

# Press release: Engineering first as Dutch flood defence scheme is unveiled in Somerset

Overlooking the Bristol Channel, Stolford has a history of coastal erosion and is prone to flooding. In 1981 high tides overtopped sea defences and flooded 660 hectares of land including 24 properties. Livestock also died. In 1990 a high tide and storms caused further flooding.

There are already coastal defences between Stolford and Hinkley comprising of rock armour and an embankment wall. These defences adjoin a shingle ridge that was prone to serious erosion.

Rising sea levels and more extreme weather conditions have made the ridge and embankment increasingly vulnerable to erosion and increased the risk of a breach. The Environment Agency previously spent £50,000 a year replenishing the ridge with 15,000 tonnes of shingle.

Conventional rock armour, also known as rock revetment, would have been too costly and visually intrusive. In addition, the transportation of rock armour would have caused excessive disturbance from heavy lorries travelling in narrow lanes to a remote coastal location.

It was decided the best solution was a Dutch system known as Hillblock, a type of block revetment, that uses a series of specially-shaped concrete blocks. Storm waves flow over the structure and enter a network of cavities between the blocks that absorb wave energy.

Shaped like champagne corks, the blocks are made from high density concrete and held in place by steel piles and concrete kerbs. Although extremely heavy, each block is designed to move slightly. The technology has been used extensively in coastal defences in Holland.

The Hillblock revetment

The Hillblock system significantly reduces wave run-up which means the height of the defences can be reduced compared to conventional systems, hence reducing the quantity of construction material required, costs and carbon dioxide.

The Stolford scheme will provide a higher standard of flood protection to 20 properties, the village access road and approximately 70 hectares of agricultural land. It will be officially opened on Monday 18 March 2019 at 12.00.

John Curtin, Executive Director of Flood and Coastal Risk Management at the Environment Agency, said:

This is an exciting engineering first for UK – the new technology installed at Stolford can reduce wave energy by up to 30 per cent compared to the shore protection traditionally used. It will provide valuable protection to this Somerset community and the surrounding agricultural land.

It is also a great example of our joint work with the Dutch government, with whom we have a long history of mutual sharing of knowledge and best practice in the management of floods and climate change.

Nol Vincent, Environment Agency project manager, said:

The use of an innovative and proven Dutch system at Stolford has enabled us to deliver an economic alternative to rock armour at this remote location on the Somerset coastline.

The £1.5 million scheme has been funded by the Wessex Regional Flood and Coastal Committee through the Local Levy and the new Hinkley Point Nuclear Power Station currently under construction on the same stretch of Somerset coastline.

The Dutch government contributed £100,000 under the Partners for Water Scheme which supports the use of Dutch water management innovations worldwide with the aim of improving global resilience while supporting Dutch businesses. Hinkley Point Nuclear Power Station contributed £81,631 under an agreement known as the Stolford Flood Mitigation Fund.

The design of the scheme will allow the shingle ridge and adjoining common land, that make up the foreshore and intertidal area, to return to a natural state. It also allows for continued public access along the embankment and foreshore and will help preserve the existing wildlife habitat behind the embankment and remove the need to keep replenishing the shingle ridge.