

NANJUNG TUNNEL EROSION CONTROL BANDUNG, WEST JAVA, INDONESIA

Slope Protection

Problem

Nanjung Tunnel Project is located in Bandung, West Java, Indonesia. This tunnel is built to facilitate the flow of the Citarum River, so that it can overcome the flooding in Bandung. The operation of the Tunnel is intended to reduce the flooded area from the initial 490 hectares to 80 hectares. The surrounding slopes around the tunnel need to be protected from the potential erosion. The slope which is mainly composed of fine-grained soil required protection from erosion created by rain and surface water flow. The selection of the right solution is necessary in order to prevent failure by the presence of water. Erosion Control Solution by Maccaferri Indonesia was selected considering its ability to allow surface seepage and to grow vegetation (LCC – Legume Cover Crop).

Solution

An Erosion Control System made of a combination between HDPE geomat and double-twisted wire mesh panel with longitudinal high tensile strength steel cables called Macmat HS was installed on the slopes. An array of mulching contained of seeds was then applied onto the Macmat HS to bring vegetation. The vegetation shall bring the nature back as rehabilitation. Available in rolls, Macmat HS has an easy installation procedure with the support of a T-shape deformed bar to hold the mesh onto the cut slope. Maccaferri Erosion Control System shall grant some advantages such as: Easy and Quick Installation; Allows drainage on the surface of the slope; Allows vegetation as rehabilitation; Capable for combination with Soil Nailing; Suitable for steep slopes.

Client: BBWS CITARUM

Designer / Consultant: PT. Virama Karya Cabang Sumbar – PT. Suprahar

Contractor: WIJAYA KARYA – ADHI KARYA (J.O.)

Products used (Qty.)

- MacMat HS 3,500 sqm

Date of construction: 10/2019 - 02/2020



Slope Condition before Macmat Installation



Maintenance Process - Watering



Lush Grown Vegetation



Vegetation Overview



Vegetation close up view