

Bomanite Pervious Concrete Systems

PROJECT PROFILE

FAIRLOP SAILING PARK

PROJECT INFORMATION

Project Description and Brief

Embankments

Fairlop Sailing Park near Ilford had, in 1982, developed signs of erosion at various points to the embankment slopes. The lake was conceived from former gravel workings and the existing natural material retained for the slopes had a low scour resistance. Wavewash created by prevailing winds across the lake had scoured the higher risk areas of the embankments. A system of surfacing was, therefore, required which could maintain the appearance of natural grass slopes yet achieve the scour resistance of say solid concrete together with a slip resistant surface for mooring sailing craft.

Project Specification

The erosion of the lakes had become concentrated along three separate stretches of embankment which had failed to resist the hydraulic loading created by the cross lake swirl. The need, therefore, was to provide a continuous system of stabilisation without the risk of weak spots which would be the focal point of the erosive forces and yet retain the natural grassland environment of the lake. The system adopted was the Grasscrete GC3 (76mm thick) insitu revetment surfacing. This system is continually reinforced by steel fabric with concrete poured on to plastic formers providing a structural carpet of grass and concrete. To enable work to commence on the revetments, the level of water in the lake was lowered to below the base level of the new surfacing. The existing grass and topsoil coverings were removed from embankments and the exposed sub-grade regulated to form an even profile of between 1:2½ and 1:4 gradients. To prevent backwash erosion at the base of the surfacing a toe beam was excavated to provide an insitu concrete beam 250mm wide x 400mm deep. Further regulation of the embankment was provided by a sand blind 10-20mm thick. This and the sub-grade below were then protected by geotextile membrane. The Grasscrete GC3 system was laid with the base abutting the edge of the toe beam, a further sacrificial covering of sand was spread over the Terram layer to prevent damage upon burning out the plastic former tops. After completion of the burning out operations, the pockets formed in the Grasscrete were filled with friable topsoil. A moisture tolerant grass seed type was selected for use. The presence of wild white clover in the mix provided a carpet of cover with early resistance to wear. The new Grasscrete surface was now able to provide an ideal mooring point for the boats from the lakes sailing club, the pockets of the Grasscrete enabling mooring pins to be driven into the embankment and the fully enclosed concrete surround to each pocket allowed safe walking along the revetment.

PROJECT DETAILS

LOCATION

Barkingside, Essex, England

CLIENT

London Borough of Redbridge

GENERAL CONTRACTOR

J Browne Construction Limited

INSTALL COMPLETED

1982

SQUARE FEET

4300 m²

BOMANITE SYSTEMS

GRASSCRETE GC3 (150mm thick)

GRASSCRETE GC1 (100mm thick)