

PYRAMID HEIGHTS PROJECT
WEST CAIRO, CAIRO, EGYPT**Reinforced Soil Walls and Slope Reinforcement****Problem**

Pyramids Heights is a residential community located in West Cairo, near the Cairo-Alexandria Desert Road. Spanning approximately 400,000 square meters, the development features villas, apartments, and duplexes designed for modern living. A unique challenge in the project was constructing retaining walls to manage the varying topography while reflecting the heritage of the nearby Giza Pyramids. The walls needed to emulate the appearance of limestone, integrate curved designs, and support varying heights, all while meeting structural and aesthetic goals.

Solution

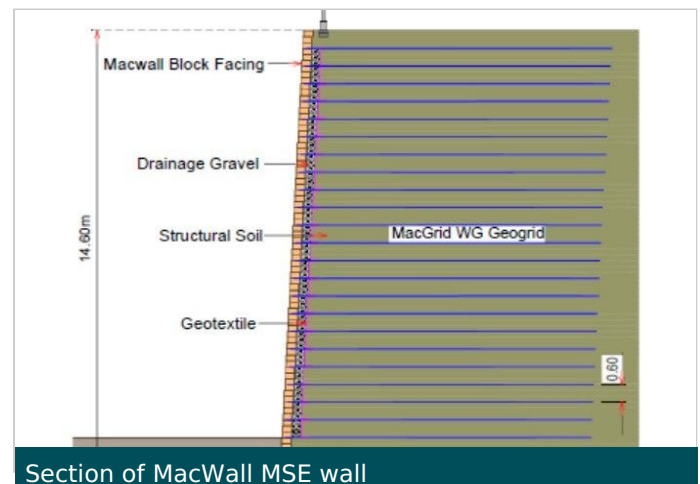
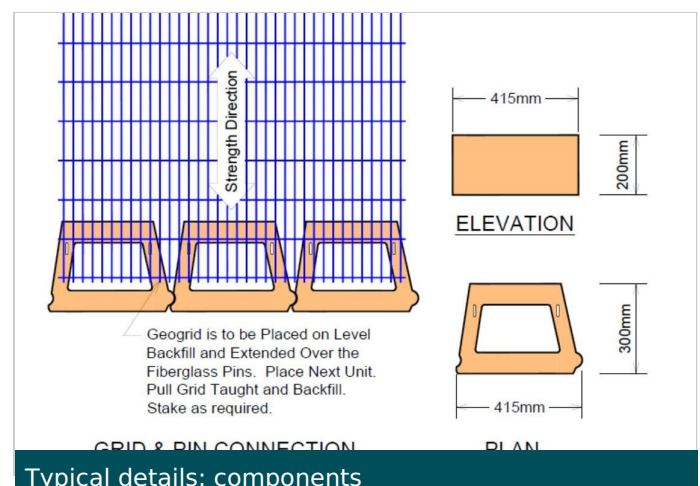
To meet these requirements, Maccaferri's MacWall system was selected for the retaining walls due to its structural versatility and aesthetic adaptability. MacBlock segmental concrete blocks were used, offering durability and customization to replicate the limestone appearance of the Giza Pyramids. These blocks, with consistent dimensions of 20 x 30 x 40 cm, allowed the construction of straight or curved walls, accommodating the project's architectural vision.

The MacWall system included MacGrid WG geogrid soil reinforcement to ensure long-term stability. Openings in the MacBlock units enabled secure mechanical connections with the geogrid layers using L-shaped pins, enhancing the structural integrity of high retaining walls.

This combination of technical and aesthetic solutions provided a seamless integration with the project's modern yet heritage-inspired design. Maccaferri's local agent, Strata Soil Systems, was instrumental in delivering design, material supply, and construction assistance, ensuring the retaining walls met the project's structural demands and architectural aspirations. The MacWall system successfully addressed the project's challenges, delivering a robust and visually cohesive solution.

Client: Samcrete Development**Designer / Consultant:** DIE STADT**Contractor:** Samcrete Engineers & Contractors**Products used (Qty.)**

- Macwall	MacWall face area : 9,800 m2
- MonoAxial GeoGrids	Macgrid WG geogrid : 12,880 m2

Date of construction: 10/2022 - 01/2024[Google Maps](#)[Google Earth](#)**Section of MacWall MSE wall****Typical details: components**



Typical details: block & geogrid



MacWall MSE wall in progress



Completed MacWall



Completed MacWall



Completed high MacWall MSE wall at a critically curved location