

# TOWNSVILLE MARINE PRECINCT

## DYNAMIC REPLACEMENT



**MENARD BACHY**



**Client:** Port of Townsville and Lang O'Rourke Alliance  
**Consultant:** GHD

**Contractor:** Lang O'Rourke  
**Specialist Contractor:** Menard Bachy

### THE PROJECT

The Townsville Marine Precinct (TMP) Project is located at the mouth of the Ross River on the reclaimed area of the Port of Townsville and involves the development of approximately 18.4 hectares in area when constructed. The TMP project will consist of an outer Harbor wall and an inner Harbor (7.9hectares) surrounded by reclaimed land on which permanent buildings and lift out facilities will be constructed. The focus of stage one of the project was to relocate the local commercial fishing fleet, marine fabrication and repair industries, marine research facilities, and other key marine operators to the new TMP complex prior the construction of the Ross River Bridge in mid 2011 which upon completion, would subsequently prevent river access to these upstream commercial operations.

### MENARD BACHY'S ROLE

Due to the critical timeframe requirement to have stage one of the project completed by mid 2011, alternative forms of construction, and ground improvement in particular were investigated. After assessing the site geology it was evident that a Ground Improvement Technique such as Dynamic Replacement (DR) may provide a suitable foundation treatment area for the location of warehousing, office, workshops,

pavements and access roads. As Menard Bachy had worked closely with the project Designers GHD back in 2003 to successfully deliver an adjacent site for the Townsville Bulk Sugar Terminal, Menard was again approached to assess the viability of providing a cost effective D&C ground improvement solution to ensure timely delivery of the working platforms.

Menard Bachy was subsequently contracted by Lang O'Rourke and Port of Townsville Joint Venture based on the D&C proposal to use the DR technique. This technique was chosen due to ease and overall speed of construction, attainment of maximum flexibility to deal with the variable geology and changing loadings across the site, whilst remaining cost effective compared to other potential foundation treatment options.

The project worked a double shift (day & night) 6 days per week roster in order to meet the tight programming schedules required. This form of ground improvement was a benefit to the contractor as it allowed areas to be progressively handed over thus subsequently enabling staged commencement of structures on the critical path. Despite feeling the full effects of cyclone Yasi in February, the treatment area of approximately 36,500 m<sup>2</sup> was successfully completed in mid March 2011 thus allowing a combination of heavy duty pavements and buildings to be subsequently constructed by LORAC.