

Ornate structure with hidden strength for Kalba Corniche



Kalba Corniche Development, Project R1140A

Sharjah, United Arab Emirates ([click to open map](#))

Rughaylat Road forms part of the Kalba Corniche, carrying traffic from Kalba to Fujairah. It runs parallel to the coast, fronting new residential development. A wide stormwater channel passes below the road, requiring a bridge with long approach ramps to carry the road and utilities across the channel. By adopting a Tensar solution the contractor completed the wall construction in just 10 days.

CLIENT'S CHALLENGE

With the project located in a prominent position adjacent to residential developments, the client required an aesthetically pleasing structure to carry the road and multiple utilities across the channel. The bridge and approach ramps would facilitate to enhance the traffic flow in the area. The contractor was keen to have an attractive solution that would allow rapid construction, thereby opening the bridge for traffic without considerable delay.

TENSAR SOLUTION

Tensar provided a design solution for the bridge bridge approach ramp walls and cover walls using the TensarTech TW1ME wall system. This MSE system utilises precast concrete blocks for the facing, and requires no deep foundation, enabling rapid construction. Site-won material was used for the structural fill, reducing transportation, construction carbon and overall cost, compared to importing high quality aggregate fill.

B E N E F I T S

- **Rapid construction** made possible with the TensarTech® TW1ME system.
- **Reduced cost** by enabling use of site-won fill material.
- **Construction carbon savings** compared to RC wall alternative.
- **Attractive solution** compatible with the local environment.

Tensar®

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PROJECT DETAILS

Application

**Earth Retaining Walls & Slopes
No. 532**

Constructed in
2020

Client

**Sharjah Roads & Transport Authority
(SRTA)**

Consultant

**Jacobs/Halcrow International
Partnership**

Contractor

National Contracting & Transport Co. LLC

Tensar Distributor

**Pioneers of the Middle East Bridges
and Tunnels Maintenance LLC-OPC**



TensarTech® TW1ME supporting the bridge approach embankment.

PROJECT BACKGROUND

The Kalba Corniche runs along the Sharja coastline south of Fujairah, facing the Gulf of Oman. It is an important connector, carrying traffic between Kalba and Fujairah. A section of the road just north of Kalba Corniche Park fronts a new residential development area.

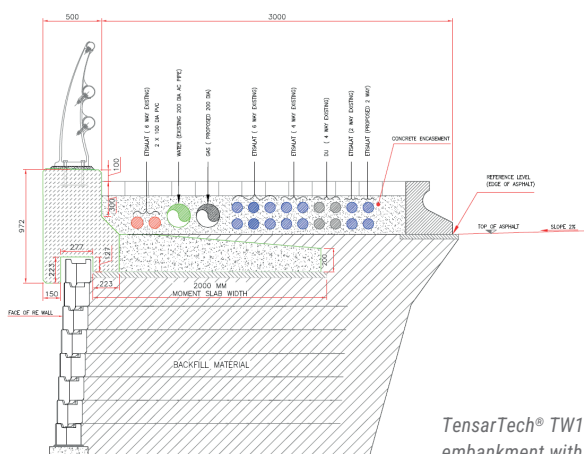
Stormwater from the residential area outlets to the sea via a wide channel that crosses beneath the road. To carry the road and essential utilities across the channel required a low bridge with long approach ramps. The prominent location adjacent to residential areas and the prestige nature of the Corniche development required an aesthetically pleasing, resilient solution. The contractor approached POME, Tensar's representative for a design solution, for the bridge approach ramp and cover walls that would be cost effective, durable, and rapid to construct.

Tensar's solution utilised the TensarTech® TW1ME system. This mechanically stabilised earth (MSE) system required no deep foundation and the precast concrete block facing enabled rapid construction. The structure is designed for a 120-year life. The highly durable and robust Tensar geogrid reinforcement allowed the use of site-won material for the structural fill, saving cost and construction carbon by avoiding the need to import high quality aggregates.

The contractor was able to complete construction of the approach ramp walls and cover walls within 10 days. The ornate design of the completed project belies the strength and resilience of the supporting MSE structures beneath.



Bridge and long approach ramps will support to enhance traffic flow in the locality.



TensarTech® TW1ME wall supporting the bridge approach embankment with multiple utilities below the footpath.

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