

# Protecting an island paradise (/construction-world/projects-and-contracts/27394-protecting-an-island-paradise)

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Mauritius is one of the smallest countries in Africa. It has a coastline of 177 km. The island is known for its beaches, lagoons and reefs. It is (or rather was) also the place where the extinct dodo bird once roamed. Much effort is put into conservation of other endemic animals on the island such as the pink pigeon. Not only do we need to protect the fauna and flora of the area, the infrastructure on this small island that spans 2040 square kilometres also needs to be protected.



Over the last four years, Geobrugg, a Swiss company with an office in Johannesburg, South Africa, has provided protection solutions for various projects on the island. All Geobrugg systems are developed in Romanshorn, Switzerland. The systems are tested under the supervision and in cooperation with research institutes and certification bodies. Geobrugg is available as a full-service provider along the entire process chain on finding solutions to protect people and infrastructure from natural hazard conditions. Geobrugg has been producing systems made of high-tensile steel wire for more than 65 years. The systems provide reliable protection for vulnerable areas and objects in the environment.

Geobrugg aim to achieve the ideal solution by making the best possible use of all components based on our many years of experience and track record of countless successful projects. When it comes to safety, we leave nothing to chance.

## Maconde

On the south coast of Mauritius, is the Baie du Cap. The region is known for its natural beauty and its wild, rugged coastlines. The winding road along the basalt cliffs of Maconde was first built in the 19th century. Today the Black River Savanne Coast Road (B9) at Maconde is a popular tourist route that provide breathtaking views of the Indian Ocean.

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During the past few years, several rockfalls had occurred during heavy rainfall, endangering road users at the base of the cliff. This had become a recurring problem and, on several occasions, the road had to be closed and traffic diverted through Baie du Cap Chamarel Case Noyale Road (B104). The aim of the Maconde Cliffs project was to stabilise the Maconde cliff over a length of 500 m and to make the B9 road at Maconde safe for road users. The contractor, Sotravic Limitee, had been appointed in 2023. In order to carry out the safe purging of rocks and stabilisation of cut slopes, full road closure of the B9 road was required for a duration of three months. During that time the traffic was diverted through the B104 road. The road closure took place from May 2023.

### **TECCO Stainless**

Geobruigg's TECCO System is an engineered slope protection and stabilisation system which is used to stabilise steep slopes of unconsolidated soils and/or rocky material. It also prevents stones and blocks in disintegrated, loose or weathered rock faces from breaking out. In general, the corrosion protection of the TECCO System must be in accordance with the project-specific requirements. Geobruigg high-tensile wire comes with Zinc-Aluminium (SUPERCOATING) galvanising as standard providing three times better corrosion protection than zinc galvanised wires. The improved SUPERCOATING A can also be offered as a finish to the mesh. However, where projects are in close proximity to the coast in C4 or C5 environments, a better solution is possible. Geobruigg have undertaken research and development into the use of Stainless steel in the TECCO System and now also provide TECCO STAINLESS. For Maconde, the consulting engineer on the project, Marie Basson (ARQ Mauritius) advised that a stainless steel solution should be used. The TECCO G65/3 STAINLESS is constructed from 1,4462 (AISI 318) marine grade stainless steel. It has a tensile strength  $\geq 140$  kN/m and weighs only 1,65 kg/m<sup>2</sup>. The TECCO G65/3 STAINLESS is a fully compliant system complete with stainless steel spike plates, connection clips, boundary ropes and wire rope clips all of 1,4401 (AISI 316).

Geobruigg systems can provide the same level of protection as a conventional protective covering but uses less nails. This significantly reduces the installation time and total project costs. The stainless option was designed for use in extremely salty and moist conditions. The increased material costs of TECCO G65/3 STAINLESS is only a small percentage of the total package costs compared with that of a standard galvanised or plastic coated mesh product.

### **Elsewhere on the island**

Close to Maconde cliffs is another iconic attraction on the island of Mauritius, Chamarel 7-coloured earth. Geobruigg's Tecco mesh was used along a section of the B104 road, close to this tourist attraction. Chinese contractor Sinohydro used a combination of TECCO G65/3 and TECCO G45/2 on this project. To allow for revegetation, a section was protected with an erosion protection mat, TECMAT. The TECMAT stabilises the topsoil layer and prevents plant seeds from washing away. The project was commissioned by the Road Development Authority. This project spanning 7 605 m<sup>2</sup> was completed in 2022.

In the Moka District, a small section (1 287 m<sup>2</sup>) was also covered with a TECCO G 65/3 System during 2021. The Road Development Authority (RDA) appointed Keller Geotechnics Mauritius to do the installation at Souillac Bridge almost three years ago.

During 2018, the RDA launched the A1M1 link as part of the Road Decongestion Programme. This 1 km dual carriageway was designed to improve the distribution of traffic within the network of the A1 Road and the M1 Motorway. The design and final layout of the GBE1000 A-R catch fence was completed by ARQ Mauritius, with some input from Melis & du Plessis. The 5m high catch fence was installed by Transinvest-GCC-Bouygues (TGBV) in 2019.

The Geobruigg office in South Africa serves the whole of Africa with custom made solutions. During 2023, the company changed its logo. Those of you who are familiar with Geobruigg, will have noticed the change in our branding since the middle of last year. The previous logo design for Geobruigg was adapted to be in line with the appearance of the logo for the greater BRUGG Group.