

# Decision Making Tools:

## SUDSLOC: A GIS-based SUDS selection tool for urban surface water management

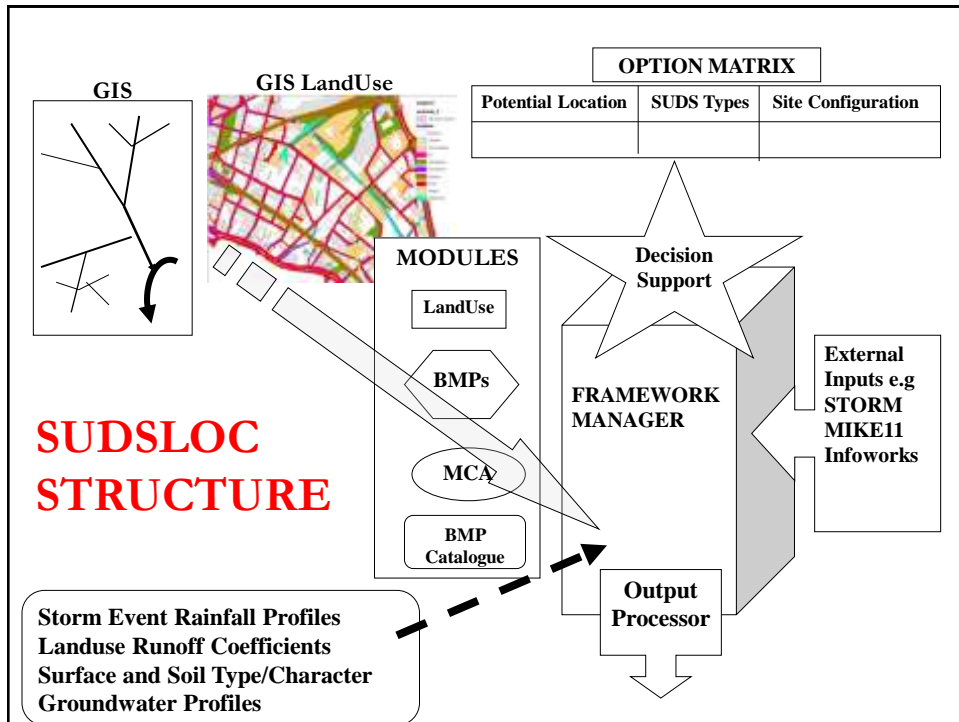
*Mike Revitt*

Stakeholders in urban drainage need support in identifying “critical drainage areas” and in decision-making for surface water flood management e.g. in the selection and location of BMPs/SUDS control facilities for new and re-development sites.

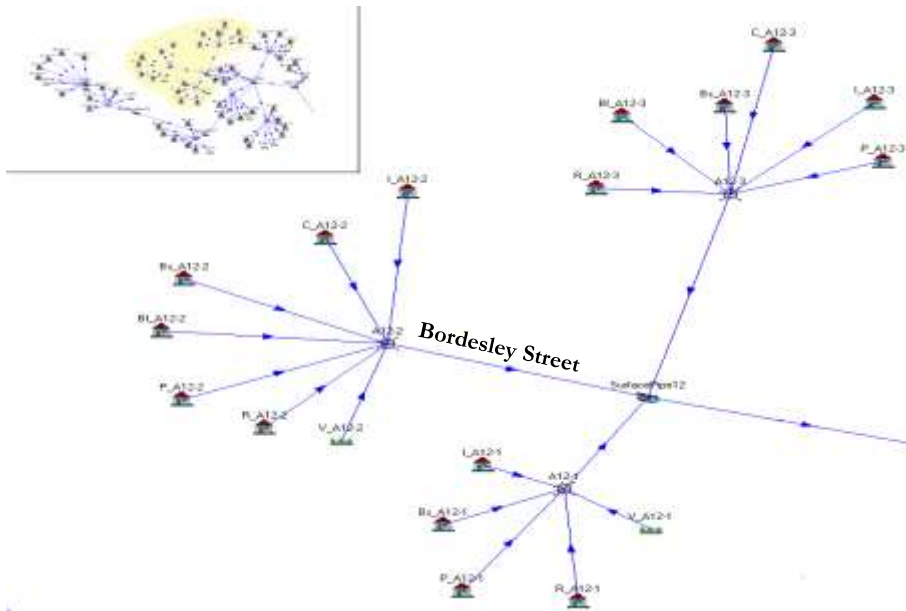
Any supporting modelling software needs :

