

## LISTENING MIRRORS HISTORIC SITE KENT COASTLINE, KENT, UNITED KINGDOM

### Slope Protection

#### Problem

Three famous Listening Mirrors, forerunners of today's early warning radar detection systems needed to be stabilised due to ongoing erosion of the land on which they stood. The project was part of an on-going conservation programme for English Heritage overseen by consulting engineer Cameron Taylor Bedford.

Built on the Romney Marshes in the 1920s, the three reinforced concrete structures comprise two circular dishes measuring 20 ft and 30 ft in diameter and a 200 ft long parabolic curved wall. Over the years, gravel extraction has created a lake, leaving the mirrors marooned on a narrow peninsula with the surrounding gravel level 2 metres below originally. On-going wave action was causing further erosion, leaving the foundations dangerously exposed.

#### Solution

In the first phase of the project the peninsula housing the Mirrors was cut off to create an island linked to the mainland by a swing footbridge, and Maccaferri's Green Terramesh was used to stabilise the structures. In addition, the causeway to the mainland was widened and reinforced to facilitate access to the mirrors by both construction traffic and visitors, also using Green Terramesh®.

Working with O & L Construction as main contractor, a team of divers assisted with the installation of the submerged units. Due to this difficult working environment the buildability of the Green Terramesh system was fundamental to the projects success.

Installing Green Terramesh is quick and easy. The integral triangular steel brackets and welded mesh panel ensure accurate installation without the need for temporary formwork. Once in place the individual units are joined together forming the reinforced earth structure.

Green Terramesh units are formed from a single sheet of hexagonal, double-twist woven steel mesh coated with an additional polymeric coating for maximum durability in a water environment. The single sheet of mesh forms a horizontal soil reinforcement tail, a facing section and a horizontal return upper section. With a face angle of 70 degrees, each unit is 600mm in height. To stabilise the mirrors, Green Terramesh® units were layered up to 7 courses high leaving just one unit exposed above the water line.

**Client:** English Heritage

**Designer / Consultant:** Cameron, Taylor - Bedford

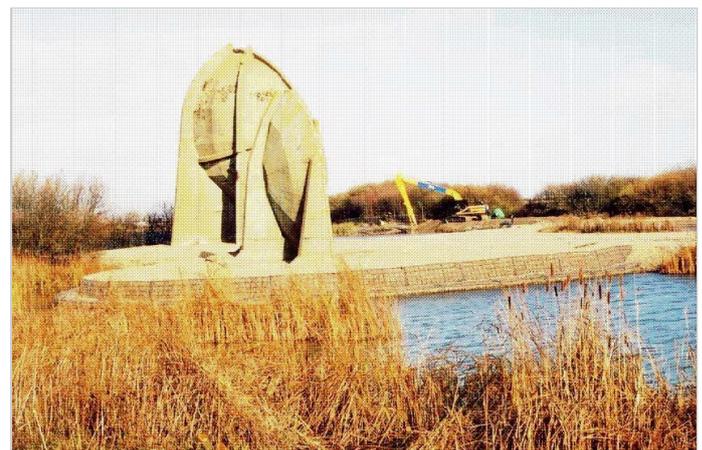
**Contractor:** O&L Construction

**Products used (Qty.)**

**Date of construction:** 08/2003 - 12/2003

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After Construction



Green TerraMesh installed after construction



Green TerraMesh System