

**PROPOSED PRIVATE VILLA AL BARARI
AL BARARI, DUBAI, U.A.E.**

Reinforced Soil Walls and Slope Reinforcement

Problem

A new residential development project in Al Barari, Dubai, required retaining walls to surround one of its plots. On the rear side, the plot boundary was close to the adjacent property, necessitating a vertical retaining wall that would also serve as a boundary wall. In other areas, there was sufficient space to construct tiered retaining walls that could accommodate benches and plantation works. This presented a dual challenge of designing a versatile retaining wall system that balanced space constraints, aesthetics, and functional integration of landscaping features.

Solution

To address the diverse requirements of the project, Maccaferri proposed a combination of MacWall and Terramesh systems. The MacWall system was selected for the vertical retaining wall near the plot boundary due to its compact design and ability to function as a boundary wall. This system used segmental concrete blocks (Keystone), BBA-certified Paragrid geogrid soil reinforcement, and fiberglass pins for mechanical connection, ensuring structural stability and architectural appeal. For locations with available space, the Terramesh MSE wall system was chosen. Its gabion-faced design offered flexibility for integrating plantations within the wall's benches. The robust 1-meter-wide gabion facing provided ample depth for vegetation, aligning with the project's landscaping goals. The porous structure of the gabions also allowed for efficient dissipation of pore water pressure, addressing potential irrigation challenges. Maccaferri Middle East played a key role in the project, providing design, material supply, and construction assistance for both MSE wall systems. By utilizing a combination of MacWall and Terramesh solutions, the project achieved a balance of structural efficiency, aesthetic appeal, and functional integration of landscaping, meeting the unique demands of the Al Barari development.

Client: MR. ZAAL MOHAMMAD ZAAL

Designer / Consultant: EMKAAN

Contractor: H & N

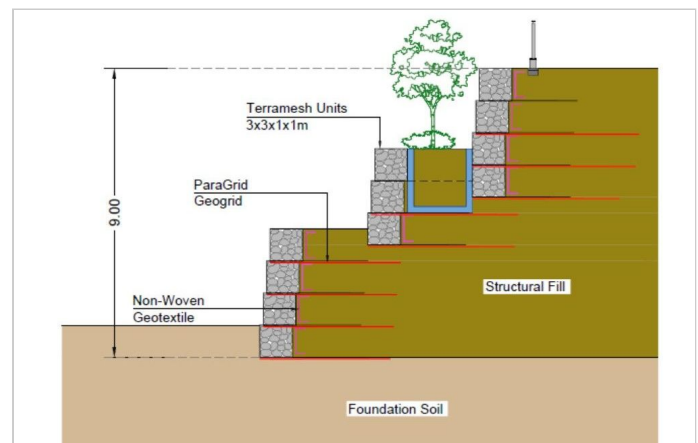
Products used (Qty.)

- Macwall MacWall face area: 785 m2
- Terramesh Terramesh face area : 690 m2
- MonoAxial GeoGrids Paragrid geogrid : 12,700 m2

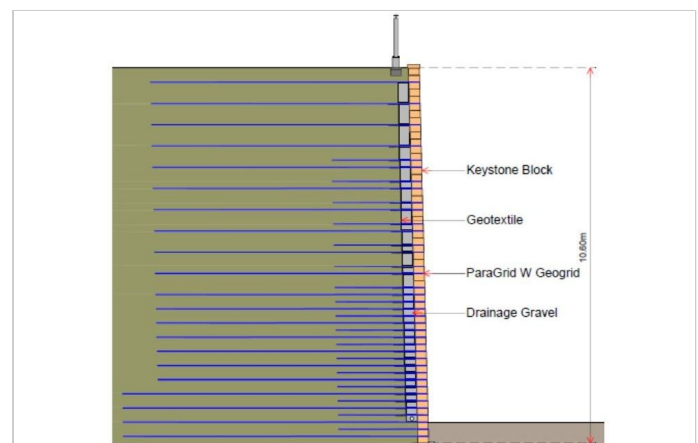
Date of construction: 11/2022 - 03/2023

[Google Maps](#)

[Google Earth](#)



Section of Terramesh MSE wall



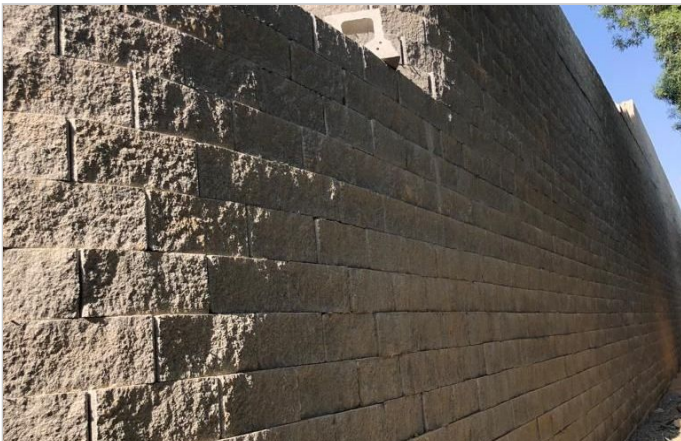
Section of MacWall MSE wall



MacWall installation in progress



MacWall installation in progress



Completed MacWall MSE wall



Terramesh MSE wall in progress



Completed Terramesh MSE wall with plantation works