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**DORRIS STREET
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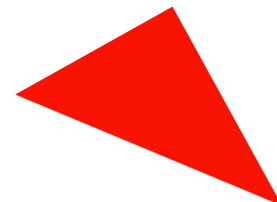


SUDS ASSESSMENT
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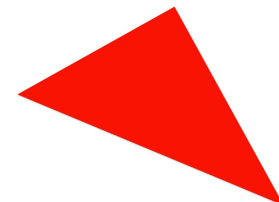
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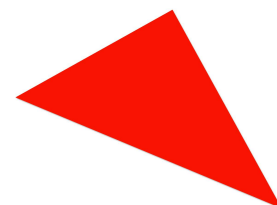
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METHOD	COMMENT	SUITABILITY FOR DEVELOPMENT
Green Roofs	Can be used on suitable low rise buildings to provide retention, attenuation and treatment of rainwater, and promotes evaporation and local biodiversity	<u>Not suitable:</u> Architectural proposals for the development involve a pitched roof arrangement, which are not suitable for green roofs. Also, too high to safely maintain.
Water Butts	Plastic tanks placed at the base of rainwater down pipes to collect rainwater from the roof areas.	<u>Suitable:</u> To be included to the rear downpipes where possible, though unlikely to be used as this is a part communal development.
Rainwater Harvesting	Rainwater harvesting reduces the total run-off volume from the developed site, and reduces treated water consumption.	<u>Not suitable:</u> - Additional costs of installation would have severe effect on viability of the development. - Running and maintenance costs would not be acceptable to our client and future occupiers. - The ability to restrict peak flow rates and short term peak columns is non-existent where a critical storm event occurs.
Infiltration Options	Reduces total run-off volume from the development.	<u>Not suitable:</u> Site investigation would indicate that the underlying ground is not suitable for infiltration (cohesive strata).
Permeable Surfacing (Infiltration)	- Reduces total run-off volume from the development. - Can be used to enhance water quality.	<u>Not suitable:</u> Initial investigation would indicate that the underlying ground is not suitable for infiltration.



METHOD	COMMENT	SUITABILITY FOR DEVELOPMENT
Permeable Surfacing (Standard)	• Can be used to enhance quality of run-off water. • Sub-base provides 'source' storage and reduces the volume of storage downstream. • The storage can be created with selection of the stone fill or use of plastic box stems. • Impermeable membrane at base of construction to prevent impact on pavement stability.	<u>Not suitable:</u> • Long term maintenance required and risk of reduction in permeability. • Specialist maintenance required to maintain porous surfaces. • No services to run beneath areas of permeable surface (due to presence of base impermeable barrier which is very difficult to excavate through and reinstate (if required), spatial constraints of site do not allow alternative routes for services along plot frontages.
Swales, Basins & Ponds	• Provide areas for above ground surface run-off storage. • Swales also allow filtering of particulate matter, improving water quality. •	<u>Not suitable:</u> • Space constraints on site do not permit large above ground areas for flood storage. • No scope to reduce development area due to site viability. • Unsuitable for an urban environment.
Bio-Retention	• Collect and retain run-off to help improve water quality, prior to discharge in piped system on infiltration.	<u>Not suitable:</u> • Space constraints on site do not permit large above ground areas for flood storage. • No scope to reduce development area due to site viability.
Geocellular Storage	• Suitable for sites within insufficient space for basins etc. • Suitable for sites where topography prevents the use of open basins etc. • Can be very effective infiltration devices subject to ground conditions.	<u>Suitable:</u> • Subject to detailed design and drainage layout.



METHOD	COMMENT	SUITABILITY FOR DEVELOPMENT
Large Diameter Pipes, Culverts or Tanks	• Suitable for sites with insufficient space for basins etc. • Provide a volume of below ground storage with a high void ratio and good man entry provision to allow for future maintenance and cleaning. • Generally be suitable for adoption by the water company (e.g. United Utilities).	<u>Suitable</u> • Oversized pipes and manholes can be readily accommodated on-site and provide a viable and cost efficient drainage solution by attenuation if necessary.

Figure 9 SuDS Assessment

Based on the SuDS assessment in Figure 9, plus an assessment of the local site conditions, the SuDS hierarchal approach for discharge of surface water at the development site is considered in greater detail below:

METHOD	SUITABILITY	SUITABILITY FOR DEVELOPMENT
Infiltration to ground	No	Site investigation indicates the underlying ground is unlikely to be suitable.
Connection to Watercourse	No	No watercourse or culvert in close proximity to the site.
Connection to Surface Water Sewer	No	No surface water sewer in close proximity to the site.
Connection to a Combined Sewer	Yes	Most likely the only viable option.

Figure 10 SuDS Hierarchal Approach