

ABSTRACT

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Drainage comes from the word in English, namely Drainage which means a means of disposal for excess water or waste. According to Civil Engineering, drainage is defined as a technical action to reduce excess water in an area so that the area can function optimally. Duren Jaya Housing in East Bekasi often experiences flooding due to drainage that is unable to accommodate or drain surface water due to high rainfall and large flooding. According to local residents, the flood in this area reached 40 cm. The purpose of this study is to obtain the planned discharge, re-plan the channel size, and calculate the RAB needed for re-planning. The area in this study is 15.8 Ha using HEC-RAS software and a 5-year reperiod. The planned flood discharge obtained for the re-scaling period of 5 years in secondary channel 1 (S1) is 0.283 m³/second, (S2) is 0.187 m³/second, (S3) is 0.364 m³/second and (S4) is 1.127 m³/second. The results of the re-planning of the dimensions of the existing drainage channel for channel S1 with a channel width of 0.6 m and channel height of 0.6 m, channel S2 with channel width of 0.6 m and channel height of 0.8 m, channel S3 channel with channel width of 0.6 m and channel height of 0.8 m, and channel S4 channel with channel width of 0.8 m and channel height of 0.8 m. After planning in this study using 3 sizes of U-Ditch, it was known that the cost needed was Rp 1,687,300,000.00.

Keywords: *Drainage channels, planned flood discharge, RAB*