



Riverbank protection

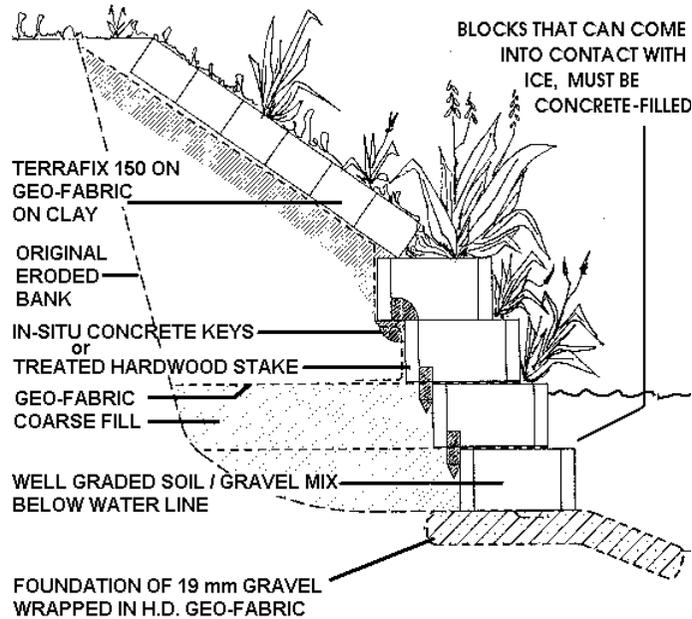
Terrafix and Terracrete

Since 1986 Terrafix erosion control blocks have proved themselves as a most versatile and environmentally sound product. They were designed to provide a cost effective, flexible lining to protect against wind and water erosion.

Terrafix is an interlocking environmentally acceptable element, made of high strength concrete. It was specifically designed to provide a flexible lining where cost-effective protection against wind and water erosion is required. They are available in three different thicknesses and can be laid in a variety of configurations to suit most site conditions.

This makes it the ideal product to help combat the rapid degradation of our rivers and streams, caused by unbridled urbanisation and poor farming practices all over South Africa and the world. Terrafix can help prevent our soil being eroded away, while still being permeable enough to help preserve our precious ground water reserves and biodiversity.

Recently the new Terracrete Exec. block was added to our range of products. Exec. is even more cost effective, and can be specified as a hard lawn - drive over for light vehicles, when provided with a well designed subbase. Exec. has been designed



Lakeshore protection



Lakeshore subject to extreme freeze thaw conditions

specifically so that it can be installed with ground anchors for application with high water velocities.

Both these durable concrete units may be used in most saline or polluted conditions, interlock laterally and offer a secure yet flexible lining. The products have been specified in applications, designed to charge our dwindling ground water reservoir and to provide a perfect regime for establishing vegetation.

The Terraforce system (L range)

The L range blocks, such as the L12 and L18 are also ideally suited for any type of erosion control measures. Unlike monolithic concrete retaining walls, those constructed using the TERRA FORCE system are easily formed into complex curved shapes (either convex or concave) or into walls in which the upper and lower profiles are continuously changing.

The walls have a flexible structure which is aesthetically pleasing, and produces a natural, environmentally friendly look. They are designed to allow you a choice between round face, (plant supportive) or flush face (smooth or split version) to suit

Palm Jumeirah, Dubai, seashore protection



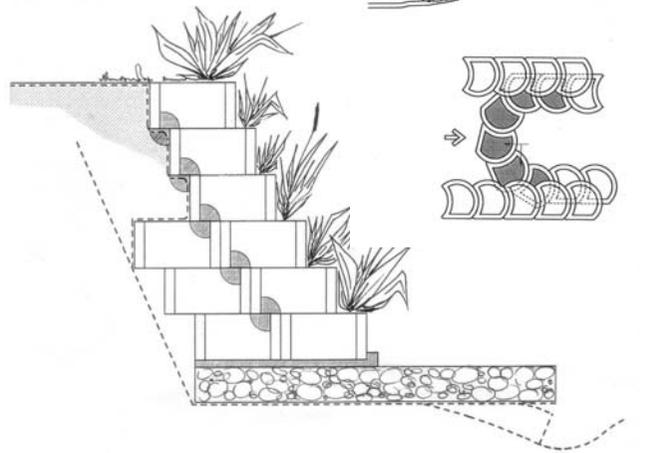
your specific requirements, and they present a closed vertical surface structure that provides maximum amount of soil mass within the wall and prevents backfill spillage, while at the same time offering uninhibited permeability.

Terraforce erosion control products have successfully been installed on river banks subject to water velocities of up to 6m/sec. and on estuaries / beaches with moderate wave action. In addition, Terraforce products have been tested and used under such conditions since 1984 and our consultants will provide you with further information and references upon request. **Very basic guidelines are listed below.**

Foundation: Concrete on bedrock or Terrafix/P.V.C. coated gabion mattress apron on filter fabric on erodable founding material to resist undermining. Alternatively place first row of blocks below anticipated depth of scour.

Concrete Retaining Blocks: Terraforce blocks have a closed vertical surface structure (no air voids within wall). Consequently

Light small stream protection with energy dissipating weirs incorporated at regular intervals. Prevent undermining of weirs with random packed rock apron or similar.



Heavy double skin protection for fast flowing and deep rivers or lake shores subject to wave action. **General:** prevent undermining by installing a suitable erosion control apron/lining of invert or by founding blocks below anticipated depth of scour.

they have a high constructed mass, resist erosion of backfill effectively and are truly plant supportive.

Terrafix revetment blocks offer a cost effective alternative for gentle slopes that require a lighter form of protection.

Drainage: A suitable coarse drainage layer must be installed behind the blocks, combined with a filter fabric to prevent leaching of fines.

Block infill: A well graded mix, capable of resisting erosive forces, while being able to sustain plant growth should be designed according to the application.

General: Existing riverbed meanders, longitudinal gradients, water volumes and velocities as well as cross sectional dimensions complete with possible energy dissipation weirs should be considered. Durability of blocks under aggressive (sea water – cement content of 300kg/qum concrete) conditions and resistance to reciprocating hydrostatic pressures due to wave action or ice pressure (fill with concrete) must be taken into account.

Ultimately the project will be judged not only by its engineering merits but also in terms of its environmental compatibility. Refer to TERRAFORCE design Manual of 1995 (Colin Alston – Ontario)



Seashore protection since 1986