

ABSTRACT

Low Impact Development (LID) Analysis as an Effort to Reduce Surface Water Runoff (Case Study: Puri Bintaro Indah Housing)

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The overflow that occurs in the Puri Bintaro Indah housing complex is a surface water runoff that often occurs as a result of rainwater that cannot be accommodated by the Cibenda River. The Puri Bintaro Indah housing complex is located in a metropolitan city that is experiencing rapid development, causing the open green areas that exist as water catchment areas and settlements to become unbalanced. From the results of the rainfall data processing, we can analyze the rainfall intensity using the hyetographic diagram approach. The prediction of surface water runoff discharge in this analysis uses a 10-year return period (T10) with a value of 33.889 m³/second. The simulation was then carried out using the SWMM 5.2 application, its function is to determine whether the drainage channel is able to accommodate the water discharge. Due to the limited land available, 10 infiltration wells were made. The results obtained were a load reduction of 9.43%. This result cannot reduce runoff significantly. Further research on other alternatives to reduce runoff is still needed.

Keywords: *Drainage Channels, Infiltration Wells, Flood, Rainfall, Housing of Puri Bintaro Indah.*

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