

Coastal Erosion Protection at Downterry Using Gabion Retaining Walls

DOWNDERRY - CORNWALL - United Kingdom



TYPE OF PROJECT

Seawalls And Shoreline Structures

YEAR OF CONSTRUCTION

1971

CLIENT

Caradon District Council

CONTRACTOR

N/A

DESIGNER

Maccaferri Construction

PROD. RELATED

Gabions (1)

Challenge

Near the coastal village of Downterry, severe beach erosion posed a growing threat to the stability of the surrounding cliffs. Continuous tidal action gradually undermined the toe of the cliff, weakening its foundation and increasing the risk of a significant landslide. As erosion progressed, the structural integrity of the cliff became increasingly compromised.

This situation placed several cliff-top properties at risk, including a hotel and nearby residential buildings. The potential for ground movement and subsidence raised serious concerns for property damage, public safety, and long-term land stability. Without effective coastal erosion protection, the area faced the likelihood of costly structural failures and environmental degradation.



After construction in 1971



View of the sea defence wall as it now appears

Solution

To address the coastal erosion and stabilise the cliff, engineers implemented a durable and cost-effective solution using mass gravity gabions. As the cliff was positioned above the normal high tide level, a stepped gabion retaining wall was designed to provide sufficient support without the need for more complex marine structures.

Constructed in 1971, the gabion retaining wall successfully reinforced the cliff base, preventing further erosion and eliminating the immediate risk of landslip. The stepped design enhanced stability while allowing natural drainage, reducing hydrostatic pressure behind the structure.

This coastal protection solution not only safeguarded the shoreline but also stabilised the properties above, ensuring the long-term safety of the hotel and surrounding buildings. More than 55 years later, the gabion structure continues to perform exceptionally well. The protective coating and structural integrity of the gabions show no significant signs of deterioration, demonstrating their longevity and resilience in a coastal environment.

In addition to its engineering performance, the gabion wall has naturally integrated into the landscape, supporting vegetation growth and blending seamlessly with the coastal setting. This project highlights the effectiveness of gabion retaining walls as a sustainable and low-maintenance solution for coastal erosion control and cliff stabilisation.



Recent global view of the sea defence wall



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