- GIS-based using actual or proposed land-use distributions and topographic detail
- to be based on site characteristics appropriate for individual BMP/SUDS controls
- rainfall/storm event profiles
- appropriate hydraulic and water quality modelling (1D/2D)
- a flexible adaptable and user-friendly methodology

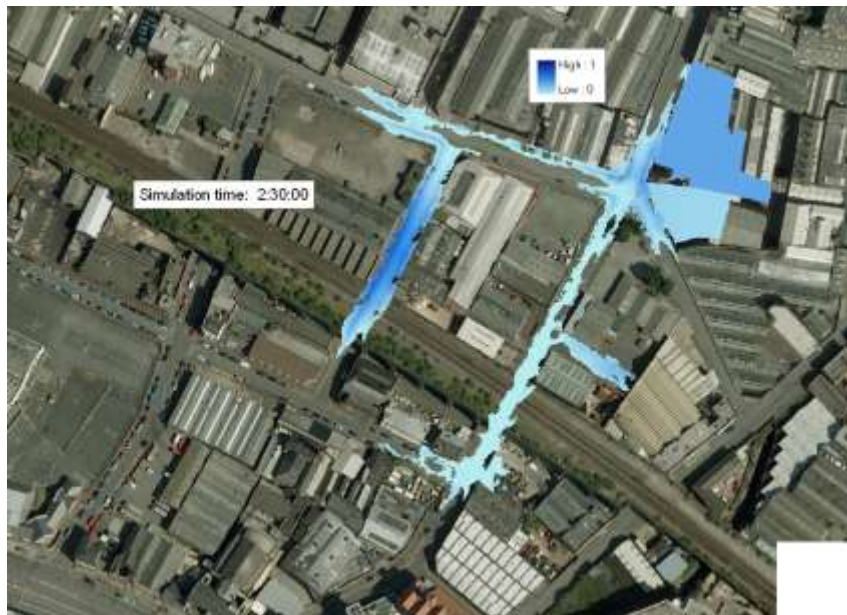
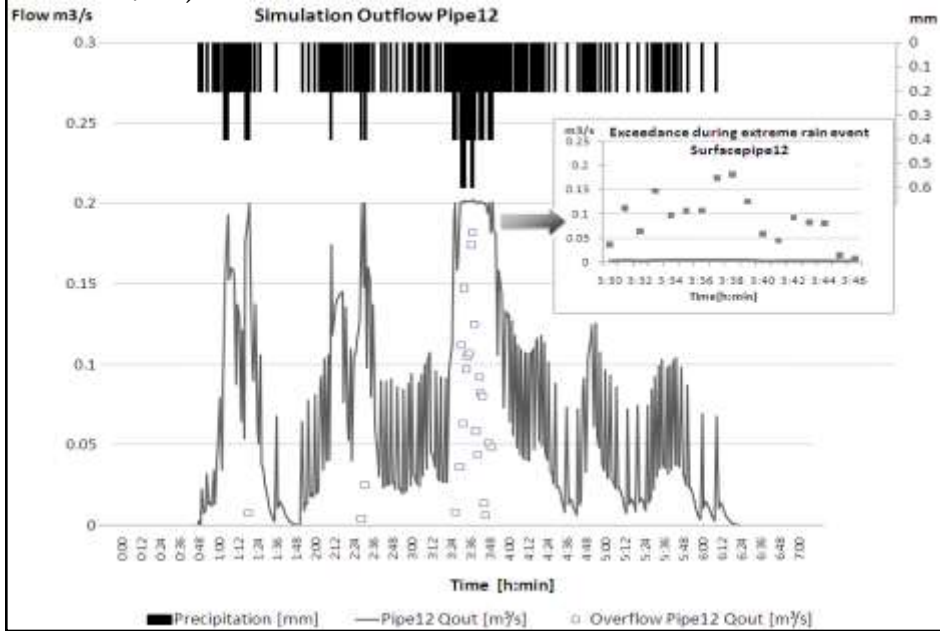




