MACCAFERRI

CASE HISTORY

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CARMONA-GMA BRIDGE ABUTMENT

CARMONA, CAVITE, REGION IV-A, PHILIPPINES

Reinforced Soil Walls and Slope Reinforcement

Problem

An old truss-type steel bridge connecting the towns of Carmona and General Mariano Alvarez in Cavite, Philippines has undergone rehabilitation to decongest traffic in the area by constructing two new single lane bridges on both sides of the existing structure.

In order to install the bored pile foundations and piers of the new bridges, a temporary passageway for heavy equipment was made by cutting about 20 meters high through an existing slope on one side of abutment. As soon as the installation of the columns and piles is finished, the removed soils have to be filled again. The backfill materials required a retaining structure in such a way that the abutment's integrity was maintained.

Client: DPWH Cavite 1st District Engineering Office
Designer / Consultant: DPWH Cavite 1st District Engineering Office
Contractor: Marcbilt Construction, Inc.
Products used (Qty.)

- Terramesh N/A
- MacGrid WG N/A
- MacTex Non-woven Geotextile N/A
- MacDrain W N/A
- HDPE Pipes N/A

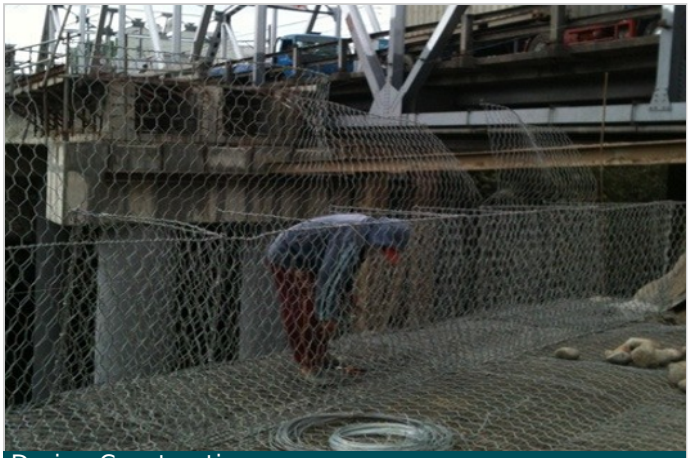
Date of construction: 01/2014 - 04/2014

Solution

Maccaferri engineers designed a retaining structure composed of Terramesh system units. Terramesh system is typically used for construction of mechanically-stabilized earth (MSE) walls. The reinforced zone of the MSE wall was primarily strengthened with Maccaferri's MacGrid high tenacity woven polyester geogrids.

Aside from the wall's structural integrity, ease of installation, and significant cost savings compared to reinforced concrete gravity walls, another distinct advantage of Terramesh System MSE wall is its ability to be fitted to the abutment's non-standard geometry requirements.

Existing Site Condition



During Construction

Near Completion

Near Completion

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