Rainstore3 – Alternative to Pipe and Open Drains

Open drains in Malaysia perform the same function as pipe in many other parts of the world – collect and convey surface runoff from pavement and landscaped areas to nearby streams and rivers. When these open drains encounter a structure (road or building) then they must interface with a pipe or culvert type of conveyance product.

Rainstore3 can be used for conveyance, as well as storage (in fact it does both at the same time), and will not require an interface with pipe or culvert unless desired. At the same time Rainstore3 conveys water between rows of rings, water is stored temporarily with rings, and is allowed to exfiltrate into adjacent soils – reducing the volume of water reaching the rivers and ocean. Water will enter the Rainstore3 system clean because all trash and debris, and the majority of chemical pollutants, will be filtered by the sand filter placed above the product.

Small Drains

Rainstore3 units can be trimmed to allow "duct" widths of from 2 rows of rings to 5 rows of rings. These smaller ducts will generally be one layer deep (10 cm), but can be stacked to accommodate greater flow volumes in tight horizontal spaces. Units will be generally one meter long, with butt joints to maintain spacing, and allowed to angle at each joint to form curved drains. The entire drain shall be wrapped in a geotextile fabric (135 grams / m2 or heavier) to allow water to enter and leave the duct easily. The wrapped duct shall lay at the bottom of a trench (slightly wider than the duct) and then be covered on the sides and top with sand (150 mm minimum cover depth), and usually covered with grass, or similar groundcover.

Large Drains

Rainstore3 units can be stacked vertically (maximum depth = 2.5 m) and placed side-by-side in any width, to form large underground water channels capable of moving large quantities of water and supporting heavy loads at the same time. Thus, small drains could be connected into larger Rainstore3 drains and continue below roads, parking, and even buildings without the need to interface with pipe or culverts.

These drains can be wrapped in geotextile fabric to allow water to exfiltrate, or in geomembranes to prevent loss of water into adjacent soils.

See attached data for determination of the best combination of product width and height to meet your design needs.