Runoff Volume Reduction and Climate Change Mitigation using LID-SWM

Research results from four years of intense monitoring of LID systems at the UNHSC were integrated in site level hydrologic assessment models. A numerical simulation was performed for a site for pre-development as well as residential development with Conventional and LID stormwater management design scenarios. Analyses were performed for hydrologic soil types A and C, for storms with recurrence intervals of 0.17-, 2-, 10-, and 100-years, as well as 2-, 10-, and 100-years adjusted for climate change. The results show that the LID site design: generated much lower runoff volumes than the Conventional and Pre-development site conditions; infiltrated more than the recharge volumes required by current regulations; and attenuated the impacts of extreme storms modified for climate change, for both soil types.