

WAY LOLA BESAR RIVER BANK PROTECTION SERAM ISLAND, MALUKU, INDONESIA

Channelling Works

Problem

Way Lola Besar is located in the North-East of Seram Island, Maluku Province of Indonesia. An unconfined river body was threatening the surrounding areas, populated by the local community, with frequent floods coming during the rainy season.

The objective was to build a dike in order to confine the high water flow level avoiding thus the flooding of the areas in its vicinity. The dike was planned to be build with locally available loose soil (mainly silty sand).

Solution

The Public Works Department decided therefore to build the dike and to cover it in with a durable and flexible revetment system to prevent the erosion of the fine soil particles.

It has been decided to line the entire dike using Gabions and Reno Mattresses (refer to the typical dike section).

Reno Mattresses allow tangential river flow velocities up to 6m/s without any substantial damage (according to the test results gathered during the Colorado State University hydraulic test campaign). Mattresses are also very flexible modular elements which allow high levels of deformation and settlements without compromising the lining integrity.

During the construction phases, the Mattresses lining experienced a severe flood without any visible damage.

Reno Mattresses have shown to be a valid alternative to the traditional lining systems used in Indonesia (rip-rap or masonry walls) both in terms of flexibility, durability and cost effectiveness.

Client: INDONESIAN MINISTRY OF PUBLIC WORKS

Designer / Consultant: PT MACCAFERRI INDONESIA

Products used (Qty.)

- Gabion	N/A
- Reno Mattress	N/A
- MacTex Non-woven Geotextile	N/A

Date of construction: 07/2015 - 12/2015



Site condition before the intervention



Site condition during a flood