



## **Developing a Hydrologic Assessment Tool for Designing Bioretention in a watershed**

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Continuous urbanization has negatively impacted the ecological and hydrological environments at the global, regional, and local scales. This issue was addressed by developing Low Impact Development (LID) practices to deliver better hydrologic function and improve the environmental, economic, social and cultural outcomes. This study developed a modeling software to simulate and optimize bioretentions among LID in a given watershed. The model calculated a detailed soil infiltration process in bioretention with hydrological conditions and hydraulic facilities (e.g. riser and underdrain) and also generated an optimized plan using Flow Duration Curve (FDC). The optimization result from the simulation demonstrated that the location and size of bioretention, as well as the soil texture, are important elements for an efficient bioretention. We hope that the developed software in this study could be useful for establishing an appropriate scheme of LID installment