

**PROJECT :-****PHASE IIA AND PHASE IIB EXPANSION OF NORTH BUTTERWORTH CONTAINER TERMINAL, PENANG PORT****LOCATION :-**

Butterworth, Penang

**CLIENT :-**Penang Port Commission – Phase IIA  
Muhibbah Engineering (M) Bhd – Phase IIB**PROJECT COST :-**

RM62.5 Million (US17.2 Million)

**COMPLETION DATE :-**1998 to 1999 – PHASE IIA  
2000 to 2001 – PHASE IIB**Job Description :-**

The project comprises of an initial Phase IIA expansion of 250m long x 56m wide berth and a further Phase IIB expansion of 100m long x 56m wide berth to the existing 350m long x 56m wide berth. The existing T-shaped jetty is accessible by an approach bridge.

The jetty is an open piled structure comprises of a suspended reinforced concrete deck supported on vertical and raked precast prestressed concrete pile.

The berth is designed for berthing of vessels of up to 72600t displacement tonnage, a uniformly distributed load of 38.4 kN/m<sup>2</sup>, container crane wheel load (rail gauge of 17m), container stacking up to 3 high on deck; 40t mobile crane, HA loading and 45 units HB loading, and all container handling transporters.

**The Detail Works include :-**

- Design of wharf structure including substation building, crane rail, fenders, mooring facilities, ladder and services trenches.
- Design of associated works, such as, lighting, fire fighting services, fresh water supply and electrical installation for the sub-station.

**SERVICES PROVIDED :-**

- Detailed Design
- Construction Supervision
- Geotechnical Investigation and Design

**NORTH BUTTERWORTH CONTAINER TERMINAL, PENANG PORT**