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ANALYSIS AND CALIBRATION OF A WATER DISTRIBUTION SYSTEMS (A CASE STUDY OF PORT DICKSON)

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SYNOPSIS

Water distribution system is a common topic among engineers and would-be engineers. Such topics about water distribution system always recur from time to time. This is partly due to the inefficient system of the existing water distribution systems. As such, a new research needs to be carried out. The main reason of this research is to identify an effective method of examining the problems that occur in a chosen system. In this project, the method used is the combination of the computer simulation and field measurement, based on base demand, demand weighting and demand pattern at nodes of the chosen system. During this project, two major problems have been encountered. One of the problems is leakage. While the other problem is the influence of coefficent of pipe (C) in the chosen pipe. Leakage, being one of the major problems of this project is measured by measuring the minimum night flow, legitimate night flow and T-factor. As for the second problem, this project shows how the C value should be determined by using Walski Technique. However, the ratio value of the headloss between the predicted and actual, should be more than one.

1.0 INTRODUCTION

Among engineers today, water distribution systems is a much talked about topic although it is not something new. In fact, the analysis of water distribution systems has actually started and attracted quite a number of interest since more than 25 years ago.

And, within the past 10 years, the analysis of water distribution system has gained considerable interest. Since then, analysis after analysis has been carried out to always upgrade the existing water distribution systems. The existing water distribution system needs upgrading and modification so as to suit the need and to provide reliable system to the people.

According to Lindell E. Ormsbee and Don J. Wood, "during the last few years it has become clear that many of our existing water distribution systems are going to have to be upgraded and modified, to continue to provide reliable sytem for distributing water to people in urban and rural areas." (Lindell E. Ormsbee and Don J. Wood , 1986)

Such problem is also true to the Port Dickson District water distribution systems. Similar to other existing water distribution systems, the Port Dickson District water distribution systems also needs to be upgraded and modified.