

Urban and Highway Stormwater Pollution Concepts and Engineering

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Key Features

- Explains sources, pathways, fate, impacts, and effects of pollutants associated with the wet weather/stormwater hydrologic cycle
- Covers the entire urban wastewater system, including drainage catchments and networks, treatment systems, and local receiving waters
- Examines US and European stormwater regulations
- Provides analysis for the design and management of urban drainage systems



About the Book

Focusing on pollutant reduction, abatement, and control, this book provides the necessary tools and methodologies to solve urban stormwater problems. The authors present theories and fundamental concepts of wet weather pollution as a basis for solving engineering problems in practice. The book contains mathematical formulations for modeling the prediction of pollutant transport into both surface waters and soil systems. The entire urban wastewater system—including the drainage catchment and networks, treatment systems and local receiving waters—are examined in this context. The authors also address key points in the analysis, design, and management of urban drainage systems.

Selected Contents

Fundamentals of Wet Weather Pollution in Urban Areas and from Roads. Pollution from Urban Wet Weather Flows - Concepts and Definitions. Transport and Transformations - a Toolbox for Quality Assessment within Urban Drainage. Stormwater Runoff: Sources, Transport and Pollutant Loads. Combined Sewer Overflows - Characteristics, Pollutant Loads and Control. Effects of Combined Sewer Overflows and Runoff from Urban Areas and Roads. Experimental Methods and Data Acquisition within Urban Drainage. Urban Wet Weather Quality Management. Stormwater Pollution Control and Mitigation Methods. Modeling of Wet Weather Water Quality. Legislation and Regulation. Appendices.

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