

# PROJECT DESCRIPTION

## EARTH- AND TRAFFIC ROUTE CONSTRUCTION

### ACCESS ROADS TO BIOGAS PLANT

**Project:** Delje Koog  
**Location:** Drage, Germany  
**Year:** 2010

Design of a road widening using Geoweb® geocells for the access to biogas plant



#### PROJECT DESCRIPTION

The existing road “Delje Koog” is located next to the village Drage in northern Germany. The road is mainly used as a supply road for a biogas plant by agricultural traffic. Due to increasing number of crossings and load, the existing road was too small for the agricultural traffic and needed to be widened. The subgrade mainly consists of peat with small bearing capacity. To increase the bearing capacity and to reduce long-time settlement Geoweb® geocells filled with sand were used as subbase.



#### PROJECT FACTS

- Widening of existing, 1.5 kilometer long road from 3.0 m to 5.5 m
- Subgrade consists of 1.25 m layer of very silty sand on top of 1.30 m peat, followed by clay layer up to 5 m;
- Stiffness modulus of peat was about 2 MN/m<sup>2</sup>, of clay layer approximately 4 MN/m<sup>2</sup>
- Road serves also as access road for a biogas plant
- Settlement between existing road and new road are limited to avoid damage of asphalt surface



#### OUR SERVICE

- Geotechnical Consultancy throughout the project
- Analytical determination of soil parameters for cohesion, friction and stiffness modulus to simulate Geoweb® system within the numerical analysis
- Evaluation of the effect of different Geoweb® layer positions within the road construction
- Variation of load system (wheel load and distributed load) as well as road surface (with and without asphalt layer) within the serviceability analysis