

### SIBLEY MEMORIAL HOSPITAL WASHINGTON, DC

#### RETAINING WALLS - "GREEN" ENGINEERING

**Product:** GALVANIZED GABIONS / BIOMAC C

##### Introduction and Problem

Sibley Memorial, a non-profit community hospital serving the Washington, D.C. area, was planning to build an additional medical office building and parking garage. Due to the fact that the hospital is situated next to Little Falls Park and near Dalecarlia Reservoir, architects aimed to keep the design as natural looking as possible.

A gabion retaining structure was chosen to support the new access road. Typically filled with rock at the project site and with an inherent ability to vegetate over time, this particular wall was designed to be "green" immediately following construction.

##### Solution

Maccaferri was contacted by Environmental Quality Resources (EQR), and was asked to design a "green" gabion retaining wall. Maccaferri partnered with The Collin Group, Ltd. to design a viable green solution for the project. Utilizing our design assistance, EQR was able to provide an acceptable solution to the owner.

The design called for vegetative pockets in the front steps of the gabion wall. The corners of the gabion steps were to be filled with a mixture of stone and soil. The soil was to be held in place by a coconut matting, BioMac C, until vegetation could be established. This heavy erosion control matting has a durability of 3-5 years.

Maccaferri Inc. gabions and mattresses are manufactured in strict accordance with ASTM A975. The double twisted, hexagonal mesh is very robust, and can accommodate large differential settlement without rupturing or 'unzipping'. The junction strength between adjacent wires in the mesh is as strong as the wire itself. Stresses can be dissipated in two dimensions throughout the mesh. This ability continues even if the wires are cut or damaged.

Although the entire project was not scheduled for completion until late 2010, the gabion wall was completed in late summer 2009. The gabion wall is fully functioning and nicely vegetated.



During Construction



During Construction



Vegetation Growth

