## MSc-graduation project Observational method for dike reinforcements

Monitoring the behaviour of a reinforced dike during the construction phase and its first years of service can provide valuable information its strength properties, especially regarding its foundation. The use of the so-called "observational method", which is increasingly used in foundation and tunnelling projects, could lead to less (overly) conservative designs.

The basic idea of the observational method is to make a design based on best estimates of the strength properties and the use monitoring to verify the assumptions. A crucial element in the method is establishing monitoring thresholds and contingency measures beforehand (!), such that they form actually part of the design. In, other words, a dike reinforcement design with the observational method would require an integrated reliability analysis of the preliminary design, the monitoring strategy and the contingency measures.



The objectives of this MSc-graduation project are to investigate

- 1. how the observational method can be applied to dike reinforcements and
- 2. if design with the observational method have advantages over conventional design.

Ideally, the project is carried out on a case study of a concrete project and in collaboration with either a design firm, a water board (responsible for the execution) or a research institute.

## Supervising committee:

Prof. dr. ir. S.N. Jonkman and/or Prof. dr. ir. M. Kok Dr. ir. T. Schweckendiek

Information: Timo Schweckendiek (office 3.82, E-mail: <u>T.Schweckendiek@tudelft.nl</u>)

