MACCAFERRI

CASE HISTORY

Rev: 1, Issue Date 24.06.2025

TERRAMESH WALL FOR BUKIT BISMILLAH

BATAM, KEPULAUAN RIAU, INDONESIA

Reinforced Soil Walls and Slope Reinforcement

Problem

The Trans Barelang Road serves as a main route connecting several islands within the Batam area and plays a vital role in public mobility, logistics distribution, and local economic development. Disruptions along this corridor not only impact daily traffic but could also delay the movement of goods and services between islands. Therefore, comprehensive repairs at the landslide location, reinforcement of the slope toe, and optimization of the drainage system are critical to prevent further damage and to maintain inter-island connectivity in Batam.

A landslide occurred at the toe of the slope in the Bukit Bismillah area, located along the Trans Barelang Road in Batam City. The landslide was triggered by erosion (scour) at the slope toe caused by water flow from a cross-drainage structure located beside the road. This erosion continuously washed away the soil material, compromising the slope's stability. As a result, a subsequent landslide propagated to the road surface, causing significant settlement. If not addressed promptly, this condition could lead to a larger landslide that would threaten both road users' safety and the structural integrity of the road itself.

Solution

As a mitigation measure, the Terramesh system was employed to reinforce the slope toe that had been eroded by drainage runoff. This system functions as a flexible and robust retaining wall designed to stabilize landslide-prone slopes. By reinforcing the base of the slope, Paramesh Wall helps prevent soil movement that could trigger larger failures extending to the road surface. This solution also allows for integration with a safer drainage system and provides long-term protection for vital infrastructure such as the Trans Barelang Road.

Client: BP Batam

Designer / Consultant: CV Buhara Persada

Contractor: PT Sabar Jaya Karyatama

Products used (Qty.)

- Terramesh	570 pcs
- Drainage Geocomposites	1,600 pcs
- Macmat	5,400 pcs
- Biaxial Geogrids	29,000 m2

Date of construction: 03/2024 - 08/2024

Google Maps Google Earth



Before Construction



Before Construction



During Construction



Finished Construction

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