZC Technical recalls the original brief. "The roof needed to be the shape of a sand dune, the concept was very strong and very important. The idea was to create a roof with the illusion of infinity. In reality this was against all normal

structures of a roof and was exceptionally challenging, but very exciting."

According to Mr Johansen, "There were 1800 individual panels that each had to be measured exactly as no two panels were the same. We then had to manufacture all the panels in our workshop in Brisbane and then bring them to the site. In total, it took 12 weeks for installation, which was quite impressive".

"We're very proud of the finished result. It was a great experience working with the Bennett Group on such a prestigious project. It was intense, but not hectic, Bennett kept it all under control. I can happily say, that we all started this project as friends and finished as friends," he said.



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