

Construction of Mini-Dam using Geotube® GT500

Wack Wack Golf Course, Manila, Philippines

Project Data

Project	: Construction of Mini-Dam, Manila, Philippines
Owner	: Wack Wack Golf Club, Manila
Products Used	: Geotube® GT500

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 mini-dam using Geotube® GT500 engineered tubes installed underwater along the edge of the lake adjacent to the drainage channel. The Geotube® dam was designed to separate the water in the lake from the polluted water in the drainage channel.

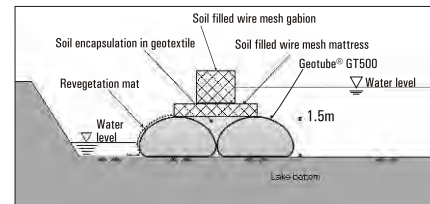
The cross section of the mini-dam consisted of

two bottom Geotube® 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 Geotube®. 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 Geotube® engineered tubes was installed one unit at a time, each unit was continuous over the entire mini-dam structure. The Geotube® engineered tubes were floated into position, then filled with sand pumped in slurry form into the filling ports of the Geotube®. As the sand filled the tubes they sank to the bottom of the lake. When the mini-dam 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 Geotube®/Gabion structure performs well to this day.



Cross section of Geotube® mini-dam



Installation of the Gabion above the Geotube® engineered tubes



Completed structure



Fully vegetated structure as it is today

Geotube® is a registered trademark of TenCate.

Further details of this application and products can be obtained by contacting your nearest TenCate Technical Support office.

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