

LAKE PROTECTION WORKS IN NAVI MUMBAI

NAVI MUMBAI, MAHARASHTRA, INDIA

Mass Gravity Retaining Walls

Problem

Bank erosion of 10 lakes in Navi Mumbai had been an environmental issue for long. Although a UCR wall was already present to protect the banks, it was damaged and needed to be replaced by a new construction.

Ganesha festival is a holy celebration in Mumbai, and as a ritual the Ganesha idols are immersed in the lakes and ponds. Since these idols are prepared out of PoP and other toxic chemicals, they pollute the lake bodies and the maintenance of the water body becomes an issue of concern. In order to avoid such problem the client was looking for a solution which is environment friendly as well as protects the lake from getting polluted. The location of these lakes were Digha, Ghansoli, Gunali, Karave, Khalan, Talao, Nerul, Rabada, Shravane, Turbhe.

Solution

The existing UCR Wall had failed to protect the lake banks, and so the client was in favor of an environment friendly solution, so a gabion retaining wall was proposed in order to protect the lake banks from pollution. A partition wall made of gabions will prevent the flow of idols to deeper areas. The project had multiple contractors like Vikas Construction, Shree Venkateshwara, Ent.Moksha Const, .B G Ajay construction and Swastik Infralogic.

Gabions are rectangular baskets fabricated from a hexagonal mesh of heavily galvanized steel wire. The baskets are filled with rock and stacked atop one another to form a gravity type wall. Its structural integrity with surroundings and ability to let vegetation grow encourages the use of gabions as a solution to many environmental issues.

Advantages:

1. Flexible: Double-twisted hexagonal steel wire mesh structure tolerates itself against huge forces without breaking or cracking.
2. Durable: Galvanized wire mesh are durable. However if the galvanized wire is coated with PVC, the structure has a longer life span which are beneficial especially in wet environment.
3. Permeable: The hexagonal wire mesh structure filled with stones provide an effective drainage.
4. Economy: Gabion Structures are economical as compared to the conventional structures especially if the fill materials are locally available.

Client: NMMC

Designer / Consultant: Maccaferri / Tandon Urban Solutions Pvt.Ltd.

Contractor: Swastik Infralogic, Vikas Co, Sh Venkateshwara

Products used (Qty.)

- Gabion	9,164 cum
- MacTex N	4,500 sqm

Date of construction: 08/2010 - 10/2010



Photo 1: Construction of gabion wall, Digha lake



Photo 2: Partition gabion wall, Nerul lake



Photo 3: Partition gabion wall, Ghansoli lake



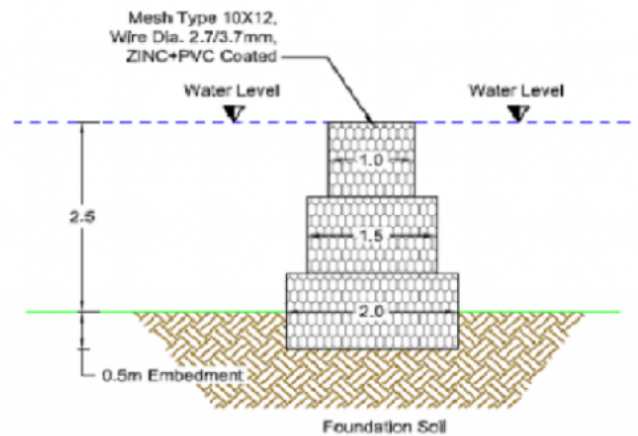
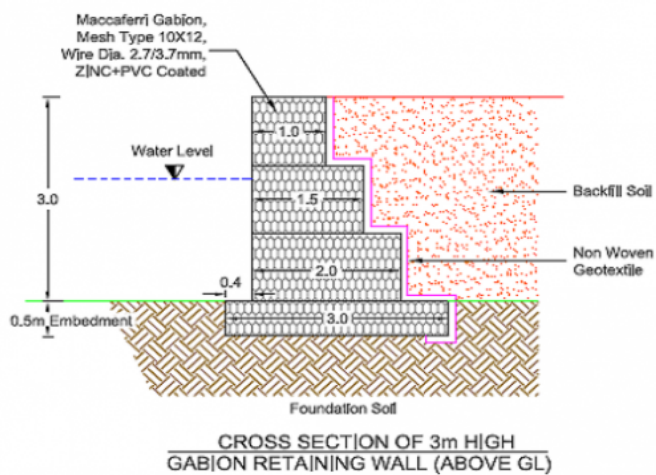
Photo 4: Gabion wall, Gunali lake



Photo 5: Completed structure



Photo 6: Completed structure at Belapur



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