



CASE STUDY

Water, Drainage and
Flood Risk Management

Project

Flood Alleviation Scheme

Client

Arena Racing Company

Location

Southwell Racecourse,
Nottinghamshire

Ardent's flood risk specialists undertook 1D-2D hydraulic modelling and the detailed design of a flood alleviation scheme to reduce the risk of flooding to this racecourse, one of the busiest tracks in the UK. Situated in the floodplain of the River Greet, the site had suffered from a number of flood events in the past, resulting in its closure and considerable damage to the racecourse and its infrastructure, which raised questions about its ongoing viability.

Working closely with the client, local community and regulators, we developed a locally accepted scheme that, since being implemented, has protected the racecourse from flooding.

The scheme manages flooding by attenuating and redirecting overland flows through a combination of low-level earth bunds, wetland and flood cell areas and culverts, which control the flows leaving the racecourse. The simplicity of our scheme ensures that it is both economically and environmentally sustainable.

Our Role

- Assessed the hydrological nature of the site through comprehensive hydrological modelling
- Consulted with the Environment Agency, Trent Valley Internal Drainage Board, and Newark and Sherwood Borough Council at each stage of the design process
- Set up three public exhibitions for the client over 18 months to inform the public
- Identified and designed a viable flood alleviation scheme within the racecourse grounds
- Created a 4.0 hectare wetland which attracts wildlife and enhances the local habitat and biodiversity
- Undertook consultation with the various statutory consultees and submitted the planning application on behalf of the client

Client Benefits

- Enabled the continued use of the racecourse by preventing flooding events
- Reduced costs by identifying risks as early as possible and through continuous liaison with stakeholders and regulators
- Eliminated the high costs associated with post-flooding repairs
- Delivered local economic and environmental benefits
- Phased the works to allow the racecourse and gold club to continue to operate
- Agreed a maintenance strategy and buy in with the Internal Drainage Board, Environment Agency and local land owners on critical watercourses