

# Polypipe Provides the Solution for Chipping Sodbury Tunnel Flooding

Ridgidrain pipe was installed to prevent flooding within the Chipping Sodbury tunnel, an important link on the mainline connection between London and South Wales.



6.5 km  
of Ridgidrain  
structured-wall  
drainage



The Great Western Railway opened the Chipping Sodbury Tunnel in 1902. Unfortunately, the tunnel cuts through a major Cotswold aquifer and flooding has been a serious, if intermittent, problem throughout its lifetime, with an inflow as high as 2.5 cubic metres per second once recorded during particularly violent spring rainfall. The original drain proved totally inadequate to cope with these quantities and flooding well over track level has been seen in the tunnel itself and in the cuttings as recently as 1999 and 2002.

A hundred years of sporadic disruption and closure to a section of this important rail artery had led Network Rail to invest £3 million in a new drainage system.

The advantages of a new drainage system for the tunnel outweighed the cost and difficulty of the work, plus the inevitable rail closures during construction.

A feasibility study through specialist hydrologists and tunneling designers Haswell, presented a number of options for the new drainage system design.

After considering many potential solutions, plans were eventually agreed for a conventional gravity drainage system involving installation of around 6.5km of pipeline from the east cutting, through the tunnel and into the outfall in the west cutting.

Edmund Nuttall was appointed to carry out the work and installed Polypipe Civils' Ridgidrain structured-wall drainage pipe as its preferred solution.

## CASE STUDY

### Project

Drainage solution to prevent Tunnel flooding

### Client

Network Rail

### Application

Trackside Drainage

### Products

Ridgidrain