

ABSTRACT

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(xviii + 95 + Apendix)

Increasing population causes the need for more settlements and land use change. Reduced rainwater infiltration not only causes flooding but also drought. Therefore, it is necessary to conduct flood control efforts that are environmentally sound such as retention ponds. This study aims to plan and analyze the effect of making a Detention pond to control flooding. This research was carried out at the location of the Kirana Gardenia Ciomas housing which is on the Cisadane River. In this study a hydrological analysis was conducted with Dramaga Station rainfall data from 2008 to 2017. After the planned rain rain discharge was processed, a hydraulic analysis was carried out to analyze the capacities of the discharge and before the construction of housing to plan the volume of the pool. The rolling calculation and structure of the pool design are performed to calculate the strength of the pool structure against the pressure that goes into the pond. Next is the design of the reservoir pool design and budget plan. In the analysis carried out, it was obtained the rain discharge value planned for the 10-year return period of 1.7659 m³ / second. The total capacity of the pool is 1184.5 m³ with a concentration time of 10 minutes. The budget plan required for making this detention pool is Rp. 1,028,049,300, -. Based on the analysis carried out, it was concluded that the making of detention ponds was effective enough to be used as an alternative effort to control floods in urban areas.

Kata Kunci: Detention tank, flood, flood controllers