

Wandee Poonpotmas 2008: Rajamangala University of Technology Lanna Tak  
Campus Internal Drainage System Capacity Assessment. Master of Engineering  
(Water Resources Engineering), Major Field: Water Resources Engineering,  
Department of Water Resources Engineering. Thesis Advisor: Associate Professor  
Chaiwat Kayankarnnavy, M.Eng. 148 pages.

The objectives of this study are to assess the existing internal drainage system capacity of Rajamangala University of Technology Lanna Tak Campus, and recommend measures of existing drainage system improvement in order to achieve standard. The preventive of flooded water into studied area and rain water draining from this area to Nongloun reservoir. In flooding period, Nongloun reservoir's water level is higher than the level of the canal in studied area which cannot discharge the water out this area and will be flooded in this area. The drainage capacity is assessed by applying mathematics model SWMM. The SWMM model is calibrated and verified in order to evaluate the controlled parameters and simulate flowing characteristics by twelve case studies so as to solve this task. The manning's friction coefficient study of the canal flows are 0.018 and 0.05. From twelve case studies found that the recent drainage system cannot support five years return period rainfall. The proposed recommendation are to excavate the canal and build earthen dyke, at The seventh building decrease wair 0.60 meters in depth, install gate at retention point in order to retard the water quantity for flooding prevention and lastly, it is necessary that to install 6.6 cubic meter per second water pumping station in case of cannot mitigate water level in canal. Once pumping measure is applied, found that it can be solved efficiently the flooding problem for the drainage system of the studied area.

P. Wandee

Student's signature

K. Chaiwat

Thesis Advisor's signature

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