



Unfilled row of gabions tied back with geogrids from Huesker

#### FORTRAC SOLUTION SELECTED

The A57 motorway, a district road and railway are among structures that could have caused noise in a new residential area in Allerheiligen, a suburb of Neuss in Germany. Noise protection measures were important for this project, and works included a 10m high wall built to face the tracks.

"With a wall of this height, it makes little sense to adopt a conventional solution, for example a reinforced concrete cantilever retaining wall," explains Christian Kortboyer, the Huesker project engineer.

The geosynthetic reinforced earth (GRE) solution proposed by consultants GFP Dr. Gärtner & Partner, Duisburg, was selected.

Willich-based main contractor Johann Bunte selected Gescher-based Huesker's Fortrac. Huesker says it is more easily installed and uses less labour, which constitutes a not inconsiderable part of the total cost of constructing steep embankments and supporting structures.

The project presented a combination of two difficult challenges. With a height of 10m for most of its length, the wall also has a steep slope angle on the railway side (68°), and this called for special measures to ensure adequate stability. Fortrac is particularly suitable due to its ability to carry high tensile forces at low extensions, low tendency to creep and good interlock with the reinforced soil. Only through these properties could the backfill to the rail-side gabions become the "monolithic earth block" that the client, LEG Stadtentwicklung of Dortmund, had specified.

And there was a further advantage to be gained from the interaction of the geogrids with the gabion baskets. The geogrid was laid into the wire baskets and held in place by a helical spring and the weight of the gabion filling. This fixing gives additional stability to the interface between the facing elements and the backfill soil block. The gabions make the noise protection wall into a 'green wall,' with about 90% of the baskets were planted after completion of the works.

Approximately 35,000m<sup>2</sup> of geogrid were laid in a very short time at Neuss-Allerheiligen, as part of a project with a construction period of only six months. ■

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