



Companie(s) : Ark Construction Group
Freyssinet Australia Joint Venture

Owner : Gold Coast Motor Events Company

Engineer : Arup

Engineering consultant : Hyder Weathered Howe

Subsidiary(ies) : Freyssinet Australia

Beginning of works : 05/2007

End of works : 10/2007

Description of the work :

Macintosh Island is located within Surfers Paradise, renowned as the heart of Australia's Gold Coast. The bridge crosses the Nerang River linking the island through wooded parkland to the surf beaches. Throughout the year, the Macintosh Island Pedestrian Bridge provides a vital link for the community between these two leisure areas and it plays a key role during the annual Gold Coast Indy 300 motor race, one of the most significant events in the Gold Coast's calendar year. The need for the new bridge arose from an analysis that showed safety issues with the existing bridge, forcing its closure. Tenders were called in March 2007 for the design and construction of a replacement bridge, which would need to be completed before the next race in October 2007.



Freyssinet mission :

Freyssinet Australia, in conjunction with its joint venture partner Ark Construction Group, was awarded the design and construction contract for the replacement bridge in May 2007. The JV was selected on the basis of its recent performance and Freyssinet's extensive experience in stay-cabled structures. Key to the JV's selection was its proposed construction methodology, which included a contingency to allow the bridge to be temporarily opened during Indy, should delays to construction occur. Risk management was the key to the projects success as the JV was given only 156 days to design and build the bridge from scratch. Early procurement of the stay cables demanded a multi-strand system to allow ordering of the cables prior to their lengths being finalised. The bridge used the new compact version of the Freyssinet H1000 stay system for the first time. This system allows site swaging of strands and an aesthetically pleasing open forked socket to be used on the multi-strand stay, providing an attractive anchorage arrangement without compromise to quality, corrosion resistance or fatigue performance. The manufacture of the 32 anchorages for the project was completed within a record time of 7 weeks, with delivery to site occurring well before the commencement of the erection of the stays. The use of precast concrete and post-tensioning using the Freyssinet C-Range anchorage system enabled the rapid erection of the bridge deck once the substructure works were complete.

