

RIVER TRAINING WORK SENTUL NIRWANA BOGOR, WEST JAVA, INDONESIA

Longitudinal Protection

Problem

Sentul Nirwana area is a part of Sentul City where the adventure tour "Jungle Land Adventure Theme Park" was placed. In their development program which the area is at side of river there for need protection to prevent failure on river slope. The geological condition of the river bed mostly consist of Cemented Clay with black color, hard consistency, but easy to be fractured if affected from impact and erodible due to river flow. River slope is an original soil silty clay and soil embankment to increase the height of the soil surface. Discharge of river in flood condition until 234 m³/s.

Solution

Combination of Maccaferri Gabion and Reno Mattress become a right choice to solve the problem on site. Gabion as counterweight structure able to maintain the slope stability and as flexible structure it is better to deform than rigid structure. Another characteristic of gabion is a permeable material which able to reduce pore water pressure behind structure quickly so that able to avoid slope failure due to rapid draw down process. The function of Reno Mattress is as scouring protection and applied on the bottom/in front of structure. The flexible and continued characteristic material able to avoid scouring until stable condition.

In both application must be use Mactex Non Woven Geotextile as separator, filter and drainage to prevent the accumulation of saturation without losing soil grain. The availability of materials, easy installation and the possibility of using local manpower will increase the effectiveness and productivity of the construction work.

Client: SENTUL NIRWANA

Designer / Consultant: SENTUL NIRWANA

Contractor: PT. ADHI KARYA

Products used (Qty.)

- Gabion N/A

Date of construction: 05/2012 - 09/2012



Before Construction



During Construction



During Construction