

Case Study

Project:	Fischer Rd Office Park Wrap-around Wall	Date:	July 2008
Client:	Sanyati Holdings	Product:	RockGrid™ PC50, RockGrid™ PC75
Consultant:	Martin & Associates / ARQ	Quantity:	PC 50 - 2850m ² PC 75 - 7820m ²
Contractor:	PSC Civils		

The Fischer Road Office Park site is situated on a steeply sloped hillside and therefore cut and fill platforms had to be constructed to make efficient use of the area. In order to retain a large fill platform, a wrap-around wall was constructed using RockGrid™ PC50 and RockGrid™ PC75. The wrap-around wall construction technique was chosen over a modular block wall due to its cost-effective nature, shorter construction time, ease of construction and the ability to coincide construction with the fill operation.

Wall Dimensions:

Wall height:	2 - 8m
Wall Length:	160m
Reinforcement spacing:	600mm (lifts)
Face Area:	6500m ²
Wall slope Angle:	70 Degrees

The soil on site comprised residual sandstone with no cohesion, a friction angle of 30 degrees and a density of 18kN/m³. Drainage behind the wall consisted of 250mm Wickdrains at 5m centres. These were connected to 100mm diameter perforated Geopipes™, which were wrapped in bidim® A2.



The design standards used were SANS 207 for the wrap-around wall and SABS 1200D for the earthworks. A simple base was constructed by benching 1200mm into the existing material, compacting and then levelling the surface. The wall reinforcement comprised tiebacks at 600mm lift intervals, ranging from 1500mm to 6000mm in length.

The wall took approximately 4 months to construct and is performing well.

Problems encountered:

The shutter boards that hold the front face in shape were pushed out during compaction, but tying the shutter boards to the RockGrid™ PC with wire alleviated this.