عنوان مقاله:

Headloss/flow relationship in a scale model stormwater pollutant trap

محل انتشار:

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خلاصه مقاله:

The main focus of urban rainwater runoff disposal has traditionally been providing structurally sound drainage systems with the capacity to carry runoff from many different surfaces as quickly and efficiently as possible, without relating its quality at outfall. This has contributed to the decline of water quality in rivers and lakes and other receiving bodies. Recent developments in stormwater quality management have seen the introduction of stormwater pollutant traps (SPT), which are generally end-of the line devices designed to capture and store gross pollutants and some micro-pollutants, for subsequent removal and disposal. The VersaTrap Series A SPT is an offline stormwater pollutant trap which utilises an upstream diversion weir pit to divert the Design Treatment Flow (DTF) into the treatment chamber. Treated flow is returned to the diversion pit downstream of the weir, re-entering the drainage system. Peak flows in excess of the DTF bypass the diversion pit over the weir into the pipeline downstream. The measurement of head losses across a scale model at a range of flow rates through the SPT provides data from which a mathematical relationship between flow rate and head loss can be established for the device. By varying the weir height in the diversion weir pit and measuring the previously established flow rates associated with the head losses, the relationship between the weir height and diverted flow can be established. This allows the designer to specify the weir height required to divert the flow rate associated with a specific peak flow or treatment flow.

کلمات کلیدی:

Runoff, Stormwater, Grosses Pollutants, Treatment Flow, Head Loss