

## LONGROCK SEA DEFENCES, PENZANCE, CORNWALL

UNDER £3 MILLION

Cormac

Under £3m

£450,000

Long Rock is located between Penzance and Marazion on the South coast of Cornwall. It is named after the rocks at the mid-point of the three mile stretch of beach running from Penzance Railway Station at Eastern Green to the iconic St. Michael's Mount.

Following the severe storms in January 2016, the existing stream became blocked by sand and it diverted under the foundations of Long Rock Sea Wall which caused a collapse.

The client requirement was to provide a scheme that aligned with both the Shoreline Management Plan and engineering advice as part of a report on the approach to Longrock sea defences. Adding rock armour in the form of large boulders in front of the wall was designed to absorb and redistribute the energy of incoming waves. This aimed to reduce erosion and the potential for further damage, and so substantially, it prolongs the life of the structures behind the armour.

This Design & Build project involved extending the existing rock-armour profile at Longrock along the sea wall towards Marazion by 65 linear metres. The excavated profiles were lined with a high-strength geotextile and filled to engineer's profiles with nearly 3000 tonnes of stone boulders which ranged from 2 tonnes and up to 4.5 tonnes.

The works were completed on time and within budget, and much of the credit for this must be given to the collaborative approach of the client (Cornwall Council). Importantly, the client realised that it was necessary to adapt to site conditions and constantly review and discuss solutions. In turn, the proactive responses from Cormac Solutions' design team allowed the development of design changes.