

Efficiency of stormwater control measures for combined sewer retrofitting under varying rain conditions: Quantifying the Three Points Approach (3PA) - DTU Orbit (08/11/2017)

Efficiency of stormwater control measures for combined sewer retrofitting under varying rain conditions: Quantifying the Three Points Approach (3PA)

We present a method to assess and communicate the efficiency of stormwater control measures for retrofitting existing urban areas. The tool extends the Three Points Approach to quantitatively distinguish three rainfall domains: (A) rainwater resource utilisation, (B) urban stormwater drainage pipe design, and (C) pluvial flood mitigation. Methods for calculating efficiencies are defined recognizing that rainfall is both a valuable resource and a potential problem. Efficiencies are quantified in relation to rainfall volume, supplied potable water volume and volume of wastewater treated. A case study from Denmark is used to illustrate how the efficiency varies between the rainfall domains. The method provides a means for communicating some important quantitative aspects of stormwater control measures among engineers, planners and decision makers working with management of water resources, stormwater drainage and flood risks.

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