

Hydrology and Energetics of Green Roofs

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The implementation of Phase 2 NPDES stormwater management in urban areas requires innovative approaches to increasing the pervious surface in urban areas. One strategy is to convert roof area into water storage space via the green roof. The green roof introduces soil storage and slow release via transpiration by vegetation.

The thrust of this research was to model the resulting hydrology. A potentially significant secondary benefit is that of energy savings. To this end a heat load model available from USDOE was used to evaluate approximate energy savings that one may expect with a green roof. Results from the hydrologic and energetics aspects from green roofs are encouraging.