

# Bangkok Wastewater Treatment Plant - Stage I

## Mitmaitree Road, Bangkok, Thailand, 1995-1997



### Owner

Bangkok Metropolitan Administration

### Client

N.O.S.S. Consortium including North West Water, UK, and Ove Arup

### Designed By

Ove Arup for N.O.S.S. Consortium

### Constructed by

Christiani & Nielsen (Thai) PCL

### Introduction

Christiani & Nielsen (Thai) PCL were awarded a sub-contract by N.O.S.S. Consortium in February 1995, for the construction of the Waste Water Treatment Plant capable of providing treatment for dry weather flow of 350,000 cu.m/day. Because of the limited site area, the Treatment Plant is designed on two levels. The lower level contains the Solids Processing Area and Secondary Treatment Tanks, the latter having a storage capacity of 95,000 cu.m. On the upper level are 15 No. 30 m diameter x 6 m deep Clarifier Tanks and associated distribution channels.

Working area was split into 2 areas. To the North side is the inlet Pumping Station, (850m<sup>2</sup> in area, 20m below ground plus 13m above ground level) To the South side is the Main Treatment works, (17,800m<sup>2</sup> in area, 2m below ground plus 16m above ground level). These two main structures are connected by a concrete channel over Mitmaitree Road (50m long, 4.5m high, 4.2m wide and

with and underside clearance of 5.7m). In addition to civils works there was a sizable mechanical pipework element included in the contract which was carried out by Intertech Thai Co., Ltd, a wholly owned subsidiary of Christian & Nelson ( Thai ) PCL.

### Technical Data

The Main Wastewater Treatment Works is a reinforced concrete structure, seated on a piled foundation with a post tensioned base slab and the clarifier slab is supported on precast, prestressed, concrete beams. The 4 aeration tanks, 15 clarifier tanks and elevated channel are water retaining structures which require testing. Major contract statistics are: 45,000 cu.m concrete; 560 tonnes post tension wire; 9,000 tonnes reinforcement; 85,000 sq.m formwork and 50,000 cu.m excavation.

### Date of Commencement:

13th March 1995

### Date of Completion:

15<sup>th</sup> August 1997



CHRISTIANI & NIELSEN