



# DARLAND BOAT HOUSE

## Pranburi

### Object

Solidification of silty and sandy soil with in-situ soil-cement mixing for construction of boat berth and channel walls.

### Project Description

Foundations and soil retaining walls for construction of a private luxury boat house, 25m long boat berth, channel walls and boat ramp.

### Type of Work

Construction of block type soil retaining walls with soil-cement columns. Driving pre-cast concrete piles for building foundation.

### Owner

Private.

### Designer

Warnes Associates Co., Ltd.

### Project Schedule

June 2006

### Construction Method

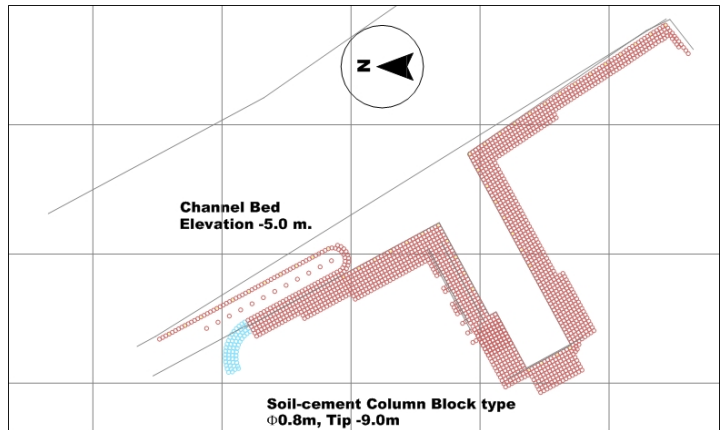
- Mechanical Deep Soil Mixing
- Pile Driving

### Construction Details

Soil-Cement Columns: 1,707 ( $\phi 0.8\text{m} \times 4\text{-}8\text{m}$ )  
Driven Piles:  
0.25x0.25x10m = 64  
0.30x0.30x10m = 86  
WF 250x250-64.4kg = 23  
H 10x10-17.2kg = 47

### Subsoil Conditions

Silty fine sand: 0.0-9.0m  
Hard silty clay: 9.0-12.0m  
Weathered Rock: 9.0-12.0m



Soil-cement Column Retaining System Layout.



Deep soil mixing (soil-cement column works) in progress.



Installation of concrete facing walls for boat berth and ramp by other — soil retained by soil-cement columns.

### REFERENCES:

- Thasnanipan, N., Win M. A and Thayanan Boonyarak (2007) "Minimizing Ground Movement by Using Deep Soil Mixing Technique" (in Thai). The 12<sup>th</sup> National Convention on Civil Engineering. Phitsanulok, Thailand. pp 240-246.