SOIL REINFORCEMENT
Product: Gabion Terramesh, Paragrid

Problem
Well known concrete products manufacturer and natural stone supplier Taranto de Pol wanted to develop their existing Tandragee site in Co. Armagh. A 9m high structure was required to retain a road which was to provide access for aggregate and cement trucks to storage hoppers at their batching plant.

Being a specialist in concrete and having a ready supply of materials, Taranto de Pol initially considered a cast-in-place reinforced concrete structure. Despite this, they wanted to explore alternatives and approached Maccaferri Ltd’s Belfast office for advice.

Solution
Maccaferri proposed a 9m high reinforced soil solution using the Terramesh System. The face of the structure was 75deg from horizontal thereby increasing the available area for the access road. Terramesh features a gabion fascia unit with an integral woven steel mesh geogrid ‘tail’. This geogrid is placed horizontally between layers of compacted structural backfill, reinforcing it and making the soil perform far better than it would do in its natural ‘unreinforced’ state.

This uniform reinforced block of soil was then capable to accommodating the 20kN/m² surcharge expected from the delivery trucks.

Terramesh forms flexible reinforced soil structures and can accommodate far greater differential settlements than any concrete block or precast alternative. On taller walls where forces within the embankment are higher, the Terramesh steel geogrids are supplemented by polymeric Paragrid, installed in conjunction with them.

This solution was accepted by Terranto de Pol. Although they had not installed Terramesh before, Tarranto de Pol had an on-site labour-force and decided that following on-site training by Maccaferri personnel, they would construct the wall themselves. This confidence was given to Taranto, knowing that they had a reputable supplier to whom they could turn in the event that they needed on-site assistance.
Manufactured in ISO accredited factories and having BBA Roads and Bridges Certification, Terramesh and Paragrid are high quality, proven solutions to geotechnical problems. In an era of cheap imported products of questionable quality from uncertified factories justified under the banner of 'Value Engineering', Tarranto de Pol appreciated the reassurance that came from dealing with a proven quality supplier, who was also able to assist them in times of need.

Terramesh soil reinforcement has all components factory fitted to increase buildability and efficient construction. As the geogrid tail forms part of the facia unit, there are no fiddly connections to make on site. This reduces potential errors on site where the connection may not be made as competently as the designers assumed it would. Removing this step, increases build-output and reduces technical risk to designers.

Paragrid soil reinforcement, used here in the lower levels of the wall, is a BBA certified low-strain polyester geogrid with a tough outer polyethylene sheath. This protective coating, shields the polyester strength elements during the installation and throughout the life of the structure.