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Underground Infiltration System for Treatment of Stormwater from Metal Roofs – Investigation on Laboratory Rigs

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A new pollution control pit was developed with a hydrodynamic separator and a multi-stage filter. The pit is connected to a concrete infiltration pipe with a partly sealed base. The underground infiltration system acts as a pre-treatment device containing a specially designed filter. The treatment process is based on sedimentation, filtration, adsorption and chemical precipitation. Sediments are trapped in a special chamber within the pit and can be removed easily. Other pollutants are captured in the filter upstream of the sediment separation chamber. Filters can be easily replaced. Filters have been adapted to treat polluted stormwater loads from metal roofs. Investigation on laboratory rigs indicates that more than 65 % of heavy metals can be removed. Soils and groundwater are effectively protected from heavy metal contamination.