

## *Case Study*

### CASE STUDY – Seepage control with Geomembrane

Bombay Presidency Golf Course in Chembur, Mumbai was constructed by placing huge amount of sand and gravel to make a well drained golf course. Some lakes were also built as obstacles for the game.

However, in summer, water from the lakes would seep out through the well drained soil with which the golf course was built.

The lawn's requirement for water in summer was high and this was the time when water was not available.

In order to solve this problem it was decided to get some seepage control treatment done. The technique selected was by the use of 1.0 mm thick HDPE Geomembrane.

The water in Lake No 11 was at its minimum. The residual water was evacuated and a Poklane was used to excavate 30 cm thick layer of mud from the bottom and the slopes.

The slopes were dressed to achieve desired contours and evenness.

Fibertex F-40 PP Nonwoven needle punched Geotextile was placed on the soil to provide protection to the geomembrane and decrease chances of





puncturing of the geomembrane.

1 mm thick HDPE Geomembrane was laid over the geotextile and welded to form a water tight structure. The geotextile and geomembrane were anchored in trenches of size 60 cm X 60 cm approximately, around 1m away from the start of slope.

A 30 cm thick layer of stoneless soil was placed over the geomembrane at the bottom and a 30 cm thick layer of fertile soil was placed on the slopes to support grass and other vegetation.

In order to help quick establishment of vegetation and to control erosion of soil from the slopes, FC-700 Coir Geotextile was placed on the slopes. It was anchored in a trench and weighed down to the slopes by bamboo stakes.

Thus completed, water was released into the lake. Grass saplings were planted on the slopes through the opening in the coir geotextile. The slopes were watered for a few days.

Soon monsoon rains lashed Mumbai. Grass and other vegetation established fast and the area was restored to its original state. Fountains were installed for aeration and aesthetics. Seepage was thus controlled and water available in summer.

