

DAVAO CITY DIVERSION ROAD

DAVAO CITY, DAVAO DEL NORTE, REGION XI, PHILIPPINES

Reinforced Soil Walls and Slope Reinforcement

Problem

A 200m-long portion of Davao City Diversion Road has been rehabilitated due to slope collapse, particularly along KM 1509+340 to KM 1509 +540.

A vegetated mechanically-stabilized earth (MSE) wall system that maximizes in situ materials, economical, and easy to build was required by the project proponent - the Department of Public Works & Highways (DPWH).

Solution

Based on the survey data provided by DPWH Engineers, a seven-meter high MSE wall was designed using Maccaferri's MacWeb 3D cellular confinement system as fascia and MacGrid woven polyester geogrids as soil reinforcements.

The recommended MSE wall system provides an inclined facing that promotes establishment of vegetation. Likewise, a scouring protection Reno mattress was placed at the toe, extending from the footprint of the MSE wall for additional foundation stability. The reinforced backfill of the MSE wall was compacted to minimum 95% of MDD by Standard Proctor.

Moreover, the downslope portion of the MSE wall was found to be composed of loose fill materials that are dumped prior to the construction of MSE wall. It has been recommended that the said portion be re-graded and properly compacted. Also, it must be vegetated to ensure stability against erosion.

Client: 3W Construction

Designer / Consultant: DPWH Davao City District Engineering Office

Contractor: 3W Construction

Products used (Qty.)

- MacCell	N/A
- MacGrid WG	N/A
- Gabion	N/A
- MacDrain W	N/A
- HDPE Pipes	N/A

Date of construction: 06/2016 - 09/2016



June 2016 - Site Preparation



July 2016- During Construction



July 2016- During Construction



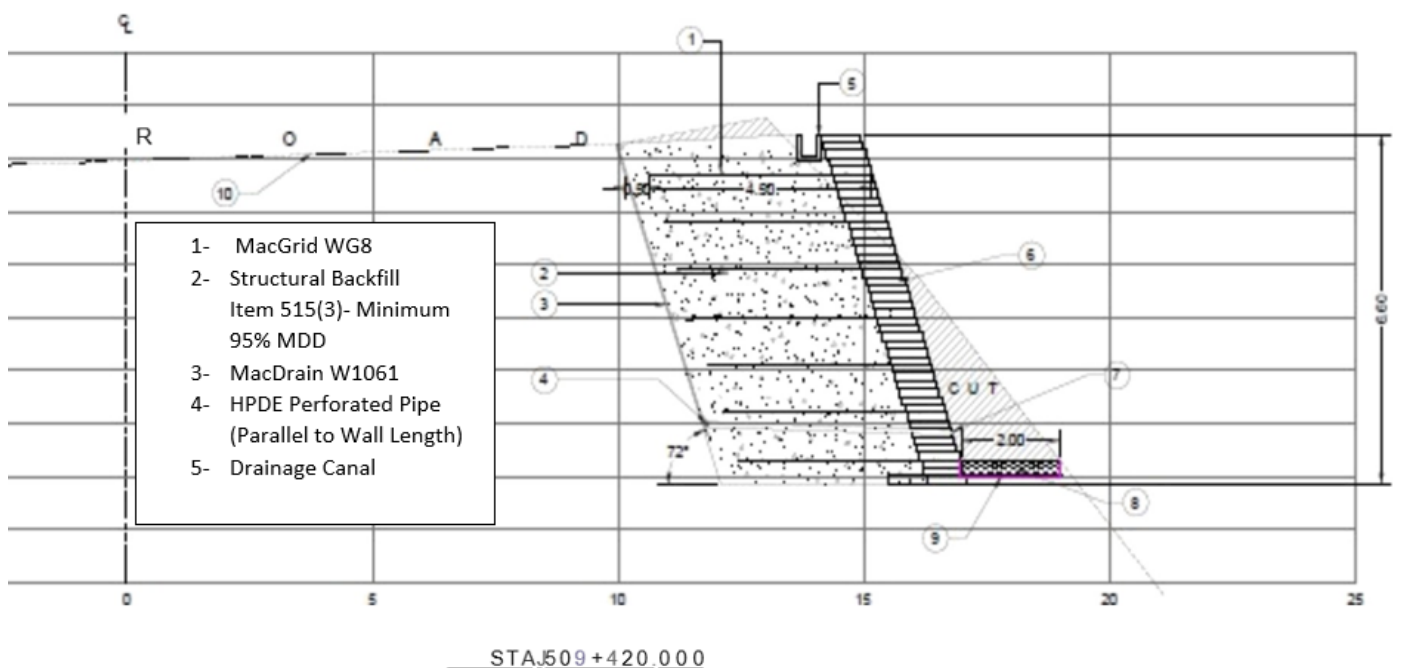
August 2016- Project Near Completion



August 2016- Project Near Completion



April 2017 - Project Vegetated



Typical Cross Section Detail

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