

Case Study: Flood Alert Sirens for Chesil Beach with the Environment Agency



Introduction

Chesil Beach is located in Dorset, South Coast of England. It is approx. 14 miles long and is a shingle beach and is part of the Jurassic Coast World Heritage Site. The Chiswell settlement and the southern neck of Chesil Beach have been flooded many times and this is well documented. Many sea defence systems and flood drainages have been constructed at the Portland end of the Chesil Beach to try to alleviate the overtopping and flooding problems.

The challenge

The location is particularly demanding due to the high background noise levels, the extremely exposed position and the high potential for risk to life. Reliability, ruggedness and flexibility were the prime reasons for selection of the E2S equipment.

In stormy conditions, the noise of the waves, wind and moving shingle is very loud at this location.

E2S Products at Chesil Beach

In addition to sea and flood defences the Environment Agency replaced their legacy sirens with an E2S A141 High level audible warning system on Chesil Beach. The sirens are sited at intervals through the community; at Brandy Row, Baker's Ground and the Masonic Car Park.

The alarm is intended to warn local residents and individuals present on the beach and nearby towns of a real danger of flooding so that evacuation can take place. In some locations people are advised to stay indoors when they hear the siren as waves come over the beach and sweep through the town.

The alarm tone which was proposed is E2S Alarm Horn Tone 9, you can listen to the tone here:

T 9  1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.

The alarms can be initiated either remotely from the Environment Agency's incident room via the web, from the Environment Agency's lookout post in the village by radio or independently using a key at each installation. Under normal conditions the audible distances of the A141 siren can reach over 1km.

The E2S sirens were sounded on five occasions in January and February 2014. On each sounding the equipment worked well, and was effective in that members of the public, who were putting their lives at whilst risk standing on the sea wall, were seen to retreat very quickly when the sirens were operated.

About the A141 Wide Area Disaster Warning System

The A141 is a high-output electronic siren that produces a powerful sound in excess of 140dB(A) and is ideal for warning over distances of between 400m and 700m. The system offers a selection from 45

alarm tones with up to 4 stages of the alarm.

For greater distance requirements E2S also offers wide area siren system with audible ranges reaching over 2km, for example the A151, or motor driven sirens.

Further information about the A141 product installed at Chesil beach, can be found here:

- [A141 High level audible warning system 141dB\(A\)](#)



A141 Wide Area Disaster / Flood Alert Siren by Brandy Row.



A141 Wide Area Disaster / Flood Alert Siren at Baker's Ground.



A141 Wide Area Disaster / Flood Alert Siren at Masonic Car Park.