

WATER SUPPLY OF THE CITY OF ST. JOHN, N.B.

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THE city of St. John, owing to geographical conditions, is provided with two separate water supply systems. The city is situated on the Bay of Fundy at the mouth of the St. John River, which divides it into two parts, the city proper being on the eastern and the other part being on the western peninsula.

The eastern side was supplied with water by a company which was organized in 1836.

On the advice of a noted American engineer, Colonel Baldwin, a small body of water called Lily Lake, in the northeastern part of the city, was chosen as a source of supply. The area is 27 acres and elevation above city high-water datum is 80 feet. Construction commenced in 1837 and the supply was available to the city in October, 1838.

The works, as then constructed, consisted of a small wooden-box conduit which conveyed the water by gravity from the outlet of Lily Lake to a steam pump, which forced the water through 10 and 12-inch cast iron pipes to the distribution reservoir. The supply was of an intermittent character, the water being pumped to the reservoir three or four times a week, and doled out daily to the consumers between the hours of 6 and 8 a.m. and a sufficient supply had to be

drawn during the two hours that the water was on to last the balance of the day. When a fire occurred no water was available at any hydrant until the water was let on from the reservoir and the mains filled.

The system was not long in operation, however, until it was discovered that, aside from the unsatisfactory service, the water was not well suited for domestic or steam purposes; and the obtainable supply altogether inadequate for the future requirements of the city. These most undesirable conditions led to an investigation being carried on to obtain not only a more potable and copious supply but also a more satisfactory service. The first survey made with a view to a change was conducted by R. C. Minnette, Esq., C.E., then city surveyor. It was found that good water could be obtained at Little River at a point about $4\frac{1}{2}$ miles from the city in an easterly direction, at what was then considered sufficient elevation to supply the greater part of the city by gravity for some years to come. Chas. W. Fairbanks, civil engineer, of Halifax, was then employed to investigate and report upon the proposed works. Mr. Fairbanks chose a

site for a reservoir on Little River, recommended the erection of a dam and the placing of a 12-inch cast iron pipe from this point to the city. Construction work was undertaken by the company in October, 1850, and in September, 1851, the water was formally turned on to the city from this new source.

The bed of the river at the point selected for the reservoir is 140 ft. above city high-water datum, the reservoir, as at first constructed, having a surface area of about 37 acres, with a drainage area of about 9,500 acres.

The distribution reservoir was now fed by gravity, but it was found in cold weather, when the consumption on the lower levels was high, that the consequent increase

of friction in mains caused pressure to drop to such an extent that water would not flow up the Carmarthen St. hill. This very evident lack of pressure and the cholera epidemic of 1854, aroused the citizens to the necessity of a more abundant and potable supply of water which would be, in a measure, under the control of the city.

The outcome of this was that under an Act of Assembly, commissioners of water and sewerage for the city of St. John (East) and a part of the parish of Portland, were appointed.

The duties of the

commissioners were to take over, construct and maintain the sewers and all works for the supply of water to that part of the city of St. John lying on the eastern side of the harbor and the water supply works of the urban portion of the adjoining parish of Portland.

Several improvements in the inside distribution were immediately undertaken, but the commissioners soon realized that their system was inadequate for future requirements, so, on the recommendation of the superintendent, which was confirmed by James Slade, Esq., then city engineer of Boston, it was decided to place a 24-inch cast iron pipe main from Marsh Bridge to Little River, the idea being that eventually this pipe would be extended to Lake Douglas or to some source capable of adequately supplying the city's requirements. The 24-inch supply main was completed in 1857 and in the same year observations were taken to determine the capacity of Lake Latimer, where an additional head of about 150 ft. could be obtained. These observations satisfied the commissioners that this lake could only be used for compensation purposes or in conjunction with some larger supply scheme.

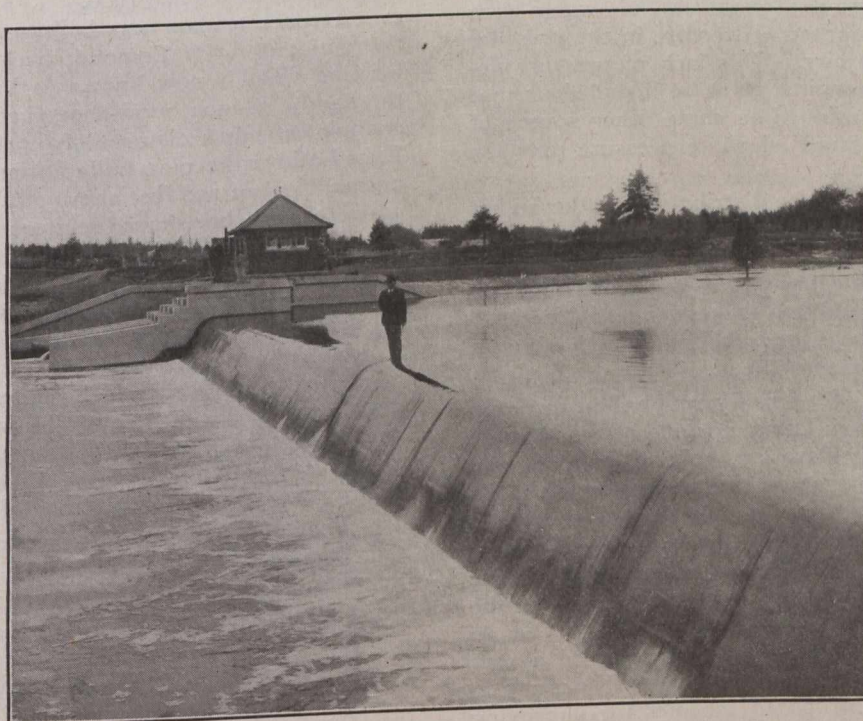


Fig. 1.—Concrete Dam at Lake Robertson.