

CONSTRUCTION OF DIBBA AL FUJAIRAH 5 STAR HOTEL

KHORFAKKAN - FUJAIRAH - U.A.E.



TYPE OF PROJECT

Reinforced Soil Walls And
Slope Reinforcement

YEAR OF CONSTRUCTION

2021-2022

CLIENT

DIBBA 5 STAR HOTEL

CONTRACTOR

FIBREX

DESIGNER

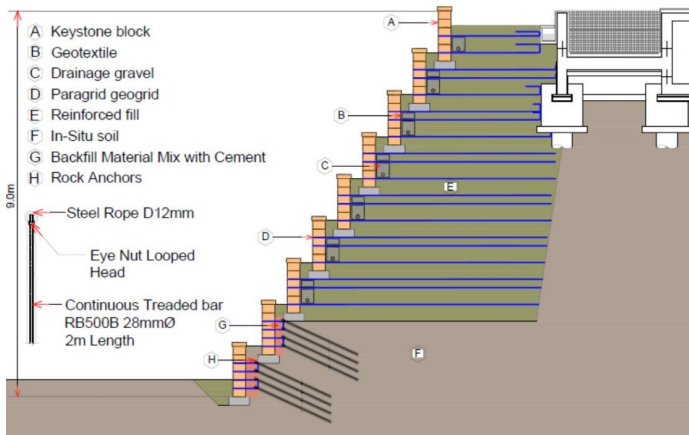
BAINONA ENGINEERING
CONSULTANCY

PROD. RELATED

MACWALL (Wall Face Area : 1,200 M2), MonoAxial GeoGrids (Paragrid Geogrid : 16,500 M2)

Challenge

Dibba Beach, situated on the eastern coast of the UAE, has gained popularity as a tourist destination thanks to its stunning landscapes, tranquil waters, and its proximity to the Hajar Mountains. Several hotel and resort projects are currently under construction along the beachfront. The 'Dibba Five Star Hotel & Resort project' began in early 2021 and includes beachfront villas and hotels positioned close to the shoreline. The project entails the construction of various resorts at an elevation of 10 meters above the shoreline, atop existing rock outcrops or cut slopes. This required the building of nearly 10-meter-high architectural walls in a confined space where the slope consisted of rock outcrops. Additionally, the project features curved and tiered walls that needed to be white to match the overall building design. As a result, a modular block wall system was chosen to construct the architectural walls for this project.



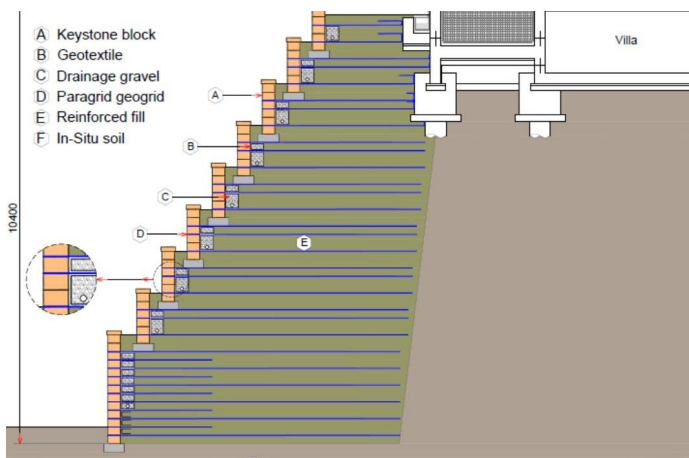
Section-A with cut rock outcrop



MacWall with rock anchors

Solution

Due to its cost-effectiveness, time efficiency, and adaptability to site constraints, Maccaferri's MacWall system was selected as the preferred architectural retaining wall solution for the project. The MacWall system is a Modular Block System for Mechanically Stabilized Earth Walls (MSEW), using Keystone Blocks and Paragrid geogrid for soil reinforcement. The project featured two types of sections. In the first type (Section-A), where space was limited, Paragrid geogrid was connected to rock anchors installed on a rock-cut slope. This connection was used for the bottom two tiers of the structure, with rock anchors designed to handle pullout forces corresponding to the long-term design strength of the geogrid. The backfill for these two tiers was stabilized with cement. In the second type (Section-B), where there were no space limitations, a conventional MSE wall was built with sufficient geogrid length. Special white Keystone blocks were used to align with the project's architectural design. Maccaferri Middle East contributed to the design, supply, and construction assistance for the MacWall system in the project.



Section-B with cut soil slope



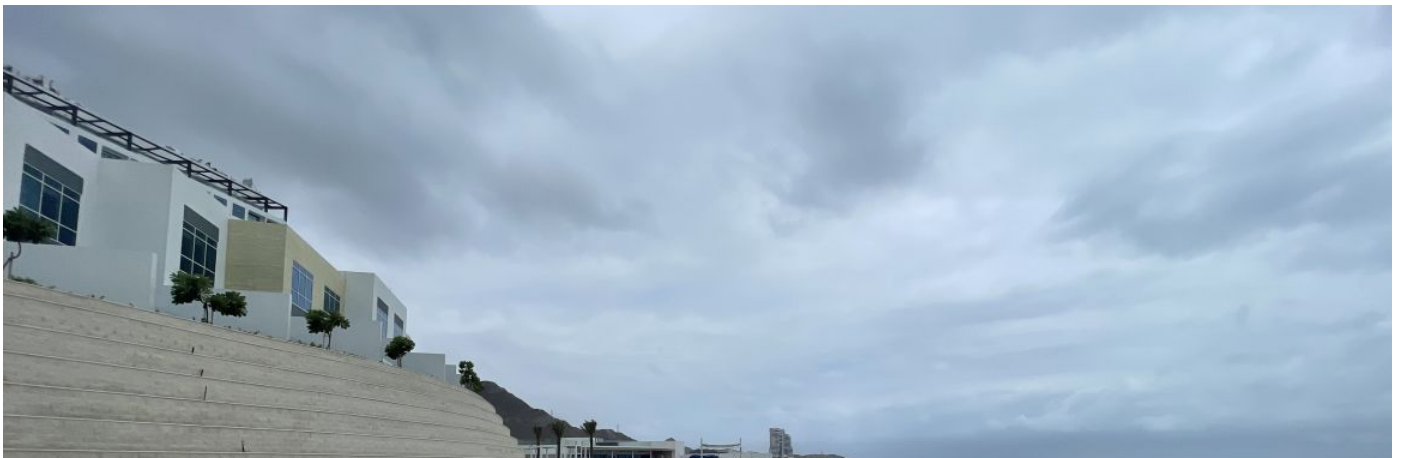
Cut soil slope location for MacWall



Completed Macwall



Completed MacWall (tiered details)



Completed MacWall (distant view)



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