

# R245 Road Project

Kuwait



R245 Road Project

<p><b>TYPE OF PROJECT</b> Reinforced Soil Walls And Slope Reinforcement</p>	<p><b>YEAR OF CONSTRUCTION</b> 2014</p>	<p><b>CLIENT</b> Public Authority For Road And Transportation</p>	<p><b>CONTRACTOR</b> Kuwait Construction Company</p>	<p><b>DESIGNER</b> Maccaferri</p>
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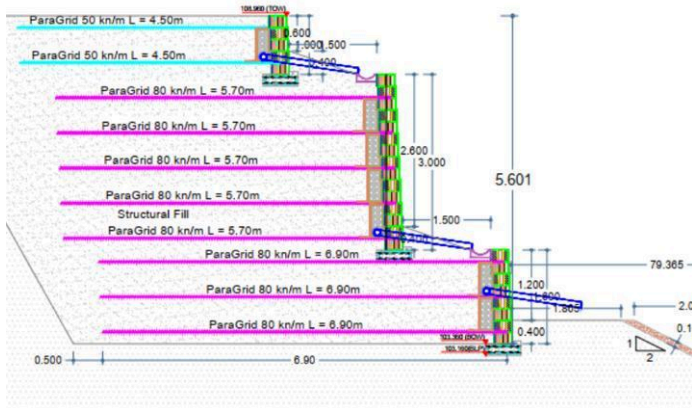
PROD. RELATED  
MACWALL (5,000 M2)

## Challenge

The R245 project involved the construction of a new 2.7 km road corridor, combining sections of cut slopes and high embankment fills. A continuous 1.6 km long retaining structure was required to support the roadway, with wall heights reaching up to 36 m, making it one of the tallest modular block retaining walls along the alignment. The primary challenge was to design a

safe, constructible, and economical MSE wall system capable of accommodating such extreme heights while controlling stresses on the facing and reinforcement connections. Conventional single-stage MSE wall configurations would have resulted in excessive loads at the block–geogrid interface, posing constructability and long-term performance concerns.

Section @ Chainage 8+450



Section



During Construction

## Solution

Maccaferri proposed and delivered an engineered MacWall® modular block reinforced soil wall system, specifically adapted to the project's exceptional height and length. To optimize structural performance and reduce connection forces, the wall was designed as a series of superimposed reinforced soil walls, each with a maximum height of 3 m, separated by 2 m horizontal offsets. This stepped configuration effectively reduced vertical loads on the facing connections while

maintaining global stability and continuity along the alignment. The MacWall system, combining high-strength modular concrete blocks with Paragrid® geogrid reinforcement, allowed efficient construction, controlled deformation, and seamless adaptation to the varying road geometry. The solution delivered a safe, durable, and cost-effective retaining structure, fully meeting the demanding geometric and geotechnical requirements of the R245 project.



During Construction



After Construction



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