

Environmental Research, Technology Demonstration and Conference Project

ECF Project:	ECF 2020-154
Project Title:	Design of sustainable drainage systems (SuDS) in hilly areas of Hong Kong
Principal Investigator:	Dr Chui Ting Fong May, Department of Civil Engineering, The University of Hong Kong
Total Approved Grant:	\$496,000
Duration:	1/8/2021 to 31/7/2024
Project Status/Remarks:	On-going
Project Scope:	<p>Sustainable drainage systems (SuDS) manage storm water by enhancing infiltration into the ground, and have been implemented in urban areas worldwide to provide environmental benefits such as flood mitigation and water pollution reduction. Currently, SuDS are not widely feasible in areas with steep slopes, since faster runoff speeds in these areas inhibit infiltration. In addition, any enhanced infiltration in steep areas may increase the risk of soil erosion and landslides. In Hong Kong, flatter areas only account for a small portion of its total area, and they are often highly developed, with limited space remaining for the implementation of SuDS. These regions also tend to have shallow groundwater, which is unfavourable for storm water infiltration. These unique conditions create a strong need for the design of SuDS that can function in Hong Kong's steep slopes, but do not increase the risk of soil erosion and landslides.</p> <p>In this study, the project team utilises laboratory experiments and numerical models to characterise the performance of SuDS and their geological impact in areas of steep slopes. The findings and recommendations from this study can serve as the basis for governmental officials and engineers to establish design guidance for SuDS in Hong Kong.</p>
Summary of the Findings/Outcomes:	To be available upon completion of the project