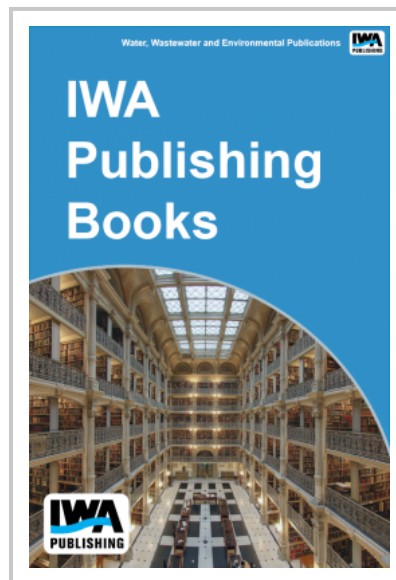


# Critical Assessment of Stormwater Treatment and Control Selection Treatment

Although historically the process of selecting stormwater treatment systems has centered on choosing categories of treatment systems from a menu of options, the state of the practice allows for a more fundamental approach that explicitly incorporates the concept of unit operations and processes (UOPs) in a manner analogous to the conceptual design process for wastewater treatment systems. The incorporation of one or more UOPs into specific design elements of a stormwater treatment system, or treatment system components (TSCs), places emphasis on the selection of systems that are intended, by design, to specifically address project goals and objectives. These TSCs include conventional stormwater treatment design elements (e.g., swales, ponds, tanks, etc.) that provide primary and secondary UOP mechanisms (e.g. settling, filtration, adsorption, precipitation, etc.), as well as pre-treatment devices (e.g., hydrodynamic devices, trash racks, catch basin screens, etc.), custom hydraulic controls (e.g., flow splitters, weirs, orifices, etc.), and tertiary enhancements (e.g., soil amendments, selected vegetative species and microorganisms, mixing and aeration devices, and disinfection systems). The purpose of this guidance document is to provide a framework, or conceptual design methodology, for applying fundamental principles of UOPs to aid in the evaluation and selection of runoff management and treatment control systems for urban and urbanizing areas. This report is available as a pay-per-view item only.



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