

SLOPE SURFACE EROSION PROTECTION WORKS RANCHI, JHARKHAND, INDIA

Slope Protection

Problem

Jharkhand Urban Infrastructure Development Company Limited (JUIDC) has constructed an irrigation canal with Gabion wall. Above the wall there is a slope of 3m height with 1:2 inclination. The total length of canal is around 2.7km.

During rainy season, the erosion of soil and scouring of the slope may occur and it is likely to cause damage to property, interruption of work, and possible danger to worker's lives at the project site of the irrigation canal. So the client wanted to protect the slope by adopting erosion control measures.

Solution

The client was looking for the solution from which they can ensure easy installation and quick growth of vegetation. The soil used to prepare slope was of frictional type with very low cohesion, which can be eroded easily due to wind and rain water. Due to this nature of soil, rain cuts can form easily if vegetation growth does not happen. Surficial erosion can be tackled in a variety of ways, all of which require attention to details and experience.

So Maccaferri MacMat has been selected as the suitable solution & Macmat is designed to provide long-term erosion control for slopes that are of 1:1 or higher inclination. Maccaferri MacMat is a reinforced geomat obtained by a polymer made three-dimensional matrix. As a system, it holds the soil in position on slopes and provides the root reinforcement during the early stages of plant growth which is necessary for natural vegetation to resist the extreme effects of wind and water erosion.

When installed, Macmat is filled up with top soil and provides excellent surficial protection. As the germination starts and vegetation becomes established, the roots become entwined within the structure of Macmat. This provides anchorage to the vegetation to resist against high shear stress situation.

The MacMat is an effective erosion control solution for wide range of applications like embankment protection and cuttings in highways & railways, irrigation channels, canal embankments and slopes, ponds and lakes banks, landfill embankments and covers, etc.

The project is completed successfully and the solution is working as per requirement.

Client: Jharkhand Urban Infrastructure Development Company Limited (JUIDC)

Designer / Consultant: Maccaferri Environmental Solutions Pvt. Ltd.

Contractor: Eagle Infra India Limited

Products used (Qty.)

- MacMat 35685 sq.m

Date of construction: 12/2015 - 03/2016



Photo 1 : During Construction



Photo 2 : After installation of MacMat



Photo 3 : Photograph of the completed structure



Photo 4: Good vegetation growth within months