

TIDAL OUTLET KILLETJE

CURRENT VELOCITIES, MORPHOLOGY AND DESIGN BOTTOM PROTECTION

Waterdunen project creates a nature and recreation area, in which the tide determines the natural value. Due to the constant change of high and low water, the scenery of creeks, sand and mud flats looks different every hour. This nature reserve and the tide therein are created by a connection to the Westerschelde in the Killetje, a so-called 'tidal outlet'.

Due to the constant tidal in- and outflow of Waterdunen, the seabed in front of the tidal outlet will erode and cause instability of the outlet structure. This erosion can occur on both sides of the tidal inlet. Therefore a bottom protection is needed. Svašek Hydraulics has designed various soil protection variants for both the inlet and the outlet.

For this purpose, the design flow velocities for each variant are calculated using FINEL. For these FINEL simulations different scenarios of opening and closing of the outlet are considered. Subsequently, in consultation with the Client a preferred variant was chosen and designed in more detail.

On the Westerschelde side, the morphological effects have been analysed and an optimisation has been made to minimise these morphological effects in the nearby coastal area.

On the Waterdunen side also the expected dredging volume in has been calculated. In addition, measures are proposed to reduce the dredging volume in Waterdunen.

CLIENT

Province of Zeeland
Waterboard Scheldestromen

LOCATION

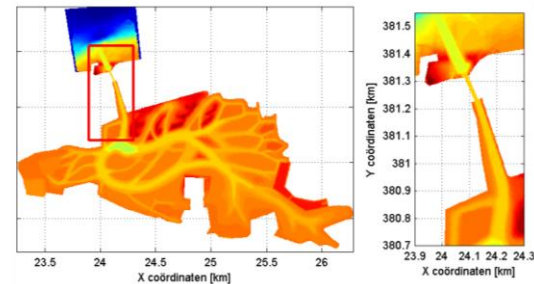
Waterdunen, Zeeuws-Vlaanderen,
The Netherlands

DATE

2014-2016

SERVICES

FINEL morphological modelling
FINEL current modelling
Design bottom protection
SWAN wave modelling



SVASEK
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