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## **Sediment Transport in Sewers and Design Implications**

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### **Abstract**

Extended studies on sediment transport in sewers were conducted at the University of Newcastle upon Tyne and using this new as well as previously available data an attempt has been made to review the current design practice for sewers. Design charts based on these findings are also devised.

### **Introduction**

Sewers are normally designed based on the concept of "self-cleansing" where sediments are expected to move continuously without deposition. Due to the intermittent nature of the flow, deposition of solids in sewers could still occur especially at low flows such as during the receding flow or dry weather flow. The study of sediment movement in sewers therefore needs to cover both rigid (no-deposition) and loose (some deposition) boundary conditions. The present study extended the available data in rigid boundary conditions (clean pipes) to include the effects of surface roughness and pipe size. A complimentary study on the effect of sediment deposits (pipes with deposited beds) was also carried out.

In this paper equations for bed load transport of non-cohesive sediments in sewers are highlighted with the emphasis on design implications.

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