

AL MADAM ROUNDABOUT
AL MADAM , SHARJAH, U.A.E.**Reinforced Soil Walls and Slope Reinforcement****Problem**

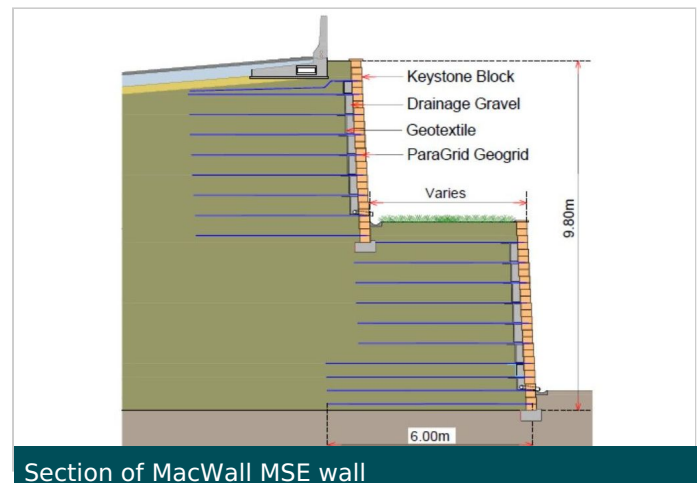
The 'Al Madam' roundabout in Sharjah required the construction of a Mechanically Stabilised Earth (MSE) wall along one of its ramps. This ramp serves as the elevated access to a new roundabout, which is expected to significantly improve traffic flow in the area. The retaining wall was originally designed in tiers, with an intermediate bench incorporated to allow for future landscaping and plantation works, which will enhance the visual appeal of the structure. An important aspect of the design was the requirement for the facing of the MSE wall to be beige in colour, matching the surrounding sand to ensure a natural, seamless blend with the environment. This focus on aesthetics was critical for maintaining the visual harmony of the infrastructure with its surroundings. The MSE wall not only serves a functional purpose by providing support for the elevated ramp but also contributes to the overall appearance of the site. This project successfully combines structural integrity with thoughtful design, addressing both the technical and visual requirements of the area.

Solution

Maccaferri's MacWall system was selected as the preferred type of MSE wall for the project due to its superior technological advantages and architectural appeal. The MacWall system consists of Key-stone segmental concrete blocks, which were dry cast in a beige colour to blend seamlessly with the surrounding sand, minimizing visual impact. Additionally, the system includes BBA-certified Paragrid geogrid soil reinforcement, and a mechanical connection using fiberglass pins. One of the unique aspects of this project was that it involved a false bridge abutment. The girder of the bridge was supported by columns that were cleverly concealed within the MacWall ramp, which enhanced the overall aesthetics of the finished structure. Maccaferri Middle East played a key role in the project, being responsible for the design, supply, and construction assistance for the MacWall MSE wall system, ensuring both functional performance and architectural integration. The combination of technical strength and aesthetic considerations made the MacWall system an ideal solution for this project.

Client: Ministry of Presidential Affairs**Designer / Consultant:** Parsons Overseas Limited**Contractor:** Western Bainoona Group**Products used (Qty.)**

- Macwall	Wall Face Area : 4,500 m2
- MonoAxial GeoGrids	Paragrid Geogrid : 13,200 m2

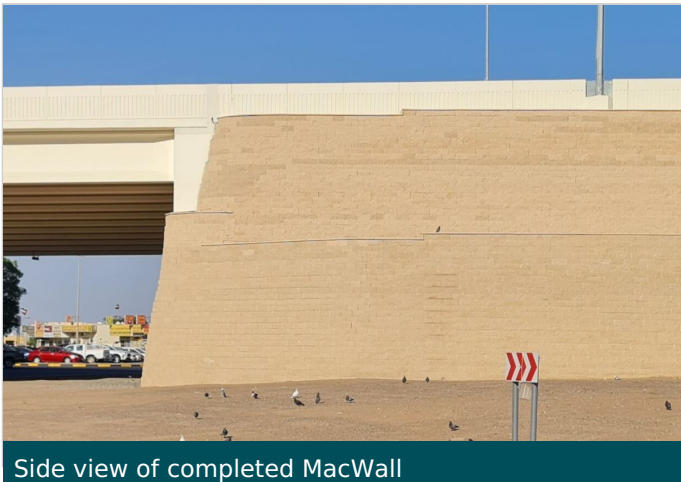
Date of construction: 08/2020 - 10/2021[Google Maps](#)[Google Earth](#)**Section of MacWall MSE wall****Concrete levelling pad laying**



First course of keystone blocks



Paragrid geogrid connected to fascia blocks



Side view of completed MacWall



View of MacWall below the bridge



Completed MacWall MSE wall at Al Madam Roundabout