



## **PHOTO REPORT**

*on the GRUNDOBURST 800G*

**Client:** *Public Utilities Board, Sewerage Department,  
Singapore*

**Main Contractor:** *IPCO Insituform (S E Asia) Pte Limited*

**Sub Contractor:** *Toh Ban Seng Contractor Pte Limited*

**Location:** *Japanese Gardens, Singapore*

**Existing pipe:** *4" asbestos cement with a 300/500mm concrete  
surround*

**New replacement pipe:** *125mm MDPE SDR 17.6 (Uponor)*

**Total bore distance:** *147 metres*

**Depth of cover:** *Start Pit - approx. 3 metres  
Receive Pit - approx. 1.2 metres*

**Total Time taken to  
carry out bursting  
operation:** *5 hours and 30 minutes*

**PHOTO 1 (below)** – Shows the entrance to the Japanese Gardens



**PHOTOS 2 and 3:** Show the overall job sites –  
Total bore distance was 147 metres



**PHOTO 4** – Shows the amount of concrete placed around the 4” asbestos pipe to be burst.

**PHOTO 5** – In places the concrete measured 500mm x 500mm square.



**PHOTO 6:**  
Shows the GRUNDOBURST 800G set up in the start trench where the patented Quicklock rods are pushed through the existing 4" AC pipe to be burst.



**PHOTO 7:** Note the unique rod storage boxes positioned on top of the GRUNDOBURST 800G.  
Each rod storage box houses 35 off 0.7 metre rods.



**PHOTO 8:**

All rig functions are via this remote control or foot control pendant.

Toh Ban Seng's Supervisor soon became very confident and familiar with the operation of the GRUNDOBURST 800G after a short time.

**PHOTO 9:** Shows the guide rod arriving in the exit trench after only 1 hour and 40 minutes of operation.

This time also included changing the rod storage boxes on 3 separate occasions.



**PHOTO 10:** After removing the guide rod, we connected the various tooling required to burst the 4" asbestos pipe with the concrete surround.

Note: At the request of the PUB an inline load cell was fitted to ensure we did not exceed the yield strength of the 125mm pipe which was approximately 3.2 tonnes.

**PHOTO 11:** Shows the expander about to enter the bore after the bursting head has split the concrete.

Note the 125mm MDPE pipe directly behind the expander. Maximum tonnage required on pull back was approximately 10 tonnes which is only 12.5% of the machine's capacity.



**PHOTO 12 –** Shows the 125mm PE pipe laid out during The bursting operation. Time taken to complete the bursting operation was 2 hours 10 minutes



**PHOTO 13 above** – Shows the GRUNDOBURST 800G extended to allow the retrieval of the tooling and the 125mm PE pipe following the bursting operation



**PHOTO 14 above** – Shows the tooling arriving in the trench.





**PHOTO 15** – Shows the towing head and 125mm PE pipe pulled into the launch pit in readiness to be connected to the existing sewer.

**PHOTO 16** – View of 125mm PE pipe in the receive pit where a temporary connection to the existing sewer will be made until the next day's burst.

