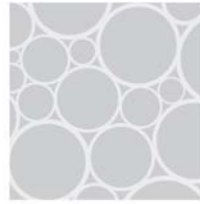




ENVIRONMENTAL



FLOOD RISK



DRAINAGE



ECOLOGY

# Baseball Ground, Derby FRA

## Strata Homes Limited



### Project Aims

Discussions with Environment Agency and Derby City Council to agree approach and scope of study. Produce flood risk assessment for planning submission. Assess impact of development on local drainage infrastructure and propose outline drainage options.

The key aspects of this study included liaison with EA and DCC, site surveys, flood risk assessment and drainage impact assessment.

### Project Summary

The site is the former Derby County FC Baseball Ground football stadium, which the Client proposes to redevelop with 147 residential units. While the EAs indicative flood plain mapping did not show any fluvial flood risk, a model of the local watercourses was used to assess the extent of flood risk at the site. To progress the planning application it was necessary to

assess runoff from the development and to propose outline drainage options.

The key flood risks were identified as the River Derwent, Cotton Brook and surface water runoff. Clear carried out topographical surveys to establish ground profiles at the development site. The site was established to be outside the 1 in 1000 year flood envelope of the River Derwent. The Cotton Brook is predominantly culverted and flood risk was assessed using an InfoWorks CS hydraulic model to predict flooding adjacent to the site. The model predicted that minor localised flooding from the Cotton Brook could occur but that this would be at shallow depths.

Due to existing constraints and hydraulic incapacity, it was agreed with Derby City Council that surface water drainage would be restricted to the pre-development greenfield runoff rates. Similarly, it was agreed that the majority of the attenuated runoff would be discharged to the Cotton Brook to relieve flows on the existing combined sewerage system.

Pre- and post-development runoff characteristics were assessed and runoff conditions were calculated. Indicative surface water storage balance volumes were calculated and highlighted within the FRA report. Due to level constraints at the site, a combination of hard and soft engineered SUDS techniques were recommended to maintain a shallow drainage system. The flood risk assessment was completed and submitted.

