

The Canadian Engineer

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POWER DEVELOPMENT AT EUGENIA FALLS, ONTARIO

DESCRIPTION OF THE NEWLY COMPLETED HIGH-HEAD POWER PLANT OF THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO ON THE BEAVER RIVER.

THE construction of the Eugenia Falls hydro-electric development was completed on November 18th by the official opening of the plant for service by Sir Adam Beck. This plant, the second that the Hydro-Electric Power Commission of Ontario has built, has a number of interesting features, not the least of which is the fact that it is the highest head plant in Ontario, and one of the highest in the world, using reaction water turbines. This development is situated on the escarpment near the Georgian Bay, in the County of Grey, and has been under construction since July, 1914. The gross head under which the plant operates is 552 feet, which is obtained by a storage dam of 50 feet and the

natural fall of the river. The drainage area above the storage dam is 74 square miles, a great deal of which is tamarack and cedar swamp. The run-off is remarkably constant, due partly to the above fact, and partly to the geological formation. The escarpment is Lockport dolomite overlying Cataract limestone, the whole overlaid with thick beds of morainal boulders, gravel and clay, and this top covering forms a vast natural equalizing reservoir. The rainfall on the drainage area is above the normal for Southwestern Ontario, since it lies on the high plateau between the Georgian Bay and Lake Ontario, being about 39 inches per annum. The storage provided at the dam, together with the natural regulation of the

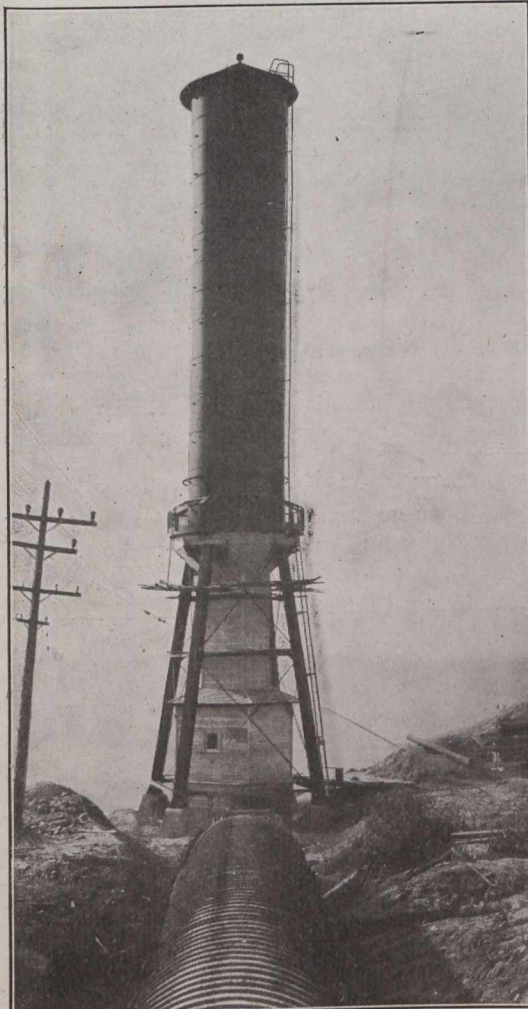


Fig. 1.—View of Differential Surge Tank.

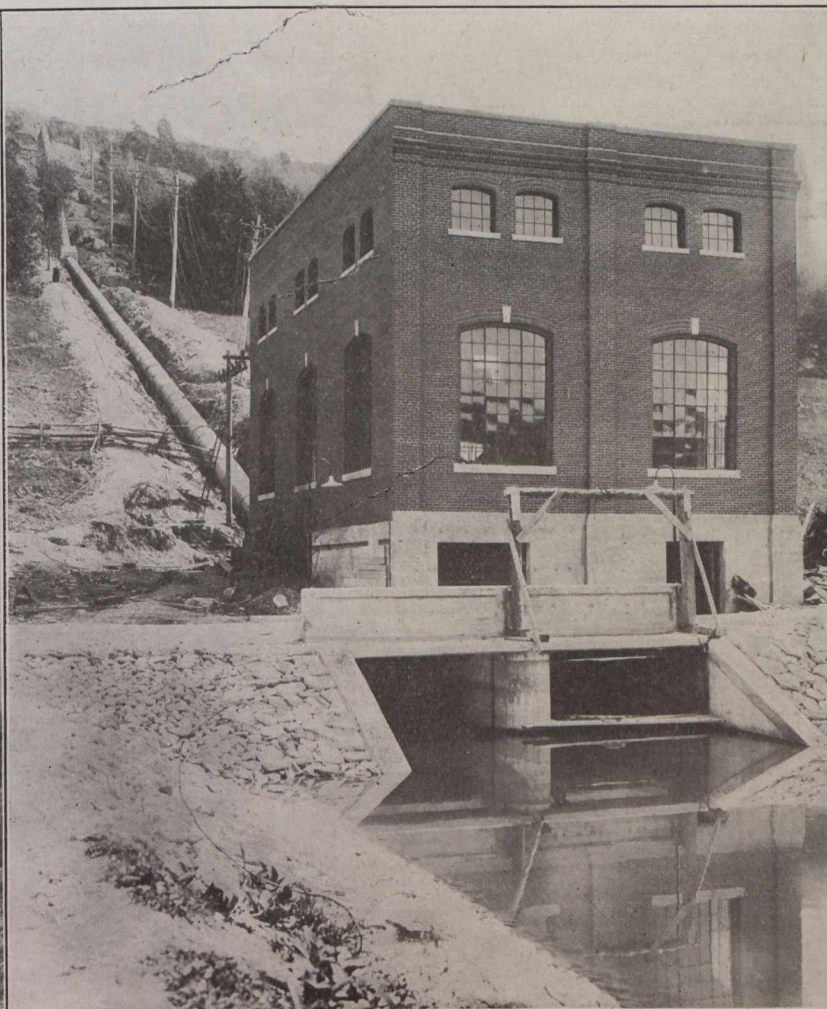


Fig. 2.—View Showing Power House and Tailrace.