New Silvertown Tunnel (UK)
Cross-Passage Waterproofing

Country	UK, London
Type	Road Tunnel
Client	Riverlinx (Cintra, Aberdeen Stand. Invest, BAM PPP, Macquarie Capital, SK E&C), Transport for London
Main Contractor	JV Ferrovial Construction, BAM Nuttall, SK E&C
Execution of the work	Renesco UK.
Designer	Riverlinx, Arup
Construction Period	2023-2024

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Project Description

The Silvertown Tunnel Project is a 1.4 km twin bore road tunnel which will be built under the river Thames and connect the Greenwich peninsula and the Silvertown district in East London. The project also comprises 600m of access ramps, maintenance buildings and sections of road above the ground including a highway bridge and a footbridge for pedestrians.

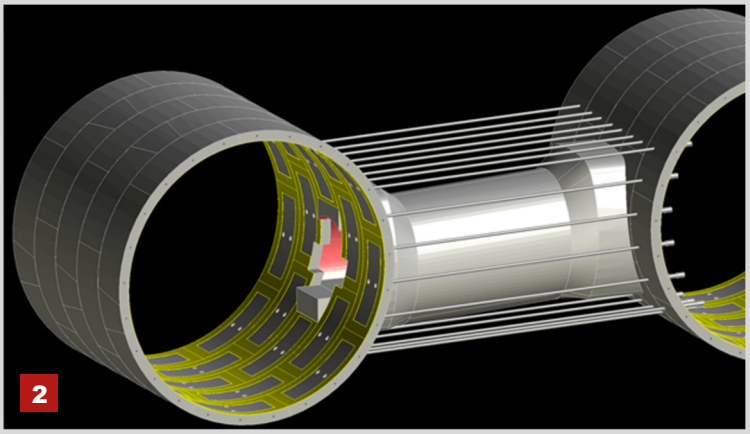
Only one tunnel boring machine (TBM), with a diameter of approximately 12m, will be used to bore both tunnels through geology including alluvium, London clay and Lambeth. The TBM will be launched in Silvertown to bore the first tunnel, rotate in North Greenwich and then return to Silvertown to bore the second tunnel. In addition, cross passages are required between the south and north bound tunnel drive which are to be lined with a waterproof sheet membrane prior to casting the secondary lining.

The two bores are connected through 7No. SCL cross-passages, of which 4 require ground freezing.

Scope of Service

Supply & install of the Sheet Waterproofing System with a 2mm thick PVC-P, full-round (360°) sealing, for the cross-passages and for the civil engineering works (access ramps, portals and chambers).

- Protection geotextile, PP 500g/sqm, 700g/sqm and 2'000g/sqm
- PVC-P, 2mm with signal layer
- PVC-P protection sheet, 1,5mm and 2mm
- PVC-P water barriers, 500/6/30 and 400/4/25 ribs without injection hoses
- Roof slab compartmentalization via adhesive tape (post applied waterproofing)
- Separation layer installation (polyethylene layer or similar)
- Waterproofing termination to concrete via mechanical clamping and adhesive tape including injection hose.
- Waterproofing overlap to fully bonded system via mechanical clamping including injection hose.
- Waterproofing termination to segment lining via adhesive tape including injection hose.



1. Cross-Passage Waterproofing
2. BIM model of the ground freezing
3. Cross-Passage, cast-in-place concrete inner liner