ABSTRACT

Anugrah Taufiq Nurul Ramadhan. *Capacity Analysis of Bekasi River at Pondok Gede Permai Regency. Essay. Jakarta, Building Engineering Education Studies Program, Department of Civil Engineering, Faculty of Engineering, Universitas Negeri Jakarta. 2017. Supervisor: Drs.Arris Maulana, MT. and Dr. Ir. Mochammad Amron, M.Sc*

The Purposes of this research are to get the result of flood debit calculation with return periods of 2 years, 5 years,10 years, and 25 years and also to know the patch capacity of Bekasi river with a return period of 25 years.
This research used the maximum monthly rainfall data of Ciriung rainfall station, Klapa Nunggal rainfall station, and Halim Perdana Kusuma rainfall station which obtained from the BMKG. Whereas for the proponent technical data planning are obtained from Binamarga official of Bekasi city. The planning methods used in this research are literature and field observation. This research used the chosen distribution frequency method og Log Person III, obtained a value of precipitation plan amounting to 890,15 mm. then after doing the calculations of rainfall intensity using method of Mononobe, hourly rainfall data were obtained, and then after doing the approximate calculation of peak flow rate using HSS Nakayasu, the peak flow rate result for the period of 25 years is 2109,45 m^3/sec. after calculating the capacity of the Bekasi river, located in Pondok Gede Permai regency, acquired the capacity that can be accommodated in the amount of 960,74 m^3/sec.
This result of this research shows that the Bekasi river capacity in Pondok Gede Permai regency can not accommodate the water discharge for 25 years which would result in overflowing in the river and flooding in Pondok Gede Permai regency Because as calculations $Q_s < Q_r$ then made the capacity calculation with adding high embankment of 2 feet so getting the result Q_s = 2242,85 then can accommodate the flood plan period 25 years.

***Keywords**: Capacity, Bekasi River, Pondok Gede Permai Regency.*