

National Green Infrastructure Facility

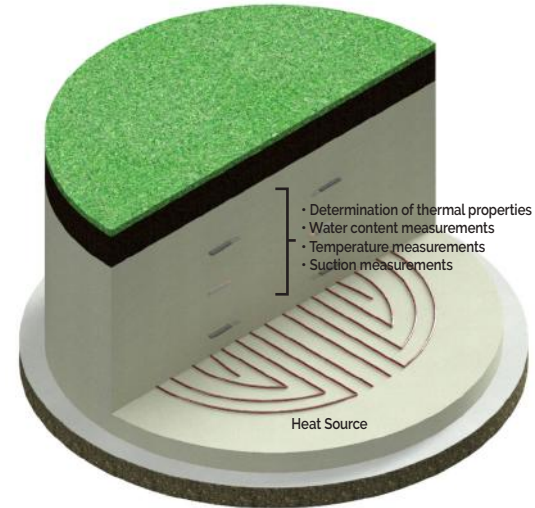
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Green infrastructure can provide an efficient, sustainable and resilient alternative to conventional single-purpose grey infrastructure systems for urban surface water management. However, existing or to-be-constructed green infrastructure in valuable, and often limited urban areas have the potential to also provide an affordable ground heat exchange and storage resource. To explore the feasibility of this multi-functionality it requires improved knowledge of heat exchange through the heat exchanger – soil – atmosphere continuum. Our research is investigating how meteorological conditions, e.g. rainfall/ drought, and vegetation influence the thermal properties of subsoil beneath green infrastructure. A large-scale and heavily instrumented lysimeter is being used at the National Green Infrastructure Facility to establish the hydro-thermal behaviour of a bio-retention cell subjected to a simulated summer heating load. Findings from this work will provide guidance on the potential performance and added value to green infrastructure as an energy resource.



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