

## EROSION CONTROL WORKS ON SONA RIVER JODA, ODISHA, INDIA

### Longitudinal Protection

#### Problem

The river Sona in Joda in Orissa was prone to seasonal flooding, inundating surrounding areas. The banks of the river were affected by large amounts of erosion due to the flow of the river. Also, a river bridge over the river had its piers and abutments exposed due to the continuous erosion.

The client wanted to control the erosion of the banks and protect the bridge through an innovative, technical and economical solution.

#### Solution

A gabion wall was constructed to protect further erosion of the pier of the existing bridge on the Sona river. Slope revetment protection was done using reno mattresses which prevented further scouring and erosion.

A geotextile layer was placed behind the gabion toe wall and beneath the revetment for separation and filtration purposes.

It was also considered that in case any type of vortex is formed in the river bed near the pier portion, then it is to be filled with river bed material and compacted accordingly before placing reno-mattress at top for preventing further scouring.

Advantages of gabions:

1. Cost Effectiveness.
2. Simplicity in construction.
3. Flexibility.
4. Durability.
5. Drainage and permeability.
6. Environmental compatibility.

**Client:** Tata Steel Rural Development Society (CSR Division)

**Designer / Consultant:** Maccaferri Environmental Solutions Pvt Ltd

**Contractor:** Z-Tech (India) Pvt. Ltd.

#### Products used (Qty.)

- |                 |           |
|-----------------|-----------|
| - Gabion        | 2,661 cum |
| - Reno Mattress | 1,400 sqm |

**Date of construction:** 11/2016 - 04/2017



Photo 1: Before construction



Photo 2: Before construction



Photo 3: Completed structure



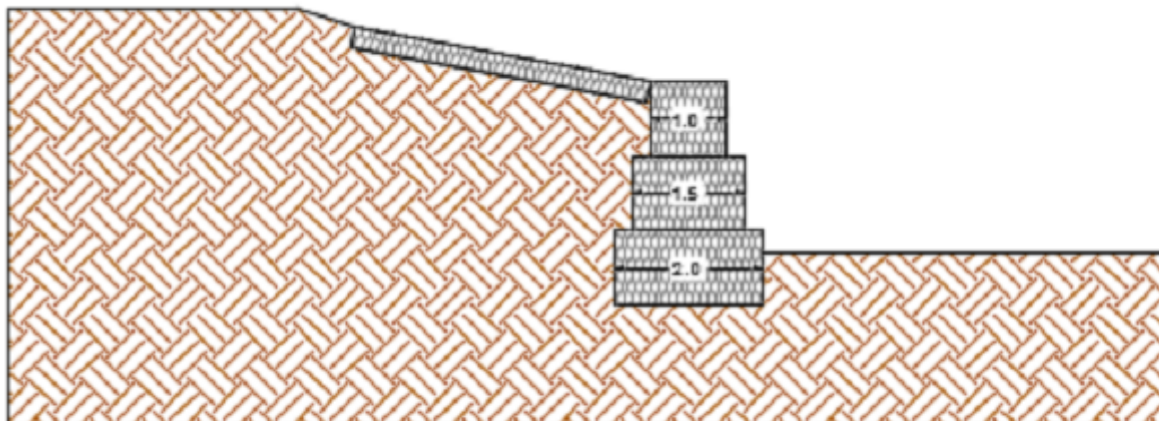
Photo 4: Completed structure



Photo 5: Completed structure



Photo 6: Completed structure



## Cross sectional drawing

MACCAFERRI ENVIRONMENTAL SOLUTIONS PVT. LTD  
D40, MIDC Ranjangaon, Tal-Shirur, Dist. Pune - 412 220  
Tel: +91 2138 393000 , Email: info.in@maccaferri.com