



Tanjung Bin Power Plant Reclamation Design & Instrumentation

Description of Work

Tanjung Bin reclamation in Malaysia involved site filling and soil improvement works for the construction of a coal fired power plant of 3×700 MW capacity.

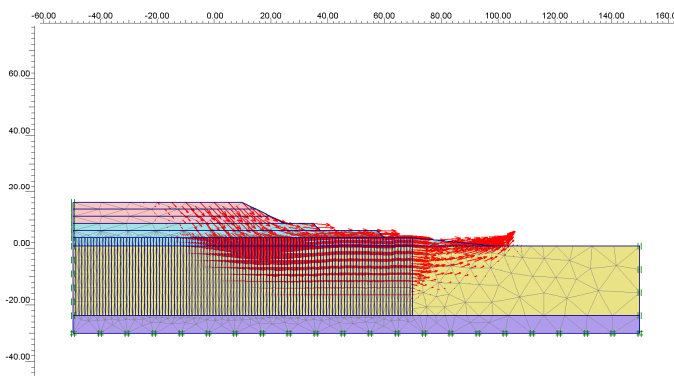
The total reclaimed land area was about 70 ha. Superficial deposits of marine clay with occasional inter-bedded sand lenses extended up to a depth of about 28 m below the existing ground level. The marine clay was treated using prefabricated vertical drains as a method of ground improvement and acceleration of consolidation. Sand fill up to 11 m thick was placed hydraulically on the existing marine clay. The sand fill surcharge was left in place to accelerate consolidation of the marine clay until the specified degree of consolidation of 90% was achieved.

GCG (Asia) assisted the consultant for the project, Minconsult, in both detailed design of the reclamation and interpretation of the instrumentation data. Ground conditions and site investigation data were carefully reviewed for the selection of input parameters for numerical modelling. The modelling was used to determine the thickness and construction timing for placement of reclamation fill layers and the achievable settlement/degree of consolidation at the end of the proposed construction period. In addition, the dissipation of excess pore pressure in the marine clay, stability of the fill slope, long term settlement of the reclamation and bearing capacity of the reclamation for placement of coal stack piles were assessed using the numerical modeling. The data from the field monitoring in conjunction with the results of the numerical modelling were used to determine the time at which the surcharge fill could be removed, allowing the contractor to optimise his construction program. The site was handed over to the client in accordance with the contract requirements.

Client: Minconsult

Dates: 2003-2004

Estimated Project Cost:
HK\$ 2 billion



Tanjung Bin reclamation site

PLAXIS modelling of
reclamation construction