

8TH. STREET EAST ROAD RECONSTRUCTION OWEN SOUND, ONTARIO, CANADA

Mass Gravity Retaining Walls

Problem

The Town of Owen Sound was proposing to reconstruct an approximate 800 m section of 8th Street East, from 5th Avenue East to 9th Avenue East. The purpose of the reconstruction was to replace existing storm and sanitary sewers and watermain throughout the 800 m section road. On the north side of the road there was an aging limestone and mortar slope treatment along of the road embankment. The geotechnical investigation recommend to replace this slope treatment with a new retaining wall system. Due to the horizontal space available between the edge of the road and the property lines on top of the slope, a tie back system wasn't an option because there wasn't enough space to place the tie backs in the proper length. Also, the city was looking for a green face wall, they were trying to avoid a massive concrete/rock face wall. C.C. Tatham & Associates out of Collingwood, Ontario contacted Maccaferri Canada LTD to provide a proposal for the retaining wall required.

Solution

After review different options for the retaining wall system, Maccaferri came with a Green Gabion Wall solution. It consists of a basket manufactured from heavily galvanized and polymer coated double twisted hexagonal woven steel wire mesh which is lined with a turf reinforced mat. The unit is filled in-place with gabion stone and then the voids between the stones are filled with quality topsoil, before the unit is closed. The topsoil sustains the establishment of the vegetating soil-bioengineering techniques, and the stone fill provides a tough skeleton to the system.

No heavy equipment was required to build the system. The construction company assembled the units on site.

As a result, a Maccaferri Green Gabion wall was built. The project was finished in winter 2015 and the vegetation started to grow on summer 2016.

The length of the wall is 60 meters and the height varies between 2.5 to 3.5 meters.

This solution accomplish with the two major requirements for the retaining wall system: green face wall in order to don't disturb the house urban environment and a short footprint that doesn't compromise the property lines at the back of the slope.

Client: CITY OF OWEN SOUND

Designer / Consultant: C.C. Tatham & Associated LTD.

Contractor: E.C. King Contracting

Products used (Qty.)

- Gabions	455 m3
- Macmat	251 m2

Date of construction: 08/2015 - 03/2016

[Google Maps](#)

[Google Earth](#)



View of original slope before construction of the wall



Green Gabion Wall during installation



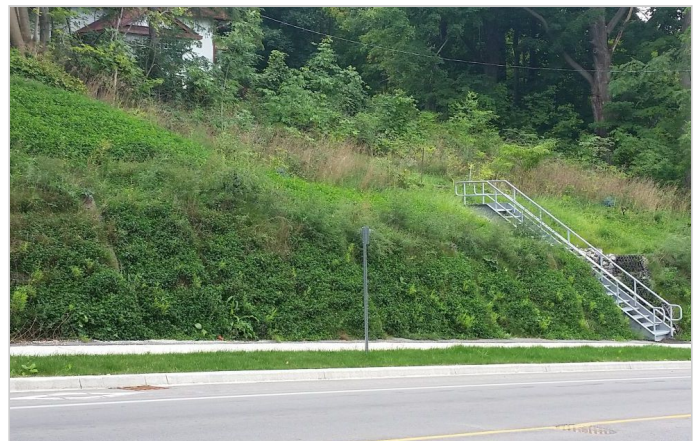
Detail of Green Gabion Wall units



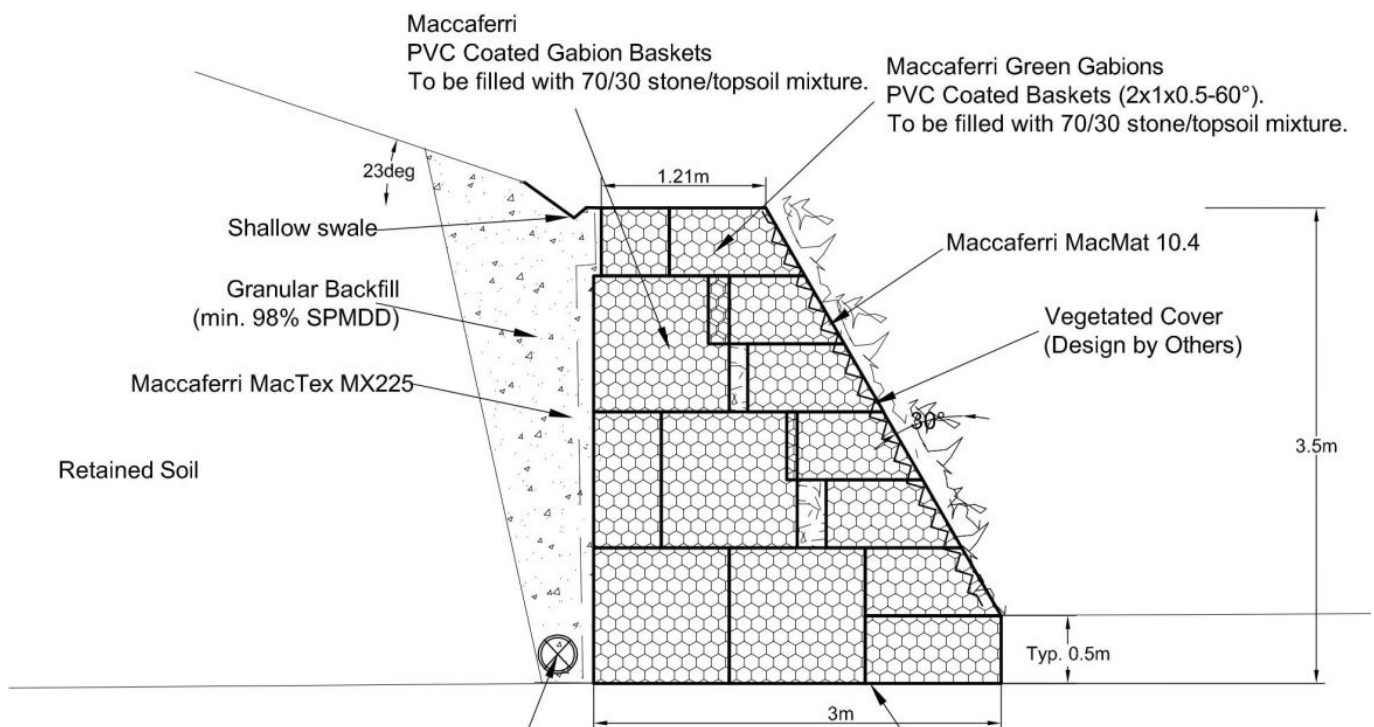
Downhill view of finished wall



Uphill view of finished wall



Detail of the Green Gabion Wall fully vegetated



Green Gabion Wall 3.5m height cross section