MACCAFERRI

CASE HISTORY

*Rev: 2, Issue Date 24.03.2024*

# PAGUDPUD ILOCOS NORTE MACTUBES

## PAGUDPUD, REGION I, PHILIPPINES

Longitudinal Protection

**Problem**

Constructing viaducts or bridges above water presents unique challenges, with the scouring of the toe being a significant concern. Scouring occurs when water flow erodes the bed material around the bridge supports, particularly at the base or toe, potentially compromising the stability of the structure. In this project by the Department of Public Works and Highways, the objective is to build a bridge spanning over 1.7km, with nearly half of its length being exposed to the powerful forces of the open sea.

**Solution**

Mactubes were used to address the scouring challenge. Mactubes are filled with sand and placed at the base of bridge piers or abutments. Mactubes, made from durable polypropylene woven geotextiles designed specifically for use in marine environments and hydraulic structures, offering high-strength performance, act as a protective barrier, dissipating the energy of the flowing water and reducing the erosive impact on the riverbed. The use of Mactubes helps prevent scouring, enhancing the stability and longevity of the bridge or viaduct. The advantages of using geotextile tubes in this context include their flexibility, adaptability to various site conditions, and their ability to provide effective erosion control. Additionally, geotextile materials used in these tubes offer durability and resistance to environmental factors, making them a reliable solution for mitigating scouring issues in water infrastructure projects.

**Client:** MAC Builders

**Designer / Consultant:** DPWH Region 1

**Contractor:** Mac Builders

**Products used (Qty.)**

| | |
|---|---|
| - PP/PE Woven Geotextiles | Mactex W1 4 Rolls |
| - Nonwoven Geotextiles | Mactex PN 9 Rolls |
| - Synthetic Marine Solutions | MacTubes 20 pcs |

**Date of construction:** 11/2023 - 07/2024

Google Maps Google Earth




During Construction



During Installation

MACCAFERRI



During Installation



During Installation



During Installation



During Installation



Completion

Maccaferri (Philippines), Inc.
11/F, Asian Star Building Alabang, 1781 Muntinlupa City - Philippines
Tel: +63-2 8889-0623
E-mail: info.ph@maccaferri.com