SECONDARY DRAINAGE SYSTEM PLANNING AT SUMO WATERSHED IN SURABAYA

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Abstract

Normalization of secondary River Sumo Drainage Channels has purpose to control flood in Kali Sumo’s catchment area. There was a flood about ±0.5 meters height during rainy season, therefore people activity gets disturb about it.

In this design is using Distribution Method of Person Type III and Log Person Type III to find planning rain fall value and then test with Chi Square Method and Smirnov-Kolmogorov Method. Finally the smallest value of the test will be calculation later and be Distribution Method is Log Person Type III with R₅=108.98mm

According to the value of calculation show that planning debit with existing debit has different value especially in several point of views with over topping conditions. It is caused by existing dimention that it can not catch planned debit

From the calculation could be attracted by the conclusion not all the secondary channels could accommodate the plan debit. Needed the normalisation to the channel that his capacity was not in accordance with the plan. The Channel of Ngagel Jaya Selatan Bagian Selatan from part 1 is normalizationing with width 2.25m
and height 1.28m. The Channel of Ngagel Jaya Selatan Bagian Selatan from part 2 is normalizationing with width 2.62m and height 1.30m. The Channel of Saluran Ngagel Jaya Selatan Bagian Selatan from part 3 is normalizationing with width 2.87m and weight 1.33m. The Channel of Saluran Ngagel Jaya Tengah Bagian Barat is normalizationing with width 3m and weight 1.13m. The Channel of Saluran Ngagel Jaypa Tengah Bagian Timur is normalizationing with width 3m and weight 1.13m. The Channel of Saluran Bratang Perintis VI is normalizationing with width 1.1m and weight 1.67m. And The Channel of Ngagel Jaya Tengah Bagian Barat and The Channel of Ngagel Jaya Tengah Bagian Timur needs grating.

Key words: flood, debit, normalization