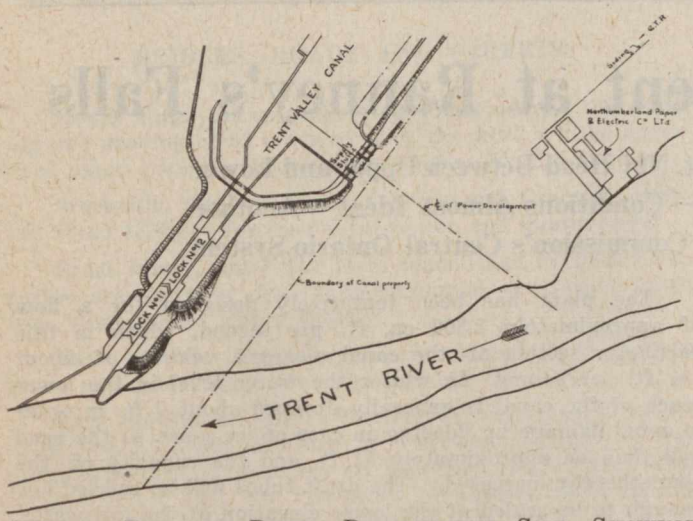
sions of the units will be large, the capacity being large in proportion to the relatively low head. The turbine runners will be about 8 ft. in diameter. An exciter will be mounted directly on top of each generator and will be direct connected to the main generator shaft. The governors will be of the oil pressure type.

The tailrace will be approximately 250 ft. long, extending from the power-house to the lower level of the Trent



General Plan of Power Development Site, Showing Upper and Lower Reaches of Trent Canal

River, and a certain amount of dredging will be required in the Trent River at the tailrace outlet. Other than this, all work will be in the dry, as the small amount of spill and leakage from the sluiceway can be readily piped away. A siding from the G.T.R. will be built directly to the site of the work.

The rock, which is exposed over practically the whole site, is a good grade of limestone, and no construction difficulties are expected. In fact, the whole layout is very simple, the site being almost ideal, no head dam being required, headrace and tailrace both being short, the forebay conditions ideal, no rapids immediately above the plant to cause frazil, all ice troubles being at a minimum, and there being no runoff or storage problems requiring solution.

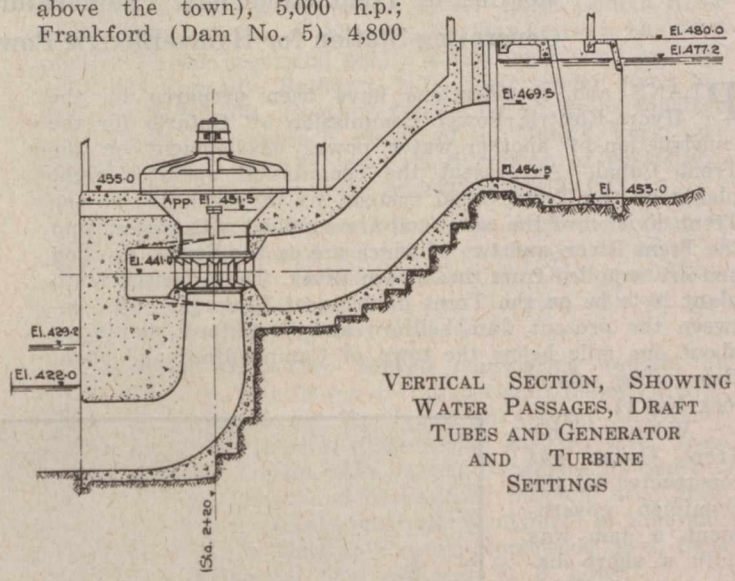
Two additional smaller generating plants in the immediate vicinity of Ranney's Falls are contemplated, and when built they will be connected to the low-tension bus in the Ranney's Falls generating station.

The operation of the Trent Canal is in the hands of the Dominion government, and the plant necessarily will have to operate with whatever water the government operation permits, but, as above stated, it has been designed for a flow of about 2,300 c.f.s.

Like many other power sites on the Trent Canal, this site was formerly leased by the Dominion government to the Seymour Power Co. When the Ontario government purchased the Seymour Power Co. a few years ago, the rights to this site and others were acquired.

