

35m Deep North Yarra Sewer Replacement by Microtunnelling and Pipejacking Method

**Melbourne
Australia**

Project Brief

TTI designed and implemented the world's deepest microtunnelling project to replace a 1500mm dia dilapidated sewer in Melbourne, Australia in 1995.

TTI provided the technical expertise to this unique project to install sewer at a depth of 35 by microtunnelling and pipejacking technology to Nissho Iwai Corporation Ltd, Australia. The 1500mm dia and 135m long sewer was installed through very dense silty sand clayey soils TTI successfully executed two more microtunnelling projects in Melbourne Australia. A unique technique involving a narrow 2700mm dia working shafts with enlarged base (as shown in the figure) to facilitated the jacking of pipes was proposed and adopted by TTI in this project.

For full technical details, please refer a paper: "Slurry Shield Tunnelling and Pipe Jacking : Recent Experience" by Bala K Balasubramaniam, Charles Di Francesco, Masato Sato (Iseki Poly Tech Inc ,Japan) presented at the National Trenchless Technology Conference in Perth, Australia in May 1996

Financing Agency

Melbourne Water Corporation

Client Name

Melbourne Water Corporation/Nissho Iwai Corporation Ltd

Year and Period of consultancy: 1995, 6 months

Length of pipeline involved

Installation of 35m deep 1500mm dia replacement sewer of 135m long by microtunnelling and pipejacking method (world's deepest microtunnelling project)

Method adopted/ systems used

Laser guided Microtunnelling and Pipejacking system.
Iseki 1500 Crunching mole system

Role of consultant: Prime Consultant

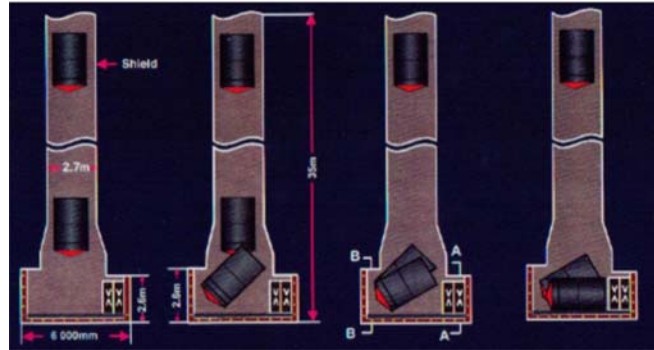
The documents prepared TTI

1. Bid documents Bill of Quantities
2. Quality Assurance Manual for Microtunnelling works.
3. Training Materials for BMC Engineers technical Guidelines to carry out the deepest tunnelling operations

Value of the project (USD): US\$500,000

Publications on the project

Presented a paper titled " Slurry Shield tunnelling and Pipe Jacking : Recent Experience " by Bala K Balasubramaniam , Charles Di Francesco, Masato Sato (Iseki Poly Tech Inc ,Japan) at the National Trenchless Technology Conference in Perth, Australia in May 1996



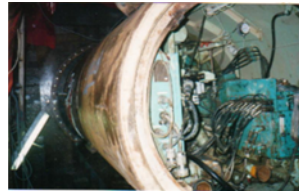
Lowering of 1500mm dia shield through a 35m deep shaft



Lowering of 1500mm dia shield



Setting up at 35 m deep shaft



Shield is set up at 35m deep



On completion of 35m deep drive



Shield is being recovered through a 3.5m dia receiving shaft

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