

INVESTIGATION OF HYDRAULIC PARAMETERS  
OF THE SAMANALAWEWA SPILLWAY WEIR

A.D.S. Gunawardena, K.P. Perera  
R.A.D. Jayanthi, P.H.D. Nimalachandra  
Hydraulic Research Lab., Irrigation Dept., Colombo 05.

Samanalawewa project forms a part of a comprehensive plan of the Ceylon Electricity Board to develop the hydropower potential of the Walawe Ganga Basin which has a catchment area of 342 sq.km. and an annual mean flow of 598 million cubic meters (19.0 m<sup>3</sup>/sec.) at the dam site. The reservoir has a 217 m. long chute spillway with an approach channel leading up to the Ogee crest of the over flow three bay spillway weir.

The different parameters that influence the coefficient of discharge of the weir are the approach channel bed level, the alignment of the wing walls, the pier nose shape and the location of the pier with respect to the Ogee crest. Investigations were carried out in a 1/40 scale sectional model to evaluate the influence of the approach channel bed level and the location of the pier nose for obtaining maximum discharge coefficient in order to provide for release of the design flood flow with minimum afflux.

The observations of the water surface profiles were carried out for various conditions. Six different approach channel bed profiles and five different pier positions were investigated in the model.

The results of these tests along with their analysis and the recommendations are presented in this paper.