TENCATE Geotube®

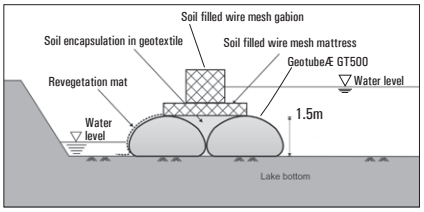
PROJECT REFERENCE

Construction of MiniñDam using GeotubeÆ GT500

Wack Wack Golf Course, Manila, Philippines

Project Data

Project	:	Construction of MiniñDam, Manila, Philippines
Owner	:	Wack Wack Golf Club, Manila
Products Used	:	GeotubeÆ GT500



Cross section of GeotubeÆ miniñdam

Overview

Wack Wack Golf Course, located in Metro Manila, is the oldest golf course in the Philippines. Overflow from a heavily polluted municipal drainage channel running through part of the course, was polluting a small pond resulting in a persistent unpleasant foul smell. The golf course management decided to call for proposals to solve the problem.

Design Constraints

The construction conditions laid down by the golf course management were quite restrictive. Firstly, the proposed remedial solution was not allowed to involve construction that would interrupt golfing activities. Secondly, materials, equipment and transportation had to be light enough not to damage the buggy tracks providing access to the site and thirdly, movement of construction vehicles was only allowed only during non-golfing hours. Temporary de-watering of the lake to facilitate construction works was also not permitted.

Finally, a green solution was desired.

Solution

The winning proposal involved the construction of a miniñdam using GeotubeÆ GT500 engineered tubes installed underwater along the edge of the lake adjacent to the drainage channel. The GeotubeÆ dam was designed to separate the water in the lake from the polluted water in the drainage channel.

The cross section of the mini-dam consisted of two bottom GeotubeÆ engineered tubes 85m long, filled to a height of 1.5m. A wire mesh mattress and 1m x 1m gabion was then placed centrally above the installed GeotubeÆ. Finally the plan called for a small weir on the drainage channel to be demolished to lower the water level in the channel below that of the dam.

Construction

Construction began in early 1999 and the GeotubeÆ engineered tubes was installed one unit at a time, each unit was continuous over the entire miniñdam structure. The GeotubeÆ engineered tubes were floated into position, then filled with sand pumped in slurry form into the filling ports of the GeotubeÆ. As the sand filled the tubes they sank to the bottom of the lake. When the miniñdam structure was completed the concrete weir that was keeping the water in the lake and channel was demolished on the channel side.

The finished vegetated GeotubeÆ/Gabion structure performs well to this day.

Installation of the Gabion above the GeotubeÆ engineered tubes

Completed structure

Fully vegetated structure as it is today

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