

Garden vs. Exposed Roof Assemblies

Stormwater Runoff

* Thermal Performance and Energy Efficiency, Institute for Research in Construction, Karen Liu, National Research Council of Canada (NRC) 2001

- The rooftop garden delayed runoff, reduced runoff flow rate and volume.
- The rooftop garden on Flow Rate Frequency (FRF) reduced 245mm out of 450mm of rainfall during summer 2002, a reduction of 54%.
(Authors Note: The FRF only accounts for 144 mm (6") of vegetated growing mediums (soil) and excludes the performance characteristics of drainage/moisture retention (DMR) panels. It has been estimated that the use of an engineered growing medium in conjunction with a DRM panel could have shown a FRF reduction as high as 76%)
- The runoff retention efficiency rooftop garden on FRF was higher in light rainfall than in thunderstorm.
- The growing medium on the rooftop garden affected the runoff temperature slightly.