

SUSTAINABLE URBAN GROUNDWATER

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Urban groundwater (or groundwater that underlies urban areas) is a distinct subdomain of hydrogeology. In contrast to rural areas, urban groundwater shows some specific features. For example, the recharge of urban groundwater is heavily affected by extensive sealing of surfaces, leaking water mains, sewers, and stormwater recharge. Additional large spatial variations in recharge rates are typical. Beside this, urban groundwater is also effected by geotechnical interactions (e.g. deep basements, tunnels). The quality of urban groundwater is mainly affected by the input of the municipality of urban features. Water authorities world wide are giving increasing priority to assessing the condition of their sewer assets. This can forewarn asset managers of potential problems, including the impending collapse of a pipeline which usually damages adjacent non-sewer assets and pollutes the environment by sewage overflow and seepage to ground water supplies. Waste water can leak from damaged sewer pipes and contaminate ground water and soil. Furthermore, the ground water infiltration through damaged sewers causes economic problems.