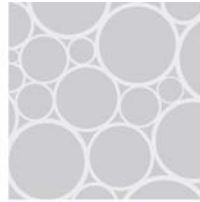




ENVIRONMENTAL



FLOOD RISK



DRAINAGE



ECOLOGY

Flood Risk Mapping

Severn Trent, Asset Delivery, 2003-09



Project aims

The aim is to develop a series of approaches to replace the standard DAP hydraulic outputs (X-X plan) with a new method of displaying the hydraulic performance for use in AMP5. This approach was to be based on a flood risk based approach, considering the issues of likelihood and consequence, rather than simply performance.

This will be used to provide a visual assessment of the impact of flooding across the catchment, which is represented using above ground risk based data and outputs.

Project summary

In the flood risk mapping approaches a score is developed for each simulated return period relating to the degree of flooding (or closeness to flooding below the ground), which is based on the difference between ground level and the peak water level. A landuse consequence score is then assigned assess

the impact of any flooding. A risk score is then formulated based on these different consequences at different return periods.

Flood risk scores are calculated for both the foul and surface water network. If an area has both the foul and surface water network modelled, then the worst case flood risk score is used.

A number of different levels of assessment were developed. The most simple based on assumptions such as any flooding from a manhole floods all landuses within the associated modelled subcatchment, to more complex assessments considering overland flood routing and 2D modelling of surface flows to establish the extent and impact of flooding. The more complex approaches utilise a range of LiDAR data sets.

This new approach to DAP and hydraulic model outputs was developed to bring the DAPs in line with the risk based outputs from SRM5 and SWMPs.

