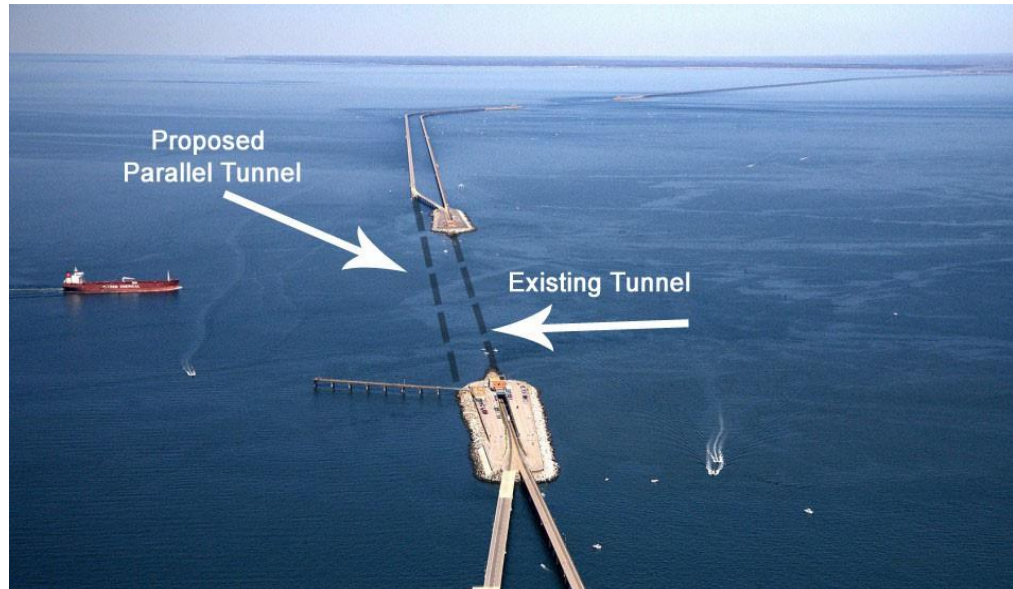


Project identification

# Chesapeake Bay Bridge Tunnel – Parallel Thimble Shoal tunnel

Type of project

Tender Services related to Immersed tunnels, marine works and artificial islands



Client

BTM JV: Bouygues (France) – Traylor Brothers (USA) – Manson Construction (USA)

In co-operation with

Arup New York / Michael Baker

Country  
USA

Location  
Norfolk, West Virginia

Project duration  
2015-2016

Project phase  
Tender

Construction cost  
Approx. \$ 750 million  
(excl. VAT)

Consultancy fee  
Approx. \$ 300.000,-  
(excl. VAT)

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# Chesapeake Bay Bridge Tunnel – Parallel Thimble Shoal tunnel

Project description

Tunnel (CBBT) is a 30-km long 2-lane facility consisting of highways, bridges, tunnels (2 sections of 1.8km each) and artificial islands (connecting tunnel and bridge sections) connecting the Eastern Shore of Virginia with the Virginia mainland. The Bridge-Tunnel was opened to traffic in 1964, replacing the ferry service that had served the Eastern Shore for more than 30 years. The facility was expanded in the late 1990s to include parallel bridges (becoming 2x2 lane), which were opened to traffic in April 1999.

In 2015-2016 the expansion of the first of the two tunnels was tendered. The Parallel Thimble Shoal Tunnel Project will construct a new two-lane tunnel under Thimble Shoal Channel. When complete, the new tunnel will carry two lanes of traffic southbound, and the existing tunnel will carry two lanes of traffic northbound.

Scope of work

TEC was a member of a design JV led by Arup New York and covered the following scope of work:

- Design development of immersed tunnel option, parallel to the existing immersed tunnel including mitigating protective measures (for comparison to the bored tunnel option, which finally became the preferred and selected option)
- Review of Geotechnical FE analyses (Plaxis), carried out by the BTM design team to analyse the impact of the bored tunnel (construction) to the existing tunnel
- Assessment of the existing steel immersed tunnel regarding the impact due to the construction of the new parallel bored tunnel.
- Marine works design of the island protection and protective works on the tunnel
- Assessment of ship impact on the new tunnel and the protective works on top of the tunnel
- Design temporary jetty (construction purposes)
- Participation in (internal) design workshops and Clients' meetings