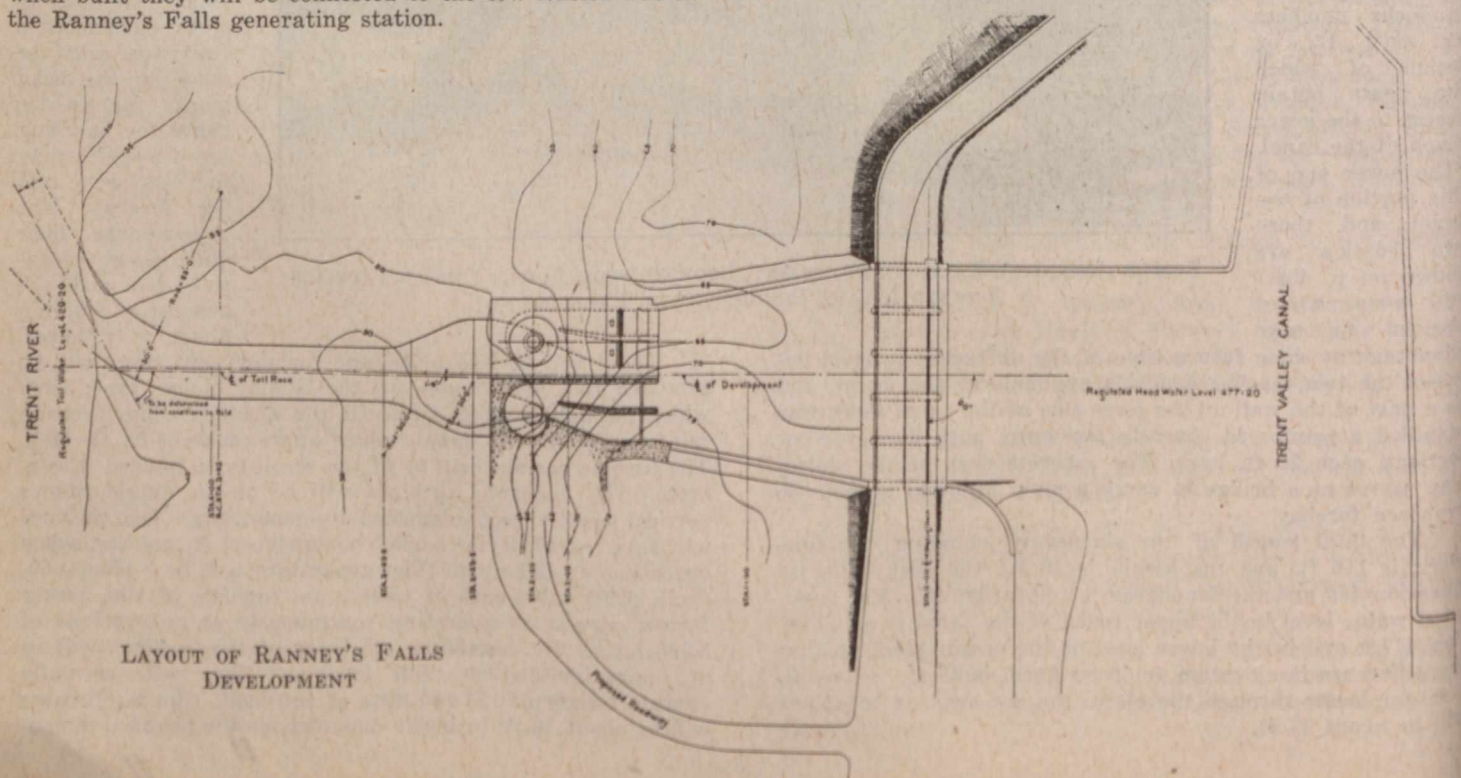
The other developments on the Trent division of the canal which are now operated by the Hydro-Electric Power Commission of Ontario are as follows:—

Healy Falls, six miles above Campbellford, 16,800 h.p. capacity; Trenton (Dam No. 2), 5,600 h.p.; Campbellford (development about one mile above the town), 5,000 h.p.; Frankford (Dam No. 5), 4,800



Vertical Section, Showing Water Passages, Draft Tubes and Generator and Turbine Settings

h.p.; Auburn, 2,850 h.p.; Fenelon Falls, 1,000 h.p. The total capacity of these six plants is 36,050 h.p., and with the 10,000 h.p. which will be developed by the Ranney's Falls plants, there will be a total of over 46,000 h.p. developed by the Hydro-Electric Power Commission on this division of the Trent Canal. There are several other sites yet to be developed on this division, including Burleigh Falls and Dams Nos. 8 and 9. Considerable extension of the de-



Layout of Ranney's Falls Development