

Section of building.

GENERAL

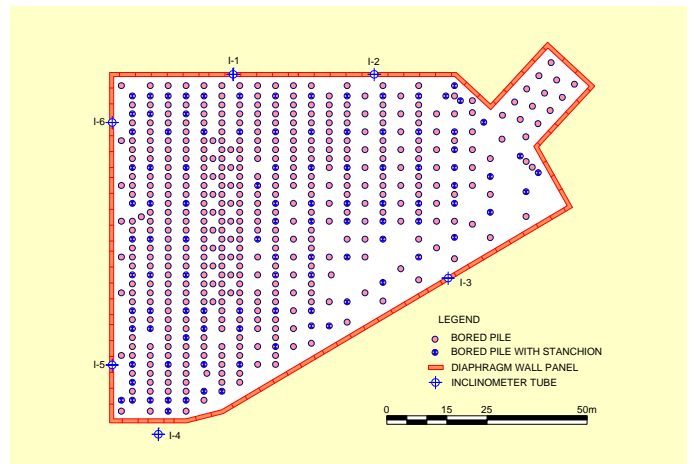
Rangsan Silom Precious (present name is Royal Charoen Krung) building is located at the corner of Silom and Charoen Krung Roads, Bang Rak, Bangkok. It is a 63-storey tower with six basement levels constructed by using top-down method. Foundation bored piles of 1.5m in diameter founded in sand layer at depths up to 60m, support the building. The piles were base-grouted. A 1.02m thick cast in-situ diaphragm wall (toe depth 36.0m below ground level) was used for basement excavation and construction. The maximum excavation depth was about 20.0m. 95 built-up steel stanchions pre-founded in bored piles were used for supporting the basement slabs and parts of superstructure during simultaneous construction of basements and the super structure. Three basement slabs, B1, B3 and B5 with openings were used as lateral supports to the diaphragm wall to allow excavation reach to the required depths.

WORK UNDERTAKEN

BORED PILES:	Dia. 1.0mx36.0m	5 nos.
	Dia. 1.5mx60.0m	529 nos.
BASE GROUTING:	534 piles	
STEEL STANCHIONS:	Built-up Sections	95 nos.
DIAPHRAGM WALLS:	13,748 sq.m. (1.02m Thick)	
INSTRUMENTATION:	5 Inclinator Tubes in the wall and 1 Tube in the soil behind the wall.	



View of basement construction with top-down method.



Diaphragm wall and pile layout.

TYPE OF WORK:	Foundation Piles and Diaphragm Walls
OWNER:	Rangsan Silom Precious Co., Ltd.
SUPERSTRUCTURE CONTRACTOR:	Samsung (Thailand) Development Co., Ltd.
DESIGNER:	Siam Engineering Consultants Co., Ltd.
PERIOD:	1991-1992



SILOM PRECIOUS TOWER

Bored Piles and Diaphragm Walls

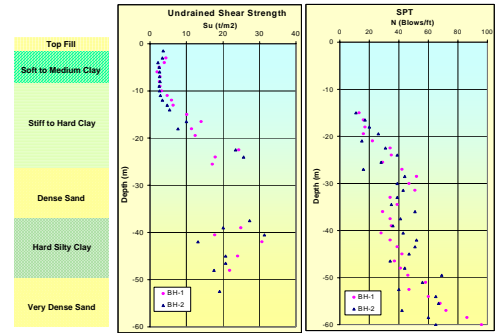
Technical Reference No. 10/99



Diaphragm wall panel excavation.

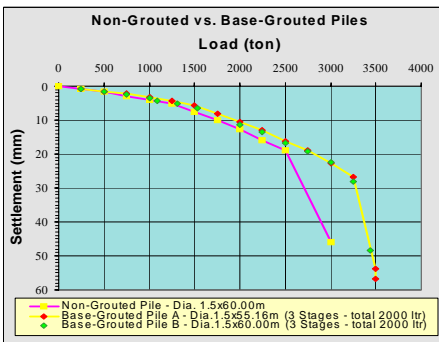


Lowering a rebar cage section with box-outs for basement slab connections.

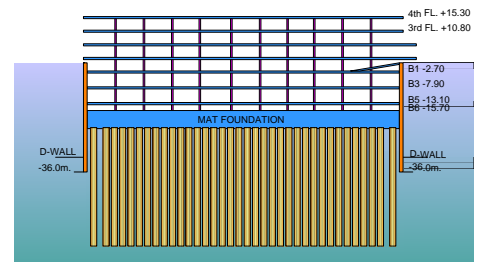


Subsoil conditions.

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Pile load test results.



Floors and basements constructed



Excavation below the basement slab.



Installing a 24.0m-long built-up steel stanchion in the borehole.



Preparation for connections between basement floor and diaphragm wall.

References:

- Teparaksa, W., Thasnanipan, N. and Tanseng, P. (1999), "Analysis of Lateral Wall Movement for Deep Braced Excavation in Bangkok Subsoils", Civil and Environmental Engineering Conference – New Frontiers & Challenges, AIT, Bangkok, November 8-12, 1999.
- Lee, S. L. and Yong, K. Y. (1992), "Base Grouting of Bored Piles", 2nd International Conference on Deep Foundation Practice incorporating PILETALK 1992, Singapore, 4-6 November 1992. Pp. 147-153.

