Boskalis
Dredging & Marine Experts

PROJECT SHEET

VERTICAL SANDPROOF GEOTEXTILES
INNOVATION

Parts of the dyke between Hagestein and Opheusden have problems with 'piping'. Piping occurs when water flows under the dyke when there is a large difference in water level between the river and the hinterlands. This water may transport sand. Because of this, a hollow may be formed beneath the dyke after some time, causing the dyke to collapse

VERTICAL SANDPROOF GEOTEXTILES

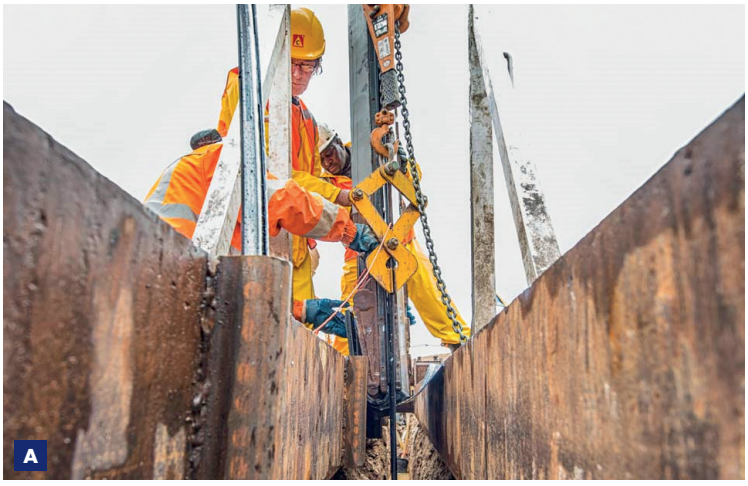
Large supporting levees and deep constructions may be able to halt the piping process. But these solutions require a large amount of space or are expensive. That is why we apply a new method against piping: vertical sandproof geotextiles. This method does allow water to pass through, but no sand. Placing the geotextiles at the location where the piping arises - where the clay layer and the sand layer meet - prevents the water from carrying off sand. We have developed a patented installation technique for this together with our sister company Cofra.

ACTIVITIES

Vertical sandproof geotextiles consist of a two to three metres high geotextile panel reinforced with an HDPE net structure and with a Geolock on both sides. The geotextile panels are placed in the body of the dyke using a cassette which has been specially developed for this. A total of 2,100 metres of geotextiles were needed for the four locations between Hagestein and Opheusden.

DETAILS

Client	Dutch Water Authority Rivierenland
Location	Hagestein and Kesteren
Period	2015 - 2016
Contractor	Boskalis Nederland
Type of contract	Design & Construct



A The cassette in the dyke body
B The geotextile

ECO-FRIENDLIER AND CHEAPER

This method requires far fewer construction materials than traditional techniques involving steel and concrete. Geotextile is a light material which fits in smaller trucks. We consume fewer resources and less fuel when installing. This method benefits finances, climate and resource consumption compared to the more common techniques.

AWARD

In 2013, "vertical sandproof geotextile" won the Water Innovation Award in the category "Dry feet".

SCHEDULING

In location in Kesteren was completed in 2015, Hagestein is to follow in 2016.

C The cassette attached to a crane
D Placing the cassette
E The geotextile

Royal Boskalis Westminster N.V.
PO Box 43
3350 AA Papendrecht
The Netherlands

T +31 78 69 69 000
F +31 78 69 69 555

royal@boskalis.com
www.boskalis.com