

EXPO HOUSE AT DOHA EXPO 2023
DOHA, DOHA, QATAR

Landscape Architecture

Problem

Expo 2023 is an International Horticultural Expo to be hosted by Doha, Qatar, for a period of 6 months between 2023 and 2024. Spanning across 1.7 million square meters, the event takes place in the scenic 'Al Bidda' park in Doha. The 'Expo House' building is planned as a key attraction within the 'Al Bidda' park as part of this exposition. The theme of EXPO 2023 is "Green Desert, Better Environment", with an aim to encourage, inspire, and educate people about cutting-edge methods to lessen desertification, and this aim has clearly reflected on the design of the 'Expo House' building. The Expo House is designed in the shape of a semicircle, with a vast open space in front and a fountain as a centerpiece. The benches along the sides of the pavilion form a natural amphitheater, offering stunning views and a perfect spot for the expo's events and gatherings. One of the challenges was to adopt the right solution that performs the functions of soil retention, stabilization, plantation, and smart irrigation needs of the project.

Solution

Maccaferri Middle East was chosen as the technology provider for the GREEN COVER SYSTEM; thanks to the wide range of geosynthetic products in our portfolio that can achieve the varying slope requirements of the artificial green mount in the project. To stabilize the earth mount and to facilitate vegetation growth along such complex slopes, three different types of geosynthetic products were proposed. The steep, curved external side was proposed to be built as a reinforced soil structure made of Maccaferri Terramesh Green system. The gentle sloped internal side, where people can walk and sit, was proposed to stabilize using a combination of Macgrid WG geogrids (as a soil reinforcement) and MacWeb geocell (for the topsoil confinement). All the mount is covered with 20 to 30 cm thickness topsoil for the greenery of the hill, which is planted by using selected plant species such as Pennisetum, Dahlia, and green grass, with a low need for water combined with a localized irrigation system. In October 2023, the client ASHGHAL has succeeded in achieving a new Guinness World Records title, "The Largest Green Roof" for Expo House building.

Client: ASHGHAL

Designer / Consultant: Dar Al-Handasah

Contractor: Tadmur Contracting W.L.L.

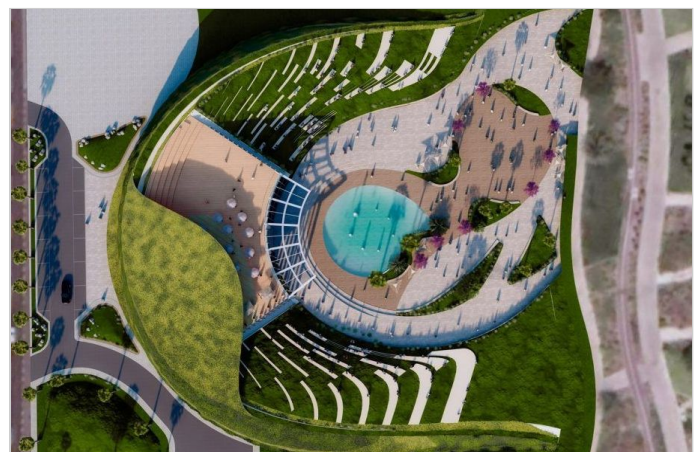
Products used (Qty.)

- Terramesh Green: 1,970 m2
- Macweb Geocell: 3,900 m2
- MonoAxial GeoGrids Macgrid WG Geogrid: 24,440

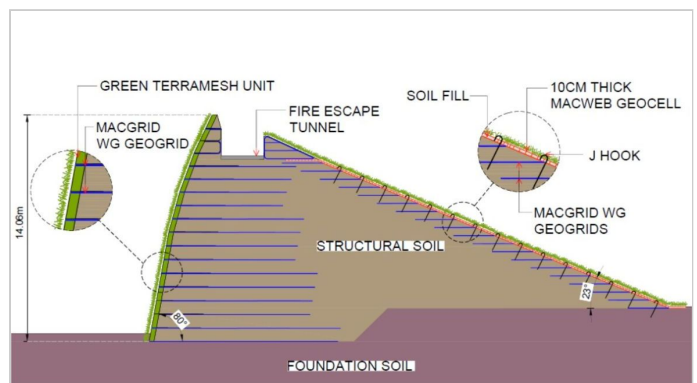
Date of construction: 11/2021 - 05/2023

[Google Maps](#)

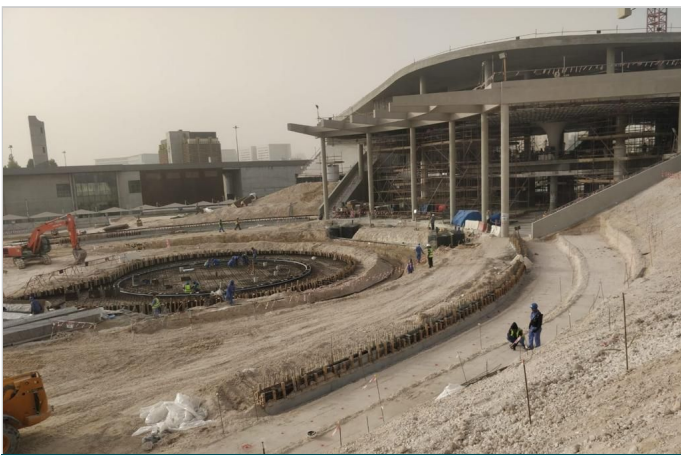
[Google Earth](#)



Architectural rendering of the 'Expo House' building (courtesy: Google images)



Sectional detail of Maccaferri green cover solutions



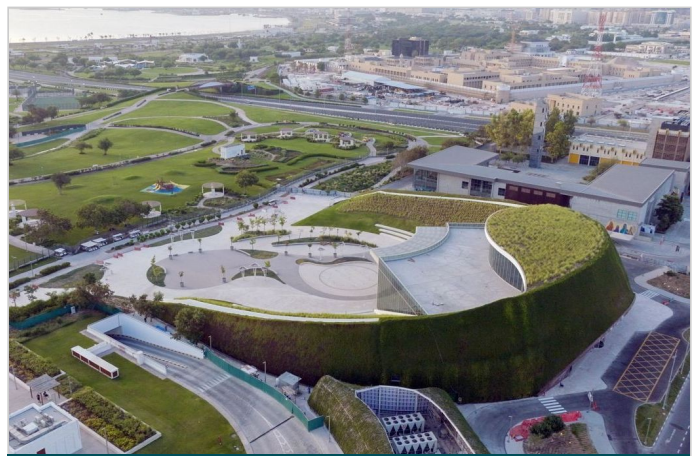
During construction: initial site works in progress



During construction: installation of Terramesh Green on outer steep slope



During construction: Laying of MacWeb geocell on inner gentle slope



Completed 'Expo House' in Doha Expo 2023 Project (image courtesy: ASHGHAL)



Completed 'Expo House' in Doha Expo 2023 Project (image courtesy: ASHGHAL)