

# ON TRACK FOR GOLD

DEVELOPER : Queensland Rail  
MAIN CONSTRUCTION COMPANY : Golding  
PROJECT VALUE : \$163 million



The \$163M Coomera to Helensvale Duplication completes the ‘missing link’ on the Gold Coast rail line, improving service capacity and reliability for the region, with the construction of eight rail bridges, 8.2km of rail track including all associated overhead electrification and signalling systems, and the replacement of approximately 3.8km of timber fencing.

**Having previously constructed duplication projects for Queensland Rail, Golding Contractors returned to deliver the Coomera to Helensvale Duplication.**

The project involved the construction of eight new bridges adjacent to the existing operating rail bridges across waterways and roads including an 860m long through-bridge over Coomera River, Hope Island Road and Saltwater Creek. The team also replaced 3.8km of timber barriers with concrete barriers on the corridor boundary, installed security fencing, along with the associated earthworks and the construction of rail maintenance access roads in the rail corridor.

Golding Contractors completed the full design, detailed planning and the submissions required to obtain the necessary developmental and

environmental approvals well in advance of expected time frames. Work commenced onsite in March 2016 and was completed for operations to start in the second half of 2017, well within programme schedule. With a workforce of 120 people onsite, not only did Golding meet deadlines, they were able to provide early handover to Queensland Rail for select areas.

As the construction needed to be carried out immediately adjacent to an operating Queensland Rail track with high-speed trains, care needed to be taken at all stages of the construction. Golding’s close working relationship with Queensland Rail allowed for the development of safe work methods which included very detailed work safe statements, the establishment of safe work locations and clever design innovations to reduce interference which permitted construction to take place without interrupting train

operations. An example of this was the planning designed to allow two post-tensioned 106 girders for the through-bridge across Hope Island Road, to be constructed onsite and installed over the course of a single night, preventing any extensive road closures and disruption to rail services.

The Coomera River provided a number of environmental challenges that needed careful planning by Golding to facilitate the rail bridge crossing. Temporary works had to be established to facilitate the construction, and Golding floated precast girders and multiple pumps for large concrete pours rather than a slower kibble process. Golding also used polymer supported piles to construct bored piles and to support pouring of concrete for the supports, rather than using temporary liners. This ensured that there were minimal disruptions to the sensitive water course, and no harmful consequences to the environment as a result of the bridge construction.

Golding undertook thorough planning methodologies to assess the ground conditions of the site, using flood modelling, temporary work designs and anticipating rain. Ex-cyclone Debbie

put these plans into action, with the Golding team following key strategies outlined in the severe weather management plan, ensuring all work was secure and safe during the event. The thoughtful preplanning meant that disruptions were kept to a minimum and the work was suspended for only two days. With a worksite stretched over 8km and passing close to residential backyards and areas that were landlocked, a heightened degree of diligence and care had to be maintained. Golding worked closely with Queensland Rail and Phillips Group to liaise and communicate with residents, to minimise disruptions.

Golding is situated in Queensland and after having 75 years of success in the civil, urban and mining development projects, they recently expanded to New South Wales. Other major projects include the replacement and reconstruction of the Dawson Highway Bridges at various locations and the Gladstone Area Offline Water Storage Facility.

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Coomera to Helensvale Duplication



Lucinda Bridge, Port of Brisbane

## QUICKER, LIGHTER, STRONGER

Quickcell Technology Products specialise in the manufacture of prestressed and precast concrete products, concrete beams, retaining walls, panels and flooring systems. Established in 1993, their initial aim was to create precast and in situ products that are lighter and stronger than traditional constructs.

For the Coomera to Helensvale Duplication, Quickcell Technology Products manufactured and supplied 99 prestressed concrete bridge girders which spanned 25m. The team of 15 worked efficiently to install the girders to keep the project within programme schedule.

Quickcell Technology Products develop new products for the Australian and International markets. Another major project they worked on is the Lucinda Bridge at the Port of Brisbane. "In addition to conventional girders and T-roff girders, we have developed Quickcell Super Girders which were used in the construction of the Lucinda Bridge at the Port of Brisbane. These girders have a span of 46m, however they can span up to 55m," said Hossein Shamsai, Managing Director of Quickcell Technology Products.

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Coomera to Helensvale Duplication, Queensland

## DIGGING DEEP

Hastings Deering is a Caterpillar equipment dealer with an 80 year legacy of supporting customers in the construction, infrastructure and transport industries. For the Coomera to Helensvale Duplication, they have supplied a range of construction equipment for contractors working on the project.

The company has accreditation in quality, safety and environmental management systems as well as Gas Work Authority in full compliance with government legislation. For Hastings Deering, their values and integrity are the foundational pillars of their company. Commitment to safety is an integral part of Hastings Deering, implementing strategic safety plans and striving to apply the No Harm workplace initiative with an aim to ensure that all their people can return home safely every day.

Hastings Deering has achieved several environmental targets as they continue to work towards minimising their environmental impact. They have now turned their focus to reducing CO<sub>2</sub> emissions. Along with their state-of-the-art technology, they provide expert advice to clients on equipment maintenance to maximise efficiency and reduce greenhouse gases.

Hastings Deering seeks to understand their clients' needs and build trusted relationships, ensuring that the best service is provided. It is their mission to employ the best people and train them to their fullest potential so that they can help their customers succeed. Hastings Deering don't just supply the machinery, they also

provide a range of support including expert solution providers, operational support and technical advice, a 24/7 distribution centre, specialist workshops, Caterpillar trained technicians and apprentices, as well as maintenance, service and repairs.

The company operates in four countries has over 3,000 employees and 23 business centres located throughout Queensland, Northern Territory, Papua New Guinea, Solomon Islands and New Caledonia. They also have one of the largest fluid analysis labs in Australia, providing leading technology for improved efficiency, safety and continuous innovation.

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