

# BANG NA-BANG PLI-BANG PAKONG EXPRESSWAY PROJECT

Technical Reference No. 15/2000

## Bored Pile Work

### GENERAL

Bang Na-Bang Pli-Bang Pakong expressway is a 54km-long elevated expressway, being one of the sections of Bang Na-Chonburi Expressway. The expressway project was awarded by the Expressway & Rapid Transit Authority of Thailand to Joint Venture BBCD, consisting of Bilfinger+Berger, Ch. Karnchang Public Co., Ltd. and Dywidag. 27.2m-wide precast concrete segments form the decks (span lengths 39.30m-44.40m) being supported by mainly 13m-high Y-columns and by portal frames at the ramp sections. The elevated road section beyond KM 28+000 is mainly supported by bored piles with base-grouting while the remaining sections are supported by driven pre-cast concrete piles. 50mm diameter steel tubes for sonic logging test were also used as access tubes for tube-a-manchette grouting circuits in pile base grouting.



General view of expressway.

### WORK UNDERTAKEN

BORED PILES: Dia. 1.2m x 38.0m-64.2m 414 nos.

BASE GROUTING: 414 piles



**TYPE OF WORK:**

**OWNER:**

**MAIN CONTRACTOR:**

**DESIGNER:**

**PERIOD:**

Foundation Piles with Base Grouting

Expressway & Rapid Transit Authority of Thailand

Joint Venture BBCD

J. Muller International & AEC

1998-1999



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Bentonite plant for bored piling.

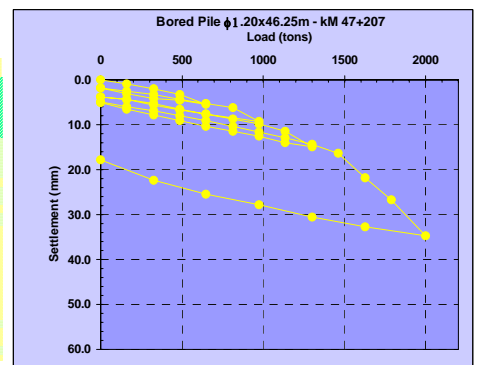
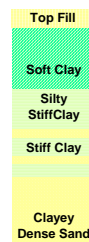
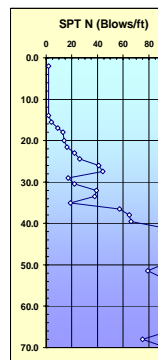


Pile base grouting in progress.



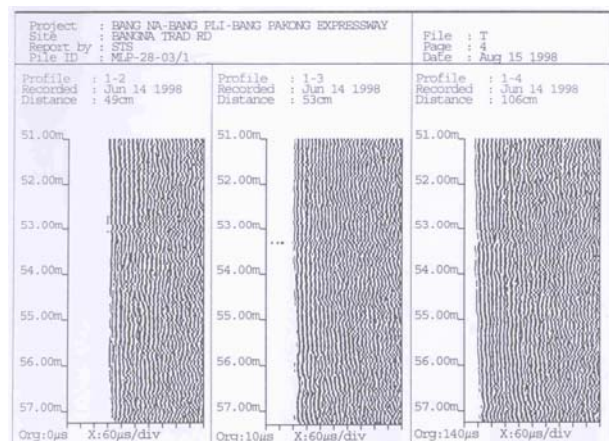
Bored piling along traffic median.

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Right middle: Load-settlement curves obtained from instrumented load testing and subsoil data at the test pile location.

Right bottom: Sonic logging records of a pile, indicating good pile toe condition with sound concrete.



### References:

- Teparaksa, W., Thasnanipan, N. and Anwar M. A. (1999), "Base Grouting of Wet Process Bored Piles in Bangkok Subsoils", Eleventh Asian Regional Conference, International Society for Soil Mechanics and Geotechnical Engineering, Seoul, Korea, August 16-20, 1999. Pp. 269-272.
- Thasnanipan, P. Tanseng, and Anwar M. A. (1998), "Large Diameter Bored Piles in Multi-layered Soils of Bangkok", Third International Geotechnical Seminar on Deep Foundations on Bored and Auger Piles, Ghent, Belgium, October 19-21, 1998. Pp. 511-518.
- Teparaksa, W. (1992), "Behavior of Base-Grouted Bored Piles in Bangkok Subsoils", Piling: European Practice and Worldwide Trends. Conference organized by the Institution of Civil Engineers, London, April 7-9, 1992, Thomas Telford. Pp. 296-301.

