



Vital infrastructure rebuild in Brisbane

Commuters and businesses in Brisbane have welcomed the completion of several new ferry terminals along the Brisbane River. Severe flooding in January 2011 damaged or demolished much of the maritime infrastructure along the river, including the Brisbane City Council's ferry terminals.

The Council awarded builder McDonnell Dowell the construction contract for the Flood Recovery and Milton Ferry Terminal construction contract. The project scope included new ferry terminals, replacing or upgrading existing facilities along the river and relocating two terminals to improve accessibility to other public transport and infrastructure.

Precast the obvious solution

Precast concrete was the clear choice for this major project, chosen for its high quality, durability, off-site manufacture and ease of installation. National Precast member Precast Concrete Products, based in Carole Park in Brisbane's west, was engaged to supply precast pilecaps, spires and stairs.

According to Precast Concrete General Manager Colin Ginger, the project called for a total of 14 pilecaps, with seven lower and seven upper components. The lower pilecaps weighed 10 tonne, and were 4m x 5m x 1.2m tall. The upper pilecaps were heavier at 15 tonne and three metres tall. There were also seven spires, one for each pile cap. These were up to 10 metres tall and weighed up to 20 tonne. Two main stair flights were also manufactured for a couple of the terminals.

Project Owner

Brisbane City Council

Architect

Cox Rayner

Service Engineer

Aurecon

Builders

McDonnell Dowell

Precast manufacturer

Precast Concrete Products

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The elements were installed at seven new terminals - at the University of Queensland at St Lucia, Regatta at Toowong, North Quay in the CBD, Queensland University of Technology Gardens Point in the CBD, Holman Street in Kangaroo Point, Sydney Street in New Farm and Milton.



Complex forms and superior finish

Mr Ginger said the finish for this project was particularly important. "We needed consistency of colour and a blemish-free finish, so we used super flow self-compacting concrete. The result was a superior quality off-form finish," he said.

The stair flights were finished with off-form colour controlled grey, while the pile caps and spires have an off-form finish in black concrete.

Steel moulds with stronger than usual bracing were used to manufacture the complex shapes required. Six of the ferry terminals are on one side of the Brisbane River, but for the seventh on the opposite side, the moulds had to be rebuilt from scratch to manufacture a mirror image.

"The geometric shapes required for the terminals were quite complex," said Mr Ginger. "The use of heavily braced high performance moulds allowed us to contain the shapes and the result was impressive".

Terminals for the future

The new terminal designs integrate technical innovation, flood resilience and elegant form. They have been constructed to be flood resistant and withstand a one in 500 year flood event. Brisbane City Council believes they will become iconic features of the city.