

PROPOSES \$6,500,000 WATER WORKS PLANT TO SERVE NIAGARA METROPOLITAN AREA

PROVINCIAL Sanitary Engineer Frederick A. Dallyn, of the Ontario Board of Health, has recommended to the Welland Water Commission and to the city council of Welland, Ont., that a water purification plant and reservoir be built at Fonthill at a cost of \$6,500,000, to serve a present population of 52,000 and an estimated population in 1930 of 110,000.

The municipalities included in the scheme are Port Dalhousie, St. Catharines, Merriton, Thorold, Allanburg, Port Robinson, Fonthill, Welland, Humberstone, Port Colborne, Niagara Falls and Stamford.

At the present time the raw water supply for these towns and cities is heavily polluted. Approximately 35 intakes in the Welland Canal are in operation. Some of these are factory intakes upon which eight or nine thousand employees depend. Some of these intakes have treatment systems, but are under no supervision. The typhoid death rate for the community is very high, although chlorination has cut it in half. Some of the intakes are very badly located. At Port Colborne boats discharge within a few feet of the intake.

In 1914 a plan was prepared for the construction of a concrete pipe paralleling the canal, with an intake outside the breakwater at Port Colborne, and continuing north to Allanburg, with separate pipes to Thorold and Merriton in one direction, and to St. Catharines in the other direction. The Dominion government is not committed to this plan, says Mr. Dallyn. Only two sources of supply are available,—at Port Colborne, or on the Niagara River at Chippawa. Within the next few years, says Mr. Dallyn, Niagara Falls will be compelled to go to Chippawa for water.

Mr. Dallyn says that the cost of the scheme is heavy, but no more than if each municipality were to be required to establish its own chlorinating and filtration works. If his metropolitan scheme is adopted, the use of canal water will be prohibited except for cooling purposes. Forty miles of large distributing mains will be required. The annual cost of the system is estimated by Mr. Dallyn at \$542,000, which he divides as follows: Municipalities, \$176,000; services in the townships, \$78,000; industries, \$120,000; Dominion government, \$200,000.

ONTARIO HYDRO'S PROPOSED EXPENDITURES

Present Plans Will Require \$55,000,000 Within the Next Two Years if Radial Railways Are Constructed—Hydro Represents Large Share of Provincial Debt

IN a special report to the Ontario legislature, G. T. Clarkson, chartered accountant, of Toronto, states that of the \$100,000,000 debt of the province of Ontario, \$40,000,000 is represented by advances to the Hydro-Electric Power Commission, and \$10,000,000 by the Central Ontario System, which is owned directly by the government but operated by the commission. The province has also guaranteed other securities for the commission to the amount of about \$8,300,000, to facilitate the purchase of the Ontario Power Co. and other properties.

To complete the Chippawa, Nipigon and Rideau developments and to make needed extensions during the next two years will require approximately \$27,000,000 further expenditure, says Mr. Clarkson. He bases this estimate on the following figures, which have been submitted by the commission's engineers:—

For the Chippawa scheme \$21,500,000 will be required in addition to \$18,500,000 that has already been expended; for Nipigon \$4,000,000 will be required in addition to \$1,000,000 already spent; for the Rideau system there will be required a further expenditure of \$350,000; and for the other systems \$150,000. Other extensions to take care of the commission's growing business will require an expenditure of an

additional \$1,000,000 on capital account within the next two years. The commission is also indebted to its bankers for \$1,000,000 for money advanced to the Ontario Power Co.; and the second mortgage bonds of that company, amounting to \$2,700,000, mature next year and must be provided for.

In the event of the commission deciding to proceed with the construction and purchase of hydro-electric railway lines, approximately another \$25,000,000 will be required in that connection. The total amount to be expended within the next two years, according to the present plans of the commission, says Mr. Clarkson, is approximately \$55,000,000. Owing to the present condition of the money markets Mr. Clarkson advises the province and the commission not to proceed too rapidly with construction work on the radial railways unless convinced that construction costs will not decrease within the next few years and unless satisfied that each railway is a conservative business undertaking. He advises the legislature that it has every reason to have confidence in the Hydro-Electric Power Commission and its projects and that the legislature should support the "Hydro" in all proposed undertakings, with the possible exception of the immediate construction of radial railways upon a large scale. The chief reason for caution in the construction of these railways, says Mr. Clarkson, is the large amount of money that the province will have to raise within the next two years in order to finance the commission's other undertakings.

WATER POWERS OF NEW BRUNSWICK

IN the New Brunswick legislature last week there was presented a progress report of the provincial water power commission indicating that three developments on the Lepreau River are possible. A head of 67 ft. can be secured at Lower Falls, 100 ft. at Big Falls; and 90 ft. at Ragged Falls, giving a total power at least three times as great as the present requirements of the New Brunswick Power Co., and yielding a revenue, at one cent per k.w.h., of \$351,889. The horse-power estimates of the three developments are: Lower Falls, 1,563 continuous h.p.; Big Falls, 2,310 continuous h.p.; Ragged Falls, 2,078 continuous h.p.; total, 5,951 continuous h.p.

The commission recommends present development at Big Falls at an estimated cost of \$550,000.

For the Fredericton district the commission recommends a \$550,000 expenditure on the Shogomoc River, giving 3,132 continuous h.p.

The Tetagouche development for the North Shore, at an estimated expenditure of \$595,000 will produce 1,241 continuous h.p.

Sir Adam Beck was interviewed this week by a delegation from towns in Northern Ontario, including North Bay, Sturgeon Falls and Sudbury, with a request that power be developed on the French River. Sir Adam requested a memorandum setting forth the exact requirements for power in that district and promised that upon its receipt the commission would submit figures regarding the approximate cost per horse-power for the quantity required. It is estimated that from 25,000 to 40,000 h.p. is available. The delegation stated that they believed that the river would be canalized following its development for power purposes.

The Isle Perrot Bridges Commission met in Ottawa on March 25th and were granted a hearing by Sir George Foster, acting premier, and the Hon. Messrs. Ballantyne, Reid and Doherty. The commission was supported by delegations from Cornwall, Belleville and several county councils. In replying, Sir George Foster made no promise, but stated that the commission's request for a grant for the construction of the two bridges upon the plan suggested by Sir Lomer Gouin would be taken into serious consideration, and that an answer would be forwarded to the commission at an early date.