

# MELBOURNE MAIN SEWER REPLACEMENT

## DIAPHRAGM WALL SHAFT – SWALLOW STREET



**Client:** John Holland Pty Ltd  
**Consultant:** Halcrow Australia

**Contractor:** Menard Bachy Pty Ltd

### THE PROJECT

As part of the Melbourne Main Sewer Replacement project, the new sewer has to be joined back into the existing sewer at Swallow Street. As the site location was bounded by a mains gas pipe and a mains oil supply pipe each approximately three meters from the intended excavation, to minimise settlement the main contractor John Holland Pty Ltd decided that Diaphragm Wall was required for the temporary works.

The Diaphragm Wall was to support their excavation to fulfill three objectives namely:

- i) receive the TBM of the new sewer
- ii) facilitate access to the existing sewer such that a Y branch could be installed to the new sewer and
- iii) create a shaft for bypass pumping of the existing sewer whilst construction works took place.

### MENARD BACHY'S ROLE

Whilst the subcontract was build only, it was explicit that it was our duty as the experienced Diaphragm

Wall subcontractor to actively develop together with John Holland's designer's Halcrow, the most cost efficient solution to meet each of the three objectives, in terms of controlling our subcontract cost, reducing the quantum/cost of the materials to be supplied by John Holland and minimise where possible the cost of John Holland's follow on works.

To this end the Diaphragm Wall, consisted of three shafts, two of which were connected, combining a circular shaft design for the reception shaft and Diaphragm Wall designed horizontally spanning between the struts, for the connection shaft refer reinforcement drawing.

The site was particularly sensitive with respect to environmental consideration, most especially limited hours of work requiring strict control, as the site was bound closely on each side by private houses.

Design works were developed with the close support of Bachy Soletanche Singapore, equipment support from Bachy Soletanche Hong Kong and the works were successfully carried out on time and within budget by Menard Bachy.