

KAJIAN PENANGGULANGAN BANJIR DAERAH ALIRAN SUNGAI BUAH DI KOTA PALEMBANG

Syaifudin Ardian
07/262413/PMU/5202

Telah dipertahankan di depan Dewan Penguji
Pada tanggal 7 April 2009

Pembimbing Utama
Dr. Ir. Istiarto, M.Eng

Pembimbing Pendamping
Dr. Ir. Bambang Yulistiyanto

Anggota Dewan Penguji Lain
Ir. Joko Sujono, M.Eng., Ph.D

ABSTRACT

Urban drainage system every year always undergoing flood in Palembang City includes the Catchment Area of Buah. The river of 7.93 km in length has many winding streams and stone-revetments were built along the river. The Catchment Area of Buah with 10.79 km² in wide is generally a wide range of areas for settlements, industries, and swamps.

This study is to examine factors resulting in flood and inundation in the surrounding areas of Buah River. Analysis on the flow of floods is conducted by using the HEC-RAS software version 4.0 with a designed discharge of two years. Modeling done consists of studies on six emulations, i.e. the existing conditions, stream channel normalization, waterway diversion, retention reservoir, combined with pump system and stone-revetment building.

Result of the study shows that in the existing conditions there were seven inundated areas. After the simulation of flood treatment was done by using stream channel normalization and waterway diversion, the height of over flow decreased until 0.11 m at downstream of the river. Other simulation of flood treatment was done by making the retention reservoir, which could decrease the height of over flow until 0.9 m at the areas with the retention reservoir. The treatments combined with the pump system of 11 m³/s and 4 m³/s in capacity at downstream of the river could decrease the height of over flow to 0.22 m. The heightening of stonerevetment was until 0.68 m in Sei Buah Village, i.e. the area 8 RS 112 of the Buah River.

Keywords:

Flood, the HEC-RAS software version 4.0, Alternative treatment