## STORM MODELLED SEWERED SUB-CATCHMENTS IN EASTSIDE



**PREDICTED FLOW DISTRIBUTION AND EXCEEDANCE OVERFLOWS  
FOR 14 JUNE 2007 STORM EVENT (>1:80 RI ; 35mm - maximum intensity  
0.6mm/min)**

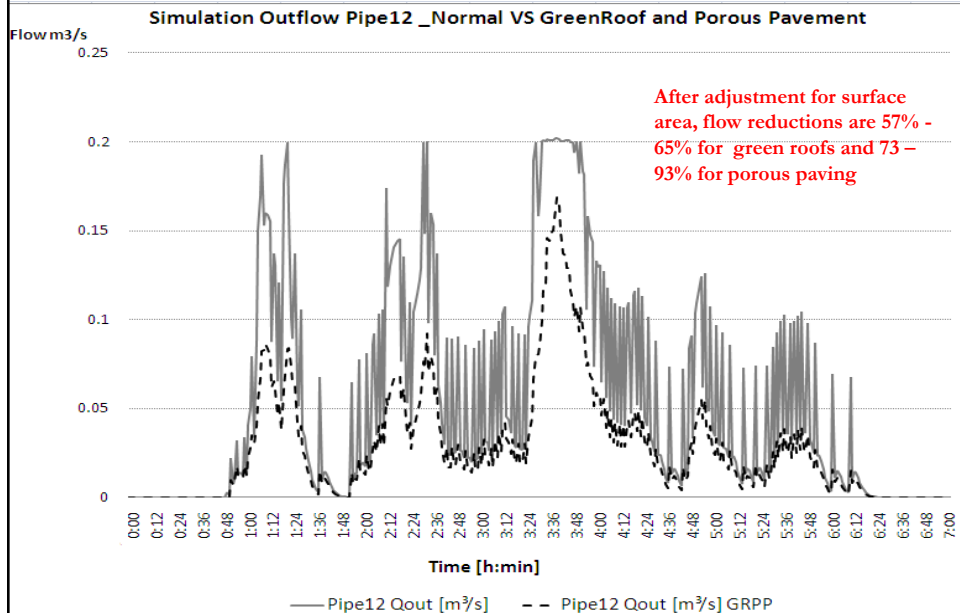




# STORMWATER SUDS CONTROLS



## COMPARISON BETWEEN PREDICTED FLOW DISTRIBUTIONS WITH AND WITHOUT SUDS INSTALLED



## SUDSLOC Decision Support Tool for Surface Water Management

- Provides an accurate, robust methodology for **identifying and quantifying** local “hotspot” surface water (pluvial) flooding associated with extreme storm events
- Identifies “**critical drainage areas**” as specified under SWMP requirements
- Provides methodological basis for **preparation of emergency flood planning** (e.g. safe access/escape routes, evacuation etc..)
- Supports the **selection and location of appropriate SUDS drainage** controls for the mitigation of extreme event surface flooding and pollution impacts
- Provides a **flexible communication tool** for stakeholder and public consultation and information on flood procedures and mitigation measures
- Current approach **NOT appropriate for large scale catchment modelling**; requires GIS and DTM/DEM modelling capabilities as well as “ground truthing” for successful application