

## A38 Dartbridge Eastbound Off Slip Drainage Scheme, Devon

The SmartDitch Trapezoidal Ditch Liner System is a virtually leak-free channel lining system engineered to control and direct the flow of water or critical fluids. Made from proven UV resistant HDPE, SmartDitch's unique corrugated design helps regulate the flow of water from flat to steep grades so that the drainage and flow patterns designed are maintained. SmartDitch Trapezoidal sections are light weight and come in lengths that make it easy to handle and install.

Highways England's Managing Agent Contractor KIER designed a solution for a flooding issue on the A38 Dartbridge Junction Eastbound off slip road. WBM Groundworks undertook the site works.

A key part of the proposal was to replace an existing outfall pipe on a steep embankment (1:1.5). The solution included a shallow 225 mm diameter outfall pipe, connected to a 10 m long SmartDitch section laid on the embankment. At the bottom end of the chute, a gabion basket was installed for energy dissipation before the water reaches the river. Concrete was only used for the bagwork headwall of the outfall pipe.

Applying SmartDitch reduced flow velocities, the use of concrete and the manual handling risks during construction as opposed to other potential solutions. If velocities need to be reduced further, SmartDitch can also provide intermediate baffle plates as part of the system. We are planning to apply this solution in the future as a quality alternative to steep outfall pipes or concrete cascades.

Peter Keri

Drainage Engineer

