

WESTERN MAIN ROADS & SEA DEFENCES GRENADA, WEST INDIES

COASTAL PROTECTION

Product: Terramesh® System, MacMat® R

Problem

In 1998, Hurricane Lenny damaged the sea defences to the Western Main Roads on the island of Grenada. Loans from the Caribbean Development Bank following the hurricane enabled the rehabilitation of the defences.

Solution

Maccaferri were approached by the project contractor, CCC International to explore alternatives to the reinforced concrete walls proposed by the project engineer, DIWI GmbH. Gabion retaining structures were rejected, as landslides along the road would have worked successfully, this situation was a perfect application for the Terramesh® system, and was proposed by Maccaferri Inc. Instead of a gabion mass gravity retaining structure, the Terramesh® system consists of a gabion facing unit with an integral soil reinforcing 'tail' element. This tail is compacted within the structural backfill material, reinforcing it. In this application it offered the same aesthetics as a gabion wall, but for less cost, due to the reduction in gabion stone fill.

The project was divided into four phases, each lasting 6-8 months and consisting of various lengths of highway reinstatement.

- Gouyave to Union
- White Gate to Palmiste Phases I & II
- Queen's Park to Grand Mal
- Gros Point (Under construction 2003)

The Terramesh® reinforced soil structures (RSS) were used on each section, and varied in height from 1.5m to 9m in height. They were constructed upon a 1-4 ton armor stone toe to act as erosion protection. In some locations Maccaferri MacMat R® turf reinforcing mats were used on the reinstated slopes above the Terramesh® RSS to accelerate the re-establishment of vegetation. Maccaferri Terramesh® units on this project were manufactured from advanced Galfan® coated wire with a tough PVC coating. The combination of the protective coatings maximizes the design life of the structure in this maritime environment.

Client name:

GOVERNMENT OF GRENADA

General contractor name:

CCC INTERNATIONAL

Designer:

DIWI GmbH

Product used:

TERRAMESH® SYSTEM & MACMAT R®

Construction Dates:

2000 - 2003 ; FOUR PHASES OF CONSTRUCTION



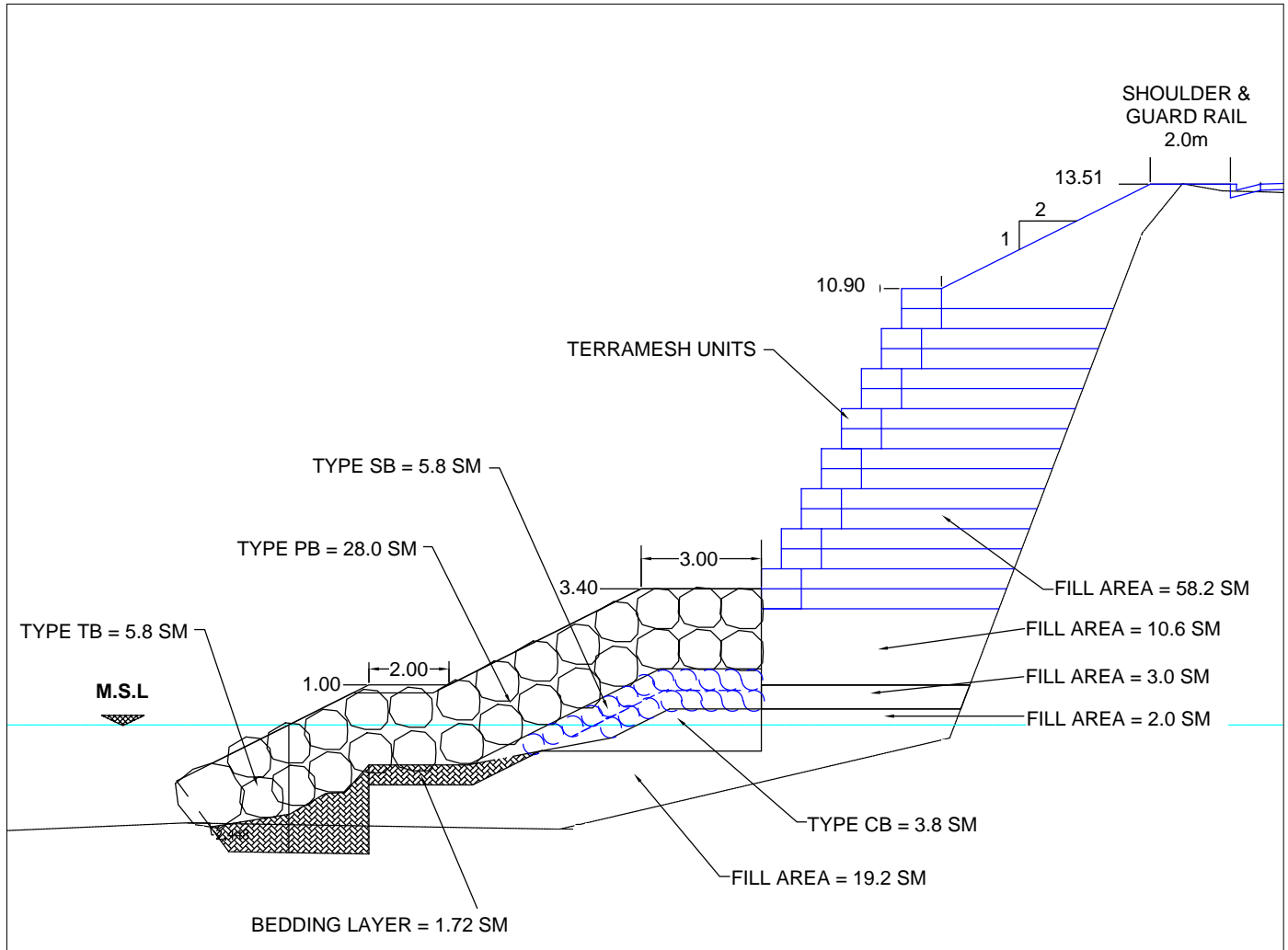
Placing backfill to Terramesh® units



Placing rock fill into Terramesh® facing units



Completed structure - Gouyave to Union



Typical Cross section of MSE structure



Headquarters - East Coast

10303 Governor Lane Blvd, Williamsport, MD, 21795
 Tel.: (301) 223 6910 Fax: (301) 223 4356

MACCAFERRI INC.

E-mail: hdqtrs@maccaferri-usa.com
 Web site: www.maccaferri.com

West Coast

3650 Seaport Blvd, West Sacramento, CA 95691
 Tel.: (916) 371 5805 Fax: (916) 371 0764