MACCAFERRI

CASE HISTORY

Rev: 1, Issue Date 30.10.2023

TWANTAY-MAUBIN ROAD WIDENING PROJECT

YANGON, SOUTH WEST MYANMAR, MYANMAR

Reinforced Soil Walls and Slope Reinforcement

Problem

The Twantay - Maubin road connects Twantay, a township near Yangon city and Maubin, a town in the Ayeyarwady Division of south-west Myanmar. The road plays an important role for the economic development of the area and brings important social benefits to villages near Maubin. A major part of the road network goes through the Ayeyarwady delta which is characterized by low land and flat terrain and by the formation of swampy lands.

This existing 6m width road was constantly exposed to flooding and the embankment was subjected to failures and erosion. This scenario prompted the Ministry of Construction to look for a long-term solution.

Solution

This scenario prompted the Ministry of Construction to look for a long-term solution. The solution chosen consists in widening the original width of the road from 6 to 12m and solving the critical hydraulic instability problems.

Maccaferri, with the collaboration of local partner Authentic Trading, was entrusted by the Ministry of Construction in Myanmar to complete the 3.2 km Paramesh hybrid soil reinforcement system.

Maccaferri offered a complete solution. Maccaferri Reno Mattress® was used for river embankment surface protection against erosion next to the widening road. To tackle the problem of soft foundation soil under the river embankment and retaining wall, Maccaferri MacGrid® used as basal reinforcement. For the 4m retaining earth wall, Maccaferri Paramesh hybrid system, which consists of Terramesh® System and ParaGrid® coupled are used, together with MacDrain® and MacTex® to eliminate the water pressure towards the retaining earth wall. Prior the installation of the Terramesh®, Gabion® and MacLine® are used to construct temporary cofferdam to facilitate the installation at areas with high water level.

Known to be the most robust reinforced soil system, also in very seismic areas like Myanmar, Paramesh hybrid system has proven that it has no geographical limitation for the system to work effectively.

Client: Ministry of Construction Myanmar
Designer / Consultant: Maccaferri & Authentic
Contractor: Ministry of Construction Myanmar
Products used (Qty.)

- Gabions	153 nos size 2x1x1
- PP/PE Woven Geotextiles	62,821 meter square MXL 35
- Reno Mattress Plus	780 nos size 4x2x0.3
- Terramesh	5,712 nos size 2x1x1x3
- MacGrid AR	9,498 meter square MacGrid 30

Date of construction: 02/2021 - 02/2022

Google Maps Google Earth



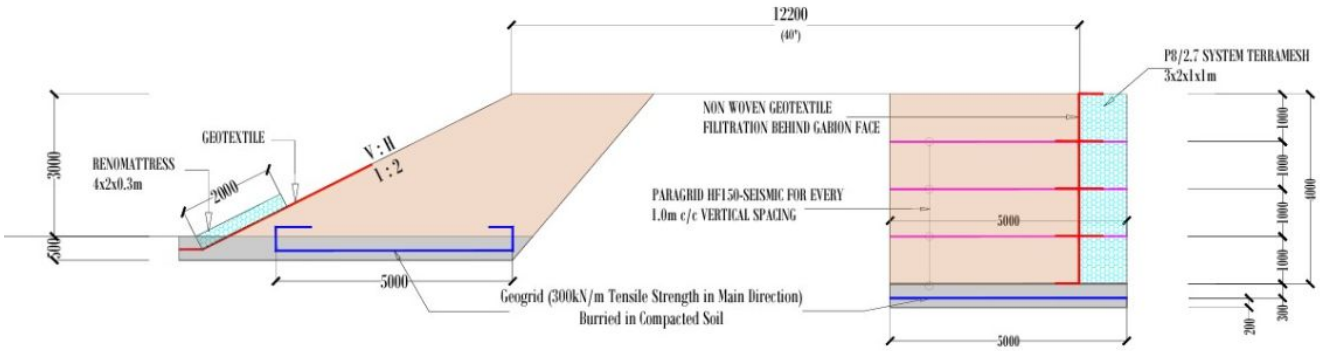
Bird-eye view Twantay-Maubin road



Terramesh system as reinforced soil wall



Road widening in progress



TYPICAL CROSS SECTION 02-02
where bearing reinforcement is needed
(4m HEIGHT RETAINING WALL)

Note:
For soft base soil,
- 3500m^2 of Geogrid (300kN/m Tensile Strength in Main Direction) must be provided at left side of road embankment.
- 3500m^2 of Geogrid (300kN/m Tensile Strength in Main Direction) must be provided at right side of road embankment.

Typical cross-section for widening work

Maccaferri (Malaysia) Sdn. Bhd.
Unit 511, Block G, Phileo Damansara 1, No. 9, Jalan 16/11, Off Jalan Damansara, 46350
Petaling Jaya, Selangor Darul Ehsan, Malaysia
T: +60 3 7955 7800
E: info.my@maccaferri.com