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Thesis Title   : Design of Morning Glory Spillway by Microcomputer

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Abstract

Morning glory spillway was designed based on the Trial and Error Method to compute the size and characteristics of discharge in all flow controls : Crest,Orifice,and Tunnel. The size and characteristics of discharge varied according to the proportional sizes of the crest and transition's diameter, head, and other elements. In addition, other data and specifications for computation generally consisted of varius tables and graphs which were found to be troublesome and time-consuming

To minimize problems previously found, this thesis presented the new innovation of designing morning glory spillway by using a micro-computer. The program was written on Lotus 1-2-3 release 2.01 to combine data and specifications of the design. To find coefficient and relation the outcomes were calculated in terms of figures and graphs. The designs were devided into two cases. Case 1, radius of crest to be minimized and subatmospheric pressures may be tolerlated, and Case 2, radius of crest to be determined to minimize subatmospheric pressures along crest.   In comparison with the hand calculations this program tremendously decreased time and trouble of designing process. Further-more, using a microcomputer made it possible for unit conversion from foot-pound-second to meter-gram-second which was the standard unit in building design. This program should conveniently provide accurate results.