



Wiggins Island Coal Export Terminal (WICET) Gladstone, Queensland, Australia

Client: Abigroup – Golding Joint Venture
Project Value: \$290 Million

The new Wiggins Island Coal Export Terminal (WICET) was constructed to increase the amount of coal exported through the Port of Gladstone in Queensland. The new coal export facility is situated just west of the existing RG Tanna Coal Terminal in Gladstone Harbour and will effectively double the existing coal export capacity at the Port of Gladstone upon completion. Once fully commissioned, it will provide over 80 million tonnes per annum in export coal capacity.

The proximity of WICET to the mouth of the Calliope River and Port Curtis means that there is a need to build over recently deposited sediments which are often still very soft. Construction in and around these marine environments can raise significant challenges for engineers and contractors alike.

As part of the project development over 2.3 million cubic metres of dredge material is required to be stored in two onshore containment facilities, termed Reclamation Area B and Reclamation C. Both reclamation areas are formed using compacted earth filled bunds. These bunds vary in height from 4m to 6m, with a total length of external and internal bunds measuring 14 kilometres. Over 90% of these bunds are located on the soft, recently deposited sediments.

Geoinventions was engaged by the client to assist with the following geotechnical design services on the project:

- Independent geotechnical review
- Design of trial embankment including instrumentation
- Back analysis of soft soil design sections to predict 40 year post construction settlement
- Cut & Fill design for onshore reclamation
- Alternative footing design for reclaimer tunnels
- Design of working platforms for large scale lifting cranes and 260t piling rigs

A technical paper on this project was presented at a conference in Australia which can be downloaded from our website.