

Appendix 3

Example on different types of SuDS with their definitions

- **Rain Gardens**

These are a combination of planted native shrubs, flowers and perennials in a small depression surrounded by brick wall, concrete kerbs, corten steel or natural features – but these are not ‘evergreen’ areas. These bioretention facilities were designed to reduce the flow rate, water quantity and to treat the polluted stormwater runoff from nearby public highways, footways and the park itself.



- **Swales**

The swales are shallow channels covered by grass and vegetation in places. They are generally constructed to store and convey water between various rain gardens and detention basins. These are designed to maximise the water quality treatment benefits.



- **Detention Basins**

Detention basins are surface storage basins or facilities that provide flow control through attenuation of stormwater runoff. They also facilitate some settling of particulate pollutants. Detention basins are normally dry and, in certain situations, the land may also function as a recreational facility. However, basins can also be mixed, including both a permanently wet area for wildlife or treatment of the runoff and an area that is usually dry to cater for flood attenuation.



- **Retention Basins**

Retention basins can provide both stormwater attenuation and treatment. They are designed to support emergent and submerged aquatic vegetation along their shoreline. Retention basins are permanently wet areas. Runoff from each rain event is detained and treated in the pool. The retention time promotes pollutant removal through sedimentation and the opportunity for biological uptake mechanisms to reduce nutrient concentrations.



- **Trees**

Trees play a vital role in managing the storm water. They aid in water interception, storage and infiltration while increasing an evapotranspiration potential. Unarguably, they are the largest living things on earth. They also bring birds and other wildlife into the borough.



- **Permeable Paving**

Permeable paving surfaces are made of either a porous material that enables stormwater to flow through it or nonporous blocks spaced so that water can flow between the gaps. Permeable paving can also include a variety of surfacing techniques for roads, parking, and pedestrian walkways. Permeable pavement surfaces may be composed of pervious concrete, porous asphalt, paving stones, or interlocking pavers.



- **Soakaways**

Soakaways are square or circular excavations either filled with rubble or lined with brickwork, pre-cast concrete or polyethylene rings/perforated storage structures surrounded by granular backfill. They can be grouped and linked together to drain large areas including highways.



- **Green Roofs**

A green roof (or 'living roof') is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems. Green roofs serve several purposes for a building, such as absorbing rainwater, providing insulation, creating a habitat for wildlife, increasing benevolence,

