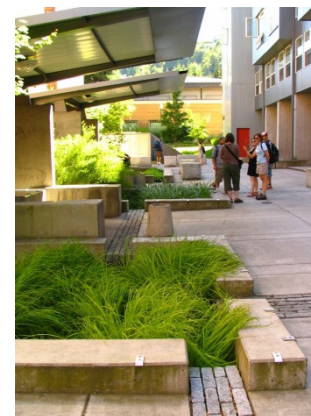


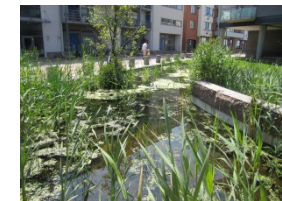
# Typologies- urban intensive

<b>Typical development</b>	Block development - City centre and immediate peripheral valley bottom uses, outer commercial centres – Flats , offices, shops, leisure
<b>Management</b>	Privately managed infrastructure
<b>Criteria</b>	Typically 30 % reduction for discharge rates to be applied for sites where existing discharge is above 10 litres/sec minimum. Likely discharge to the combined sewer. Possible discharge to surface water sewer or watercourse if economically proportionate when greenfield discharge may be required
<b>Typical SuDS solutions</b>	Green roofs, water harvesting, storage tanks, courtyard planters, permeable paving
<b>Pre application</b>	Limited benefit apart from to establish discharge rates
<b>Application</b>	Concise SuDS design statement to outline drainage solution
<b>Conditions</b>	Detailed calculations Detailed design Confirmation of management arrangements, E.g. management company, schedule of maintenance



# Typologies- urban extensive

<b>Typical development</b>	Larger supermarkets, retail, extensive office, factories, operational, schools, leisure
<b>Management</b>	Privately managed, Yorkshire Water may adopt tanks, may include offsite Council managed features
<b>Criteria</b>	30% reduction for brownfield, greenfield for greenfield sites or redevelopment where to different discharge route. Potential for discharge to surface water sewer and possibly watercourse
<b>Typical SuDS solutions</b>	Concrete block permeable paving for car parks – lined for storage where contamination or discharge to sewer, non-lined for infiltration or partial infiltration where direct discharge to watercourse. Can act to store roof water through horizontal diffuser pipes in sub-base or surface inflow removing need for other storage. Landscape requirements - potential to be integrated and enhanced through SuDS function, e.g. linear green verges / planting designed to intercept lateral run-off from impermeable surfaces. Larger open spaces and peripheral landscapes within or external to the site for detention basins /ponds
<b>Pre application</b>	Benefit in ensuring optimum site layout to accommodate SuDS inclusion. Establishing likely discharge rates
<b>Application</b>	SuDS design statement should demonstrate SuDS approach /options analysis. Drainage solution should show approximate volumes from development, methods of collection, movement, treatment and storage. Confirmed discharge routes. The presence of sub-catchments with distributed controls for SuDS at different scales. Management arrangements for any features if any outside the applicants responsibility, e.g. offsite detention basin
<b>Conditions</b>	Detailed calculations Detailed design Confirmation of management arrangements for all drainage infrastructure – who responsible for what features, resourcing, schedule of maintenance



# Typologies- Suburban

<b>Typical development</b>	<b>Housing – small to large estates of varying densities</b>
<b>Management</b>	Considerable range from individual dwelling, management company, Yorkshire Water, Highway Authority and other Sheffield Council services.
<b>Criteria</b>	30% reduction for brownfield, greenfield for greenfield sites or redevelopment where to different discharge route. Potential for discharge to surface water sewer, watercourse. Infiltration dependent on ground conditions and risk assessment
<b>Typical SuDS solutions</b>	Concrete block permeable paving for adopted highway and private car parks – lined for storage where contamination or discharge to sewer, non-lined for infiltration or partial infiltration where direct discharge to watercourse. Can act to store roof water through above ground inflow or horizontal diffuser pipes in sub-base removing need for other storage.  Landscape requirements potential to be integrated and enhanced through SuDS function , e.g. linear green verges / planting designed to intercept lateral run-off from impermeable surfaces. Larger open spaces and peripheral landscapes within or external to the site for detention basins /ponds
<b>Pre application</b>	Benefit in ensuring optimum site layout to accommodate SuDS inclusion and discussion of adoption options. Establishing likely discharge rates.
<b>Application</b>	SuDS design statement should demonstrate SuDS approach /options analysis. Drainage solution should show approximate volumes from development, methods of collection, movement, treatment and storage. Confirmed discharge routes. The presence of sub-catchments with distributed controls for SuDS at different scales Management arrangements for all features.
<b>Conditions</b>	Detailed calculations Detailed design Confirmation of management arrangements for all drainage infrastructure – who responsible for what features, resourcing, schedule of maintenance

