

MSE WALL FOR ROAD REHABILITATION AT BUKIT KEMUNING BATAM, KEPULAUAN RIAU, INDONESIA

Mass Gravity Retaining Walls

Problem

In 2016, there was a landslide at Jalan Bukit Kemuning, Batam caused by heavy rain that continued for two days in the hilly area. As a result, some houses adjacent to the road were severely damaged and several more houses were in danger should there be subsequent landslides. In addition, road access connecting the Tanjungpiayu area has also been cut off.

The local government immediately took action to evacuate residents to safer areas and prevent further landslides from occurring. Slopes need to be stabilized with retaining walls to provide safety for the road user and the surrounding community. Innovative solutions with fast installation are needed to optimize the soils from cut-slopes.

Solution

Maccaferri Indonesia proposes to use its innovative Paramesh system – an MSE (Mechanically Stabilized Earth) wall – as a solution to the landslide problem in Bukit Kemuning. Paramesh system consists of Terramesh® as a secondary reinforcement and high strength geogrid ParaLink® 300 as a primary reinforcement, with a tensile strength of 300 kN/m. The system has a Sub Drainage System using a 30 cm thick rock layer wrapped with non-woven geotextile.

Maccaferri Indonesia provides comprehensive services starting from the design and planning stage with a technical recommendation, manufacturing and supply of materials, and construction stage with product assistance on the site. Most of the materials from Maccaferri Indonesia are manufactured locally in Indonesia under national and international standardization.

After the system's installation, the location of the previous landslide has become one of the favorite tourist attractions for the Batam community. People stop at the location to enjoy the view of the city of Batam in the afternoon and the number of visitors will much increase in the month of Ramadan. The local government also provides adequate culinary tourism facilities along with a safety fence on the roadside. Now people can safely enjoy the panorama at Bukit Kemuning.

Client: MINISTRY OF PUBLIC WORKS

Designer / Consultant: PT Batam Structural Engineers

Contractor: PT Jati Raja Kontraktor

Products used (Qty.)

- Terramesh	800 units
- ParaLink	12,600 sqm

Date of construction: 07/2017 - 10/2017



Before construction



ParaLink Installation



Terramesh



People enjoying the view on Terramesh (in 2017)



Condition in 2021