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Fire Department, now estimated at \$5000 per annum, while for watering streets, and cleansing sewers, and also for manufacturing uses, the supply of water would be abundant.

Questions submitted by the Committee of the City Council.

These questions I will now proceed to answer, and will do so, in the order in which they have been asked.

"The committee of the City Council refer to Mr. Laurie to report on the following questions.

First. What will it cost to bring into the City of Halifax an ample and effective supply of water for fire and general purposes from the Birch Cove Lakes." *Answer:* The cost as estimated in this report is as follows:

For introducing water,	\$200,600
Distribution,	99,410
Purchase of present works,	211,200

\$601,300

"*Second.* Will the supply from the Birch Cove Lakes be sufficient to supply the present wants of the population of Halifax for fire and general purposes." *Answer:* The adequacy of the supply will be uncertain unless the right to all the water running from the Lakes is purchased.

"*Third.* Can that source be relied on at all seasons of the year, to meet the requirements of the population, and to what extent is it sufficient for the increase thereof." *Answer:* Could only be relied on by making storage reservoirs of the upper lakes.

"*Fourth.* Is Alderman Pugsley's scheme in conjunction with the present water works which the city have agreed to purchase, practicable, and what will it cost to carry the same into effect." *Answer:* Alderman Pugsley's scheme is perfectly practicable, but for the reasons stated in this report, I would recommend pumping into a reservoir instead of a stand pipe; also in place of a separate system of pipes for fire purposes to enlarge the capacity of the general distribution; and, that the water pumped up be used only for the service of the upper portion of the city, except in case of fires when it can be connected with the lower service. Thus modified, the cost, including the purchase of the present water works, would be:

Introducing water, and enlarging lower service,	\$169,480
Upper Service; pumping by steam power,	116,856
Purchase of present water works,	211,200

\$497,536.

"*Fifth.* Will the Birch Cove Lakes give the same head or force as Alderman Pugsley's scheme. If any, what will be the difference, and to what extent will the application of twenty eight jets (each jet throwing one hundred gallons per minute) reduce its head or force for fire purposes." *Answer:* The Birch Cove Lakes will not give the same head or force as Alderman Pugsley's scheme. Through a 15 inch pipe to supply ten jets throwing one hundred gallons per minute, the Birch Cove Lakes will only give a head of 20 feet over the present works when enlarged, at St. Andrew's Cross; while Alderman Pugsley starts with a head of 100 feet at that point. To supply twenty-eight jets would require a pipe of 24 inches diameter from the reservoir on Shaffroth's Hill to St. Andrews Cross, with a loss of head of 15 feet. The present mains from the Chain Lakes will only supply about one half the quantity required for 28 jets.

"*Sixth.* What size mains will be sufficient from the Birch Cove Lakes, to give a supply for twenty-eight jets, each jet delivering one hundred gallons per minute." *Answer:* To give a continuous supply for twenty-eight jets, the size of main required from the Birch Cove Lakes, with a descent or loss of head of 3 feet per mile, will be 28 inches, and with a descent of ten feet per mile, 24 inches diameter. It would not be necessary, however, to adopt a larger size of pipe than 15 or 18 inches from the Lakes to the reservoir for fire purposes only. A reservoir containing 4,000,000 gallons will supply 28 jets for 24 hours.

"*Seventh.* What quantity of water is available from each of the above named sources, in surface area." *Answer:* The quantity of water in present surface area is approximately as follows:

From Long Lake,	359 acres.
1st Chain Lake,	33 "
2nd Chain Lake,	22 "
	414

Peter's Rock Pond,	estimated,	31 acres.
Lake above do	do	"
Small Lake,	do	5 "
Byres Lake,	do	20 63

477 acres.

From Birch Cove Lakes,	241 acres.
Duck Pond, estimated, 10 acres.	
Horse Shoe Lake "	40 "
Ash Lake, "	60 "
Fox Lake, "	70 180

421 acres.