

Consulting Engineers Disagree Re Montreal Aqueduct

Messrs. St. Laurent and Vautelet Say that the City Should Proceed with Scheme and Build Power House Foundations Now at Cost of \$400,000—J. B. McRae Advocates Purchase of Power

THE city of Montreal should cancel its contract with the Cook Construction Company and should refuse to allow the company to continue the aqueduct work at cost, plus fifteen per cent., according to the advice given in a supplementary report by Messrs. Vautelet, St. Laurent and McRae, presented last week to Montreal's Board of Control. Regarding further development of the scheme, the board of engineers failed to agree.

Messrs. Vautelet and St. Laurent recommended that the city go ahead with the hydraulic development plan, and that the foundations of the aqueduct power house be built at once. Mr. McRae did not agree to this.

Following is the letter of transmissal of their supplementary report, written August 18th, by the three consulting engineers, and addressed to the mayor, board of control and city council:—

"According to instructions from the Board of Commissioners, our Board met in consultation with Mr. Herdt to consider the tender of the Civic Investment and Industrial Company for the supply of electric power to the city, and our Board also considered the offer of the Cook Construction Company either to do any work connected with the aqueduct project at cost plus 15 per cent., or to abandon their contract, waiving their right to anticipated profits.

Should Cancel Cook Contract

"Our Board is unanimous in recommending that the contract with the Cook Construction Company be cancelled as per the terms of their letter of July 17th, 1917, and that their offer to do the work at cost plus 15 per cent. be rejected.

"Our Board, in consultation with Mr. Herdt, calculated that, according to the new specifications and tender of the Civic Investment Company, the cost of purchased power for pumping an average of 100 M.I.G. per day would be \$235,585 per year.

"From a letter of A. B. Cook, dated July 17th, 1917, it was ascertained that the said Cook Company were willing to waive their rights to anticipated profits. The cost of work to be done if hydraulic development be abandoned was, therefore, diminished by \$279,575. On the other hand, since December 31st, 1916, work has been done and undertaken for an amount of \$185,225. The total cost of buying current was, therefore, diminished by \$94,350, and the interest thereon by \$4,718. The total cost per year for the operation of the pump house at Atwater Avenue, and of the filtration plant for an average consumption of 100 M.I.G. was, therefore, reduced from \$656,000 to \$606,991 and the cost on H.P. basis from \$62.47 to \$57.81.

"We would call your attention to the letter of the Civic Investment and Industrial Company, accompanying their tender, and more especially to clauses 'd' and 'g.'

"Clause 'd' might be interpreted as meaning that a minimum of 8,000 H.P. must be used at Atwater Avenue and the wording of the beginning of the clause re minimum payment is not clear.

"Clause 'g' may be interpreted as meaning that to the prices mentioned in the tender must be added the taxes, municipal, provincial and federal, other than exist-

ing municipal taxes. This should be made clear and the proportion of said taxes, if any, chargeable to the city should be determined in advance.

"It remained for the Board to decide whether it would recommend to the city to accept the tender of the Civic Investment Company, or to go ahead with the hydraulic development as per Scheme No. II.

"After discussion it was found impossible for the members of the Board to agree and it was, therefore, resolved to make two different reports on the final recommendations to be made in addition to the recommendations and findings of the report of April 30th, 1917."

St. Laurent-Vautelet Report

Paul E. Mercier, city engineer of Montreal, forwarded to *The Canadian Engineer* a copy of the majority report, signed by H. E. Vautelet and A. St. Laurent, as follows:—

"Messrs. St. Laurent and Vautelet beg to report as follows on the final recommendations to be made:—

"Remarks on the tender of the Civic Investment and Industrial Company:—

"The calculations of the cost have been made on existing data for the monthly peak load for periods of 2½ and 3 hours. As the specifications call for payment on maximum monthly peak load for a period of 20 minutes, the sum to be paid may be larger than calculated.

"The indefinite amount of taxes to be paid in addition to the contract prices may also make an appreciable difference.

"We are also of opinion that the provision made for heating the filtration plant is inadequate and will further increase the cost of buying electric current.

"As the average monthly peak load calculated is 1.16 of the average consumption, it follows that the minimum price paid by the city for power actually used will be $1.16 \times 26.50 = \$30.74$ per e.h.p., and the total cost per h.p. will be \$57.81.

"It must be remarked, however, that the annual amount of \$235,585 will have to be paid only when the water consumption of the city reaches 100 M.I.G. per day, and that until that time the power bills will be smaller, but after that time will gradually increase with the increased consumption of water.

Abandonment Means \$1,500,000 Expenditure

"The abandonment of the hydraulic development will necessitate a capital expenditure of \$1,500,000, the greater part of which need not be immediately made.

"It will also necessitate the immediate capital expenditure of \$373,000 for the construction of the electric pump house.

"Remarks on Scheme No. II.:—

"If it is decided to go on with the hydraulic development as per Scheme No. II., it will not be necessary to prosecute the work immediately and it will be better to wait until the cost of labor and material has become normal again.

"In the meantime, the city can continue to pump the water by steam.