

Project: Luneplate
Location: Bremerhaven
Year: 2016

Design of geogrid reinforced foundation pad over vertical piles for the construction of a road dam considering dynamic loads



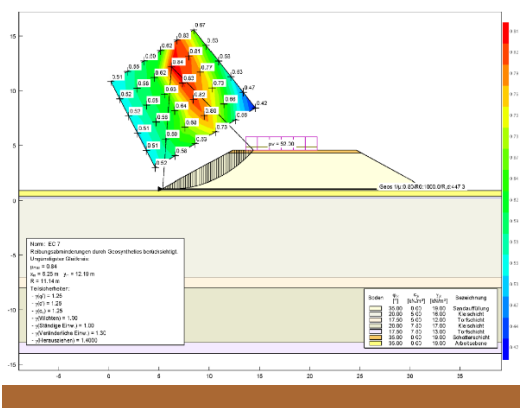
PROJECT DESCRIPTION

The city of Bremerhaven planned the development and refurbishment of the Luneplate industrial estate in Luneort. Increased space for production facilities and storage areas for offshore wind turbines were planned. The development of the Luneplate required the construction of two bridges for the access road. Due to the thickness of the underlying soft soil layers, the settlement differences between the bridge abutments and the approximately 4 m high access had to be minimised. To reduce settlement, the access dam was founded on geogrid reinforcement over piles.



PROJECT FACTS

- 1.5 kilometer access road
- 13 m thick layers of peaty and clayey soil
- dam height up to 4 m with base width of approx. 28 m
- driven 25 cm x 25 cm concrete piles up to 22 m length,
- pile grid 2 m x 2 m
- 2-layer geogrid reinforcement with short-term tensile strength of 600 kN/ m and 1,000 kN/ m for structure II



OUR SERVICE

- Analysis of soil testing report and determination of relevant cross sections
- design of the elevated foundations according to EBGeo for the bridge structures BW I and BW II, taking into account pre-loaded test piles for the bridge structures
- stability check for the connection dams according to EC-7 in combination with DIN 4084 and DIN 1054
- geotechnical consulting