



Shaping the landscape with Terrafix

### Interlocking landscapes with Terrafix

Terrafix, an interlocking erosion control and landscaping block designed by Terraforce, local and international concrete block licensor, is a remarkably versatile product that can cover a wide spectrum of uses and situations.

Specifically designed to provide a flexible lining for protection against wind and water erosion the blocks are made of durable concrete and interlock laterally for maximum stability. They can be laid in a variety of configurations to suit most site conditions and are also highly permeable and excellent for establishing vegetation, thus further improving stability. But it is not just a practical or environmental

approach that makes the product so interesting. The block's figure of eight shape and seamless interlock forms a finishing layout that creates an organic and fluid feel, something that landscape planners and engineers have made good use of in a number of interesting projects.

At the Metrolink building in Braamfontein, Johannesburg, a state of the art facility which assists with the processing of building plan applications and assessments and forms part of the overall Braamfontein regeneration project, landscape architect Anton Comrie of Green Inc used the block at the back of the building to shape a raised, hard surface adjoining a parking area for the Civic Centre.

The blocks are suffused with Wonderlawn, successfully softening the space. Comrie describes this as 'a type of skin wrapped over the shaped earth.' It is a manageable solution



Wonderlawn softens the look



Light and economical erosion control

from a security and maintenance point of view and has also reinforced the considerable slope in this area. Comrie comments that all the elements used to landscape the outside areas were important to establish a bold, simple and long-lasting space.

The block is also often used when less heavy duty retaining is needed. At Corporate Park North, a commercially zoned area north of Midrand, block walls were required as a result of extensive and deep cut-to-fill operations to achieve level terraces. While mostly conventional retaining block walls were constructed at 70 degree slope angles to heights of 6m, one of the slopes cut to  $\pm 50$  degrees did not require heavy duty retaining as the material was a very stiff granite sand. It was however necessary to prevent erosion, as the fall above the cut slope would have resulted in water flowing down the



slope and onto the parking lot, causing sand to accumulate, making regular cleaning necessary.

The solution was to clad the slope using the Terraforce 120 erosion control system at 10 blocks per m<sup>2</sup> to ensure interlock and limit any potential future movement. The uneven and eroded slope face was levelled out with 5% OPC stabilised soil and Terraforce blocks underlain with a needle punched geofabric. The block voids were then filled with topsoil and planted with Indigenous ground cover.

This does not mean that the Terraforce block can't cope with large scale erosion control. In 2006, 23 063 blocks were successfully used to stabilise a heavily eroded cut slope at Suikerbossie Nek along Victoria Road between Camps Bay and Hout Bay. The slope posed a serious threat of collapse and after extensive site research, a combination of Terraforce blocks and gabions running along the bottom were chosen to stabilise the embankment.

Mike van Wieringen of M. van Wieringen and Associates, consulting Geotechnical Engineers and Engineering Geologists, explains that Terraforce 150 blocks were selected in order to trap the maximum amount of topsoil on the face thus enabling plant growth, to prevent erosion by surface run-off and to retard the weathering process: "Because of the very large area covered on a curved surface, near-horizontal concrete infill walers were introduced at 5 m intervals to take up the uneven spaces developed between adjacent panels."

"These were anchored to the slope with anchor bars in order to reduce any possible downward sliding force coming to bear on the gabion wall. The maximum density of Terraforce laying pattern (10 blocks per m<sup>2</sup>) was used so as to maintain an interlock between blocks against lateral sliding should support from below be disturbed in any way."



23064 blocks were used to stabilise this slope

Vegetation increases stability and aesthetics

